



European Securities and  
Markets Authority

# Cost Benefit Analysis – Annex II

**Draft Regulatory and Implementing Technical Standards MiFID II/MiFIR**





European Securities and  
Markets Authority

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# 1. INTRODUCTION

Pursuant to Articles 10(1) and 15 of the Regulation establishing ESMA<sup>1</sup>, ESMA is empowered to develop draft regulatory technical standards (RTS) or draft implementing technical standards (ITS) where the European Parliament and the Council delegate power to the Commission to adopt the RTS/ITS by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS/ITS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS/ITS.

This document contains a cost-benefit analysis (CBA) in respect of the MiFID II and MiFIR implementing measures covered by the Final Report and the annexed Technical Standards. There is a CBA per standard and the CBAs are ordered by RTS/ITS number, following the same order of topics as in the Final Report. The typical CBA contains five sections. First, we present a summary of what the CBA is about, the sections it contains and who is affected (Executive Summary), then there is an introduction to the topic (Introduction), followed by the baseline to consider to determine the incremental costs and benefits arising from the standard (Baseline), an identification of the stakeholders subject to the RTS/ITS and how they may be affected (Stakeholders) and finally, an analysis of the costs and benefits arising from the incremental obligation attributed to the standard vs. the baseline defined previously (Cost Benefit Analysis). However, there are some complex CBAs that also include sections on literature review or comparison with international regimes.

In preparing the CBAs of the different standards, ESMA has followed ESMA's CBA template and methodology, under which ESMA establishes a baseline to determine the incremental obligation arising from the standard. The baseline can be either a legal text (MiFID I Level 1 or 2, MiFID II Level 1, MiFIR, ESMA Guidelines on systems and controls in a highly automated trading environment, EMIR, etc.) or market practice. Whenever market practice is above what is being required by legislation, current market practice is taken into consideration to assess costs and benefits.

In practice, however, it may sometimes be very difficult to disentangle the effects of the Level 1 legislation, for which an impact assessment covering the general aspects of the Directive has been already performed and published by the European Commission<sup>2</sup>, and the effects of the Level 2 RTS/ITS.

The costs and benefits section tries to evaluate, to the extent possible, the effects of the draft RTS/ITS on the stakeholders directly and indirectly affected, as well as the indirect costs or market effects that the implementation of the RTS/ITS may create. For many of the CBAs,

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<sup>1</sup> Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

<sup>2</sup> See [http://ec.europa.eu/internal\\_market/securities/docs/isd/mifid/SEC\\_2011\\_1226\\_en.pdf](http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf)

particularly in respect of the less technically complex standards, this section is presented in qualitative terms. However, there are some complex topics for which sufficient and relevant data has been collected and received by ESMA, and in these cases the cost benefit analysis section contains a subsection with quantitative estimates of compliance costs (Compliance costs) and in some cases a subsection that details the analysis conducted with the data received (Data Analysis).

In terms of data sources used in this CBA, ESMA has taken into account the responses received to the Discussion Paper (DP) published in May 2014 and the Consultation Paper (CP) published in December 2014. Given the limited amount of data and quantitative cost estimates provided as responses to the CP, ESMA decided to gather additional facts and data (CBA questionnaire) to further analyse the impact of the different standards, to the extent possible within the given timeframe for submission of the standards package to the European Commission.

ESMA took into consideration some of the comments received to the October 2014 data gathering for the Technical Advice on definition of systematic internalisers, which mentioned the need of industry involvement in the design of future data gatherings. In response to that, ESMA decided to gather input from relevant stakeholders for the CBA questionnaire, before sending it out, to make sure that it was focusing on the relevant topics and that the data requested was available, representative and feasible to provide within the timeframe available to submit it. As a result, ESMA conducted a CBA workshop on 24 February 2015 attended by a selection of firms and associations representative of the population of firms affected by MiFID II provisions in the markets areas. The topics covered were those anticipated to be controversial or have significant compliance costs. Workshop participants provided overall feedback and suggested changes to the initial CBA questionnaires prepared by ESMA, which were reflected in a revised CBA questionnaire.

The revised CBA questionnaire was sent in March 2015. It was distributed to the associations that participated in the workshop, to all the competent authorities as well as to a list of representative firms selected by the respective competent authorities. The intention of the CBA questionnaire was to gather facts from market participants and competent authorities on the magnitude of the compliance costs involved, the drivers of those costs, any other effects that could be experienced by types of firms or the industry overall as an indirect consequence of the incremental obligation imposed by ESMA's draft RTS.

ESMA requested additional qualitative feedback on some controversial issues and also to specify to the extent possible the costs derived from complying with the draft RTS. Respondents had to consider both one-off and on-going costs as well as the type of those costs (staff costs, IT costs, etc.). Respondents provided their estimates of compliance costs either in monetary terms or in pre-defined intervals: [Very Low] when less than EUR 50k, [Low] when between EUR 50k-250k, [Medium low] when between EUR 250k-1m, [Medium High] when between EUR 1m-5m, [High] when between EUR 5m-0m, [Very high] when more than EUR 10m.

The sample selected by competent authorities contained firms of different sizes and with different business models and different categories of stakeholders. Any data to be provided was to be treated confidentially by ESMA, and not disclosed unless in an aggregate form. ESMA would not disclose the identity of the source of comments or estimates received. As a result, there is data that has been processed and analysed by ESMA but has not been included in this report.

In spite of ESMA's efforts to select an unbiased sample and gather as much information as possible to better evaluate the impact of the standards, the number of firms that responded to the CBA questionnaire and provided information that could be used by ESMA in the CBA was limited<sup>3</sup>. Not all sectors or range of stakeholders are represented in the responses received, or the number of firms that replied from one sector is much bigger than those that did it for the others. From the firms that responded, some of them provided either a limited amount of qualitative information or incomplete quantitative data. ESMA recognises the significant time commitment that was required to reply to the extensive information requested in the CBA questionnaire, and would like to thank all the market participants, associations and competent authorities that have either facilitated the data gathering process or sent actual data to ESMA for their cooperation, time and effort and the information provided.

It is worth noting that the CBA questionnaire was based on the draft RTS text attached to the CP, and therefore the quantitative estimates of compliance costs provided by respondents relate to the RTS/ITS in the CP. For the standards that have not changed from the CP, those quantitative cost estimates should still apply. For the standards that have been amended to take into consideration the feedback provided, the compliance costs of the final draft RTS/ITS can deviate.

In relation to information relating to execution of orders, the information gathered through the consultation was of a qualitative kind. ESMA has however followed up with the respondents to this section of the consultation, by sending out some additional cost-oriented questions. The questionnaire dealt in particular with cost estimations for both execution venues and investment firms and distinguished between costs connected to the data gathering phase and those connected to processing, monitoring and reporting. ESMA received answers from 18 firms and venues with different size and business models. Collected data allowed ESMA to further strengthen the qualitative cost assessment

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<sup>3</sup> As a result of the limited number of responses received, for none of the CBA topics, for which we have received data from market participants, the number of data points (sample size) is representative of the category of firms they belong to (population) from a statistical perspective. In addition, there is a significant variance in the ranges of the individual estimates of costs received, even within the same category and size of firm, which may arise from a very different understanding of the cost implications of the RTS/ITS obligations. Given the small samples and the challenges of providing reliable quantitative estimates of compliance costs of the different standards at the European level, we only provide a compliance cost range by size of firm, whenever available for a particular CBA topic.

## **2. TRANSPARENCY**

### **2.1. Transparency requirements in respect of shares, depositary receipts, ETFs, certificates and other financial instruments and trading obligation for investment firms**

#### **1. Executive Summary**

MiFID introduced pre-trade and post-trade transparency requirements for regulated markets (RMs) and multilateral trading facilities (MTFs) offering trading in shares admitted to trading on a regulated market and for systematic internalisers (SIs) in the same asset class. It also introduced post-trade transparency requirements for investment firms in such shares. Based on MiFID experience and considering that trading in shares traded only on MTFs, depositary receipts, ETFs, certificates and other similar financial instruments takes place in largely the same fashion, and fulfils a nearly identical economic purpose, as trading in shares admitted to trading on a regulated market, MiFIR extends its provisions to the former. In addition, MiFIR introduces an on-venue trading obligation for shares, except where there are legitimate reasons for some transactions to be excluded from this obligation.

The purpose of the draft RTS is to further specify the pre-trade and post-trade transparency obligations to be met by trading venues and SIs in this new environment, including the characteristics of the trades excluded from the trading obligation. This document covers three main areas, dealing respectively with pre-trade transparency, trading obligations for shares and post-trade transparency. Within each of these areas there are four sections: introduction, baseline, stakeholders and cost-benefit analysis. The cost-benefit analysis section contains a subsection on compliance costs. There is an additional section at the end on European comparison.

#### **2. Pre-trade transparency in respect of shares, depositary receipts, ETFs, certificates and other financial instruments and trading obligation for investment firms**

Pre-trade transparency enables investors and market participants to assess at any time the terms of a transaction they are considering and contributes to the efficiency of the overall price formation process. However, pre-trade transparency comes at a cost for some stakeholders. Accordingly, there are circumstances under which such pre-trade transparency may be waived, either because the benefits of transparent pre-trade information would be outweighed by its related potential costs, or because the order display would not contribute to the efficiency of the price formation system.

In order to provide for consistency and legal certainty with regard to the authorisation process and to supervisory decisions across EU Member States, the final draft RTS sets out a harmonised, common list of pre-trade information to be displayed by trading venues as well as the precise circumstances under which waivers may apply. With that same objective in mind, the draft RTS also sets forth specific pre-trade transparency arrangements for SIs. Finally, as one of the main consequences of the newly introduced trading obligation for



investment firms is the associated pre-trade transparency obligation, the precise scope of the trading obligation is discussed under the final draft RTS.

## **2.1. List of pre-trade information to be made public by trading venues**

### **2.1.1. Introduction**

Pre-trade transparency information refers to bid and offer prices and the depth of trading interests at those prices that are made available to the public. The content of the pre-trade information to be made public by trading venues is critical for market participants at large to have a complete and useful picture of all available opportunities to trade, and to be able to assess and compare those opportunities, taking into account the characteristics of each trading system.

A list of pre-trade information to be displayed by regulated markets and MTFs offering trading in shares admitted to trading on a regulated market was already provided in Article 17 and Annex II of the MiFID Implementing Regulation. The final draft RTS supplements these earlier provisions in light of the wider scope of the pre-trade transparency requirements under MiFIR, including in respect of request for quote (RFQ) systems.

### **2.1.2. Baseline**

From a legal perspective, the legislation to consider is:

- in respect of shares admitted to trading on a regulated market, Article 17 and Table 1 of Annex II of the MiFID Implementing Regulation, which provides for the range of bid and offer prices and market-maker quotes to be made public by regulated markets and MTFs in respect of shares admitted to trading on a regulated market; and
- in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments, Article 3(1) of MiFIR, which extends the requirement to make public current bid and offer prices as well as depth of trading interests available on a continuous basis during normal trading hours to those instruments.

In addition, Article 3(1) of MiFIR extends pre-trade transparency obligations to RFQ systems to actionable indications of interests (IOIs) across equity and equity-like instruments.

#### *Empowerment/RTS*

Under Article 4(6)(a) of MiFIR, ESMA has to develop draft regulatory technical standards to specify (...)

“(a) the range of bid and offer prices or designated market-maker quotes, and the depth of trading interests at those prices to be made public for each class of financial

instrument concerned in accordance with Article 3(1)<sup>4</sup>, taking into account the necessary calibration for different types of trading systems, including order-book, quote-driven, hybrid and periodic auction trading systems, as referred to in Article 3(2)”

In respect of shares admitted to trading on a regulated market, the proposed final draft RTS mirrors existing requirements for the trading systems already identified in the MiFID Implementing Regulation<sup>5</sup>. The incremental obligation arising from the final draft RTS compared to the MiFID I/MiFIR baseline described above is twofold:

- the final draft RTS provides for the pre-trade information to be made public by RFQ systems;
- the final draft RTS extends the list of pre-trade information to be made public by trading venues to actionable IOIs as defined in Article 2(33) of MiFIR.

In respect of shares traded only on MTFs and equity-like instruments, the additional obligation is the precise list of pre-trade information to be made public by each trading system, including in respect of actionable IOIs compared to the MiFIR baseline described above.

Based on the information collected through desk research and the responses to the CBA questionnaire, EU trading venues that currently offer trading in shares traded only on MTFs and in equity-like instruments typically provide some pre-trade transparency either on a voluntary basis or at the request of their CA, except where the trading system is an RFQ system. When trading venues already provide some pre-trade information, current market practices are taken into consideration when assessing costs. For RFQ systems, MiFIR is taken as the baseline.

It should be noted that, where the final draft RTS creates additional obligations, the costs associated with the incremental rule will be a combination of the effects of the Level 1 text and of the final draft RTS. As those effects are very difficult to disentangle, any indication of costs is to be considered as an upper bound.

### **2.1.3. Stakeholders**

The stakeholders that will or may be affected by the scope of the pre-trade information to be made public by trading venues are:

*Regulated markets and MTFs:* Trading venues offering trading in shares traded only on MTFs and in equity-like instrument may incur one-off costs for amending their trading rules as well as IT costs to adjust their systems to the characteristics of pre-trade information set out in the final draft RTS. This will also include monitoring costs and back-up scenarios in case of disruption in the dissemination of such pre-trade information.

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<sup>4</sup> i.e. shares, depositary receipts, ETFs, certificates and other similar financial instruments traded on a trading venue.

<sup>5</sup> i.e. continuous auction order book trading systems, quote driven trading systems, periodic auction trading systems and hybrid trading systems.

Trading venues could also potentially be indirectly impacted by the final draft RTS where pre-trade transparency would lead participants providing liquidity to the market to increase bid/ask spreads and/or reduce available quantity at the best bid and offer to mitigate the potential increased market risk associated with increased pre-trade transparency or where end-investors would turn to dark trading venues to avoid the potential market impact that their order display may trigger. To the extent there is already some pre-trade transparency for shares traded only on MTFs and for equity-like instruments (except on RFQ systems), it is not expected that the pre-trade information to be made public under the final draft RTS will have a significant impact.

On the other hand, pre-trade transparency may attract more order flow as market participants get a better sense of the price at which their orders may be executed across trading venues. It should also be noted that High Frequency Trading (HFT) firms develop trading in instruments traded on electronic platforms providing pre and post-trade transparency.

The scenario may be different for RFQ systems where, currently, the answers provided to a request for quote are only received by the entity which submitted the request. Public disclosure of the quotes may discourage market makers to respond to a request for quote, unless the quoting size equals or exceeds the Large In Scale (LIS) thresholds. This would likely affect the attractiveness of RFQ trading systems. Should it be the case, and considering that equity-like instruments are not subject to the trading obligation, it remains to be seen if and how the RFQ order flow would be re-allocated to other trading and execution venues or directed elsewhere.

As regards the extension of pre-trade equity and equity-like transparency requirements to actionable IOIs, the identification of current market practices is made difficult as the MiFID II definition of actionable IOIs appears rather broad and the boundaries are left to interpretation. However, it seems that indications of interest which might be considered as actionable IOIs are used on voice and request-for-quote trading systems, for ETFs and non-equity instruments. The impact of pre-trade transparency requirements relating to IOIs should therefore be limited in respect of equity and equity-like instruments.

#### *Members/participants of trading venues*

When moving to a pre-trade transparent environment, market and price makers may potentially be incentivised to widen the bid and ask spread and/or reduce the quantity available at that price as the market, or other price makers, may move against them. While most members and participants are already used to trading or dealing in equity-like instruments with some pre-trade transparency, the final draft RTS is likely to impact price makers on RFQ systems. On the other hand, where more than one market maker is making a market in a given instrument, pre-trade transparency may increase competition between market makers and contribute to reduced spreads.

### *Portfolio/fund management companies, end-investors*

Pre-trade information on a financial instrument made public by a trading venue may generate additional interest from potential buyers and sellers and thereby increase liquidity on trading venues. In particular, HFT firms are attracted by electronic trading in financial instruments with pre and post-trade transparency. On the other hand, where pre-trade transparency would lead to a widening of spreads and/or reduced available quantity at a given price, this would be a source of additional costs for investors. Institutional investors trading in large sizes may be concerned by the potential market impact of the public display of their orders, should they consider that the calibration of the LIS pre-trade transparency waiver is not appropriate.

CAs will have to monitor compliance with pre-trade transparency obligations by trading venues.

#### **2.1.4. Cost-Benefit Analysis**

The final draft RTS mirrors the existing details of pre-trade transparency information to be made public by continuous auction order book trading systems, quote driven trading systems, periodic auction trading systems and hybrid trading systems trading in shares admitted to trading on a regulated market. It does not create additional obligations in this area.

The incremental obligations arising from the draft RTS are twofold:

- it extends the existing details of pre-trade transparency information to trading venues offering trading in shares traded only on MTFs and to equity-like instruments, as a direct consequence of MiFIR; and
- it sets out the content of the pre-trade information to be made public by a new type of trading systems: RFQ systems.

Finally, the final draft RTS includes actionable IOIs in the set of mandatory pre-trade information to be made public, as foreseen by Level 1.

Based on the comments received, the final draft RTS has been modified in respect of RFQ systems to specify that all quotes submitted in response to a request for quote may be published at the same time but no later than when they become executable under the system's rules. This should contribute to mitigating the risk of "winner's curse", with market participants pricing against both the price maker and the investor, resulting in wider spreads and less depth of liquidity.

Additional information on current market practices and compliance costs is provided in sections 5 and 6 below.

<b>Policy Objective</b>	Providing meaningful pre-trade information to market participants.
<b>Technical Proposal</b>	List of pre-trade information to be made available by RMs and MTFs. See Article 3 and Table 1 of Annex 1 of RTS 1 and Recital 7 for more details.
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability as to the pre-trade information to be made public by trading venues.</p> <p>Its sets out uniform applicable conditions for each type of trading system, contributing to a level playing field across EU trading venues.</p> <p>Timing of pre-trade information for RFQ systems will ensure that members or participants submitting quotes in response to requester first are not put at a disadvantage.</p> <p>The harmonised details of pre-trade information across equity and equity-like will further contribute to mitigating market fragmentation.</p>
<i>Cost to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs may incur additional on-going staff supervisory costs to ensure compliance with the extension of pre-trade requirements to a broader set of financial instruments and of trading systems.</p> <p>We consider those costs to be driven by Level 1.</p>
<i>Compliance cost:#</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>When trading venues do not currently provide the same level of pre-trade information in shares traded only on MTFs, and in equity-like-instruments as the one required in the final draft RTS, they will incur one-off costs, including IT costs, to adjust trading system parameters in order to make public the requested pre-trade information</p> <p>RFQ systems may incur more significant one-off staff and IT costs as they currently do not make pre-trade transparency information available to the public.</p> <p>Both sets of trading venues will incur on-going costs for the monitoring of continuous availability of data feeds.</p>
<i>Cost to other stakeholders</i>	Data vendors will incur one-off and-going staff and IT costs, to include additional pre-trade information in their data streams and

	manage related licensing fees.
<i>Indirect costs</i>	<p>Participants/members of trading venues putting their capital at risk may face additional risks, and costs, as the market may potentially move against them, including on RFQ systems.</p> <p>Market participants/investors may incur additional execution cost where this would lead to higher spreads/reduced liquidity and less perfect hedging.</p> <p>We consider those indirect costs to be driven by Level 1.</p>

## 2.2. Reference price pre-trade transparency waiver – Most relevant market in terms of liquidity

### 2.2.1. Introduction

In line with MiFID, MiFIR provides for circumstances where the obligation to make the pre-trade information described above public may be waived. One of those circumstances is when the trading venue operates a system that matches orders based on a price that is derived from another trading venue, the “reference price”. The precise identification of the trading venue where the reference price can be taken from, i.e. “the most relevant market in terms of liquidity” is among the few amendments made by MiFIR to this pre-trade transparency waivers compared to MiFID. The final draft RTS clarifies what is meant by the “most relevant market in terms of liquidity” for transparency purposes.

### 2.2.2. Baseline

From a legal perspective, the legislation to consider is Article 4(2)(a) of MiFIR, which provides that: “The reference price referred to in paragraph 1(a) shall be established by obtaining:

- (a) the midpoint within the current bid and offer prices of the trading venue where that financial instrument was first admitted to trading or the most relevant market in terms of liquidity(...).”

#### *Empowerment/RTS*

Under Article 4(6)(b) of MiFIR, ESMA has to develop RTS to specify “the most relevant market in terms of liquidity of a financial instrument in accordance with paragraph 1(a)”.

Under the final draft RTS, the most relevant market in terms of liquidity is the trading venue with the highest turnover within the EU for that financial instrument, excluding all the transactions executed under a pre-trade transparency waiver (i.e. “reference price” waiver, negotiated transactions and pre-trade LIS transactions (i.e. a transaction executed on the basis of at least one order that has benefitted from a LIS waiver where the transaction’s size

is above the applicable pre-trade LIS threshold) as a criteria to assess the most relevant market in terms of liquidity.

Under MiFID I, as there was no formal definition of the most liquid market of a financial instrument, the regulated market where a financial instrument was first admitted to trading was typically used as a proxy.

The incremental rule is theoretically the definition of “the most relevant market in terms of liquidity” provided in the final draft RTS against the MiFIR baseline described above. However, it is debatable as to whether the definition provided in the final draft RTS does actually represent an incremental obligation compared to Level 1. In any case, it is extremely difficult, here again, to disentangle the costs related to the reference to the most liquid market in the Level 1 provision and the costs related to the definition provided in the RTS. Any indication of costs is therefore to be considered as an upper bound.

### **2.2.3. Stakeholders**

*Trading venues* will have to provide the relevant data to their CA each year in respect of equity and equity-like instruments traded on their systems.

In addition, regulated markets and MTFs currently operating a trading system based on the reference price waiver may potentially be affected as the options they offer to their clients to trade without pre-trade transparency may be potentially reduced by the definition provided in the final draft RTS. However, this is not expected to be a source of significant cost as the market of first listing, which is currently used as a reference for some waivers, is often the most liquid market as well. Systems that refer to a larger number of trading venues to calculate a European Best Bid and Offer (EBBO) will likely be more affected as they will have to adopt a single reference market. This is a consequence of the Level 1 provision rather than of the final draft RTS.

Regulated markets and MTFs will benefit from increased clarity and predictability in the waiver process.

*Members/participants, portfolio/fund managers/end investors* may potentially be affected as the way they can currently trade without pre-trade transparency on trading venues may be restricted by the final draft RTS. However, as explained above, this is not expected to be a source of significant Level 2 indirect costs.

CAs will incur some additional costs to calculate the total turnover for each equity and equity-like instrument for which they are the CA on a yearly basis according to the set methodology.

### **2.2.4. Cost-Benefit Analysis**

Under the final draft RTS, the most relevant market in terms of liquidity is the trading venue with the highest turnover, i.e. with the highest total value of transactions over a calendar year, excluding transactions which have benefitted from a pre-trade LIS waiver, a reference price or a negotiated transaction pre-trade transparency waivers. Excluding transactions

executed under a pre-trade transparency waiver, and thereby not contributing to the price formation process, strengthens the resilience of the price serving as a reference.

Where a financial instrument has been traded for less than a calendar year, the most relevant market in terms of liquidity is the trading venue where the instrument was first traded until the turnover can be calculated for a full calendar year.

<b>Policy Objective</b>	Having a sound, informative, and reliable price as a reference price, ultimately serving market integrity purposes.
<b>Technical Proposal</b>	Determination of the most relevant market in terms of liquidity for a share, depositary receipt, ETF, certificate or other similar financial instrument. See Article 4 of draft RTS 1 for more details.
<b>Benefits</b>	<p>The price taken from the trading venue with the highest turnover, excluding transactions that do not contribute to the price discovery process, is likely to be the most resilient and more meaningful reference price. Increased reliability of the price serving as a reference is a benefit to market participants executing transactions on reference price systems.</p> <p>Total turnover is an unsophisticated but simple and cost-effective proxy for the definition of liquidity for reference price purposes.</p> <p>Likewise, the trading venue where the instrument was first admitted is a simple and cost effective proxy pending the calculation of the effective turnover.</p> <p>Annual review of turnover caters for reallocation of trading volume across trading venues while limiting recurrent calculation costs.</p>
<b>Cost to regulator:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs may incur some one-off and on-going additional staff and IT costs for annual calculation of turnover.</p> <p>The magnitude of costs is likely to depend on the contribution and assistance provided by trading venues for the calculations.</p>
<b>Compliance cost:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Trading venues will likely incur one-off and on-going additional IT costs for the provision of relevant data to CAs.</p>



Cost to other stakeholders	No Level 2 costs identified.
Indirect costs	None

## 2.3. Negotiated transactions

### 2.3.1. Introduction

Building on current MiFID, MiFIR allows pre-trade transparency obligations to be waived under certain circumstances for negotiated transactions. A negotiated transaction involves one or more members or participants of a trading venue who negotiate privately the terms of a transaction which is then reported under the rules of the trading venue. In some circumstances, the trade could not be executed under the systems operated by the trading venues because of special conditions or requirements attached to the trade or because the transaction does not constitute liquidity addressable by market participants other than the counterparties negotiating the transaction.

In this context, the final draft RTS addresses two key components of the definition of a negotiated transaction: the different ways a member or participant may execute a negotiated transactions, and the list of transactions that, because they are subject to conditions other than the current market price, do not have to meet the price conditions attached to the negotiated trade waiver.

### 2.3.2. Baseline

#### Specific characteristics of negotiated transactions

From a legal perspective, the legislation to consider is:

- i. In respect of shares admitted to trading on a regulated market, Article 19 of the MiFID Implementing Regulation, which sets out that a negotiated transaction is a transaction “(...) where that member or participant is doing so, undertakes one of the following task :
  - a. dealing on own account with another member or participant who acts for the account of a client;
  - b. dealing with another member or participant, where both are executing orders on own account;
  - c. acting for the account of both the buyer and seller;
  - d. acting for the account of the buyer, where another member or participant acts for the account of the seller; and

- e. trading for own account against a client order”.
- ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments, Article 4(1)(b) of MiFIR which provides for the negotiated trade waiver.

#### *Empowerment/RTS*

Under Article 4(6)(c) ESMA has to develop RTS to specify “the specific characteristics of a negotiated transaction in relation to the different ways the member or participant of a trading venue can execute such a transaction”.

The final draft RTS proposes to retain the existing MiFID framework. Accordingly, there is no incremental obligation for trading venues offering trading in shares admitted to trading on a regulated market.

The incremental obligation under the draft RTS is the list of ways, or capacity in which members or participants may enter into negotiated transactions compared either to the current market practice in respect of shares traded only on MTFs and for equity-instruments, or to the MiFID I/MiFIR baseline described above.

#### Negotiated transactions subject to conditions other than the current market price

From a legal perspective, the legislation to consider is:

- i. in respect of shares admitted to trading on a regulated market, Article 18(1)(b)(ii) of the MiFID Implementing Regulation, which provides that a negotiated transaction is eligible to the pre-trade waiver if “*it is subject to conditions other than the current market price of the share*” ,
- ii. in respect of “MTFs only” shares and equity-like instruments, Article 4(2)(b)(iii) of MiFIR, under which a negotiated transaction is eligible to the pre-trade transparency waiver if it is “*subject to conditions other than the current market price of that financial instrument*”.

#### *Empowerment/RTS*

Under Article 4(6)(d) of MiFIR, ESMA has to develop RTS to draw up a list of the negotiated transactions *that do not contribute to price formation* and are therefore eligible to the negotiated trade waiver under Article 4(1)(b)(iii) of MiFIR (which actually refers to transactions “*subject to conditions other than the current market price of that financial instrument*”).

The following sections provide a cost-benefit analysis of the incremental obligations arising from the final draft RTS in respect of negotiated transactions compared either to current market practices or to the MiFID I/MiFIR legal baseline described above. As the impact of the Level 1 text and of the Level 2 measures are very difficult to disentangle, any indication of cost is to be taken as an upper bound here as well.

### 2.3.3. Stakeholders

#### Specific characteristics of negotiated transactions

*Regulated markets and MTFs:* Regulated Markets and MTFs offering trading in “MTFs only” shares and equity-like instruments may have to amend their rulebook, adjust parameters of their IT systems and enhance monitoring/market surveillance to ensure that their systems formalise negotiated transactions only under the circumstances described in the final draft RTS.

*Members of/participants in such trading venues and end-investors* could either be constrained in the way their transactions can be considered as on-trading venue or be offered additional flexibility, depending on the characteristics of negotiated transactions, if any, on that venue. However, given the trading similarities between equity and equity-like instruments, the impact of the incremental rule is not expected to be of major significance.

#### Negotiated transactions subject to conditions other than the current market price

*Regulated Markets and MTFs* may have to adjust some parameters in their IT systems so that members/participants registering negotiated transactions on their systems can refer to the relevant category of transaction eligible to the pre-trade transparency waiver. The list will provide more predictability in the waiver process.

*Member/participants/portfolio managers and end-investors:* The proposed list partially draws on the list set out in CESR Technical Advice to the Commission (CESR/10-882)<sup>6</sup>, and is expected to be mostly in line with current market practices, whilst the last negotiated transaction type in the list provides ample flexibility to cater for future market developments.

*CAs:* The list set out in the final draft RTS will provide additional guidance to CAs when reviewing a request by a trading venue for a negotiated trade waiver. No additional cost is expected from this RTS.

*Market participants* more broadly would be indirectly impacted if negotiated transactions subject to conditions other than the current market price, which do not count for the calculation of the double volume cap, were used to circumvent the limitation on dark trading established by MiFIR.

### 2.3.4. Cost-Benefit Analysis

With regards to the different ways a member or participant of a trading venue can execute a negotiated transaction, the final draft RTS basically mirrors the circumstances currently foreseen in the MiFID provisions. However, based on the comments received the final draft RTS now refers to members or participants “acting on behalf of a client”, which includes, but extends beyond “acting for the account of a client”, as set out in the MiFID Implementing

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<sup>6</sup> Ibid

Regulation. This wording is consistent with the definition of investment services provided in Annex I of MiFID II.

In addition, the final draft RTS provides an exhaustive list of transactions subject to conditions other than current market price. This list is critical as those transactions will not be taken into account for the calculation of the Volume Cap.

The list partially expands on the list of transactions that would constitute non addressable liquidity or are determined by factors other than the current market valuation of the share identified by CESR in its Technical Advice to the Commission (CESR/10-882)<sup>7</sup>, a joint work with the industry. Based on the comments received, the final draft RTS has been modified to explicitly include transactions that were carried out under the rules of a trading venue, a central counterparty or a Central Securities Depository (CSD) to effect buy-in of unsettled transactions in accordance with the CSD Regulation as well as transactions made to transfer financial instruments as collateral (and no longer just segregate collateral) in bilateral transactions or as part of the default management process of a central counterparty.

Under MiFID, current market practices, including regulatory practices, already include portfolio trades as part of the negotiated transactions subject to conditions other than the current market price. However, the MiFID Implementing Regulation specifies the minimum number of financial instruments to be included in a portfolio trades, i.e 10, just in the context of SIs' pre-trade transparency obligations. To address potential uncertainties, and taking into account the comments received, Article 1 of RTS 1 has been amended to specify that a portfolio trade is a transaction that involves 5 or more different financial instruments, as opposed to 10 as initially proposed. This definition has a direct impact on the scope of negotiated transactions not subject to pre-trade transparency obligations.

Finally, the last type of negotiated transactions foreseen in the RTS provides ample flexibility to accommodate other current market circumstances and future development developments.

<b>Policy Objective</b>	Maintaining a high level of transparency and ensuring price formation remains efficient by limiting the use of waivers not subject to the volume cap.
<b>Technical Proposal</b>	The final draft RTS covers the following areas: <ul style="list-style-type: none"> <li>- Specific characteristics of negotiated transactions. See Article 5 of RTS 1 for more details.</li> <li>- Negotiated transactions subject to conditions other than the current market price. See Article 6 of RTS 1 for more details.</li> </ul>
<b>Benefits</b>	The final draft RTS provides clarity and more predictability to trading venues in respect as regards the negotiated trade waiver and will

<sup>7</sup> CESR Technical Advice to the European Commission in the Context of the MiFID Review(CESR/10-882)

	<p>facilitate supervisory convergence across CAs in addressing a negotiated trade waiver request.</p> <p>The exhaustive list of negotiated transactions not contributing to price formation provided in the draft RTS will contribute to ensuring that the waiver is not misused to circumvent the double volume cap.</p> <p>Flexibility in the last negotiated transaction type allows for future market developments.</p> <p>With the exception of that last item, the list is similar to the list of transactions not contributing to the price discovery process in the context of the trading obligation set out in Article 2 of RTS 1. This convergence will streamline implementation and reduce compliance costs.</p>
<p>Cost to regulator:</p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	None identified.
<p>Compliance cost:</p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Compliance with the “subject to conditions other than the current market price” criteria is typically checked bilaterally by trading venues’ market surveillance staff.</p> <p>Trading venues may incur one-off staff training costs to raise awareness about the exhaustive list provided in the final draft RTS. Some trading venues may incur on-going market surveillance staff costs to check compliance with the list set out in the final draft RTS but they are expected to be non-significant and absorbed by existing resources.</p>
Cost to other stakeholders	None identified.
Indirect costs	Pre-trade transparency and price formation could be affected if the substantial room for interpretation provided for in the last transaction type was intensively made use of.

## 2.4. Large in scale (LIS) orders

### 2.4.1. Introduction

Building on MiFID I, MiFIR allows pre-trade transparency obligations to be waived for on-venue orders that are considered to be large in size compared to normal market size. The LIS waiver is designed to protect large orders from adverse market impact and abrupt price

movements. Setting proper thresholds for large in scale orders is all the more critical that MiFIR also imposes a trading obligation for shares.

Under Table 2 in Annex II of the MiFID Implementing Regulation, the average daily turnover (ADT) is used to determine whether an order should be considered as large in scale compared to normal market size. The shares are grouped within five different classes and the higher the ADT, the higher the minimum threshold for the large in scale waiver. The final draft RTS revisits the ADT classes for shares to introduce more granularity and sets thresholds for equity-like instruments. Finally, while the MiFID Implementing Regulation remains silent about partially executed LIS orders, the final draft RTS clarifies the issue.

#### **2.4.2. Baseline**

From a legal perspective, the legislation to consider is:

- i. for shares admitted to trading on a regulated market, Article 20 and Table 2 in Annex II of the MiFID Implementing Regulation and the calculation methodology set out in Article 33 of this Regulation;
- ii. for shares traded only on MTFs and non-equity-instruments, the baseline is MiFIR Article 4(1)(c), which provides that the pre-trade transparency obligations may be waived for operators of trading venues for “orders that are large in scale compared to normal market size”.

Article 4(6)(e) empowers ESMA to develop RTS to specify “the size of orders that are large in scale (...) for which pre-trade disclosure may be waived for each class of financial instrument concerned”.

Market practices for shares admitted to trading on a regulated market match the thresholds set out in Article 20 and Table 2 in Annex II of the MiFID Implementing Regulation.

As regards shares traded only on MTFs and equity-like instruments, the research conducted suggests a variety of situations. On one regulated market surveyed, the equivalent of the LIS threshold for ETFs is EUR 500,000. On another regulated market, an order in ETFs qualifies as large and may remain dark if it equals or exceeds EUR 5 million. On a third one, there is no equivalent of LIS orders for ETFs as no Average Daily Turnover (ADT) is currently calculated; the order management facility waiver, and more specifically iceberg orders, are used by market members to trade in ETFs in large sizes.

Stubs remain protected by the large in scale waiver in some Member States. On some other trading venues, all orders entered into the central order book are made pre-trade transparent and LIS orders may only be executed without pre-trade transparency outside the order book; no stubs can therefore be found in the order book. On other trading platforms, discretion is left to members and participants to decide whether their LIS order is to be disclosed or not in the central order book.

For shares admitted to trading on a regulated market, the incremental obligation stemming from the final draft RTS is the revised LIS order thresholds associated with the revised ADT liquidity bands compared to the MiFID Implementing Regulation.

For shares traded only on MTFs and for equity-like instruments, the incremental obligations are to be assessed against either the MiFIR baseline described above or current market practices where they are above MiFIR requirements. In both cases, the incremental rules will be a combination of the MiFIR requirement and of the final draft RTS requirement, which are very difficult to disentangle. Any indication of cost in this area is therefore to be taken as an upper bound.

### **2.4.3. Stakeholders**

*Regulated Markets and MTFs:* Trading venues will have to adjust their IT systems to the revised thresholds for shares and to the new thresholds for non-equity instruments. On the one hand, the moderate increase in thresholds for LIS orders may lead to more orders contributing to the price formation and discovery processes on pre-trade transparent venues. On the other hand, should the threshold for LIS be set at a level that market participants would consider as too high, lit trading venues could potentially face a decrease in order size as investors would not be willing to have their orders publicly displayed. Slicing of large orders may in turn, lead to a further decrease in transaction size on lit markets.

*Members/Participants/Portfolio managers/End investors:* Those stakeholders will have to adjust their trading algorithms and other execution tools to the revised or new thresholds for shares and equity-like instruments. If the revised thresholds were considered inappropriate, portfolio/asset managers could also potentially turn to SIs for the execution of their large orders where they have to meet the trading obligation, or to other alternative execution strategies. These potential consequences are not exhaustive and their impact will ultimately depend on market forces at play, which is difficult to anticipate.

CAs will have additional data to collect and process on a yearly basis to determine the LIS threshold for a larger set of financial instruments.

### **2.4.4. Cost-Benefit Analysis**

#### **i. Thresholds for LIS orders**

The final draft RTS sets out thresholds for LIS orders in respect of shares and equity-like instruments and clarifies the treatment of partially executed LIS orders.

The RTS continues with the approach based on Average Daily Turnover (ADT) as a proxy of liquidity to assess the potential market impact of a large order and extends it to depositary receipts and certificates. This approach has the merit of simplicity.

In order to better take into account the potential impact of the LIS thresholds on trading in less liquid shares, including SME shares, the final draft RTS is more granular than the MiFID Implementing Regulation and includes 9 ADT liquidity bands instead of 5. Where the MiFID

Implementing Regulation had one ADT band for shares with an ADT below EUR 500,000, with an LIS of EUR 50,000, the final draft RTS foresees 3 ADT classes below EUR 500,000, with LIS order thresholds ranging from EUR 150,000 to EUR 60,000. Additional granularity also led to the creation of a new liquidity band for the most heavily traded shares (ADT above € 100,000,000) with an LIS threshold of €650,000. The revised LIS table aims at striking a more appropriate balance between overall transparency and the specific characteristics of trading in less liquid shares where members and participants of trading venues typically put their capital at risk.

Based on an analysis of certificates indicating that i) certificates have different payoffs from shares and are hence separate financial instruments and ii) the number of instruments within this asset class is small with limited trading activity, the final draft RTS retains 2 ADT bands for those instruments.

With respect to ETFs, the respondents to the Consultation unanimously considered that ADT was an extremely poor proxy of liquidity for ETFs, noting that the liquidity of the underlying would be a more relevant element to take into consideration. Based on those comments but wishing at the same time to avoid very complex calculations, the final draft RTS opts for a single LIS threshold of €1,000,000 for all ETFs.

Finally, when a dark LIS order is partially executed against a smaller order on an order book, the residual part of the order (“the resting order” or “stub”) may be of a size below the LIS threshold. Under the final draft RTS, the resting order continues to benefit from the LIS order pre-trade transparency waiver. This aims at ensuring that investors’ ability to execute large orders through order books is not hindered by revealing sensitive information to the market, although creating an unlevelled playing field between two investors’ orders of the same size resting in an order book and faced with the same potential market impact.

Dark stubs are an incentive to trade in large size in the order book rather than through negotiated transactions subject to the double volume cap. Under MiFIR, trading venues may seek to maximise opportunities for their clients to trade without pre-trade transparency outside the reference price waiver or the negotiated trade waiver. Dark stubs may contribute to the attraction of dark order book trading based either on the LIS waiver alone or on a combination of the LIS waiver and other pre-trade transparency waivers not taken into consideration for the double volume cap. As opposed to negotiated transactions, dark order book trading is a source of addressable liquidity.

<b>Policy Objective</b>	Ensuring appropriate level of transparency in EU financial markets while ensuring that large orders remain protected from adverse market impact.
<b>Technical Proposal</b>	Size of orders which are large in scale. - For shares and depositary receipts: See article 7 and Table 1 of Annex II of RTS 1 for more details.



	<ul style="list-style-type: none"> <li>- For certificates and other financial instruments: See article 7 and Table 2 of Annex II of RTS 1 for more details.</li> <li>- For ETFs: See article 7(2) of RTS 1 for more details.</li> <li>- For stubs: See article 7(5) of RTS 1 for more details.</li> </ul>
Benefits	<p>Except for ETFs, ADT appears as a reliable proxy positively correlated to liquidity and relatively easy to collect and process.</p> <p>With respect to shares and depositary receipts, thresholds are more appropriately calibrated to the liquidity characteristics of each class of shares, in particular for SME shares.</p> <p>The special consideration given to LIS orders in less liquid shares, including SME shares, is consistent with the Capital Market Union project.</p> <p>Simplicity of approach for ETFs will reduce compliance costs.</p>
Cost to regulator:	None identified.
<ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	
Compliance cost:	Trading venues will incur one-off and on-going IT costs to adjust and periodically review trading system parameters to the revised LIS thresholds for shares admitted to trading and to introduce/adjust thresholds for shares traded only on MTFs, DRs, certificates and ETFs
<ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	
Cost to other stakeholders	One-off costs: Buy-side and sell-side firms may have to adjust, trading algorithms, smart order routing and execution systems and other order execution management tools/strategies to the revised or newly introduced LIS thresholds.
Indirect costs	<p>Should the revised LIS thresholds be considered as too high by market participants trading in large sizes, this may lead to more fragmentation of orders in the order book of trading venues, reduced size of the order book and increased execution costs. It may also lead to more trades being executed through SIs (for shares where there is a trading obligation) and/or OTC. Market reactions are difficult to anticipate at this stage.</p> <p>Dark stubs will make the LIS waiver more attractive. The overall impact of the LIS waiver on pre-trade transparency in a double volume</p>

	cap mechanism environment is also difficult to anticipate at this stage.
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ii. Classification calculation per instrument

Under MiFID I, the ADT is calculated for each share on an annual basis, with an interim review of the ADT whenever there is a change in relation to the instrument or to the issuer which significantly affects the previous calculation on an ongoing basis. A more frequent calculation would provide greater sensitivity to changes in the markets but would also be more sensitive to temporary effects. On balance, the final draft RTS maintains the frequency set out in the MiFID Implementing Regulation. It represents an incremental obligation for CAs in respect of ADT calculations for shares traded only on MTFs and for equity-like instruments. There are no incremental obligations in respect of ADT calculations for shares admitted to trading on a regulated market compared to the MiFID Implementing Regulation.

<b>Policy Objective</b>	Ensuring that the LIS waiver continues to meet policy objectives (market transparency and protection of large orders from adverse price movements) on an instrument by instrument basis.
<b>Technical Proposal</b>	Calculation of ADT by CAs in respect of each share, depositary receipt certificates and other similar financial instrument for which they are the CA of the most liquid market. See Article 7 of RTS 1 for more details.
Benefits	Annual recalculation provides some stability in the classification and avoids cyclical effects.
Cost to regulator: - One-off - Recurring	Regulators will incur additional one-off and on-going staff and IT costs to do the calculation required on an annual basis and provide interim updates as necessary for an extended number of financial instruments  We consider those costs to be driven by Level 1.
Compliance cost: - One-off - Recurring	Trading venues may incur additional IT and staff cost to respond to regulators' data request for carrying out the ADT calculations.  We consider those costs to be driven by Level 1.
Cost to other stakeholders	None identified.
Indirect costs	None identified.

## 2.5. Order Management Facilities (Article 4(6)(e) of MiFIR)

### 2.5.1. Introduction

Order management facilities are part of the sophisticated order handling and execution tools offered by trading venues. They do not, per se, constitute an impediment to pre-trade transparency as, when the triggering event occurs, the order is always disclosed to the market before execution. While the MiFID Implementing Regulation left room for interpretation in the definition of order management facilities and of the associated orders, the final draft RTS further specifies the characteristics (type and minimum size) to be met by orders held in an order management facility to be eligible to the pre-trade transparency waiver.

### 2.5.2. Baseline

From a legal perspective, the legislation to consider is:

- i. for shares, Article 18(2) of the MiFID Implementing Regulation, which provides that “Waivers based on the type of orders may be granted only in relation to orders held in an order management facility maintained by the regulated market or the MTF pending their being disclosed to the market.”
- ii. for shares traded only on MTFs and for equity-like instruments, Article 4(1)(d) of MiFIR which provides that pre-trade transparency obligations may be waived for “orders held in an order management facility of the trading venue pending disclosure”.

Under Article 4(6)(e) of MiFIR, ESMA has to develop RTS to specify “(...) the type and the minimum size of orders held in an order management facility of a trading venue pending disclosure for which pre-trade transparency may be waived (...)”.

Rather than prescribing a list of detailed order types, the final draft RTS describes the main features of the two order types that are currently considered to be MiFID compliant (i.e. reserve/iceberg orders and stop orders) and the main principles such orders must adhere to. The final draft RTS also prescribes a minimum size for such orders.

Current market practice, i.e. the type and size of orders that are currently used under the order management facility waiver for shares admitted to trading are described in the latest ESMA document on Waivers from pre-trade transparency<sup>8</sup>. They match the main features and principles set out in the final draft RTS, with the notable exception of minimum size for reserve/ iceberg orders. Trading venues offering trading in shares traded only on MTFs or in equity-like instruments would typically offer order management facilities for those instruments as well.

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<sup>8</sup> CESR positions and ESMA opinions (ESMA/2011/241)

The incremental obligation is the definition, and size, of orders held in an order management facility eligible to the pre-trade transparency waiver set out in the final draft RTS compared either to current market practices for trading venues offering such facilities or to the MiFIR baseline described above.

### 2.5.3. Stakeholders

*Regulated Markets and MTFs:* Trading venues may need to adapt IT systems to include minimum reserve order size parameters. It is difficult to anticipate whether the unique minimum order size set out in the final draft RTS will have any impact on order management facility order flow.

*Members/Participants/Portfolio managers/End investors:* The requirements on orders held in an order management facility are not expected to bring significant changes, if any, to existing market practices. Potential impact is more likely to arise in relation to the minimum size for reserve orders as market practices vary across trading venues and instruments. The unique minimum size set for iceberg orders in all equity and equity-like instruments will no longer make this order execution management tool available for smaller orders, which may nonetheless be significant in some market segments.

### 2.5.4. Cost-Benefit Analysis

Rather than providing an exhaustive list of orders that may be held in an order management facility, the final draft RTS sets forth the characteristics to be met by such orders to be MiFIR compliant. The draft RTS focusses on their disclosure to the order book when objective predefined conditions are met and on the interaction with other trading interests. A minimum size of €10,000 euros is introduced for reserve orders across equity and equity-like instruments.

<b>Policy Objective</b>	Contributing to harmonised implementation of the waiver and limiting potential for circumvention.
<b>Technical Proposal</b>	Type and minimum size of orders held in order management facility. See Article 8 of RTS 1 for more details.
<b>Benefits</b>	<p>The final draft RTS provides greater clarity, legal certainty and predictability as to the conditions to be met by orders in an order management facility to be eligible to a pre-trade transparency waiver.</p> <p>It will ease processing of waiver requests by CAs and facilitate supervisory convergence.</p> <p>The RTS allows for innovation in the type of orders that order management facilities may accommodate.</p>

Cost to regulator:  - <i>One-off</i>  - <i>On-going</i>	None
Compliance cost:  - <i>One-off</i>  - <i>On-going</i>	Trading venues that currently do not impose minimum order size or that have set different minimum sizes will incur one-off IT costs to introduce a minimum order size for iceberg orders.
Cost to other stakeholders	Market participants that would no longer be able to use iceberg orders due to minimum size may incur additional costs due to a less efficient execution of their orders.
Indirect costs	None

## 2.6. Pre-trade transparency for investment firms in respect of equity and equity-like financial instruments (Article 14(7) of MiFIR)

### 2.6.1. Introduction

The MiFIR provisions governing pre-trade transparency obligation for SIs are close to the MiFID ones, however extended to SIs in depositary receipts, ETFs, certificates and other similar financial instruments. In order for market participants to be aware of all existing lit liquidity pools, investment firms have to make public firm quotes in respect of those instruments for which they are an SI and for which there is a liquid market. The final draft RTS revisits the SI related provisions of the MiFID Implementing Regulation with respect to the quote publication arrangements, the definition of “prevailing market conditions” and the standard market size.

#### A. Publication arrangements

##### A1. Baseline

From a legal perspective, the legislation to consider is:

- i. In respect of shares admitted to trading on a regulated market:
  - Article 27(3) of MiFID I, which provides that the quote of a SI must be “made public in a manner which is easily accessible to other market participants and on a reasonable commercial basis”,

- Article 30 of the MiFID Implementing Regulation, which provides that “pre-trade information is considered to be made public if it is made available through (a) the facilities of regulated market or an MTF; (b) the facilities of a third party; (c) proprietary arrangements”,
- Article 32 of the MiFID Implementing Regulation, which provides that arrangements used to make pre- and post-trade transparency information public must i) include all reasonable steps necessary to ensure that the information to be published is reliable, monitored continuously for errors, and corrected as soon as errors are detected; ii) facilitate the consolidation of the data with similar data from other sources; and iii) make the information available to the public on a non-discriminatory commercial basis at a reasonable cost.”

The CESR Guidelines and recommendation on Publication and Consolidation of MiFID market transparency data (CESR/07-043) further provided that data made public should be accessible by automated electronic means in a machine readable way and provided the conditions to be met to fulfil this criteria.

ii. In respect of shares traded only on MTFs and equity-like instruments:

- Article 14(1) of MiFIR provides that “Investment firms shall make public firm quotes in respect of those shares, depositary receipts, ETFs, certificates and other similar instruments traded on a trading venue for which they are SIs and for which there is a liquid market”.

### *Empowerment/RTS*

Under Article 14(7) of MiFIR, ESMA has to “develop draft RTS to specify further the arrangements for the publication of a firm quote (...)”.

In the final draft RTS, the conditions to be satisfied by the arrangements used by SIs to publish their quotes mirror the provisions of the MiFID Implementing Regulation as regards reliability, on-going monitoring of quotes, correction of errors and non-discriminatory access to quotes. The additional obligations for current SIs relate to the revised machine readable criteria as set out in RTS 13 on Data Reporting Service Providers (DRSPs), to the quote time stamping obligation and to the clock synchronisation requirement. For new SIs under MiFID II/MiFIR, the incremental obligations are to be assessed against the MiFIR baseline described above. Therefore, the cost associated with the incremental rule will be a combination of the effects of the Level 1 text and of the draft final RTS. As those effects are very difficult to disentangle, indications of cost are to be considered as an upper bound.

## **A2. Stakeholders**

*Investment firms acting as SIs:* There are currently 12 investment firms acting as SIs in shares across the EU. Those investment firms will have to enhance those arrangements in respect of quote time stamping and clock synchronisation when dealing in sizes below

standard market size and ensure that the quotes displayed meet the machine readable criteria.

New SIs under MiFIR will have to include appropriate publication arrangements in their initial set-up costs as SI.

CAs may incur additional on-going supervisory costs for monitoring SIs' compliance with publication arrangements under the final draft RTS.

*Clients of SIs and market participants* more broadly will benefit from easily accessible and accurate pre-trade transparency information from SIs in equity and equity-like instruments.

### A3. Cost Benefit Analysis

SIs will be diversely affected by the incremental publication arrangement obligations.

As of today, SIs typically publish quotes through APA-like entities. It would then be then for those entities to comply with the revised machine readable criteria, and not for the SI itself, although SIs may face increased fees for enhanced arrangements at APA level.

Time stamping of quotes will require IT enhancements for all SIs. As a member/participant of trading venues, SIs will have to comply with the RTS on clock synchronisation for their on-venue business. Extension of clock synchronisation to their SI quotes will have an IT cost but IT synergies may be created across business lines. Such increased transparency in respect of SI quotes may however also entail more indirect costs, for instance where it would require SIs to amend the validity period of quotes.

<b>Policy Objective</b>	Enhanced pre-trade transparency. Ensuring that SI's quotes are easily accessible to market participants and provides meaningful information.
<b>Technical Proposal</b>	Arrangements for the publication of a firm quote. See Article 9 of RTS 1 for more details
<b>Benefits</b>	<p>Machine readability will facilitate access to SIs quotes and consolidation of data.</p> <p>Quote time stamping combined with clock synchronisation of SIs' quotes helps to ensure that the quotes are firm and reliable by improving the audit chain of the publication to the benefits of market participants.</p> <p>It will assist SIs' clients to better analyse ex-post the quality of price quotes and verify best execution, the responsiveness of the SI and the validity period of quotes</p>
<b>Cost to regulator:</b>	CAs may incur on-going supervisory costs to ensure compliance

<ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	with time stamping and clock synchronisation requirements.
<p>Compliance cost:</p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>SIs that will not publish quotes through APA-like entities may incur one-off and on-going IT costs to ensure that their publication arrangements meet the revised machine readable criteria. See also the CBA for RTS 13 on DRSPs.</p> <p>SIs will incur one-off and on-going IT costs to include time stamping in quote display.</p> <p>For compliance costs related to clock synchronisation, please refer to the RTS on clock synchronisation.</p> <p>For new SIs under MiFID II/MiFIR, we consider those costs to be driven by Level 1.</p>
Cost to other stakeholders	None identified.
Indirect costs	Enhanced pre-trade transparency in respect of quote time stamping may potentially require SIs to have another look at their quoting strategies.

## B. Prevailing market conditions

### B1. Baseline

MiFID I and MiFIR both require that the bid and offer prices in an instrument displayed by an SI reflect “the prevailing market conditions” for the instrument.

In respect of shares admitted to trading on a regulated market, Article 24 of the MiFID Implementing Regulation further defines quotes reflecting prevailing market conditions as “a quote or quotes which are close in price to comparable quotes for the same share in other trading venues”.

#### *Empowerment/RTS*

Under Article 14(7) of MiFIR, ESMA has to develop draft RTS to “specify further (...) the determination of whether prices reflect prevailing market conditions (...).”

Compared to the MiFID/MiFIR baseline described above, the incremental obligation associated with the final draft RTS is that the SI’s quotes must be close in prices to quotes of equivalent sizes on the most relevant market in terms of liquidity.



## B2. Stakeholders

The stakeholders identified are the same as for the publication arrangements, i.e. SIs, CAs as well as SIs' clients and market participants.

## B3. Cost Benefit Analysis

The reference to quotes of equivalent sizes on the most liquid market for that financial instrument in the final draft RTS restricts the flexibility provided to SIs under MIFID I to determine their bid and offer prices. The final draft RTS would for instance no longer allow quotes to reflect an average, or other combination of prices, available on multiple venues. As the price available on the most liquid market typically is the best price available for a good portion of the trading day, reference to quotes on that market should contribute to ensure that SIs' represents an effective and meaningful source of liquidity.

The more restrictive conditions for SIs' quotes are also to be read in conjunction with the trading obligation, which is met where transactions are executed either on a trading venue or an execution venue, i.e. through an SI.

<b>Policy Objective</b>	Enhanced pre-trade transparency.
<b>Technical Proposal</b>	Prices reflecting prevailing market conditions. See Article 10 of RTS 1 for more details
Benefits	The final draft RTS provides more clarity, legal certainty and predictability as to quotes to be published by SIs.  Reference to quotes available on the most liquid market for that instrument will contribute to SIs' quotes converging towards more competitive pricing and to SIs becoming a meaningful execution alternative.
Cost to regulator:  - <i>One-off</i>  - <i>On-going</i>	No additional supervisory costs expected from this RTS.
Compliance cost:  - <i>One-off</i>  - <i>On-going</i>	SIs may incur one-off IT costs to adjust trading/pricing algorithms to the quotes available on the most liquid market.
Cost to other stakeholders	None identified.
Indirect costs	SIs

## **C. Standard Market Size**

### **C1. Baseline**

From a legal perspective, the legislation to consider is:

- i. In respect of shares admitted to trading on a regulated market:
  - Article 27(1) and 27(2) of MiFID that sets forth how the SMS is to be calculated at least annually by CAs. Article 23 of the MiFID Implementing Regulation (and Table 3 in Annex II) provides further details on the calculation of the Average Value of Transactions (AVT) in specific circumstances (estimates before first admission to trading and interim review) as well as the SMS for each AVT band.
- ii. In respect of shares traded only on MTFs and equity-like instruments:
  - Articles 14(4) to 14(6) of MiFID II, which are an identical recast of the MiFID Framework Directive.

#### *Empowerment/RTS*

Under Article 14(7) of MiFIR, ESMA has to “develop draft RTS to specify further [...] the determination of the standard market size [...].”

As regards shares admitted to trading on a regulated market, the final draft RTS includes no incremental obligation in respect of the AVT calculations to be carried out by CAs to determine the SMS as the final draft RTS follows for the most part the MiFID Implementing Regulation. The incremental obligation relates to the revised AVT bands and SMS thresholds.

As regards the financial instruments newly included in MiFIR (i.e. shares traded only on MTFs and equity-like instruments), we consider that the incremental calculation costs incurred by CAs, as well as the compliance costs incurred by SIs in those new financial instruments, are driven by Level 1.

It should be noted that, whereas MiFID did not impose any minimum quoting size, MiFIR requires SIs to publish quotes in size at least equivalent to 10% of the standard market size. The SMS table will therefore also have an impact on quoting size obligations. Again, this demonstrates the difficulty of disentangling the effects of MiFIR on the one hand, and of the implementing measures on the other hand.

### **C2. Stakeholders**

The stakeholders identified are the same as for the publication arrangements, i.e. SIs, CAs as well as SIs' clients and market participants.

### C3. Cost-Benefit Analysis

As in MiFID, the SMS table under the final draft RTS is based on AVT classes. The SMS table included in the RTS has been revised to take into account changes in AVTs over the last 6 years, characterised by a decrease in transaction sizes in shares.

Compared to the MiFID table, the two smallest AVT classes have been grouped into a single class of equity and equity-like instruments with an AVT below EUR 20,000. For that class, the SMS is set at 10,000 EUR. The other classes are made less granular as well and all have an AVT interval of EUR 20,000. The SMS is set at the mid-point of the AVT class: a financial instrument with an AVT between EUR 20,000 and EUR 40,000 has an SMS of EUR 30,000, etc.

<b>Policy Objective</b>	Enhanced pre-trade transparency
<b>Technical Proposal</b>	Standard Market Size. See Article 11 of RTS1 for more details.
<b>Benefits</b>	<p>The revised SMS table increases the overall level of pre-trade transparency for SIs' clients and market participants.</p> <p>The obligations on SIs remain reasonable and proportionate.</p>
<b>Cost to regulator:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	No additional supervisory costs are expected from the revised SMS table.
<b>Compliance cost:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>SIs may have to adjust their trading systems and algorithms to the new SMS tables. However, this is likely to be more a consequence of the Level 1 obligation to quote in sizes representing at least 10% of the standard market size than of the revised SMS table.</p> <p>We do not expect the revised AVT classes to be a source of significant costs in itself.</p>
<b>Cost to other stakeholders</b>	None identified.
<b>Indirect costs</b>	<p>SIs willing to trade above SMS to avoid pre-trade transparency obligations are likely to increase their quote size.</p> <p>Likewise, SIs dealing in sizes below the standard market size may have to increase quoting size, which may be a source of additional risk. However, this would again mainly result from the Level 1 minimum quoting size obligation. This possible effect is also</p>

	<p>counterbalanced by the fact that SIs as execution venues remain subject to substantially less demanding pre-trade transparency obligations than trading venues. Some market participants may therefore be attracted to shift part of their trading volume from trading venues to SIs, including in a trading obligation context.</p>
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### 3. Trading obligations for shares – Transactions in shares excluded from price formation (Article 23(3) of MiFIR)

#### 3.1. Introduction

One of the MiFIR objectives is to ensure that more trading in shares admitted to trading on a regulated market or traded on a trading venue takes place on regulated trading venues and SIs. Accordingly, MiFIR introduces a trading obligation requiring all investment firms to undertake all trades in those shares on a regulated market, an MTF, an SI or an equivalent third-country venue. However, MiFIR also acknowledges that there may be legitimate reasons to provide exclusion from that obligation, including when the transaction does not contribute to the price formation process. Under those circumstances, the trade can be executed outside a trading venue or an SI. However, these transactions could still be subject to post-trade transparency obligations and could be a reportable transaction under the transaction reporting regime.

The final draft RTS further specifies the characteristics of transactions that do not contribute to the price discovery process.

#### 3.2. Baseline

The legislation to consider is Article 23(1) of MiFIR. Article 23(1) of MiFIR waives the trading obligation when the transactions are non-systematic, ad hoc, irregular and infrequent or when they are carried out between eligible or professional counterparties and do not contribute to the price discovery process.

##### *Empowerment/RTS*

ESMA is mandated under MiFIR Article 23(3) to draft RTS to specify the particular characteristics of transactions that do not contribute to the price discovery process, “taking into consideration cases such as non-addressable liquidity trades or where the exchange of such financial instruments is determined by factors other than the current valuation of the share”.

ESMA’s empowerment does not include specifying the definition of “non-systematic, ad hoc, irregular and infrequent”.

No current Level 2 rules are set at European level to further define transactions that do not contribute to the price discovery process. Accordingly, the baseline for the CBA is Article 23 of MiFIR.

The final draft RTS sets out a list of transactions not contributing to the price discovery but it is debatable as to whether this list is to be considered as a source of additional obligations and costs per se. In practice, it is very difficult to disentangle the effects of the Level 1 text and of the Level 2 implementing measures. We consider that most of the potential associated costs will be driven by Level 1.

### **3.3. Stakeholders**

Three categories of stakeholders could potentially be affected by this final draft RTS, even though most of the effects they may experience are expected to be driven by the Level 1 legislation:

*Trading venues/SIs*, depending on the scope of the transactions subject to the trading obligations, may benefit from higher volumes and/or may face a change in business mix between on-venue and OTC transactions.

*Investment firms* will have to set up appropriate procedures and arrangements to ensure that all their price formation transactions are executed on a trading venue or an SI.

*Portfolio managers/End investors* may be affected if some of the transactions they formerly traded OTC have to be conducted on trading venues or SIs. Those transactions may potentially be priced differently and entail additional clearing and settlement costs.

CAs will have to supervise that all transactions contributing to the price discovery process are indeed executed on trading venues and SIs.

### **3.4. Cost-Benefit Analysis**

The concept of “transactions not contributing to the price discovery process” in Article 23(1) of MiFIR has much in common with the concept of “transactions subject to conditions other than the current market price” used in Article 4(1)(b)(iii) in the context of the negotiated trade waiver.

Accordingly, the final RTS refers to a similar list of transactions under both empowerments, drawing on current market practices and on the responses to the CP. One key difference has nonetheless to be noted. The list of transactions not contributing to the price discovery process under the trading obligation does not include the very open transaction type included under the negotiated trade waiver. Excluding that last transaction type aims at avoiding a very broad and extensive interpretation of the exemption to the trading obligation, reducing and limiting its effectiveness. See article 6 of RTS 1 for the list of negotiated transactions subject to conditions other than the current market price.

<b>Policy Objective</b>	Ensuring that more trading in shares takes place on trading venues and SIs and that exemptions are justified by legitimate reasons.
Technical Proposal	Transactions not contributing to the price discovery process. See Article 2 of RTS 1 for more details
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability and contributes to setting a level playing field across investment firms across the EU. It limits the risk of circumvention of the trading obligation.</p> <p>The list of transactions not contributing to the price formation process draws on current market practices. In particular, it will allow fund management companies to continue transferring the beneficial ownership of shares from one collective investment undertaking under management to another one, provided that no investment firm is party to the transaction.</p> <p>Consistency with the list of transactions subject to conditions other than current market price will streamline implementation and reduce compliance costs. It also facilitates supervision and enforcement by CAs.</p> <p>Trading venues and SIs may benefit from increased trading activity, although this is more likely to result more from the trading obligation overall than from the final draft RTS.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	CAs will incur on-going compliance costs for supervising that off-venue transactions are limited to the list set out in the RTS. (unless non-systematic, ad hoc, irregular and infrequent). Those costs may be absorbed by existing resources.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	Investment firms will incur on-off staff training and IT costs to set up procedures and arrangements to ensure exemptions to the trading obligation in shares are limited to the list set out in the final draft RTS (unless non-systematic, ad hoc, irregular and infrequent).
<i>Costs to other stakeholders</i>	None identified
<i>Indirect costs</i>	Eligible counterparties and professional clients, including end investors will be affected as the potential higher cost of executing on-venue the transactions which are currently executed OTC would likely be passed on to them (e.g. higher spreads, clearing fees). Higher pre-

	<p>trade transparency for those transactions could also possibly impact liquidity provision in some cases.</p> <p>However, those effects are expected to be limited as mandatory on-venue trading may translate into either negotiated transactions on trading venues not counting towards the double volume cap or SI transactions likely above SMS, which are both exempted from pre-trade transparency.</p>
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#### **4. Post-trade transparency for trading venues and investment firms in respect of equity and equity-like financial instruments**

##### **4.1. Post trade transparency obligations - Details of transactions and flags to be made public by trading venues and investment firms**

###### **4.1.1. Introduction**

Post-trade transparency generally, and the details of transactions more specifically, enable investors or market participants to assess the terms of a transaction they are considering and to verify afterwards the conditions in which it was carried out. As such, post-trade transparency contributes to the efficiency of the overall price formation process and assists the effective operation of “best execution” obligations. It also helps to minimise the consequences of fragmentation in trading. Post-trade transparency is also used for portfolio valuation purposes.

The purpose of flags is to complement the information content of post-trade publications by disclosing the technical characteristics of a transaction or the particular circumstances under which a transaction has occurred and further contribute to post-trade transparency objectives.

A list of post-trade information to be made public by investment firms, regulated markets, and MTFs for transactions in shares admitted to trading on a regulated market was provided in Article 27 and Table 1 in Annex I of the MiFID Implementing Regulation. The final draft RTS adjusts these earlier provisions to better identify some specific transactions in light of the revised pre-trade transparency framework.

###### **4.1.2. Baseline**

From a legal perspective, the legislation to consider is:

- i. in respect of shares admitted to trading on a regulated market:

Article 28 (for investment firms), Article 30 (for MTFs) and Article 45 (for regulated markets) of MiFID I, which all require to make at least public “the price, volume and time” of the

transactions executed in respect of shares admitted to trading on a regulated market, supplemented by Article 27(1) and Table 1 of Annex II of the MiFID Implementing Regulation.

This MiFID Level 2 measure provides for the details of transactions to be made public<sup>9</sup> by investment firms and trading venues, as well as specific identification where i) the exchange of shares is determined by factors other than the current valuation of the share, ii) the trade was a negotiated trade, and iii) any amendments to previously disclosed information.

The CESR's guidelines on Publication and Consolidation of MiFID Market Transparency Data (CESR - 07/043) further recommended the use of the ISO standards format, as far as possible, particularly for new entrants, and of the flags 'D' for determined by other factors, 'N' for negotiated trade, 'A' for amendment and 'C' for cancellation.

- ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments :

Article 6(1) of MiFIR, where trading venues are required “to make public the price, volume and time the transactions executed in respect of shares, depository receipts, ETFs, certificates and other similar financial instruments”.

Article 20(1) of MiFIR, where “investment firms which, either on own account or on behalf of clients, conclude transactions in shares, depository receipts, ETFs, certificates and other similar financial instruments traded on a trading venue, shall make public the volume and price of those transactions and the time at which they were concluded”.

#### *Empowerment/RTS*

Under Article 7(2)(a) of MiFIR, ESMA has to “develop draft regulatory technical standards to specify the following:

- (a) the details of transactions that investment firms, including systematic internalisers and market operators and investment firms operating a trading venue shall make available to the public for each class of financial instrument concerned in accordance with Article 6(1), including identifiers for the different types of transactions (...) distinguishing between those determined by factors linked primarily to the valuation of the financial instruments and those determined by other factors”.

Trading venues offering trading in equity-like instruments and in shares traded only on MTFs currently provide post-trade information (see Section 1.4 below). As regards flags or identifiers, an industry-led initiative, initiated by FESE and now under the auspices of FIX Protocol, the Market Model Typology (MMT) initiative, has developed a data model and cross reference table which maps trade flags across regulated markets, MTFs and OTC publication

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<sup>9</sup> i) trading day, ii) trading time, iii) instrument identification, iv) unit price, v) currency, vi) quantity and vii) venue



arrangements, based on the CESR Technical Advice to the Commission on the MiFID review.

According to the MMT initiators, post-trade information of 80% of EU/EEA equity trading venues, including of the largest ones, is currently made available using the MMT standards. However, only a very small number of EU regulated markets currently produce their data feed according to the MMT standards. Most of them forward the information produced by their trading systems to data vendors according to their own standards. The data vendor then “translates” the information received according to the mapping table provided by the regulated market into the MMT standards.

Information was gathered about the two main trade publication arrangements for OTC transactions. The contractual arrangements under which one of them operates provide that the investment firm has to report its transactions to the trade publication arrangements using the MMT standards. The other trade publication arrangement offers the firm the option to report the trade according either to the MMT standards or under another format. The transaction is then published by the trade publication arrangement, without any mapping.

However, the MMT’s data model will need to be expanded to cover more flags and also substantially amended to accommodate a 4 character code for flags as set out in the draft RTS.

The incremental obligations arising from the final draft RTS comprise the details of transactions in equity or equity-like instruments and the identifiers to be made public by trading venues and investment firms, as well as the format under which the post trade information has to be made public, compared to the status quo (including the MiFID I/MiFIR baseline described above). Where current market practices are above the MiFID I/MiFIR baseline, they are taken into consideration for the analysis.

It should be noted that, where the final draft RTS creates additional obligations, the cost associated with the incremental rule will be a combination of the effects of the Level 1 text and of the final draft RTS. As those effects are very difficult to disentangle, any indication of costs is to be considered as an upper bound.

#### **4.1.3. Stakeholders**

The stakeholders that may or will be affected by the details of information to be made public for transactions in equity and equity-like instruments are:

*Regulated markets and MTFs:* Compared to current market practices, all trading venues will have to amend their data feed to include a transaction identification quote, timing of publication and far more granular flags. They will also have to comply with the requested publication format.

Beyond the extended scope of post-trade transparency obligation, a key difference between the MiFID and the MiFID II/MiFIR framework is the harmonisation of post-trade transparency formats.

Under MiFID I, neither the implementing measures nor the CESR Guidelines required or recommended that the primary source of information i.e. regulated market and MTFs, change their systems to harmonised formats and protocol. The Guidelines just encouraged trading venues, when developing new systems or making system changes, to consider the benefits of converging to open industry formats and protocols.

Under the MiFID II/MiFIR framework, Consolidated Tape Providers (CTPs) will be consolidating data directly from trading venues. Trading venues will hence no longer be able to rely on data vendors to “map” their formats/standards with the harmonised ones required under the final draft RTS and a number of them will have to amend their systems and data standards. Trading venues will either have to amend their primary data feed or to make available a separate data feed under the appropriate feed “mapping” their proprietary feed.

*Investment firms executing transactions for their own account or on behalf of clients OTC:* All investment firms that execute transactions in shares traded only on MTFs and in equity-like instruments OTC will need to make the necessary arrangements for those transactions to be made public through an approved publication arrangement (APA).

Across asset classes, front and middle office systems will be involved in the more granular identification of the transactions to be published so as to ensure they are published with the appropriate flags. In particular, SIs will have to identify transactions above the standard market size and transactions that received a price improvement.

It should be noted that SIs' transactions will be made public under the SI acronym, as a rule and no longer by way of derogation. The requirement to publish quarterly aggregated information when using the SI acronym disappears and is being replaced by the information to be published by venues on quality of execution to be specified by ESMA under Article 27 of MiFID II.

For all investment firms trading OTC in equity and equity-like instruments, the cost impact associated with the final draft RTS is likely to vary depending on the role played by APAs in assisting and helping in the publication arrangements.

*APAs:* APAs will have to incorporate off-venue transactions in shares traded only on MTFs and in equity-like instruments in their data stream, to ensure that the relevant more granular flags are appropriately published across asset classes and that the post-trade information is published under the required formats .

*Market participants more broadly (including market members/participants, asset/portfolio managers, end investors):* More information on the technical characteristics of a transaction or the particular circumstances under which a transaction has occurred, will provide enhanced insight on the price formation process an additional tools for providing, and

monitoring, best execution. In particular, transactions identified as contributing to the double volume cap mechanism are likely to attract strong interest.

#### **4.1.4. Cost-Benefit Analysis**

There are three different types of additional obligations arising from the final draft RTS. They relate to the details of the transactions to be made public, to the flags and to the format of publication.

Trading venues offering trading in shares traded only on MTFs and in equity-like instruments will be subject to the first time to post trade transparency obligations. However, current market practices show that those trading venues do already provide some post trade transparency in a way similar to what is available for post-trade transparency in shares admitted to trading on a regulated market. As for trading venues currently subject to MiFID I, the incremental obligations and costs will arise not so much as regard the content of the transaction details to be published but mostly as regard to flags and to the format under which this information has to be made public.

As regards transaction details, the final draft RTS supplements the current field identifiers for shares admitted to trading on a regulated market with a transaction identifier and with the date and time of publication. However, the latter is considered as a Level 1 requirement since this information has to be published by the CTP under article 65 of MiFID II. Adding a transaction identifier has not been identified by respondents to the CP has a source of significant cost and will avoid any potential confusion when trade information is aggregated at CTP level. Trading venues will anyhow have to provide a transaction identifier to their members for transaction reporting purposes.

Flags will be a source of additional costs both due to their increased granularity and to the required format. Whilst the flags currently published by trading venues are transaction-based, i.e. they identify a specific transaction based on its characteristics, some of the flags listed in the draft RTS combine trade characteristics and instrument characteristics (e.g. liquid or not). This will require trading venues to put together more data sources to publish the required flags. In addition, flags will have to be published with a four character code, as opposed to the one character code which is current market practice, which will be another source of additional IT costs.

The more granular flags aim, among other things, at distinguishing trades based on the pre-trade waivers they initially benefited from and at helping in the identification of transactions captured by the double volume cap mechanism. More granular flags are also useful for transaction cost analysis purposes and assist the operation of the best execution obligations as they allow excluding from the analysis trades that are not considered as “new” liquidity or liquidity that could have been traded against. The algorithmic flag, which was considered as unhelpful by many respondents to the CP, results from article 65 of MiFID II which expressly requires CTPs to publish that information as well.

Finally, in order to facilitate comparison, aggregation and analysis of data, the final draft RTS sets out the format under which the post trade information has to be made public

The format to be applied for publication of the details of a transaction is consistent with the format to be used by trading venues to report financial instrument data as per final draft RTS 23, i.e. ISO 20022. Furthermore, the alignment with the formats used for reference data, and thus with ISO 20022 methodology, concerns only the way the information is represented: for example, the same codes are used to represent the same values. It does not affect the data requirements themselves, or the means of collection or publication of data. For instance, no specific technical format, like XML, is required for the publication of data. In practical terms, the additional obligation resulting from the alignment is limited to ensuring that the data is presented in a standard way, which can be expected to be a source of limited costs. A single format may ultimately be a source of IT synergies in technology builds and lower compliance costs.

Investment firms trading OTC, including SIs, have to meet the same publication requirements as trading venues. All investment firms trading in equity and equity-like instruments will incur staff and IT costs to ensure that all the required information is made available to APAs for publication. Although MiFIR extends post trade transparency obligations to shares traded only on MTFs and in equity-like instruments, those firms typically have a business activity in shares admitted to trading on a regulated market and are familiar with MiFID I transparency obligations and IT synergies can be created in the necessary enhancements across asset classes. Flags were however identified as a significant source of costs by many respondents to the Cost Benefit questionnaire (see section 1.3.1 below).

APAs will have to make the necessary changes to their systems to ensure that the investment firms' post trade information is published under the appropriate format and to accommodate a four character code for flags. They will also have to add a trade identifier, as well as date and time of publication in the feed published.

As OTC transactions are to be published through APAs, compliance costs for investment firms and APAs will ultimately depend on how the burden is shared. At one end of the spectrum, an APA could “just” publish, subject to the requirements set out in RTS 13 on authorisation, organisational requirements and the publication of transactions for data reporting services providers, the transaction details with the appropriate flags reported by the investment firm under the correct format. Under this scenario most of the compliance costs would be borne by at the investment firm's level. On the other end of the spectrum, while details of a transaction can only be provided by the investment firm, some APAs might consider offering a formatting service for publication, including for flags, or supplement flags where the information is available from other sources, such as for liquid/illiquid instruments. Costs would be more significant for APAs and compliance costs for investment firms would partly translate into APAs fees.

<b>Policy Objective</b>	Enhancing post-trade transparency and facilitating consolidation of information
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<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Post-transparency obligations: transaction details. See Article 12(1) and Tables 2 and 3 in Annex I of RTS 1 for more details.</li> <li>- Post-transparency obligations: flags. See Article 12 (2) and Table 4 in Annex I of RTS 1 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS ensures that useful and meaningful real-time post-trade information is made available to market participants.</p> <p>A harmonised format for publication will facilitate comparison, and consolidation, of post-trade data. Consistency with formats for Reference data and Transaction reporting purposes will enable synergies in technology systems.</p> <p>Date and time of publication will allow for more refined analysis of market movements by market participants and CAs. Transaction identifiers guarantee the uniqueness of a trade report and enable the tracking of trade cancellation with the corresponding original trade.</p> <p>More granular flags will allow for more refined transaction analysis by market participants, better insight on price formation and enhanced tools for execution and monitoring of best execution obligations. They will also support effective transparency calculations (e.g. double volume cap) and enhance the understanding of market structure evolution.</p> <p>Specific flags for SIs transactions (above SMS and price improved ones) will help market participants and CAs in better understanding the SIs' overall trading activity.</p>
<i>Cost to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs will incur additional supervisory costs to ensure compliance with post-trade transparency obligations, including by trading venues and investment firms trading in shares traded only on MTFs and in equity-like instruments.</p> <p>We consider most of these costs to be driven by Level 1.</p>
<i>Compliance cost:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Regulated markets and MTFs, including trading venues offering trading in shares traded only on MTFs and in equity-like instruments, will incur one staff and IT costs, as well as ongoing IT costs to adjust the details and flags currently published to the provisions in the final draft RTS and to ensure publication under the required format either in their primary data feed or in an additional "mirror" data feed.</p> <p>More granular flags may be a source of significant costs as it will require trading venues to amend trading systems including upon order entry to ensure that each transaction is ultimately published with the</p>

	<p>appropriate flag.</p> <p>Investment firms trading OTC will incur one-off staff and IT costs to set up appropriate systems for disclosure of post trade information in respect of shares traded only on MTFs and in equity-like instruments and to enhance systems for post-trade disclosure in shares admitted to trading on a regulated market in respect of flags and format. They will have to enter into arrangements with APAs, or supplement the arrangements they currently have for shares admitted to trading on a regulated market. The magnitude of up-grading and enhancement at investment firm’s level will depend on the detailed bilateral agreement with the APA.</p> <p>APAs will incur low one off and on- going costs for adding and populating the date and time of publication and trade identifier fields and may incur further IT costs to publish the “raw” details provided by investment firms under the required format. However, APAs may charge additional fees to cover these additional services.</p>
<i>Cost to other stakeholder</i>	None identified.
<i>Indirect costs</i>	<p>As SIs will not be identified individually in post-trade transparency feed, investors will not be provided with an overview of all liquidity pools available for an instrument.</p> <p>Additional post-trade publication costs incurred by trading venues and APAs may be passed on to data feed subscribers. Investment firms may pass on related incremental costs.</p>

## 4.2. Post trade transparency obligations - Transactions between investment firms

### 4.2.1. Introduction

In order for post-trade information to be accurate, reliable and meaningful, it is critical that each transaction is published once and only once. The MiFID Level 2 measures may not have fully achieved their objective in this area as OTC data currently available in respect of transactions in shares admitted to trading on a regulated market are typically considered as overestimated. The final draft RTS revisits and simplifies the provisions governing responsibilities for publication of OTC transactions.

### 4.2.2. Baseline

From a legal perspective, the legislation to consider is:

- i. In respect of shares admitted to trading on a regulated market :

Article 27 of MiFID I, supplemented by Article 27(4) of the MiFID Implementing Regulation, under which the party to an OTC transaction in charge of making the information public is determined, by agreement between the parties and can be either of the following:

- a. the investment firm that sells the share concerned;
- b. the investment firm that acts on behalf of or arranges the transaction for the seller;
- c. the investment firm that acts on behalf of or arranges the transaction for the buyer;
- d. the investment firm that buys the share concerned.

In the absence of such an agreement, the information shall be made public by the investment firm determined by proceeding sequentially from point (a) to point (d) until the first point that applies to the case in question.

- ii. In respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments:

Article 20(1) of MiFIR where “investment firms which, either on own account or on behalf of clients, conclude transactions in shares, depository receipts, ETFs, certificates and other similar financial instruments traded on a trading venue, shall make public the volume and price of those transactions and the time at which they were concluded”.

#### *Empowerment/RTS*

Under Article 20(3)(c) of MiFIR, ESMA has to develop draft RTS “to specify (...)

- (c) the party to a transaction that has to make the transaction public in accordance with paragraph 1 if both parties to the transaction are investment firms”.

The additional obligation in the final RTS relates to the mandatory designation of the party that has to make the transaction public, as opposed to the discretion left to the parties under MiFID I.

#### **4.2.3. Stakeholders**

*Investment firms concluding OTC transactions:* Investment firms concluding transactions OTC will have to terminate potential current arrangements with their counterparties for publication of OTC transactions and meet the revised provision. SIs are more likely to be affected as they have primary responsibility for publication.

#### **4.2.4. Cost-Benefit Analysis**

Where it is uncertain which firm is in charge of making an OTC transaction public, and rather than spending time resolving the issue, it is currently not uncommon for both the buyer and the seller to make the transaction public to ensure that they comply with their post-trade

transparency obligations. The final draft RTS adopts a more straightforward approach than the MiFID Implementing Regulation and clarifies that the seller is responsible for making the transaction public through an APA, except where only one party to the transaction is a SI. This represents an incremental obligation for firms acting as SIs.

<b>Policy Objective</b>	Improved post trade transparency through more accurate OTC data.
<b>Technical Proposal</b>	Definition of the investment firm responsible of making a transaction public. See Article 12(4) and (5) of RTS 1 for more details.
<i>Benefits</i>	<p>The final draft RTS provides enhanced legal certainty and predictability in the determination of the party in charge of the post-trade obligation and will limit the risk of double reporting.</p> <p>The approach is simpler and is consistent with the determination of the party in charge of publication in non-equity instruments under RTS 2. This will facilitate implementation and reduce compliance cost.</p> <p>Market participants globally will benefit from more accurate OTC post-trade data. Such data will be of particular interest to assess the impact of the trading obligation for shares.</p>
<i>Cost to regulator:</i>	No additional costs.
<ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	
<i>Compliance cost:</i>	Investment firms will likely incur some one-off IT costs to adjust their middle and back office systems and ensure that only the transactions they are in charge of making public are sent to, or published by, their APA.
<ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	
<i>Cost to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### 4.3. Real time publication of executed transactions

#### 4.3.1. Introduction

Real time publication of post-trade transparency is critical to the efficiency of the price formation process. It also contributes to the fairness of the price formation process for all



market participants as information on executed transactions is immediately made available to all of them.

MiFIR requires trading venues and investment firms to make transactions public “as close to real time as technically possible”, unless a deferral period is available. The final draft RTS further specifies the time limit by which any transaction subject to real time publication has to be actually be made public.

#### **4.3.2. Baseline**

From a legal perspective, the legislation to consider is:

- i. In respect of shares admitted to trading on a regulated market:

Article 28(1) (for investment firms), Article 30(1) (for MTFs) and Article 45(1) (for regulated markets) of MiFID I, which all require to make public details of transactions in respect of shares admitted to trading on a regulated market “as close to real-time as possible”, supplemented by Article 29 of the MiFID Implementing Regulation.

The MiFID Implementing Regulation specifies that post-trade information “relating to transactions taking place on trading venues and within normal trading hours shall be made available as close to real time as possible (...) and in any case within three minutes of the relevant transaction”. The Level 2 measure further clarifies the timing of publication for on-venue transactions after normal trading hours and specifies the concept of “normal trading hours” for OTC transactions.

- ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments :

Article 6(1) and Article 20(1) of MiFIR, where trading venues and investment firms are to make transactions public “as close to real time as technically possible”.

#### *Empowerment/RTS*

Under Article 7(2)(b) of MiFIR, ESMA has to develop draft RTS to specify (...)

“(b) the time limit that would be deemed in compliance with the obligation to publish as close to real time as possible including when trades are executed outside ordinary trading hours.”

The final draft RTS replicates most of the “real-time” provisions of the MiFID Implementing Regulation. However, in line with the CESR technical advice to the Commission on equity markets (CESR/10-208), the final draft RTS shortens the maximum permissible delay from 3 to 1 minute.

The incremental rule with respect to shares admitted to trading on a regulated market is the shortened maximum publication delay under real time disclosure. For shares traded on an

MTF and for equity-like instruments, we consider any cost arising from the definition of real time transparency to be driven by MiFIR rather than by the final draft RTS.

#### 4.3.3. Stakeholders

*Regulated markets and MTFs:* Shortening of the real time maximum delay to 1 minute will not be a source of additional obligations for trading venues already captured by transparency obligations under MiFID.

*Investment firms executing transactions for their own account or on behalf of clients OTC:* The shorter delay will be challenging to meet for manually executed and reported OTC trades as well as for complex trades, particularly during periods of high market volatility and unusually active markets.

#### 4.3.4. Cost-Benefit Analysis

The final draft RTS sets forth the various parameters to be taken into account for the definition of real-time publication of transactions not eligible for delays. In addition to the extension of those parameters to transactions in shares traded only on MTFs and in equity-like instruments, which is a consequence of Level 1, the incremental obligation relates to the shortened maximum permissible delay for publication from 3 to 1 minute.

<b>Policy Objective</b>	Improved overall post-trade transparency
<b>Technical Proposal</b>	Real time publication of transactions: See Article 14 of RTS 1 for more details
<i>Benefits</i>	The final draft RTS contributes to improved timeliness of post-trade transparency and efficiency in price formation process.  It enhances the fairness of the price formation process for all market participants.
<i>Cost to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	None identified.
<i>Compliance cost:</i>  - <i>One-off</i>  - <i>On-going</i>	Certain market participants will incur one-off IT and staff training costs to improve current arrangements, including where the process of data capture and transmission still rely on manual processing. Complying with the final draft RTS may require significant front-office and back office systems upgrade for certain market participants.

<i>Cost to other stakeholders</i>	None identified.
<i>Indirect costs</i>	Indirect costs may incur where the shortened real-time allowance would affect the quality of post-trade information or where it would have an impact on trading activity in unusually active markets.

#### 4.4. Deferred publication of large transactions

##### 4.4.1. Introduction

While real-time publication of transactions is critical for an efficient price formation and fairness for all market participants, the benefits of immediacy may, in some circumstances, be challenged by the related costs for certain market participants. This is in particular the case where an investment firm dealing on own account would take a significant position in a financial instrument and where other market participants, immediately informed of the transaction, would generate an adverse market movement. MiFIR, in line with MiFID I, hence foresees that the post-trade publication of transactions may be deferred. Three parameters have to be set out for a deferred regime: i) the circumstances of the transaction, ii) the size of the transaction and iii) the length of the deferral period. This final draft RTS sets forth revised parameters for the deferred publication of transactions in shares and new ones for transactions in equity-like instruments.

##### 4.4.2. Baseline

From a legal perspective, the legislation to consider is:

- i. In respect of shares admitted to trading on a regulated market, the current Level 2 regime will be taken as baseline:

Article 45(2) for regulated markets, Article 28(2) for investment firms (by reference), and Article 30(8) for MTFs (by reference) of MiFID I which foresee deferred publication of transactions, supplemented by Article 28 of the MiFID Implementing Regulation under which the publication of transactions in share may be deferred if:

- a. the transaction is between an investment firm dealing on own account and a client of that firm; and
  - b. the size of the transaction is equal to or exceeds the relevant minimum qualifying size, as specified in Table 4 in Annex II.
- ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments :

Article 7(2) for trading venues and Article 20(2) for investment firms (by reference) of MiFIR under which CAs may “authorise market operators and investment firms operating a trading

venue to provide for deferred publication of the details of transactions based on their type or size. (...).”

### *Empowerment/RTS*

Under Article 7(2)(c) and (d) of MiFIR, ESMA has to develop draft RTS “to specify (...):

- (c) the conditions for authorising investment firms, including systematic internalisers and market operators and investment firms operating a trading venue to provide for deferred publication of the details of transactions for each class of financial instruments concerned in accordance with paragraph 1 of this Article and with Article 20(1);
- (d) the criteria to be applied when deciding the transactions for which, due to their size or the type, including liquidity profile of the share, depositary receipt, ETF, certificate or other similar financial instrument involved, deferred publication is allowed for each class of financial instrument concerned”.

The incremental rules of the final draft RTS are the conditions under which investment firms may defer publication and the deferred thresholds and delays allowed compared with the MiFID I/MiFIR baseline described above. While the incremental obligations can be easily identified for transactions in shares admitted to trading on a regulated market currently captured by the MiFID Implementing Regulation, it is far more difficult to disentangle the effect and costs of the Level 1 text and of the final draft RTS in respect of transactions in shares traded only on MTFs and transaction in equity-like instruments.

The clarification provided as to the meaning of “end of the trading day” is not considered as an incremental obligation.

For transactions in shares traded only on MTFs and equity-like instruments, the RTS i) retains an approach based on ADT classes, with one exception for ETFs, ii) aligns the deferred publication ADT classes with the pre-trade Large in Scale (LIS) classes and iii) shortens the maximum delay for publication of transactions to the end of the trading day, with one exception for the largest transactions in shares in the smallest ADT band (end of the next trading day).

#### **4.4.3. Stakeholders**

*Regulated markets and MTFs:* Trading venues will have to adjust IT parameters to the new thresholds and delays. Alignment of the ADT liquidity bands for pre-trade LIS orders and post-trade deferred publications will however facilitate implementation of the regime. Trading venues will also have to amend the parameters of their trading systems to identify the transactions executed by their members on own account.

Trading venues may indirectly benefit from the extension of deferred publication to transactions on own account executed in their order book.

*Investment firms dealing on own account:* Firms will benefit from the extension of deferred publications to transactions between an investment firm dealing on own account and “another counterparty”. On the other hand, they will no longer benefit from this deferral for matched principal transactions.

Investment firms dealing on own account OTC, or with clients though on-venue negotiated transactions, will be impacted by the shorter deferral periods.

*APAs:* It is assumed that investment firms will be sending their transactions for publication to APAs immediately after the execution of the transaction, mentioning whether the transaction was done on own account. It will then be for the APA to ensure that the transaction is made public within the maximum permitted delay.

#### **4.4.4. Cost-Benefit Analysis**

##### *Circumstances for deferred publication*

Compared to the current situation, the final draft RTS creates an additional obligation for investment firms as they will no longer be able to benefit from deferred publication for matched principal transactions. Those transactions will have to be published in real time. On the other hand, the final draft RTS extends the benefit of deferred publications to transactions between an investment firm dealing on own account and “another counterparty” (as opposed to dealing on own account with a client of the investment firm). As a consequence, deferred publication will become available to members/participants of trading venues that are not in a client relationship with their counterparty.

Deferred publication will be covering every situation where the investment firm is at risk, and only situations where the investment firm is indeed at risk.

##### *Deferred thresholds and delays*

The final draft RTS creates additional obligations by significantly reducing the permitted delays for deferred publication from end of T+3 under MiFID to end of trading day, except for the largest transactions in less liquid shares where the delay extends to the end of the next trading day.

On the other hand, compared to the MiFID Implementing Regulation, the ADT classes have been made more granular to better reflect trading patterns and, in order to streamline implementation, the ADT liquidity bands have been aligned with the ADT liquidity bands for the pre-trade transparency LIS waiver. In addition, the thresholds make reference to set figures instead of combining minimum thresholds and % of ADT.

In addition, and taking into account the comments received, the final draft RTS has been modified in three ways:

- i. Consistently with the recalibration of liquidity classes in the context of the LIS pre-trade waiver, an additional ADT band has been added for the least traded shares (ADT below € 50,000),
- ii. For that least traded category, the maximum permitted delay has been extended from end of the trading day to end of the next trading day.
- iii. For all transactions that have to be published at the latest by the end of the trading day, the final draft RTS clarifies that, where the transaction is executed within 2 hours before the end of the of the trading day, the maximum permitted delay is extended to noon local time on the next trading day

Whilst overall post-trade transparency will be increased under the final draft RTS, those three amendments should contribute to reducing the potential indirect costs associated with the revised thresholds.

The introduction of an additional ADT band for the least traded shared with smaller minimum qualifying sizes, combined with deferral eligibility for on-venue transactions may lead to an increased number of transactions in SMEs not being published in real time. However, the final draft RTS aims at striking an appropriate balance between the benefit of real time transparency and the potential associated impact on transaction costs and liquidity in SMEs shares, also in the context of the Capital Market Union project.

The same thresholds and delays apply to shares and depositary receipts.

With respect to ETFs, the final draft RTS sets forth a simple and straightforward approach to deferred publication. The RTS has been modified to take into account the option favoured by most respondents to the CP , i.e. a threshold set at €10,000,000 for a 60 minute delay and at €50,000,000 for end of day publication.

Some investment firms may consider that, for some liquidity classes and transaction sizes, the revised deferral periods are too short to reasonably expect unwinding a position before the transaction is made public. They may increase spreads to mitigate the increased execution risks and costs they consider they face or be less willing to provide liquidity to clients and other counterparties. Both options would be detrimental to end-clients.

Finally, the RTS clarifies which deferral regime applies where two investment firms trading OTC are located in jurisdictions with different deferral regime.

<b>Policy Objective</b>	Enhanced post-trade transparency.
<b>Technical Proposal</b>	Deferred publication of transactions. See Article 15 and Tables 4, 5 and 6 in Annex II of RTS 1 for more details.
<i>Benefits</i>	The final draft RTS extends the eligibility of deferred publication to all circumstances where an investment firm is at risk when dealing on own account, including for on-venue transactions. This may contribute to

	<p>alleviate some of the concerns that the trading obligation may raise.</p> <p>Conversely, it extends real time post-trade transparency to circumstances where an investment firm dealing on own account is not putting its capital at risk.</p> <p>Overall post-trade transparency will be increased in equity trades through more stringent maximum deferral periods.</p> <p>More granular thresholds and deferral periods will more accurately reflect the actual liquidity of shares (and depositary receipts). Identical pre and post-trade ADT bands and set figures for thresholds will make the implementation more straightforward and less costly.</p> <p>The straightforward approach to thresholds and delays for ETFs, certificates and other equity-like instruments will streamline implementation and reduce compliance costs.</p> <p>Likewise, the clarity and predictability provided as to the applicable deferral regime will reduce compliance costs.</p>
<p><i>Cost to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>It is not expected that the revised conditions, threshold and deferrals will entail additional supervisory costs.</p>
<p><i>Compliance cost:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Trading venues will incur one-off costs and on-going IT costs to adjust trading system parameters to the newly introduced or revised LIS thresholds and delays and to the extension of deferrals to order book transactions. They will incur non-significant one-off IT costs to identify transactions executed by firms on own account in their systems.</p> <p>Investment firms may incur non-significant staff training costs regarding the revised characteristics of transactions that are eligible to deferred publication.</p> <p>APAs will incur one-off (and on-going) IT costs to adjust publication parameters to the revised table.</p>
<p><i>Cost to other stakeholders</i></p>	<p>None identified</p>
<p><i>Indirect costs</i></p>	<p>Extension of eligibility conditions for deferred publication may potentially lead to decreased on-venue post-trade transparency.</p> <p>At this stage, it is difficult to anticipate the magnitude of OTC</p>

	<p>transactions with non-client counterparties that will become eligible to deferred publication.</p> <p>Investment firms may have to review their trading/quoting strategies or algorithms for certain ADT classes/transaction sizes based on the revised table.</p> <p>The RTS may have an impact on liquidity provision and/or spreads where investment firms would consider that the revised thresholds would be a source of significant execution risk and costs.</p>
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#### **4.5. Application of post-trade transparency to certain types of execute outside a trading venue**

##### **4.5.1. Introduction**

Post-trade obligations are a source of costs to investments firms. Those costs are typically outweighed by the benefits of post-trade transparency as regards the efficiency of the price formation process, best execution obligations and fairness for all market participants. However, there may be circumstances where the publication of a transaction does not contribute to achieve the objectives set out above. Accordingly, MiFIR, in line with MiFID I, foresees that the obligation for investment firms to make public transactions executed outside trading venues may be waived for certain type of transactions. The final draft RTS revisits, and extends, the list of transactions set out under MiFID I for shares admitted to trading on a regulated market.

It is worth noting that MiFIR foresees an exemption from post-trade transparency obligations only where those transactions are executed OTC.

##### **4.5.2. Baseline**

From a legal perspective, the legislation to consider is:

- i. in respect of shares admitted to trading on a regulated market:

Article 28 of MiFID I, which foresees implementing measures to clarify the application of post-trade disclosure by investment firms “to transactions involving the use of shares for collateral, lending or other purposes where the exchange of shares is determined by factors other than the current market valuation of the share”, supplemented by Article 5 of the MiFID Implementing Regulation, where, except for record-keeping of client orders and transactions purposes, the reference to a transaction “does not include any of the following :

- a. securities financing transactions;
- b. the exercise of options or of covered warrants;



- c. primary market transactions (such as issuance, allotment or subscription) in financial instruments falling within Article 4(1)(18)(a) and (b) of Directive 2004/39/EC”.
- ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments:

Article 20 of MiFIR, which is an identical recast of Article 28 of MiFID I but with a more narrow scope, limited to transactions executed outside trading venues.

### *Empowerment/RTS*

Under Article 20(3)(b) of MiFIR, ESMA has to develop draft RTS “to specify (..):

- (b) the application of the obligation under paragraph 1 to transactions involving the use of those financial instruments for collateral, lending or other purposes where the exchange of financial instruments is determined by factors other than the current market valuation of the financial instrument”.

ESMA has no mandate to extend the exemption to on-venue transactions.

The final draft RTS supplements the list set out in the MiFID Implementing Regulation and further extends the scope of OTC transactions that do not have to be made public by investment firms.

The potential incremental rule is the list of OTC transactions excluded from the scope of post-trade disclosure by investment firms compared to the MiFID I/MiFIR baseline described above. However, as the list sets out additional exemptions for OTC transactions, the final draft RTS is considered as removing, rather than creating, obligations. The limitation of the exclusion to OTC transactions is a Level 1 cost.

### **4.5.3. Stakeholders**

*Investment firms executing transactions outside trading venues:* Investment firms will be positively impacted by the final draft RTS as it further extends the list of OTC transactions not subject to post-trade transparency obligations

*Market participants:* It is not expected that market participants will be negatively impacted by the absence of information on the transactions exempted in the final draft RTS, as those transactions do not provide meaningful information as to the level of genuine interest in a financial instrument and do not account for addressable liquidity.

### **4.5.4. Cost Benefit Analysis**

The final draft RTS provides an exhaustive list of OTC transactions not subject to post trade transparency, which is consistent with the exhaustive list set out for that same purpose in RTS 2 in respect of non-equity instruments.

All OTC transactions excluded from transaction reporting obligations are similarly excluded from post-trade transparency obligations. The final draft RTS further excludes from post trade transparency obligations transfers of ownership of financial instruments between two collective investment undertakings managed by a management company or an alternative fund manager, and give-ups/give-ins. The last item in the list has been modified to take into account the comments received and includes all transfers of financial instruments as collateral, including as part of the default management process of a central counterparty.

The final draft RTS will be a source of cost savings for investment firms.

<b>Policy Objective</b>	Focusing post-trade transparency on useful and meaningful information for price formation and best execution purposes.
<b>Technical Proposal</b>	Application of post-trade transparency to certain types of transactions executed outside a trading venue. See Article 13 of RTS 1 for more details.
<i>Benefits</i>	<p>The exhaustive list of transactions set out in the RTS provides more clarity, legal certainty and predictability. It will contribute to a more harmonised regulatory framework across the EU and limits the risk of circumvention of publication obligation.</p> <p>Consistency with that same list in respect of OTC transactions in non-equity-instruments will facilitate implementation for investment firms with a business activity across asset classes.</p> <p>Exclusion from post trade transparency obligations of all the transactions excluded from transaction reporting obligations under RTS 22 will reduce operational challenges and costs for investment firms.</p> <p>It avoids polluting post-trade data with non-meaningful information.</p>
<i>Cost to regulator:</i>	None
- <i>One-off</i>	
- <i>On-going</i>	
<i>Compliance cost:</i>	Investment firms trading OTC may incur some staff training costs and some one-off IT costs to adjust internal systems to the revised list but, those costs are expected to be non-significant.
- <i>One-off</i>	
- <i>On-going</i>	
<i>Cost to other stakeholders</i>	None
<i>Indirect costs</i>	The exhaustive list set may not cater for new types of transactions that

	may appear, depending on market evolution.
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**4.6. Provisions common to pre-trade and post-trade transparency calculations: Methodology, date of publication and date of application of the transparency obligations**

**4.6.1. Introduction**

Many of the MiFIR pre and post-trade provisions require calculations to be performed by CAs typically on a periodic basis, and sometimes on ad-hoc basis. Whilst under MiFID those calculations were to be done solely with respect to shares, they are extended to equity-like instruments under MiFIR. CAs therefore need to ensure that they have appropriate information on the characteristics and type of the instruments involved to avoid any potential misclassification.

**4.6.2. Baseline**

MiFID I did not have any provision dealing with data request to trading venue.

The baseline is therefore Article 22(1) of MiFIR which provides that, in order to carry out calculations for determining the requirements for the pre-trade and post-trade transparency and the trading obligation regimes, CAs may require information from trading venues, APAs and CTPs.

The incremental rule arising from the final draft RTS is the obligation on trading venue to provide information upon request to CAs. However, here again, it is very difficult to disentangle the costs associated with the Level 1 text and with the draft RTS.

**4.6.3. Stakeholders**

*Trading venues* will have to provide some additional information to their CAs on an ad hoc basis.

**4.6.4. Cost-Benefit Analysis**

The final draft RTS requires trading venues to submit to CAs the details of a financial instrument newly admitted to trading or first traded on a trading venue, or whenever the details previously provided have changed. Those details have to be sent together with the reference data, under the same XML format, using the same ISO 20022 methodology. The purpose of the information is to ensure that the financial instruments will be properly classified in the next round of calculation

<b>Policy Objective</b>	Ensuring accurate calculations with respect to the pre-trade and post-trade transparency regime.
<b>Technical</b>	Reference data to be provided for the purpose of transparency

<b>Proposal</b>	calculations. See Article 17(5) and Annex III in RTS 1 for more details.
<i>Benefits</i>	Ensuring accurate transparency calculations
<i>Cost to regulator:</i> - <i>One-off</i> - <i>On-going</i>	None
<i>Compliance cost</i> - <i>One-off</i> - <i>On-going</i>	Trading venues will incur some one-off and recurring IT costs to include the additional details required in the daily reference data feed. However, as those details are readily available to trading venues, and are to be provided at the same time and under the same format as the reference data feed, this additional obligation is not expected to be source of significant cost.
<i>Cost to other stakeholders</i>	None
<i>Indirect costs</i>	None

## 5. Compliance costs

A questionnaire on the transparency requirements in respect of equity and equity-like instruments was circulated in March 2015. Since the feedback to the DP as well as the qualitative CBA performed by ESMA indicated that cost will mostly stem from the proposals related to shares and ETFs, the questionnaire targeted mainly these instruments.

The questionnaire asked about compliance costs arising from each proposed legal obligations related to the new transparency regime for equity instruments:

- Pre-trade transparency obligations in accordance with the trading systems (compliance costs related only for shares and ETFs, market impact related to all equity instruments);
- Type and minimum size of orders held in an order management facility (only for shares and ETFs);
- Size of orders that are large in scale (all instruments);
- Trading obligation for shares, transactions not contributing to the price discovery process (all equity instruments);
- Flags;
- Real-time publication of transactions, reduction of maximum time limit from 3 minutes to 1 minute;

- Deferred publication.

Where applicable, stakeholders were requested to specify the costs they would incur differentiating by trading system (continuous auction order book, quote-driven, periodic auction, RFQ, voice trading and other systems). The responses received related to the RTS annexed to the CP.

Seven institutions (three trading venues with less than 250 employees and four large investment firms with more than 250 employees) provided data on the costs arising from complying with the RTS regarding the new pre-trade transparency regimes.

Pre-trade transparency obligations in accordance with the trading systems [Article 3 and Table 3 of Annex I in Draft RTS 8]

Trading system	Financial instrument	Type of cost	Number of employees			
			[1-50]	[51-250]	[251-1000]	>1000
Continuous auction order book	Shares/EFTs	One-off	250k-1m [2]*	<50k [1]	<50k-250k [2]	<50k [1]**
		On-going	50k-250k [2]*	<50k [1]	<50k-1m [2]	<50k [1]**
Quote-driven	Shares/EFTs	One-off	50k-250k [1]	N/A	250k-5m [1]	<50k [1]**
		On-going	50k-250k [1]	N/A	50k-10m [2]	<50k [1]**
Periodic auction	Shares/EFTs	One-off	50k-250k [1]*	N/A	50k-250k [1]	<50k [1]**
		On-going	50k-250k [1]*	N/A	50k-250k [2]	<50k [1]**
RFQ	Shares/EFTs	One-off	N/A	N/A	250k-1m [1]	N/A
		On-going	N/A	N/A	250k-1m [1]	N/A

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets.

\* Shares only,

\*\* IT & Training cost.

Two small trading venues (with less than 50 employees) reported that complying with ne pre-trade transparency obligations on continuous order book system would imply a one-off IT and staff costs ranging from EUR 250k to 1m, and on-going IT and staff costs up to EUR 250k. The nature of costs is both IT and staff.

**Type and minimum size of orders held in an order management facility [Article 7 in Draft RTS 8] – only for shares and ETFs**

Financial instrument	Source of costs	Type of cost	Number of employees			
			[1-50]	[51-250]	[251-1000]	>1000**
Shares	IT	One-off	50k-1m [2]	50k-1m [3]	50k-250k [3]*	<50k [1]
		On-going	<50k-250k [2]	<50k [1]	50k-250k [3]	<50k [1]
ETFs	IT	One-off	50k-250k [1]	50k-1m [3]	50k-250k [2]	<50k [1]
		On-going	<50k [1]	<50k [1]	50k-250k [2]	<50k [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets.

\*One respondent mentioned IT and Staff costs together,

\*\* IT & Training cost.

With respect to article 7 regarding the type and minimum size of orders held in an order management facility, small trading venues reported they will incur IT costs. IT costs are slightly higher for trading in shares than ETFs, caused by the need to adapt IT systems to be able to configure and validate at order entry gateways. Large investment firms would incur much lower costs (less than 50k) to comply with the proposed obligation.

**Size of orders that are large in scale [Article 8 and Annex II in draft RTS 8] – all instruments**

Trading system	Source of costs	Type of cost	Number of employees			
			[1-50]	[51-250]	[251-1000]	>1000
For shares admitted on a regulated market	IT/staff	One-off	50k-250k [3]	50k-250k [2]	50k-250k [3]	<50k [1]
		On-going	<50k-250k [4]	<50k [1]	50k-250k [3]	<50k [1]
For shares traded only on MTFs	IT/staff	One-off	50k-250k [1]	50k-250k [1]	50k-250k [2]	<50k [1]
		On-going	<50k-250k [2]	<50k [1]	50k-250k [2]	<50k [1]
For DRs	IT/staff	One-off	N/A	50k-250k [1]	50k-250k [1]	<50k [1]
		On-going	N/A	<50k [1]	50k-250k [1]	<50k [1]
For ETFs – Option 1 (5 classes and thresholds)	IT/staff	One-off	N/A	50k-250k [1]	<50k-250k [2]	<50k [1]
		On-going	N/A	<50k [1]	<50k-250k [2]	<50k [1]
For ETFs – Option 2 (single threshold)	IT/staff	One-off	N/A	50k-250k [1]	50k-250k [1]	<50k [1]
		On-going	<50k [1]	<50k [1]	50k-250k [1]	<50k [1]
Certificates	IT/staff	One-off	50k-250k	N/A	50k-250k [1]	<50k [1]

		[1]			
	On-going	50k-250k [1]	N/A	50k-250k [1]	<50k [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

Regarding the proposed legal obligation that sets the size of orders that are large in scale, small, medium and medium-large trading venues reported that they will incur IT and staff costs of up to EUR 250k (one-off and on-going). A large firm would likely exploit economies of scale, allowing it to incur costs of less than EUR 50k. The costs are related to the need for new staff and IT systems. Compliance costs do not vary significantly across the financial instruments traded.

Trading obligation for shares – transactions not contributing to the price discovery process [Article 2 in draft RTS 8] – all equity instruments

		Number of employees			
Source of costs	Type of cost	[1-50]	[51-250]	[251-1000]*	>1000**
IT	One-off	<50k [1]	<50k [1] 1m-5m [1]	<50k-250k [3]	50k-250k [2]
	On-going	N/A	<50k [1] 250k-1m [1]	<50k-250k [3]	<50k [2]
Staff	One-off	N/A	N/A	50k-250k [1]	N/A
	On-going	N/A	N/A	50k-250k [1]	N/A
Training Costs	One-off	N/A	50k-250k [1]	N/A	<50k [2]
	On-going	N/A	<50k [1]	N/A	<50k [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

Small and medium size trading venues estimated total IT compliance costs to be less than EUR 50k. For investment firms, IT compliance costs are likely to be slightly higher: up to EUR 5m one-off and 1m on-going costs for a medium size investment firm and up to EUR 250k for a large investment firm (one-off and on-going). Staff costs reported by a medium-large investment firm range from EUR 50k to 250k (one-off and on-going). Training compliance costs are estimated to be less than EUR 50k (one-off and on-going) for a large firm, while for a medium firm the one-off costs would be higher, up to EUR 250k.

Flags [Article 12, Table 2 Annex I in draft RTS 8]

		Number of employees			
Equity Instrument		[1-50]	[51-250]	[251-1000]	>1000
Shares		50k-1m [4]	<50k-1m [4] 5m-10m [1]	<50k [2] 250k-1m [1]	<50k [2] 250k-1m [1]
ETFs		50k-250k [1]	<50k-1m [3]	<50k-250k [3]	<50k-250k [3]

DRs and/or certificates	N/A	<50k-5m [4]	<50k-250k [3]	<50k-250k [3]
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Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

In order to meet the requirements for flags for shares, small firms (only trading venues in the sample of small firms) will incur compliance costs of up to EUR 1m, while implementing the flagging systems for ETFs instruments would be less costly (up to EUR 250k). The costs for medium sized firms implementing the flagging systems for shares range widely from less than EUR 50k to 10m, while for medium-large and large firms they go up to EUR 1m. Implementing ETFs and DRs' flagging systems cost to a medium firm up to EUR 1m and 5m, respectively, while for a medium-large and large firm costs would range from EUR 50k to 250k.

Real-time publication of transactions, reduction of maximum time limit from 3 minutes to 1 minute [Article 17 in draft RTS 8]

Financial Instrument	Source of costs	Type of cost	Number of employees			
			[1-50]	[51-250]	[251-1000]	>1000
Shares	IT	One-off	250k-1m [1]	50k-1m [2]	<50k-250k [3]	<50k [2]
		On-going	50k-250k [1]	50k-250k [1]	<50k-250k [3]	<50k [1]
ETFs	IT	One-off	N/A	50k-1m [1]	<50k-250k [3]	<50k [2]
		On-going	N/A	N/A	<50k-250k [3]	<50k [1]
DRs and/or certificates	IT	One-off	N/A	50k-1m [2]	<50k-250k [2]	<50k [2]
		On-going	N/A	50k-250k [1]	<50k-250k [2]	<50k [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets, \*IT and training costs.

Compliance costs stemming from the maximum time limit for publication of transactions, i.e. one minute, are estimated to range from EUR 250k to 1m (one-off) and up to EUR 250k (on-going) for small trading venues and investment firms. For large investment firms compliance costs are lower, one off and on-going costs amount to EUR 250k for firms with number of employees between 251 and 1000 and less than EUR 50k for firms with more than 1000 employees. Respondents reported that the main costs are related to IT implementation across all financial instruments.



Deferred publication [Article 15, Annex II Tables 5-7] – shares and ETFs

Source of costs	Main Area	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Shares	IT	250k-1m [1]	N/A	50k-250k [1]	<50k [1]
	Staff	N/A	N/A	50k-250k [1]	N/A
	Training	N/A	N/A	N/A	<50k [1]
ETFs - Option 1: Various LIS thresholds	IT	N/A	N/A	50k-250k [1]	<50k [1]
	Staff	N/A	N/A	50k-250k [1]	N/A
	Training	N/A	N/A	N/A	<50k [1]
ETFs - Option 2: Single LIS threshold	IT	N/A	N/A	50k-250k [1]	<50k [1]
	Staff	N/A	N/A	50k-250k [1]	N/A
	Training	N/A	N/A	N/A	<50k [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

The final draft RTS proposes to amend the scope for eligibility to deferred publication of LIS transactions from trading on own account with clients to trading on own account other than on a matched principal basis with another counterparty. Compliance costs for shares and ETF (both options presented in the CP) range from EUR 50k to 250k for a medium-large size investment firm and are less than EUR 50k for a large investment firm.

## 6. European comparison

A questionnaire on current pre-trade and post-trade transparency was circulated to eight CAs. Based on the answers received, ETFs and depositary receipts are currently admitted to trading in the UK, France and Netherlands. ETFs and depositary receipts are admitted to trading on regulated markets and traded on MTFs. In the above mentioned jurisdictions where ETFs and DRs are admitted to trading, the pre- and post- trade information disseminated to the public are the same as for shares. The only exception concerns the UK MTFs, where the transparency regimes depend on the trading system operated (request-for-quote, limit order books or crossing systems).

In all the three jurisdictions concerned there is a pre-trade waiver for Large in scale orders for the equity-like instruments concerned; for example in France ETFs have a LIS threshold of EUR 500,000<sup>10</sup>; all other equivalent securities trading on a continuous basis have a LIS threshold of EUR 100,000 while the ones trading on a call auction procedure have a LIS threshold of EUR 50,000.

Other waivers are also in place. In the Netherlands, orders in ETFs, DRs and certificates may benefit from the negotiated trade waiver and the order management facility waiver. No reference price waiver has been implemented for those instruments. In France, the following

<sup>10</sup> Block trades in ETFs, ETNs and ETVs shall be executed at prices within the reservation thresholds.

other pre-trade transparency waivers apply: trading at or around the value weighted average price<sup>11</sup>, hedge component of stock contingent trades in derivatives<sup>12</sup>, other negotiated trades<sup>13</sup> executed within Rule 4404, net asset value trading<sup>14</sup>, security component of exchange for physicals in derivatives (“EFP”). In UK other waivers other than LIS relate to circumstances similar to those available for shares.

Deferred publication of transactions in ETFs, DRs and certificates is permitted in some UK trading venues for large in scale transactions on the basis of thresholds determined according to the same principles and approach applicable to shares. In France deferred publication of transaction in ETFs, DRs and certificate is permitted for LIS transactions (block trades<sup>15</sup>) within 60 minutes after reporting if the amount of the block trade is less than five times the relevant threshold and within 120 minutes after reporting if the amount of the block trade is equal or greater than five times the relevant threshold. In the Netherlands, the deferral publication of transactions in ETFs, DRs and certificates depends on whether they are concluded on- or off-exchange. On-exchange transactions benefit from the same publication deferral as for shares, while the off-exchange ones (off-order book) that are reported to regulated market benefit from deferred publication if the transaction qualifies as Block Trade.

Currently in the UK, France, the Netherlands and Denmark, there are MTFs that offer trading in shares not admitted to any EU regulated market. Precisely, in UK these are two MTFs specialized in small-medium sized companies: AIM (operated by the London Stock Exchange) and ISDX Growth Market. There are also other UK MTFs (e.g. Turquoise) that offer trading services in shares not admitted to trading on any EU regulated market but listed in US and Switzerland. The disclosure regime (content and timing), LIS waiver and order management facilities waiver applicable to those MTFs are equivalent to that applicable to shares admitted to trading on a regulated market. In addition to that, on AIM and ISDX some transactions which are bilaterally agreed between members and their clients may be executed outside the systems provided by the venue, with the benefit of a pre-trade transparency waiver. However transactions cannot be executed on terms that are worse than any of the individual firm quotes available in the relevant quote-driven security.

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<sup>11</sup> Market value weighted average price (“Market VWAP”) transactions are those where, in accordance with the provisions of the trading manual, a member agrees with his client or with another member to effect a transaction at a price within a 1% range (boundaries included) around the average price, as weighted by volumes, traded in the central order book of a security during a future period of time. Only shares traded continuously are eligible for such Market VWAP transactions facility.

<sup>12</sup> The transactions on a security admitted to trading on a Euronext Securities Market that result from a trade combining an option contract and its underlying security as a “stock contingent trade” on a Euronext Derivatives Market operated by the same Euronext market operator are automatically registered on the former Euronext Securities Market, provided that the price of the underlying security is set within an interval, the terms and conditions for calculation of which are defined according to one or more Notices on the subject.

<sup>13</sup> They should be executed at a price at or within the current volume-weighted average spread reflected on the order book. For the purpose of price control, the price of the transaction will be compared to the market data issued from the central order book on the concerned security. The price will be controlled based on the following criteria: the price is made at or within the current weighted spread reflected in the central order book, and the price is within the lowest and the highest price of the concerned security during the concerned trading session. If the transaction occurs after the trading hours, the price will be the last traded price or the last adjusted traded price (reference price).

<sup>14</sup> ETFs and open-ended investment funds are eligible to net asset value trading on a forward pricing basis, subject to the appointment of a fund agent, under conditions specified by Euronext in a notice.

<sup>15</sup> With the meaning of a trade between a member dealing on own account and a client of that member

In France there are three MTFs that offer trading in shares traded only on an MTF: Alternext, Marche Libre and Alternativa. On Alternext, the trades in the central order book are made pursuant to the rules and procedures as applicable to the regulated markets, while for the trades outside the order book a special regime applies. The relevant market operator shall disseminate the following information for every transaction: security symbol, price, quantity and time. Such information shall be made available the following trading day at 6.15 am for trades executed during out-of-hours trading while for trades executed during session trading it shall be made available immediately or with an hour delay if a Member is trading for its own account as principal and if the transaction involves an amount equal to or more than EUR 50,000. On the Marche Libre, trades in the central order book follow the rules and procedure for trades in regulated markets. On Alternativa MTF the trades in the central order book are made through auction or are supervised by an independent expert. The order book is disclosed each day on Alternativa's website according to the frequency indicated on Alternativa's website. Execution is confirmed to the buyer and the seller. Statistical information on trades is disclosed. In both Marche' Libre and Alternativa MTFs, equity trades made outside the central order book are disclosed without delay where there are two clients, or before market opening if the trading Member is acting as principal.

In the Netherlands there is only one MTF that offers trading in shares that are only traded on this MTF. However it will cease its activities in Q12016.

In the UK, according to the FCA interpretation of MiFID II definition of actionable IOIs, transactions on voice and request-for-quote trading systems use certain types of indications of interest which might be considered as actionable IOIs, mostly in derivatives and fixed income markets. In those protocols the pre-trade information is only accessible by the requester of the trade and the liquidity provider supplying the quote. There are no actionable IOIs on the French, Dutch and Danish trading venues.

## **2.2. Transparency requirements in respects of bonds, structured finance products, emission allowances and derivatives**

### **1. Executive Summary**

MFIR introduces pre-trade and post-trade transparency requirements in respect of bonds, structured finance products, emission allowances and derivatives, subject to certain conditions and to certain waivers. The purpose of the final draft RTS is to further specify those pre- and post-trade transparency requirements.

This document covers six main topics: i) the liquid market definition for non-equity instruments; ii) large in scale (LIS) and size specific to the instrument (SSTI) thresholds, iii) pre-trade transparency for non-equity instruments; iv) post-trade transparency requirements for non-equity instruments; v) temporary suspension of transparency requirements; and vi) exemptions from transparency requirements in respect of transactions executed by a member of the ESCB.

Within each topic there are four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the draft RTS. The baseline section then explains the starting point for assessing the incremental rule related to the draft RTS, which can be either the MIFID II/MiFIR requirements, or current market practices. The stakeholders identified for the entire final draft RTS are regulated markets, multilateral trading facilities, organised trading facilities ("trading venues"), members and participants of such trading venues, investment firms trading OTC, including systematic internalisers (SIs), approved publication arrangements (APAs), end-investors, issuers and competent authorities (CAs). The cost benefit-analysis section evaluates the cost and benefits of the final draft RTS and contains subsections on compliance costs and market impact. A section on background information (analysis carried out by market participants on COFIA and IBIA, literature review and country comparison) is included at the very end.

### **2. Liquid market definition for non-equity financial instruments**

#### **2.1. Introduction**

The definition of a liquid market is critical among MiFIR provisions governing non-equity instruments, including transparency provisions. The obligation for market operators and investment firms operating a trading venue to make public pre-trade information on bonds, structured finance products, emission allowances and derivatives (including securitised derivatives) may be waived by CAs for certain non-equity instruments for which there is not a liquid market. Similarly, on the post-trade side, CAs may authorise market operators and investment firms to provide for deferred publication in respect of transactions that are related to non-equity instruments for which there is not a liquid market. The purpose of the draft RTS is to

specify the non-equity financial instruments or classes of instruments for which there is not a liquid market.

## **2.2. Baseline**

From a legal perspective, the legislation to consider is Article 2(1)(17)(a) of MiFIR. This article provides that for the purpose of pre-trade and post-trade transparency obligations in non-equity instruments, a liquid market is “a market or a class of financial instruments where there are ready and willing buyers and sellers on a continuous basis, and where the market is assessed in accordance with the following criteria, taking into consideration the specific market structure of the particular financial instrument or of the particular class of financial instruments:

- the average frequency and size of transactions over a range of market conditions, having regard to the nature and life cycle of products within the class of financial instrument;
- the number and type of market participants, including the ratio of market participants to traded financial instruments in a particular product;
- the average size of spreads, where available (...).”

Article 9(1)(c) of MiFIR foresees that CAs may waive pre-trade transparency obligations for derivatives not subject to the trading obligation and other financial instruments for which there is not a liquid market.

Article 11(1)(b) provides that CAs may defer post-trade transparency obligations in respect of transactions related to non-equity instruments or a class of non-equity instruments for which there is not a liquid market.

### *Empowerment/RTS*

Under Article 9(5)(e) of MiFIR, ESMA is mandated to develop draft RTS to specify “the financial instruments or the classes of financial instruments for which there is not a liquid market where pre-trade disclosure may be waived”.

Under Article 11(4)(c) MiFIR ESMA is empowered to develop draft RTS to specify the conditions for authorising investment firms, including systematic internalisers, and market operators and investment firms operating a trading venue, to provide for deferred publication of the details of transactions for each class of financial instrument concerned (...).”

The baseline for assessing the incremental obligation arising from the final draft RTS is considered to be MiFIR for investment firms. For regulated markets or MTFs that currently

provide pre-trade- and post-trade transparency in non-equity instruments traded on their systems, the baseline considered is their current market practice.

Where the final draft RTS creates additional obligations, the costs associated with the incremental rule will be a combination of the effects of the Level 1 text and of the draft RTS. As those effects are very difficult to disentangle, any indication of costs thereafter is to be considered as an upper bound.

### **2.3. Stakeholders**

The key stakeholders identified are:

*Trading venues:* Trading venues will have to adjust trading systems' parameters to the liquidity status of the financial instruments traded where a CA waives pre-trade transparency obligations for a financial instrument that does not have a liquid market or where post-trade publication of a transaction in an illiquid instrument is deferred based on a CA's authorisation.

*Members/participants of trading venues:* members/participants of trading venues will be impacted by the liquidity status of an instrument as bid and offer prices in liquid instruments are made pre-trade transparent, as well as potentially bid and offer prices in illiquid instruments where the relevant CA would not waive pre-trade transparency obligations on trading venues. Likewise, the liquidity status of a financial instrument will contribute to determining the time frame within which their transactions will be made public. Increased transparency may potentially be a source of increased risk for market makers and other members or participants putting their capital at risk when trading as the market may move against them. However, the level of transparency currently available already on trading venues offering trading in non-equity instruments should contribute to limiting the impact of transparency attached to the liquidity status of a non-equity instrument. . This limitation does not apply, to members/participants of request for quote and voice trading systems where current transparency is far more limited.

*Investment firms trading OTC:* investment firms trading OTC will be impacted by the liquidity status of the financial instrument traded as the potentially deferred publication of their transactions will be dependent, amongst other things, on the liquid or illiquid status of the instrument. Systematic internalisers will be more significantly impacted as the liquidity status of the financial instrument in which they are a systematic internaliser determines their pre-trade transparency obligations as well.

*Issuers:* issuers will be impacted as the liquidity status of a bond will affect the pricing of a bond issuance and the cost of raising capital for companies.

*Institutional investors, buy side firms, end-investors:* those stakeholders will be impacted to the extent that liquidity status has an impact on the price of the instrument and transaction costs.

APAs: APAs will need to adjust IT systems parameters to the liquidity status of the instrument traded and the deferred publication regime potentially in force.

## **2.4. Cost-Benefit Analysis**

### *COFIA and IBIA*

The purpose of the liquidity calibration is to correctly classify liquid instruments so that liquid instruments are not exempted from the transparency regime and that illiquid ones are not subject to the pre-trade transparency regime and can be eligible for deferred post-trade transparency. An inappropriate liquidity calibration leading to illiquid instruments being treated as liquid under the pre-trade and post-transparency regimes might discourage market makers and other price makers from committing capital to facilitate trades, thus impacting liquidity and spreads. In turn, it would be more difficult for investors to manage their portfolios since liquidity would decrease and spreads would widen; and at the same time, it would be more difficult for issuers to raise financing through debt.

According to Article 2(1)(17)(a) of MiFIR, non-equity liquidity can be assessed considering classes of instruments or on a per-instrument basis. Accordingly, ESMA has initially developed two methods for the liquidity assessment: the Classes of Financial Instruments Approach (COFIA) and the Instrument by Instrument Approach (IBIA).

COFIA requires segmenting asset classes (e.g. interest rate derivatives, commodity derivatives, etc.) into more granular sub-classes that share largely homogenous liquidity characteristics. Subsequently, the liquidity of each of these sub-classes is assessed based on the liquidity of all the instruments belonging to it. Whether a newly issued financial instrument is to be deemed liquid or not therefore becomes a function of the class it belongs to.

IBIA requires reassessing the liquidity of each individual financial instrument by applying the quantitative liquidity criteria mentioned in Article 2(1)(17)(a) of MiFIR. Under IBIA, the liquidity of each individual financial instrument is assessed using specific quantitative liquidity criteria and thresholds are defined per asset class. This liquidity assessment is reviewed on a periodic basis in order to make sure that it reflects the actual liquidity of the instrument on an on-going basis.

In the December 2014 CP, ESMA proposed to use COFIA as the basis for determining the liquidity of all non-equity financial instruments. The proposed approach provided for the segmentation of non-equity financial instruments into specific sub-classes defined on the basis of a set of qualitative criteria (e.g. maturity, currency, underlying instrument, etc.) taking into account the specificities of the various asset classes. On this basis, sub-classes (and all the instruments belonging to those sub-classes) were deemed to be liquid or illiquid on the basis of the quantitative liquidity criteria listed under Article 2(1)(17)(a) and, as further described in the December CP, any newly issued instrument would be classified as liquid if it belonged to one of the pre-defined liquid classes. As a result, in the RTS annexed to the CP the list of all sub-

classes deemed to be liquid were provided and they were not subject to any further liquidity reassessment except in the case of a revision of the RTS.

However, taking into account the comments received, ESMA has substantially revised its initial proposal and the final draft RTS overall includes a more granular and dynamic approach to the liquidity assessment of those instruments.

The section below provides a cost-benefit analysis of the liquid market definition ultimately retained in the final draft RTS for each of the following category of non-equity instruments: a) bonds; b) structured finance products c) securitised derivatives; d) derivatives and e) emission allowances.

## **A. Bonds**

### **a. Bonds Other than Exchange Traded Notes (ETNs) and Exchange Traded Commodities (ETCs)**

The two approaches to the liquidity classification of bonds, COFIA and IBIA, have been extensively reflected on and the costs and benefits of each one carefully considered, taking into consideration the comments, data and analysis gathered from market participants.

Ultimately, the final draft RTS contains IBIA, i.e. an approach based on a liquidity assessment per single bond whose key characteristics are the following:

- i) the liquidity of each bond is assessed according to 3 parameters, applied on a cumulative basis:
  - average daily nominal amount, which should be at least EUR 100,000;
  - average daily number of trades, which should be at least 2;
  - minimum number of days traded which should correspond to at least 80% of the trading sessions available;
- ii) the liquidity of each bond is re-assessed at the end of every quarter on the basis of the above parameters and taking as observation period the last quarter;
- iii) newly issued instruments are deemed to be liquid according to their issuance size, i.e. if the issuance size is above a certain amount, a bond is considered to be liquid until application of the first assessment based on the trading activity recorded over the quarter.

The rationale for opting for IBIA versus COFIA is set out below in respect of two key parameters: accuracy of the approach and costs and practicalities of implementation.



### Accuracy of the approach

IBIA has no false positives/false negatives at the time of calculation, but can be inaccurate between calculation dates. When looking back, at the end of each quarter, some bonds that were classified as illiquid in the previous quarter may have actually traded above the liquidity thresholds and vice-versa. This relates to the fact that the past is not always a good indicator of the future, which is also true in the case of COFIA where any bond correctly classified as liquid also not necessarily remains liquid in the future. However, in the case of IBIA these misclassifications due to a change in the liquidity status of the bond (from liquid to illiquid or vice-versa) are corrected from one quarter to the other by means of the periodic liquidity reassessment.

ESMA made an assessment of the correct implementation of the transparency regime over quarters for bonds which qualified as liquid in the first quarter of reference and bonds which qualified as illiquid in the first quarter of reference, grouping all bond types together. It is observed that more than 80% of bonds deemed to be liquid (in the first quarter considered) and more than 98% of bonds deemed to be illiquid (in the first quarter considered) are correctly classified in each quarter. Furthermore, the change in liquidity status from liquid to illiquid (and vice versa) over the quarters is also captured, in other words intra-quarter misclassifications are corrected in the subsequent liquidity reassessment.

In particular, the analysis, whose results are provided in the following tables, was based on the data collected by ESMA from Transaction Reporting from 25 CAs for the period ranging from 1 July 2012 to 30 June 2013 and including 73,619 bonds (out of which roughly 55% did not trade over the period).

**Table 1: Liquid bonds (number of ISINs)**

Column #1	Column #2	Column #3	Column #4
# of liquid bonds in Q1			
2,825 -			
# of liquid bonds in Q2	% of liquid bonds in Q1 correctly classified in Q2		
2,677 -	2,284 80.85%		
# of liquid bonds in Q3	% of liquid bonds in Q2 correctly classified in Q3	% of liquid bonds in Q1 correctly classified in Q3	
2,809 -	2,303 86.03%	2,450 86.73%	
# of liquid bonds in Q4	% of liquid bonds in Q3 correctly classified in Q4	% of liquid bonds in Q2 correctly classified in Q4	% of liquid bonds in Q1 correctly classified in Q4
2,717	2,332 83.02%	2,336 87.26%	2,406 85.17%

More in detail, in the first column the following information is provided:

- # of liquid bonds in Q1 = is the number of liquid bonds in Q1 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 2825;
- # of liquid bonds in Q2 = is the number of liquid bonds in Q2 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 2677;
- # of liquid bonds in Q3 = is the number of liquid bonds in Q3 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 2809;
- # of liquid bonds in Q4 = is the number of liquid bonds in Q4 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 2717.

In the second column the number of bonds which qualified as liquid for two consecutive quarters is provided. In other words, whenever a bond was classified as liquid at the end of one quarter

then, it is correctly classified if it results to be liquid at the end of the subsequent quarter because the liquidity status applies for the period following the liquidity assessment. Here below a detailed description of the information provided by each field in the second column:

- % of liquid bonds in Q1 correctly classified in Q2 = is the number of liquid bonds which are classified as liquid at the end of Q1 and which resulted to be liquid at the end of Q2, i.e. 2284 which is 80.85% of the bonds deemed to be liquid in Q1. In other words 80.85% of bonds were correctly classified for Q2;

- % of liquid bonds in Q2 correctly classified in Q3 = is the number of liquid bonds which are classified as liquid at the end of Q2 and which resulted to be liquid at the end of Q3, i.e. 2303 which is 86.03% of the bonds deemed to be liquid in Q2. In other words, 86.03% of bonds were correctly classified for Q3;

- % of liquid bonds in Q3 correctly classified in Q4 = is the number of liquid bonds which are classified as liquid at the end of Q3 and which resulted to be liquid at the end of Q4, i.e. 2332 which is 83.02% of the bonds deemed to be liquid in Q3. In other words, 83.02% of bonds were correctly classified for Q4.

In the third column of the table the following information is provided:

- % of liquid bonds in Q1 correctly classified in Q3 = is the number of bonds which are correctly classified at the end of Q3, i.e. 2450 which is 86.73% of the total number of bonds deemed to be liquid in the first quarter. This figure includes bonds classified as liquid in all of the first three quarters, i.e. the number of bonds which are classified as liquid at the end of Q1 and for which transparency is correctly applied during Q2 since at the end of Q2 the bond is still liquid. Furthermore, for those bonds transparency is also correctly applied in Q3 since at the end of such quarter the bond is again liquid. In addition, the figure also includes bonds which were liquid in Q1 but illiquid at the end of Q2 and Q3 since IBIA allowed capturing the change in the liquidity status from Q2 to Q3.

- % of liquid bonds in Q2 correctly classified in Q4 = is the number of bonds which are correctly classified at the end of Q4, i.e. 2336 which is 87.26% of the total number of bonds deemed to be liquid in the second quarter. This figure includes bonds classified as liquid in all the three quarters, i.e. the number of bonds which are classified as liquid at the end of Q2 and for which transparency is correctly applied during Q3 since at the end of Q3 the bond is still liquid. Furthermore, for those bonds transparency is also correctly applied in Q4 since at the end of such quarter the bond is again liquid. In addition, the figure also includes bonds which were liquid in Q2 but illiquid at the end of Q3 and Q4 since IBIA allowed capturing the change in the liquidity status from Q3 to Q4.

In the fourth column of the table the following information is provided:

- % of liquid bonds in Q1 correctly classified in Q4 = is the number of bonds which are correctly classified at the end of Q4, i.e. 2406 which is 85.17% of the total number of bonds deemed to be liquid in the first quarter. This figure includes bonds classified as liquid in all the four quarters, i.e. the number of bonds which are classified as liquid at the end of Q1 and transparency is correctly applied during Q2 since at the end of the second quarter the bond is still liquid. Furthermore, for those bonds transparency is also correctly applied in Q3 and Q4 since at the end of both quarters the bond is again liquid. In addition, the figure also includes bonds which were liquid in Q1 but then illiquid at the end of Q2, Q3 and Q4 since IBIA allowed capturing the change in the liquidity status in Q3 and Q4. Lastly, the figure also includes those bonds which were liquid in Q1 and Q2 but illiquid at the end of Q3 and Q4 since again, IBIA allowed capturing the change in the liquidity status in Q4.

**Table 2: Illiquid bonds (number of ISINs)**

Column #1	Column #2	Column #3	Column #4
# of illiquid bonds in Q1			
70,794			
# of illiquid bonds in Q2	% of illiquid bonds in Q1 correctly classified in Q2		
70,942	70,401 99.44%		
# of illiquid bonds in Q3	% of illiquid bonds in Q2 correctly classified in Q3	% of illiquid bonds in Q1 correctly classified in Q3	
70,810	70,436 99.29%	70,289 99.29%	
# of illiquid bonds in Q4	% of illiquid bonds in Q3 correctly classified in Q4	% of illiquid bonds in Q2 correctly classified in Q4	% of illiquid bonds in Q1 correctly classified in Q4
70,902	70,425 99.46%	70,421 99.27%	69,953 98.81%

More in detail, in the first column the following information is provided:

- # of illiquid bonds in Q1 = is the number of illiquid bonds in Q1 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 70,794

- # of illiquid bonds in Q2 = is the number of illiquid bonds in Q2 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 70,942

- # of illiquid bonds in Q3 = is the number of illiquid bonds in Q3 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 70,810

- # of illiquid bonds in Q4 = is the number of illiquid bonds in Q4 (assessed on the basis of the trading activity of the bond recorded over the quarter), i.e. 70,902

In the second column the number of bonds which qualified as illiquid for two consecutive quarters is provided. In other words, whenever a bond was classified as illiquid at the end of one quarter then, it is correctly classified if it results to be illiquid at the end of the subsequent quarter because the liquidity status applies for the period following the liquidity assessment. Here below a detailed description of the information provided by each field in the second column:

- % of illiquid bonds in Q1 correctly classified in Q2 = is the number of illiquid bonds which are classified as illiquid at the end of Q1 and which resulted to be illiquid at the end of Q2, i.e. 70,401 which is 99.44% of the bonds deemed to be illiquid in Q1. In other words 99.44% of bonds were correctly classified for Q2;

- % of illiquid bonds in Q2 correctly classified in Q3 = is the number of illiquid bonds which are classified as illiquid at the end of Q2 and which resulted to be illiquid at the end of Q3, i.e. 70,436 which is 99.29% of the bonds deemed to be illiquid in Q2. In other words, 99.29% of bonds were correctly classified for Q3;

- % of illiquid bonds in Q3 correctly classified in Q4 = is the number of illiquid bonds which are classified as illiquid at the end of Q3 and which resulted to be illiquid at the end of Q4, i.e. 70,425 which is 99.46% of the bonds deemed to be illiquid in Q3. In other words, 99.46% of bonds were correctly classified for Q4.

In the third column of the table the following information is provided:

- % of illiquid bonds in Q1 correctly classified in Q3 = is the number of bonds which are correctly classified at the end of Q3, i.e. 70,289 which is 99.29% of the total number of bonds deemed to be illiquid in the first quarter. This figure includes bonds classified as illiquid in all of the first three quarters, i.e. the number of bonds which are classified as illiquid at the end of Q1 and for which transparency is correctly (not) applied during Q2 since at the end of Q2 the bond is still illiquid. Furthermore, for those bonds transparency is also correctly (not) applied in Q3 since at the end of such quarter the bond is again illiquid. In addition, the figure also includes bonds

which were illiquid in Q1 but liquid at the end of Q2 and Q3 since IBIA allowed capturing the change in the liquidity status from Q2 to Q3.

- % of illiquid bonds in Q2 correctly classified in Q4 = is the number of bonds which are correctly classified at the end of Q4, i.e. 70,421 which is 99.29% of the total number of bonds deemed to be illiquid in the second quarter. This figure includes bonds classified as illiquid in all the three quarters, i.e. the number of bonds which are classified as illiquid at the end of Q2 and for which transparency is correctly (not) applied during Q3 since at the end of Q3 the bond is still illiquid. Furthermore, for those bonds transparency is also correctly (not) applied in Q4 since at the end of such quarter the bond is again illiquid. In addition, the figure also includes bonds which were illiquid in Q2 but liquid at the end of Q3 and Q4 since IBIA allowed capturing the change in the liquidity status from Q3 to Q4.

In the fourth column of the table the following information is provided:

- % of illiquid bonds in Q1 correctly classified in Q4 = is the number of bonds which are correctly classified at the end of Q4, i.e. 69,953 which is 98.81% of the total number of bonds deemed to be illiquid in the first quarter. This figure includes bonds classified as illiquid in all the four quarters, i.e. the number of bonds which are classified as illiquid at the end of Q1 and transparency is correctly (not) applied during Q2 since at the end of the second quarter the bond is still illiquid. Furthermore, for those bonds transparency is also correctly (not) applied in Q3 and Q4 since at the end of both quarters the bond is again illiquid. In addition, the figure also includes bonds which were illiquid in Q1 but then liquid at the end of Q2, Q3 and Q4 since IBIA allowed capturing the change in the liquidity status in Q3 and Q4. Lastly, the figure also includes those bonds which were illiquid in Q1 and Q2 but liquid at the end of Q3 and Q4 since again, IBIA allowed capturing the change in the liquidity status in Q4.

Similar results, provided in the following tables, are obtained when assessing the accuracy of IBIA in terms of number of trades instead of number of ISINs. In particular, in each quarter the percentage of trades related to bonds deemed to be liquid (in the first quarter considered) is over 86% while that of those deemed to be illiquid (in the first quarter considered) is above 88%.

**Table 3: Liquid bonds (trade count)**

Column #1	Column #2	Column #3
% of trades of liquid bonds in Q1 correctly classified in Q2		
86.08%		
% of trades of liquid bonds in Q2 correctly classified in Q3	% of trades of liquid bonds correctly classified in Q3	
88.39%	88.39%	
% of trades of liquid bonds in Q3 correctly classified in Q4	% of trades of liquid bonds correctly classified in Q4	% of trades of liquid bonds correctly classified in Q4
91.37%	91.37%	90.30%

More in detail, in the first column the following information is provided:

- % of trades of liquid bonds in Q1 correctly classified in Q2 = is the number of trades executed in Q2 and related to bonds which are classified as liquid at the end of Q1 and which resulted to be liquid at the end of Q2 divided by the total number of trades executed in Q2 and related to all bonds qualified as liquid at the end of Q2 irrespectively of their liquidity status in Q1. The percentage is 86.08%;

- % of trades of liquid bonds in Q2 correctly classified in Q3 = is the number of trades executed in Q3 and related to bonds which are classified as liquid at the end of Q2 and which resulted to be liquid at the end of Q3 divided by the total number of trades executed in Q3 and related to all bonds qualified as liquid at the end of Q3 irrespectively of their liquidity status in Q2. The percentage is 88.39%;

- % of trades of liquid bonds in Q3 correctly classified in Q4 = is the number of trades executed in Q4 and related to bonds which are classified as liquid at the end of Q3 and which resulted to be liquid at the end of Q4 divided by the total number of trades executed in Q4 and related to all bonds qualified as liquid at the end of Q4 irrespectively of their liquidity status in Q3. The percentage is 91.37%.

In the second column of the table the following information is provided:

- % of trades of liquid bonds correctly classified in Q3 = is the sum of (i) the number of trades executed in Q3 and related to bonds which are classified as liquid at the end of Q1 and Q2 and which resulted to be liquid at the end of Q3 (ii) the number of trades executed in Q3 and related to bonds which are classified as illiquid at the end of Q1, liquid at the end of Q2 and which resulted to be liquid at the end of Q3. The sum of (i) and (ii) is then divided by the total number of trades executed in Q3 and related to all bonds qualified as liquid at the end of Q3 irrespectively of their liquidity status in the previous quarters. The percentage is 88.39%;

- % of trades of liquid bonds correctly classified in Q4 = is the sum of (i) the number of trades executed in Q4 and related to bonds which are classified as liquid at the end of Q2 and Q3 and which resulted to be liquid at the end of Q4 (ii) the number of trades executed in Q4 and related to bonds which are classified as illiquid at the end of Q2 but liquid at the end of Q3 and which resulted to be liquid also at the end of Q4. The sum of (i) and (ii) is then divided by the total number of trades executed in Q4 and related to all bonds qualified as liquid at the end of Q4 irrespectively of their liquidity status in the previous quarters. The percentage is 91.37%.

In the third column of the table the following information is provided:

- % of trades of liquid bonds correctly classified in Q4 = is the sum of (i) the number of trades executed in Q4 and related to bonds which are classified as liquid at the end of Q1, Q2 and Q3 and which resulted to be liquid at the end of Q4 (ii) the number of trades executed in Q4 and related to bonds which are classified as illiquid at the end of Q1, liquid at the end of Q2 and Q3 and which resulted to be liquid at the end of Q4 (iii) the number of trades executed in Q4 and related to bonds which are classified as illiquid at the end of Q1 and Q2 but liquid at the end of Q3 and which resulted to be still liquid at the end of Q4. The sum of (i) (ii) and (iii) is then divided by the total number of trades executed in Q4 and related to all bonds qualified as liquid at the end of Q4 irrespectively of their liquidity status in the previous quarters. The percentage is 90.30%.



**Table 4: Illiquid bonds (trade count)**

Column #1	Column #2	Column #3
% of trades of illiquid bonds in Q1 correctly classified in Q2		
89.90%		
% of trades of illiquid bonds in Q2 correctly classified in Q3	% of trades of illiquid bonds correctly classified in Q3	
89.29%	89.29%	
% of trades of illiquid bonds in Q3 correctly classified in Q4	% of trades of illiquid bonds correctly classified in Q4	% of trades of illiquid bonds correctly classified in Q4
90.54%	90.54%	88.73%

More in detail, in the first column the following information is provided:

- % of trades of illiquid bonds in Q1 correctly classified in Q2 = is the number of trades executed in Q2 and related to bonds which are classified as illiquid at the end of Q1 and which resulted to be illiquid at the end of Q2 divided by the total number of trades executed in Q2 and related to all bonds qualified as illiquid at the end of Q2 irrespectively of their liquidity status in Q1. The percentage is 89.90%;

- % of trades of illiquid bonds in Q2 correctly classified in Q3 = is the number of trades executed in Q3 and related to bonds which are classified as illiquid at the end of Q2 and which resulted to be illiquid at the end of Q3 divided by the total number of trades executed in Q3 and related to all bonds qualified as illiquid at the end of Q3 irrespectively of their liquidity status in Q2. The percentage is 89.29%;

- % of trades of illiquid bonds in Q3 correctly classified in Q4 = is the number of trades executed in Q4 and related to bonds which are classified as illiquid at the end of Q3 and which resulted to be illiquid at the end of Q4 divided by the total number of trades executed in Q4 and related to all bonds qualified as illiquid at the end of Q4 irrespectively of their liquidity status in Q3. The percentage is 90.54%.

In the second column of the table the following information is provided:

- % of trades of illiquid bonds correctly classified in Q3 = is the sum of (i) the number of trades executed in Q3 and related to bonds which are classified as illiquid at the end of Q1 and Q2 and which resulted to be illiquid at the end of Q3 (ii) the number of trades executed in Q3 and related to bonds which are classified as liquid at the end of Q1, illiquid at the end of Q2 and which resulted to be illiquid at the end of Q3. The sum of (i) and (ii) is then divided by the total number of trades executed in Q3 and related to all bonds qualified as illiquid at the end of Q3 irrespectively of their liquidity status in the previous quarters. The percentage is 89.29%;

- % of trades of illiquid bonds correctly classified in Q4 = is the sum of (i) the number of trades executed in Q4 and related to bonds which are classified as illiquid at the end of Q2 and Q3 and which resulted to be illiquid at the end of Q4 (ii) the number of trades executed in Q4 and related to bonds which are classified as liquid at the end of Q2 but illiquid at the end of Q3 and which resulted to be illiquid also at the end of Q4. The sum of (i) and (ii) is then divided by the total number of trades executed in Q4 and related to all bonds qualified as illiquid at the end of Q4 irrespectively of their liquidity status in the previous quarters. The percentage is 90.54%.

In the third column of the table the following information is provided:

- % of trades of illiquid bonds correctly classified in Q4 = is the sum of (i) the number of trades executed in Q4 and related to bonds which are classified as illiquid at the end of Q1, Q2 and Q3 and which resulted to be illiquid at the end of Q4 (ii) the number of trades executed in Q4 and related to bonds which are classified as liquid at the end of Q1, illiquid at the end of Q2 and Q3 and which resulted to be illiquid also at the end of Q4 (iii) the number of trades executed in Q4 and related to bonds which are classified as liquid at the end of Q1 and Q2 but illiquid at the end of Q3 and which resulted to be still illiquid at the end of Q4. The sum of (i) (ii) and (iii) is then divided by the total number of trades executed in Q4 and related to all bonds qualified as illiquid at the end of Q4 irrespectively of their liquidity status in the previous quarters. The percentage is 88.73%.

In contrast, ESMA also attempted to further refine COFIA in order to improve its accuracy. More specifically, in comparison with the COFIA proposed in the December CP, the number of classes was reduced by not taking into consideration debt seniority (senior vs subordinated) and issuer sub-type (financial vs non-financial). Furthermore, time from issuance was included as parameter (2 weeks for corporate bonds and 3 months for all the other bond types). Last but not least, the issuance sizes were reduced for the period close to issuance).

The accuracy of COFIA is measured by the number of incorrectly classified bonds, i.e. those bonds that are classified as liquid (illiquid) on the basis of issuance size and time from issuance but that should be qualified as illiquid (liquid) on the basis of quantitative thresholds related to trading activity recorded (same quantitative thresholds as the one used under IBIA, see above).

However, the accuracy of the model showed only marginal improvements. The table below provides for further details on the results. The analysis was based on the information collected by ESMA from Transaction Reporting from 25 CAs for the period ranging from 1 June 2013 to 31 May 2014 and, after a number of consistency checks, the 54,395 bonds considered (out of which 49% did not trade over the period).

Overall, the percentage of false positives decreased from 56.51% to 50.76% amongst all instruments at the expense of a slight increase of false negatives from 1.77% to 2.58% (the low percentage of false negatives is not surprising as the large majority of instruments is illiquid and will always be correctly classified).

Last but not least, accuracy of COFIA is calculated in percentage of ISINs since the use of the percentage of trades (or volume traded) might lead to biased results. The following example consists of a sample of 100 bonds. 1 bond out of those recorded 700 trades over the period, while the other 99 bonds did not record any trade. If, according to their issuance size, they are all determined to be liquid bonds, then the assessment of COFIA would result to be as follows:

- in number of ISINs: 1% of bonds are correctly classified and 99% are false positive;
- in trade count: 100% of bonds are correctly classified and 0% are false positive.

Bond Type	Time from Issuance	Total Number of ISINs	Percentage of ISINs correctly classified	Issuance Size Threshold	Num of ISINs with Issuance Size ABOVE the threshold	ISINs ABOVE the liquidity thresholds		ISINs BELOW the liquidity thresholds				Num of ISINs with Issuance Size BELOW the threshold	ISINs BELOW the liquidity thresholds		ISINs ABOVE the liquidity thresholds	
						Number	Percentage	Number	Percentage	Number that did NOT trade	Number that DID trade		Number	Percentage	Number	Percentage
						Liquid		Correctly Classified		False Positive				Illiquid		Correctly Classified
		[1]	[2] = ([5] + [10]) / [1]	[3]	[4]	[5]	[6] = [5] / [4]	[7]	[8] = [7] / [4]	[14]	[15]	[9]	[10]	[11] = [10] / [9]	[12]	[13] = [12] / [9]
EUSovereignBond	up to 3 months	121	76.86%	1,000,000,000	37	16	43.24%	21	56.76%	13	8	84	77	91.67%	7	8.33%
EUSovereignBond	more than 3 months	3,254	89.64%	2,000,000,000	739	441	59.68%	298	40.32%	148	150	2,515	2,476	98.45%	39	1.55%
NonEUSovereignBond	up to 3 months	NA	NA	1,000,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NonEUSovereignBond	more than 3 months	NA	NA	2,000,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EUOtherPublicBond	up to 3 months	41	87.80%	500,000,000	9	4	44.44%	5	55.56%	-	5	32	32	100.00%	-	-
EUOtherPublicBond	more than 3 months	1,123	95.73%	1,000,000,000	63	29	46.03%	34	53.97%	12	22	1,060	1,046	98.68%	14	1.32%
NonEUOtherPublicBond	up to 3 months	NA	NA	500,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NonEUOtherPublicBond	more than 3 months	NA	NA	1,000,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CoveredBond	up to 3 months	99	75.76%	500,000,000	29	11	37.93%	18	62.07%	9	9	70	64	91.43%	6	8.57%
CoveredBond	more than 3 months	7,025	95.64%	1,250,000,000	251	61	24.30%	190	75.70%	113	77	6,774	6,658	98.29%	116	1.71%
Corporates	up to 2 weeks	NA	NA	500,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Corporates	more than 2 weeks	32,667	95.99%	1,000,000,000	829	402	48.49%	427	51.51%	148	279	31,838	30,954	97.22%	884	2.78%
Convertible	up to 3 months	1	100.00%	500,000,000	-	-	-	-	-	-	-	1	1	100.00%	-	-
Convertible	more than 3 months	164	95.12%	1,250,000,000	5	2	40.00%	3	60.00%	1	2	159	154	96.86%	5	3.14%
<b>Total - COFIA CP 2014</b>		<b>54,395</b>	<b>94.10%</b>		<b>4,130</b>	<b>1,796</b>	<b>43.49%</b>	<b>2,334</b>	<b>56.51%</b>	<b>901</b>	<b>1,433</b>	<b>50,265</b>	<b>49,389</b>	<b>98.26%</b>	<b>876</b>	<b>1.77%</b>
<b>Total - COFIA 2015</b>		<b>44,495</b>	<b>95.35%</b>		<b>1,962</b>	<b>966</b>	<b>49.24%</b>	<b>996</b>	<b>50.76%</b>	<b>444</b>	<b>552</b>	<b>42,533</b>	<b>41,462</b>	<b>97.48%</b>	<b>1,071</b>	<b>2.58%</b>

COFIA CP 2014: means the implementation of COFIA as presented in the CP published in December 2014 in terms of (i) granularity of bond types (e.g. 4 types of corporate bonds and 2 types of convertible bonds) (ii) issuance size thresholds (iii) no application of the time from issuance as criteria

COFIA 2015: means the implementation of the improved COFIA implying (i) less granularity of bond types (e.g. 1 class of corporate bonds instead of 4 and 1 class of convertible bonds instead of 2) (ii) different issuance size thresholds (iii) application of the time from issuance as criteria

In conclusion, IBIA provides a significantly more accurate assessment of the liquidity of a bond for transparency purposes based on the pre-defined quantitative liquidity criteria.

See also Section 8.1 Background Information on the analysis of accuracy of IBIA and COFIA provided by stakeholders to ESMA over the last few months.

### Implementation and Impact

#### *For market participants*

As a measurement of liquidity based on the trading behaviour of the financial instrument, IBIA provides for an approach that incorporates the dynamic nature of bond liquidity, namely seasonality and episodic liquidity, which contributes to its accuracy.

As a consequence, under IBIA as opposed to COFIA, bonds may change liquidity status over time and potentially at each quarterly re-assessment. This may prove challenging for investment firms, including market makers, that will need to consult the lists of bonds to know the liquidity status of a bond at a given time. However, investment firms trading and making a market in financial instruments that responded to the CP said they were more willing to run the costs of having lists of instruments rather than having classes of instruments with a large number of false positives.

IBIA, as opposed to COFIA, is less predictable for new issues. As no historical data is available for the first classification of a bond as liquid or illiquid, the size of the issuance will be used for Q1, with determination of liquidity based on trading starting in Q2<sup>16</sup> (or Q3 if the bond is issued in the last month of the quarter). Whilst for some bond issuances, such as significant EU sovereign bonds there is little uncertainty as to whether the initial liquid determination will be confirmed in Q2 under IBIA, this may not be the case for a number of bond issuances, including medium-size corporate bonds. As the pricing of a bond incorporates, amongst other things, its liquidity characteristics, issuers may potentially be required to pay an illiquidity premium to cover the risk that the bond is determined illiquid in Q2, or over time, which would contribute to raise the costs of capital for corporate bond issuers. Conversely, under COFIA, both issuers and investors are aware of the liquidity status of a bond upon issuance and the issuance can be priced accordingly.

As regards gaming, under COFIA, an issuer could however potentially use adaptive strategies to adjust its issuance size over time; such as merging two outstanding bond issuances or going for a bond conversion. Where those regulatory arbitrages would require changes on the issuer's strategy, they do not appear to be proportionate to any benefit that could potentially be

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<sup>16</sup> If the bond was admitted to trading or first traded during the first two months of the quarter and in Q3 for those that were admitted to trading or first traded during the last month of the quarter

withdrawn from it. IBIA could also potentially attract other gaming strategies based on anticipation of change in quarterly liquidity assessment.

While the bulk of the data to be provided by trading venues and APAs to CAs (ESMA) will be required anyhow for SSTI and LIS calculation purposes, whether under COFIA or IBIA, the latter entails the provision of an additional set of data, the notional amount traded for each bond.

#### *For CAs and ESMA*

In their supervisory role, CAs are responsible for ensuring that the transparency obligations, based on liquidity determination are met by all relevant parties. This supervisory role could be made more challenging as, under IBIA, some bond liquidity assessment may change the liquidity determination on a quarterly basis. CAs will also have to adjust the list of bonds eligible to their domestic deferred publication regime on a quarterly basis.

Under Article 13(5) of the draft RTS, CAs are also in charge of collecting the data and performing the necessary calculations to determine the bonds not having a liquid market. As explained below, most CAs have delegated to ESMA either the collection of data and the performance of calculations, or the performance of calculations only (“delegated project”). 27 have delegated the calculations to ESMA, but 6 will be collecting the necessary data themselves. 4 CAs have chosen not to participate in the delegated project and will be doing both collection and calculations on their own.

Two main points can be made in respect of the costs and IT implications of IBIA on CAs and on the delegated project, as compared to COFIA:

The data related to two out of the three parameters used under IBIA to assess bond liquidity, namely the number of days traded and the average daily number of trades, will be collected for each bond for the purpose of the calculations of the large in scale (LIS) and size specific to the instrument (SSTI) thresholds, irrespective of the choice between IBIA and COFIA. Indeed, in order to calculate the LIS and SSTI thresholds, each trading venue and APA will be required to provide for each bond (ISIN) the number of trades executed in pre-determined transaction-size bins. Furthermore, a data collection with daily granularity and frequency, will be applied to all non-equity instruments since it allows to decrease the burden on trading venues and APAs to aggregate data to be delivered in one instance at the end of the year<sup>17</sup> and it also allows CAs (and/or ESMA) to automatically infer the number of days traded. As a result, the only additional information to be collected under IBIA is therefore the total nominal amount traded per day.

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<sup>17</sup> As an example, let's consider a bond option with time to maturity of 9 months at the beginning of year 20XX, if according to the assessment performed at the end of year 20XX-1 the bond option is liquid when the time to maturity is 3 months and illiquid when the time to maturity is longer than 3 months, then the trading venue should provide at the end of the year two records for the same bond option: one aggregating all the trades executed from the beginning to mid-year 20XX, i.e. when the time to maturity is longer than 3 months and an additional record aggregating all the trades executed on the bond option from mid-year 20XX to maturity, i.e. when the time to maturity is less than 3 months.

The impact of this additional data collection for IBIA purposes on the setup of the delegated project IT system is insignificant. Additional cost will however be incurred in relation to the human resources necessary for monitoring the data submission and data quality controls.

On balance, the benefits of IBIA accuracy in the determination of bonds not having a liquid market are considered to outweigh its potential drawbacks and additional costs compared to COFIA.

<b>Policy objective</b>	Ensuring an appropriate level of transparency of the bond market to the benefit of market efficiency.
<b>Technical proposal</b>	Bonds determined not to have a liquid market. See Article 13(1)(b)(i) and Table 2.1 of Annex III of final draft RTS 2 for more details.
<i>Benefits</i>	<p>The final draft IBIA provides for an individual assessment of the liquidity for each bond. This reduces the risk that a bond is classified as liquid whereas it actually is illiquid and vice versa.</p> <p>The accurate determination of bonds not having a liquid market will help ensuring that only illiquid ones are exempted from pre-trade transparency and eligible to deferred post-trade transparency, whilst liquid ones will indeed be subject to the transparency regime, in line with the MiFIDII/MiFIR objective of increased market transparency.</p> <p>By ensuring an accurate assessment of bond liquidity, the final draft RTS strikes an appropriate balance between market transparency and market efficiency as it is less likely to discourage market makers from committing capital to facilitate trades and to affect portfolio management costs and opportunities.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Supervision of compliance with transparency obligations may be a source of additional on-going IT costs challenging for CAs as the liquidity status of a bond may change from one quarter to the other under IBIA.</p> <p>Depending on their level of participation in the delegated project, costs of implementation for CAs will translate into a financial contribution to ESMA's delegated project, collection of data from trading venues and APAs in their jurisdiction or quarterly calculations for liquidity assessment in respect of bonds for which they are the CA of the most liquid market.</p> <p>IBIA will be a source of staff costs for ESMA's delegated project in respect of data quality management (monitoring of data submissions and</p>

	data quality).
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues and APAs will incur one-off costs to set up and test IT systems for daily data provision to ESMA/CAs. However, the impact to set-up IBIA specific data (in addition to the costs incurred to set up the system for the calculation of LIS and SSTI thresholds) is expected to be insignificant. On-going staff costs will be incurred for data quality management and interface with ESMA.</p> <p>Trading venues, investment firms trading OTC, including systematic internalisers and APAs will incur one-off IT costs to properly classify each bond they are offering for trading, or are active, in their relevant IT systems.</p> <p>They will incur on-going costs to adjust liquidity parameters in relevant IT systems on a quarterly basis and check the liquidity status for a specific bond as needed.</p> <p>As changes in liquidity status are more likely to happen for medium size corporate bond than for sovereign bonds, a change in liquidity status is more likely to affect smaller investment firms active in niche corporate bond markets than larger ones, more active in sovereign bonds.</p> <p>See also section 6.3 Methodology to perform the transparency calculations.</p>
<i>Costs to other stakeholders</i>	Lack of predictability for new issues may lead investors to request, and issuers to pay, a premium for an “illiquid” bond based on issuance size that will ultimately be considered as liquid in Q2 or for an initially liquid bond for fear it may change liquidity status. This may contribute to increasing the cost of capital for issuers.
<i>Indirect costs</i>	Making a market in bonds that periodically change their liquidity status will be more complex and may contribute to increased spreads.

### **b. Exchange Traded Notes (ETNs), Exchange Traded Commodities (ETCs)**

Exchange Traded Funds (ETFs), Exchange Traded Commodities (ETCs) and Exchange Traded Notes (ETNs) largely share the same characteristics but the ETF definition in MiFID II applies only to fund structures and cannot be extended to ETCs and to ETNs.



However, in order to ensure a harmonised treatment of instruments sharing the same characteristics and taking into account the features of fixed income products of ETCs and ETNs, the definition of a liquid market for ETCs and ETNs is based on IBIA with two liquidity thresholds: an average daily turnover of EUR 500,000 and an average daily number of trades of 10. Those thresholds are identical to the ones suggested by ESMA in its December 2014 Technical Advice to the Commission for the definition of a liquid ETF.

<b>Policy objective</b>	Enhancing transparency to the benefit of market efficiency. Striking an appropriate balance between the benefits of enhanced transparency and the potential risk to market efficiency
<b>Technical proposal</b>	Liquidity assessment for ETCs and ETNs. See Article 13 of RTS 2 for more details.
<i>Benefits</i>	Consistency with liquidity assessment for ETFs.  Straightforward approach, easy to implement.  Provides for annual revision taking into account changes in trading activity.  Strikes a reasonable balance between the benefits of enhanced transparency and the potential risk to market efficiency.
<i>Costs to regulator:</i>  - One-off  - On-going	Monetary contribution to ESMA's delegated project dependent on CAs' level of delegation or IT and staff costs for data collection and performance of the annual calculation of the relevant parameters (ADT and ADNT in respect of ETCs and ETNs) for the liquidity assessment.
<i>Compliance costs:</i>  - One-off  - On-going	Trading venues, investment firms, including SIs and APAs, may have to adjust IT systems parameters once a year where a liquid ETC or ETN would become illiquid, or vice versa.  Trading venues and APAs will incur one-off and on-going staff and IT costs to provide to CAs (or ESMA if the CA is delegating to ESMA the data collection for the purposes of the transparency calculations) the data necessary to perform the transparency calculations (reference data and trading activity data).  See also section 6.3 Methodology to perform the transparency calculations.

<i>Costs to other stakeholders</i>	Data vendors may wish to include liquidity status in the information provided and will incur initial and on-going IT cost for doing so.
<i>Indirect costs</i>	None identified

## B. Structured finance products (SFPs)

For the purpose of SFPs liquidity calibration, ESMA collected information from Transaction Reporting from 25 CAs for the period ranging from 1 June 2013 to 31 May 2014. After performing a number of consistency checks to validate the aggregate values provided by each CA, ESMA included in the analysis 2,591 SFPs, out of which 56% did not trade over the period considered. Taking into account the responses to the DP, ESMA decided to consider an SFP as liquid if it traded at least on 200 days a year, it recorded at least 400 trades a year and EUR 100,000 of nominal traded per day. Given the thin trading activity over the period considered, 99.69% of SFPs would have been categorised as not having a liquid market under IBIA and 100% under COFIA.

However, a number of initiatives are currently underway at EU and international level to try and revitalise the SFP market. To avoid having to modify the RTS if and when trading activity in SFPs resumes, the liquidity assessment in the final draft RTS is based on a two-test procedure. A first test is conducted at the asset class level, i.e. grouping all transactions in SFPs together. If the average daily notional amount (ADNA) is below EUR 300 million, or the average daily number of trades (ADNT) below 500, the test is not passed and all SFPs are considered illiquid. On the other hand, if the first test is passed, the second test is conducted per SFP, the liquidity of each single SFP is assessed by applying on a cumulative basis the following 3 criteria: the ADNA equals or greater than EUR 100,000, the ADNT equals or greater than 2 and the percentage of days traded over the period considered equals or greater than 80%.

<b>Policy objective</b>	Enhancing transparency to the benefit of market efficiency.
<b>Technical proposal</b>	Liquidity assessment for SFPs. See Article 13 and Table 3.1 of Annex III of final draft RTS 2 for more details.
<i>Benefits</i>	The final draft RTS is based on a dynamic approach taking into account both the currently limited overall trading activity in SFPs and a potential future increase in liquidity, using a granular approach.  It provides for a yearly reassessment of liquidity classifications.

	The liquidity classification thresholds are based on at least 2.5 to 3 times the current average trading activity at the asset class level and use the same quantitative liquidity thresholds for bonds for the assessment at the instrument level.
<p>Costs to regulator:</p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Monetary contribution to ESMA's delegated project dependent on CAs' level of delegation or IT and staff costs for data collection and performance of the annual calculation of the relevant parameters for the liquidity assessment. More specifically,</p> <ul style="list-style-type: none"> <li>- ADNA in respect of SFPs (at the asset class level); and</li> <li>- if applicable, ADNA, ADNT and number of days traded (at the instrument level).</li> </ul>
<p>Compliance costs:</p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues, investment firms, including SIs, and APAs, may have to adjust IT system parameters on a yearly basis in case of change in liquidity assessment at the asset class or individual SFP level.</p> <p>Trading venues and APAs will incur one-off and on-going staff and IT costs to provide to CAs (or ESMA if the CA is delegating to ESMA the data collection for the purposes of the transparency calculations) the data necessary to perform the transparency calculations (reference data and trading activity data).</p> <p>See also section 6.3 Methodology to perform the transparency calculations.</p>
<i>Costs to other stakeholders</i>	Data vendors may wish to include liquidity status in the information provided and will incur initial and on-going IT cost for doing so.
<i>Indirect costs</i>	Change in liquidity classification may have an impact on spreads and transaction costs for investors.

### C. Securitised derivatives

Securitised derivatives include a variety of instruments, including investment certificates, plain vanilla covered warrants, exotic covered warrants leveraged certificates and negotiable rights.

In the CP, ESMA considered that the following parameters were relevant, and sufficient, in order to determine whether a securitised derivative is liquid under COFIA:

- i. the presence of a certain type of market participant, namely a market maker;

- ii. whenever a market maker was not available an instrument was deemed to be liquid if the two following thresholds were both met: (a) an average of 1 trade per day or more and (b) an average daily volume of €5,000 or more.

ESMA analysed a dataset collected from 9 trading venues for the period of 1 June 2013-31 May 2014 covering 3,427,815 securitised derivatives of a wide range of product types. The majority of instruments were investment certificates, plain vanilla covered warrants and leverage certificates. The remaining 0.03% instruments included in the data set included exotic covered warrants, ETCs, ETNs, negotiable rights and other warrants.

Roughly 94% of the whole sample traded very little or not at all during the one year period covered. Furthermore, for approximately 98% of the whole sample at least one market maker was available. However, those instruments admitted to trading without the presence of a market maker constituted 71% of trades and 61% of volume traded of the whole sample and on average they traded more than twice a day (2.17 times) with an average volume of €6,843 traded per day.

Since either a market maker was available for the instruments covered or they met the liquidity thresholds, ESMA suggested in the CP that all securitised derivatives should be considered as liquid.

Taking into account the fact that respondents were split on the approach suggested, that the alternative suggested for a more granular approach would have been more complex to implement with limited benefits and considering the retail focused nature of the market for securitised derivatives and the current level of transparency provided, the initial proposal is maintained in the final draft RTS.

<b>Policy objective</b>	Enhancing transparency to the benefit of market efficiency
<b>Technical proposal</b>	All securitised derivatives are determined to have a liquid market. See Article 13 of RTS 2 for more details
<i>Benefits</i>	The draft RTS takes into account the retail focussed nature of the securitised derivatives markets.  Simple and straight forward approach.
<i>Costs to regulator:</i>  - One-off	None identified.

- On-going	
<i>Compliance costs:</i>	Trading venues, investment firms, including SIs, and APAs will only incur one-off IT costs to adjust IT system parameters to classification of all securitised derivatives as liquid.
- One-off	
- On-going	See also section 6.3 Methodology to perform the transparency calculations.
<i>Costs to other stakeholders</i>	Data vendors may wish to include liquidity status in the information provided and will incur initial and on-going IT cost for doing so.
<i>Indirect costs</i>	If the presence of a market maker ultimately appears as an insufficient proxy for liquidity, classification of all securitised derivatives may translate into higher risks for price makers, higher spreads and ultimately higher transaction costs for investors.

#### D. Derivatives

The approach to liquidity calibration has been modified in the final draft RTS for all derivatives asset classes, however it has been modified only partially for equity derivatives, as a follow-up to the comments received on the COFIA liquidity criteria proposed in the CP. Respondents expressed concerns on the static nature of the approach, the insufficient level of granularity of the sub-class considered, the lack of separate identification of exchange traded derivatives (ETDs) and OTC derivatives, and the too low level of the liquidity thresholds used to identify liquid instruments.

Under the revised approach, a periodic (yearly) liquidity re-assessment is introduced. Accordingly, the final draft RTS no longer sets out the classes that have and do not have a liquid market and provides a detailed annexed taxonomy with a set of segmentation criteria for determining classes and their granularity for liquidity assessment purpose.

To appropriately reflect the very diverse characteristics of the various non-equity instruments, the final draft RTS encompasses three potential levels of granularity for classifying non-equity instruments (in order of increasing granularity): asset class, sub-asset class and sub-class. The greater level of granularity included in the taxonomy will result in more homogeneous classes. The liquidity assessment is carried out at the most granular level, typically using two cumulative criteria: traded volume and trade counts.

To address possible market distortions stemming from the inconsistent treatment of OTC derivatives compared to ETDs, the final draft RTS categorises these instruments in the same class, where appropriate.

Under the revised approach, changing the qualitative criteria used to segment the asset classes, the liquidity status of a (sub-) asset class, the quantitative liquidity criteria and their related thresholds, and/or the qualitative liquidity criteria used to assess the liquidity of sub-classes requires changing the RTS.

The following derivative classes have been considered for the liquidity assessment: a) Interest rate derivatives; b) Foreign Exchange (FX) derivatives; c) Credit derivatives, d) Equity derivatives; e) Commodity derivatives; f) C10 derivatives g) Emission allowance derivatives and h) Contracts for difference.

#### **a. Interest rate derivatives**

ESMA undertook two analyses on interest rate derivatives, the first one based on data collected from trading venues and the second one based on TR data.

The first exercise focused on assessing liquidity of on-venue traded interest rate derivatives, for which ESMA gathered a sample of 15,976 instruments<sup>18</sup> provided by four trading venues during the period of 1 June 2013 – 31 May 2014. The second analysis carried out for interest rate derivatives based on TRs data focused on the assessment of the liquidity of OTC traded derivatives. Data was collected over the period ranging from 1 March 2014 to 31 May 2014 and required an extensive cleaning and screening phase. For further details on the data analysis conducted and the liquidity thresholds previously suggested by ESMA, please refer to the December 2014 CP.

In the final draft RTS, the liquid and illiquid sub-classes for interest rate derivatives are constructed in line with the revised approach as described above. The 15 sub-asset classes (e.g. bond futures, swaptions etc.) are further segmented into sub-classes by reference to criteria specified in Table 5.1 of Annex III of the final draft RTS, such as time to maturity, that vary slightly from one sub-asset class to the other. An annual liquidity assessment will be undertaken for each sub-class. Interest rate derivatives not belonging to one of the defined sub-asset classes are considered to be illiquid.

With regard to the cumulative liquidity thresholds, the average daily notional amount ranges from EUR 5 million to EUR 500 million whereas the average number of trades per day is 10 for all sub-asset classes. For bond futures/forwards and for interest rate futures and Forward Rate Agreements (FRAs), a “rolling” liquid market period of 2 weeks between two “time to maturity” buckets with different liquidity determination has been added as an additional criteria. In other words, when a financial instrument changes liquidity status from illiquid to liquid because of the change in time to maturity bucket, liquidity, and thus transparency, should start applying 2

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<sup>18</sup> One instrument corresponds to a different ISIN

weeks before the effective change in time to maturity bucket occur. This additional qualitative liquidity criterion has been added in order to take into account for this effect already occurring in the market, where the 1x off-month becomes liquid a couple of weeks before becoming the front month.

Those thresholds are substantially higher than the one initially contemplated by the CP as the final draft RTS has been informed by the feedback and the additional data provided by market participants, including trade associations. The table below shows the estimated percentage of volume and trades captured as liquid under the CP threshold and the final draft RTS thresholds. Those figures are estimates based on the data collected from TRs and used to perform the analysis included in the February 2015 Addendum CP<sup>19</sup> and do not take into account potential changes in trading patterns and market structure when MiFID/MIFIR enters into application.

		Num of trades per day	Notional Amount per day	Num of trades (%)	Notional Amount (%)
FIXED TO FLOAT SINGLE CURRENCY SWAPS	Criteria (CP)	2	100,000,000	95.59%	98.63%
	Criteria (RTS)	10	50,000,000	89.92%	94.73%
INFLATION SINGLE CURRENCY SWAPS	Criteria (CP)	1	50,000,000	42.09%	52.82%
	Criteria (RTS)	10	50,000,000	-	-
OIS SINGLE CURRENCY SWAPS	Criteria (CP)	1	50,000,000	86.99%	95.69%
	Criteria (RTS)	10	50,000,000	63.20%	78.56%
FLOAT-FLOAT SINGLE CURRENCY SWAPS	Criteria (CP)	2	100,000,000	70.16%	80.33%
	Criteria (RTS)	10	50,000,000	20.07%	33.97%
FIXED TO FIXED SINGLE CURRENCY SWAPS	Criteria (CP)	2	100,000,000	-	-
	Criteria (RTS)	10	50,000,000	-	-
FIXED TO FLOAT MULTI-CURRENCY SWAPS	Criteria (CP)	1	10,000,000	79.07%	68.68%
	Criteria (RTS)	10	50,000,000	53.53%	50.60%
FLOAT-FLOAT MULTI-CURRENCY SWAPS	Criteria (CP)	1	100,000,000	60.38%	76.45%
	Criteria (RTS)	10	50,000,000	24.28%	34.89%
FIXED TO FIXED MULTI-CURRENCY SWAPS	Criteria (CP)	1	100,000,000	12.86%	39.76%
	Criteria (RTS)	10	50,000,000	-	-
OIS MULTI-CURRENCY SWAPS	Criteria (CP)	1	100,000,000	-	-
	Criteria (RTS)	10	50,000,000	-	-

<sup>19</sup> ESMA is aware of quality issues related to the data reported to TRs, especially in the first months after the start of TR reporting. They are mainly due to the absence of a commonly-agreed trade identifier, the incorrect or inconsistent reporting of some data fields or the difficulty that some counterparties faced in obtaining the LEI on time for the go-live of the trade repository system on 12 February 2014.

## **b. Foreign Exchange (FX) Derivatives**

ESMA undertook an analysis on foreign exchange derivatives based on trade repositories (TRs) data. Data was collected over the period 1 March 2014 – 31 May 2014 and required an extensive cleaning and screening phase. In addition to the above, ESMA also collected data from trading venues over the period 1 June 2013 – 31 May 2014 that was used for the assessment of futures contracts. For further details on the data analysis conducted and the liquidity thresholds previously suggested by ESMA, please refer to the February 2015 Addendum CP.

However, ESMA acknowledges that the dataset used for such analysis had significant data quality issues and provided a distorted picture of the foreign exchange market. As a result, ESMA proposes to qualify the whole class of foreign exchange derivatives as illiquid until data of better quality is available and would allow a revision of the RTS. However, segmentation criteria for the determination of the sub-classes are provided, in line with the revised approach as described above.

## **c. Credit derivatives**

ESMA undertook an analysis on credit derivatives based on trade repositories (TRs) data. Data was collected over the period 1 March 2014 – 31 May 2014 and required an extensive cleaning and screening phase. For further details on the data analysis conducted and the liquidity thresholds previously suggested by ESMA, please refer to the February 2015 Addendum CP. The following classes, defined by a combination of contract type and underlying, were identified:

- CDS: CDS Index, Single name CDS, Bespoke basket CDS
- CDS Options: CDS index options, Single name CDS options

Under the revised approach described above, the final draft RTS includes two credit derivative sub-asset classes, namely index credit default swaps (CDSs) and single name CSDs that are further segmented into sub-classes by reference to criteria specified in Table 9.1 in Annex III of RTS 2.

In line with the feedback received, the average daily number of trades has been increased from 1 or 2 to 10 and the notional amount for CDS indices has been set at EUR 200 million. For CDS indices, the percentage of trades and notional amount captured as liquid under the CP thresholds was 98%, while under the final draft RTS thresholds are the following 85% of trades and 76% of notional amount. Those figures are estimates based on the data collected from TRs



and used to perform the analysis included in the February 2015 Addendum CP<sup>20</sup> and do not take into account potential changes in trading patterns and market structure when MiFID/MIFIR enters into application.

Furthermore, given the higher granularity of the single name CDS in the final draft RTS, the average daily notional has been decreased from EUR 100 million to EUR 10 million. Estimates on the volume and trades captured under the CP and RTS thresholds could not be performed since TRs data currently does not allow an analysis at the granularity of the reference entity/obligation. On the other hand, considering the highly customised nature of bespoke basket CDS this sub-asset class was deleted and would now fall in the other credit derivatives sub-asset class thus qualifying as illiquid. Last but not least, the changes to the liquidity thresholds also considered the analysis performed by Markit's derivatives processing business, from which it can be inferred that the parameter playing the most important role for the liquidity determination is the average number of trades. Indeed, 4 out of 20 sovereign single name CDS would meet both liquidity thresholds and for those the average number of trades ranges between 10 and 25. Similarly, in the case of CDS indices, 6 out of 20 would meet both liquidity thresholds and for those the average number of trades ranges between 10 and 150<sup>21</sup>.

In order not to apply different transparency regimes to the option contracts and to the related underlying, the liquidity assessment of options on CDSs indices and on single name CDS is not based on notional amount traded and average number of trades as for other credit derivatives but takes into account the liquidity of the underlying. More specifically, as liquidity is concentrated in short term maturities, options with a time to maturity up to 6 months whose underlying is a liquid index CDS or a liquid single name CDS are considered liquid.

#### **d. Equity derivatives**

As regards on-exchange traded equity derivative contracts for which pre-trade and post-trade transparency are currently available, the final draft RTS draws on current market practice with the aim of maintaining a high level of transparency.

Due consideration has been given to more sophisticated approaches suggested by some stakeholders based on parameters such as the maturity of the contract, the outstanding amount

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<sup>20</sup> ESMA is aware of quality issues related to the data reported to TRs, especially in the first months after the start of TR reporting. They are mainly due to the absence of a commonly-agreed trade identifier, the incorrect or inconsistent reporting of some data fields or the difficulty that some counterparties faced in obtaining the LEI on time for the go-live of the trade repository system on 12 February 2014.

<sup>21</sup> The following apply for the performance of such analysis:

1) The following confirmation activity was excluded:

- trades resulting from an industry event (credit event, re organisation, rename, bulk novation, account swing);
- trades resulting from compression – both vendor and bilaterally agreed runs;
- internal transactions; and
- amendments with no fees associated to them.

2) To generate the average daily notional amount traded, the total notional amount traded was divided by the total number of days each reference entity – tenor set combination was traded, respectively.

3) To generate the average daily number of trades, the total number of trades was divided by the total number of days each reference entity – tenor set combination was traded, respectively

of open interest or whether the option is in or out of the money. However, the use of such parameters would have significantly increased the complexity of the system without significant improvements to the price discovery process. Accordingly, the final draft RTS provides for a more straightforward approach and sets out a list of equity sub-asset classes that are all considered to have a liquid market under a static COFIA: stock index options, stock index futures/forwards, stock options, stock futures/forwards, stock dividend options, stock dividend futures/forwards, dividend index options, dividend index futures/forwards, volatility index options, volatility index futures/forwards, ETF options and ETF futures/forwards. There is no periodic reassessment of liquidity for those sub-asset classes.

The liquid and illiquid sub-classes for equity derivatives typically traded OTC, including portfolio swaps and swaps, are constructed in line with the general revised approach described above. The sub-asset classes are further segmented into sub-classes by reference to criteria specified in Table 6.1 in Annex III of the RTS. The criteria are the same for both sub-asset classes and are (1) underlying type (2) underlying (3) parameter and (4) time to maturity bucket. Quantitative thresholds are set at EUR 50 million average daily notional and 15 average daily number of trades.

Other equity derivatives not belonging to one of the defined sub-asset classes are considered to be illiquid.

#### **e. Commodity derivatives**

Taking into account the comments and suggestions made in the responses to the CP, the liquid and illiquid sub-classes for commodity derivatives are constructed in line with the general revised approach described above and the liquidity thresholds have been substantially increased. Sub-classes are defined based on underlying commodity, notional currency time to maturity criteria and settlement type only in the case of swap contracts with further refinements for commodity derivatives on metals and energy.

The cumulative liquidity criteria are set across commodity contracts and sub-classes at EUR 10 million average daily notional and 50 average daily number of trades compared to EUR 100,000 for average daily notional and 1 trade per day on average. The notional amount threshold takes into account the high level of granularity reached for such asset class by means of the underlying commodity and the inclusion of the delivery/cash settlement location as segmentation criterion. Furthermore, the quantitative liquidity thresholds reflect the trading pattern of commodity derivatives characterised by more frequent trades of smaller sizes with respect to other derivatives.

#### **f. C10 and emission allowance derivatives**

In the Addendum CP published in February 2015, other exotic derivatives included derivatives on emission allowances and the derivatives defined under section C(10) of Annex I of MiFID II, i.e. freight rate derivatives, weather derivatives and other C(10) financial instruments.

The final draft RTS has been amended not only to move to the revised dynamic approach described above but also, taking into account the comments received, to introduce more granularity and more consistency between the different asset classes. In particular, the draft RTS aligns the assessment of emission allowance derivatives with that of emission allowances firstly, by making emission allowance derivatives as a separate asset class segmented on the basis of the underlying and secondly, by setting the same quantitative liquidity criteria, i.e. average daily number of tons of carbon dioxide traded and average daily number of trades, and the related thresholds (150,000 tons of Carbon Dioxide and 5 trades a day). However, on the basis of statistics provided by the Baltic Exchange the two most liquid types of freight derivatives are: (i) Cap size time charter average and (ii) Panamax time charter average which over the period December 2014-June 2015 respectively recorded (across all maturities) an average daily number of trades of roughly 70 and 50 and an average daily notional amount of roughly USD 20 million and USD 10 million.

As usual, the other emission allowance derivatives sub-asset class is deemed to be illiquid.

With regard to C10 derivatives, for consistency purposes, the liquidity thresholds for freight rate derivatives have been set in line with those of other commodity derivatives taking into account the higher level of granularity achieved. Weather derivatives have distinct characteristics and fall into the sub-asset class of other C10 derivatives that remains qualified as illiquid as a whole.

#### **g. Contracts for Differences (CFDs)**

Under the final draft RTS, CFDs are divided in 7 sub classes: equity, bond, commodity, currency, futures/forwards on equity, options on equity and a further class for other CFDs.

Sub-classes of CFDs on currency and commodity are defined by the underlying currency pair and commodity and are deemed liquid if the average daily notional amount is at least EUR 50 million and the average daily number of trades is at least 100. Sub-classes of CFDs on equity, bonds, futures/forwards on equity and options on equity are deemed liquid if the underlying equity, bond, future/forward on equity or option on equity is considered to have a liquid market, in accordance with article 2(1)(17) of MiFIR. An annual liquidity assessment will be undertaken for each sub-class. In line with the approach taken for the other asset classes, the other CFDs sub-asset class is considered to be illiquid. The thresholds reflect the fact that these products are frequently traded in small sizes.

<b>Policy objective</b>	Enhancing transparency to the benefit of market efficiency
<b>Technical proposal</b>	Liquidity assessment for interest rate derivatives, equity derivatives, commodity derivatives, FX derivatives, credit derivatives, equity derivatives, C10 derivatives, emission allowance derivatives and contract for differences. See Article 13 and Tables 5.1, 6.1, 7.1, 8.1, 9.1, 10.1, 13.1 and 11.1 of Annex III of final draft RTS 2 for more details
<i>Benefits</i>	<p>The increased granularity in the approach adopted for almost all derivatives provides for the calibration of more homogeneous sub-classes and allows better reflecting the specificities of the class assessed. It therefore strikes a more fine-tuned balance between the benefits of enhanced transparency and the potential risk to market efficiency. In addition, it provides for annual revision taking into account changes in trading activity.</p> <p>As regards equity derivatives, the static COFIA used in the final draft RTS for certain sub-asset classes of equity derivatives will contribute to maintaining the level of transparency currently available in those instruments.</p> <p>The final draft RTS adopts a cautious approach to the liquidity assessment of FX derivatives in the absence of reliable data for that asset class.</p> <p>The quantitative liquidity criteria for all other derivative asset classes also take into account the level of transparency currently offered by trading venues in those instruments. While it cannot be excluded that for some derivatives transparency will be reduced compared to today's levels, for the vast majority of derivatives the MiFID transparency regime is expected to improve transparency.</p>
<i>Costs to regulator:</i>  - One-off  - On-going	Monetary contribution to ESMA's delegated project dependent on CAS' level of delegation or IT and staff costs for data collection and performance of the annual calculation of the relevant parameters for the liquidity assessment.
<i>Compliance costs:</i>	Trading venues, APAs and investment firms will incur one-off and on-going IT costs to adjust IT systems parameters to the liquidity status of

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>the different types of derivatives they trade or staff costs to check liquidity status on an as needed basis.</p> <p>Trading venues and APAs will incur one-off and on-going staff and IT costs to provide to CAs (or ESMA if the CA is delegating to ESMA the data collection for the purposes of the transparency calculations) the data necessary to perform the transparency calculations (reference data and trading activity data).</p> <p>See also section 6.3 Methodology to perform the transparency calculations.</p>
<p><i>Costs to other stakeholders</i></p>	<p>Data vendors may wish to include liquidity status in the information provided and will incur initial and on-going IT costs for doing so.</p>
<p><i>Indirect costs</i></p>	<p>Change in liquidity classification may have an impact on spreads and transaction costs for investors.</p>

### E. Emission allowances

Based on the dataset collected from three trading venues for the period of 1 June 2013 – 31 May 2014, and as no guidance on more appropriate levels of liquidity thresholds was provided in the responses to the addendum CP, the draft RTS maintains the initial liquidity thresholds of 150 000 tons of carbon dioxide traded per day and an average of 5 trades a day, whilst moving to the revised dynamic approach, with 5 emission allowances sub-asset classes (EUA, CER EUAA, ERU and others) and annual assessment of liquidity.

<p><b>Policy objective</b></p>	<p>Enhancing transparency to the benefit of market efficiency</p>
<p><b>Technical proposal</b></p>	<p>Determination of emission allowances that do not have a liquid market. See Article 13 and Table 12.1 of Annex III of final draft RTS 2 for more details.</p>
<p><i>Benefits</i></p>	<p>Provides for annual revision taking into account changes in trading activity.</p> <p>Strikes an appropriate balance between the benefits of enhanced transparency and the potential risk to market efficiency.</p>
<p><i>Costs to regulator:</i></p>	<p>Monetary contribution to ESMA's delegated project dependent on CAs' level of delegation or IT and staff costs for data collection and</p>

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>performance of the annual calculation of the relevant parameters for the liquidity assessment.</p> <p>Trading venues and APAs will incur one-off and on-going staff and IT costs to provide to CAs (or ESMA if the CA is delegating to ESMA the data collection for the purposes of the transparency calculations) the data necessary to perform the transparency calculations (reference data and trading activity data).</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues, APAs and investment firms will incur one-off and on-going IT costs to adjust IT systems parameters to emission allowances liquidity status or staff costs to check liquidity status on an as needed basis.</p> <p>See also section 6.3 Methodology to perform the transparency calculations.</p>
<p><i>Costs to other stakeholders</i></p>	<p>Data vendors may wish to include liquidity status in the information provided and will incur initial and on-going IT cost for doing so.</p>
<p><i>Indirect costs</i></p>	<p>Change in liquidity classification may have an impact on spreads and transaction costs for investors.</p>

### 3. Pre-trade and post-trade transparency thresholds

#### 3.1. Introduction

Transparency typically contributes to increased market efficiency by enabling investors and market participants to assess at any time the terms of a transaction they are considering and to verify afterwards the conditions in which it was carried out. Trade transparency also helps the valuation of financial instruments as well as the efficiency of the price formation. However, there may be circumstances where transparency would not benefit market efficiency including where the potential market impact or market risk associated with transparency would lead to increased spreads and transaction costs and decreased liquidity. As for equities, but in a different way so as to take into account the specificities of non-equity instruments and of non-equity trading, MiFIR provides that, under some circumstances, CAs may waive or defer transparency obligations for orders or transactions that are above a certain size. The purpose of the draft RTS is to specify those thresholds in respect of pre-trade and of post-trade transparency for each of the asset class identified in the previous section.

### **3.2. Baseline**

The legal text to consider is:

- i. in respect of pre-trade transparency, Article 9 of MiFIR. CAs may waive obligations for trading venues for orders that are large in scale (LIS) compared with normal market size and for actionable indications of interest in request-for-quote and voice trading systems that are above a size specific to the financial Instrument (SSTI) which would expose liquidity providers to undue risks (...).
- ii. in respect of post-trade transparency, Article 11 of MiFIR. CAs may authorise the deferred publication of transactions that are LIS compared with the normal market size for that non-equity instrument or class of non-equity instruments traded on a trading venue. CAs may also authorise the deferred publication of transactions that are above a size specific to that non-equity financial instrument or that class of non-equity instrument which would expose liquidity providers to undue risks (...).

### **3.3. Stakeholders**

- Trading venues: trading venues will have to adjust trading systems parameters to pre-trade transparency waivers and to deferred publication based on SSTI and LIS.
- Members/participants of trading venues: those stakeholders will be impacted as the LIS thresholds, and the SSTI thresholds in respect of request for quote and voice trading systems, determine the extent to which their bid and offer price will be made pre-trade transparent as well as the deferred publication regime potentially available. As for the liquidity assessment, the level of transparency already currently available on trading venues offering trading in non-equity instruments should contribute to limiting the impact of transparency attached to the LIS and SSTI thresholds, except for members/participants of request for quote and voice trading systems where transparency is currently far more limited.
- Market participants trading OTC: Those stakeholders will be impacted as deferred publication of transactions in liquid instruments will only be possible for transactions above the LIS threshold. In addition, the SSTI threshold will have an impact on systematic internalisers as SIs are not subject to pre-trade transparency obligations when trading in sizes above the SSTI.
- Institutional investors, buy-side firms and end-investors more broadly: those stakeholders will be impacted if market makers and other price makers were to increase spreads and or reduce available liquidity as a consequence of the increased market risk entailed by SSTI and LIS considered as inappropriately calibrated.

### 3.4. Cost-Benefit Analysis

In the CP, ESMA suggested to have the same LIS and SSTI thresholds for pre-trade and post-trade transparency purposes and proposed that the SSTI threshold be equal to 50% of the LIS threshold. However, the final draft RTS has been substantially revised taking into account the comments received and additional data or information provided by market participants. The general approach based on trade and volume percentile is combined with threshold floors specific to each asset class, taking into account the trading characteristics of the instrument.

#### General approach

The final draft RTS is based on the following approach to determine the pre-trade and post-trade SSTI and LIS thresholds for non-equity classes, except for securitised derivatives and equity derivatives and all bond types:

- i. For sub-asset classes or sub-classes with a liquid market the pre-trade and post-trade thresholds are set on a yearly basis according to the following methodology:
  - a. Pre-trade SSTI: The greater of the 60<sup>th</sup> trade percentile and of the threshold floor;
  - b. Pre-trade LIS: The greater of the 70<sup>th</sup> trade percentile and of the threshold floor;
  - c. Post-trade SSTI: The greater of the 80<sup>th</sup> trade percentile, the 60<sup>th</sup> volume percentile (except for emission allowances, derivatives on emission allowances and SFPs) and of the threshold floor;
  - d. Post-trade LIS: The greater of the 90<sup>th</sup> trade percentile, the 70<sup>th</sup> volume percentile (except for emission allowances, derivatives on emission allowances and SFPs) and the threshold floor.

In all cases, the volume percentile is applied only if the corresponding LIS value is not higher than the 97.5<sup>th</sup> trade percentile. If the volume percentile is higher than the 97.5<sup>th</sup> trade percentile, both the post-trade SSTI and LIS are calculated as the greater of the trade percentile and of the threshold floor. This aims at addressing the risk of a volume percentile as a measure for setting the thresholds in circumstances where, due to the distribution of the transactions, there would only be a very small number of transactions of extremely large size.

Last but not least, in the exceptional circumstance where a liquid sub-class does record a sufficient number of trades, set to 1000, the calculation of the percentiles should not be performed and the threshold floors should apply. This solution has been introduced in order to avoid arbitrary thresholds resulting from insufficient records, which could be either way too high or way too low. This may happen only for the following asset classes: SFPs, CFDs (except commodity and FX), options on index CDSs and single name CDSs.



- ii. For sub-asset classes or sub-classes that do not have a liquid market, the draft RTS, with the exception of bonds, sets fixed threshold values at the same level as the respective threshold floor of liquid classes within the same sub-asset class. This approach caters for the difficulty to determine meaningful thresholds for classes that are not liquid and where only very few trades (and of a very variable volumes) may take place.

It is worth noting that the SSTI and LIS threshold floors for illiquid instruments are expected to be of limited importance. They would actually be only relevant where a CA would not make use of the possibility to waive pre-trade transparency obligations nor of the possibility to defer publication of transactions in respect of illiquid instruments but would allow trading venues and investment firms to benefit from the SSTI and LIS waiver when trading in illiquid instruments LIS/SSTI thresholds.

The section below provides a cost benefit analysis of the pre-trade and post-trade SSTI and LIS thresholds included in the final draft RTS for the following categories of non-equity instruments: a) bonds; b) structured finance products; c) securitised derivatives; d) derivatives and e) emission allowances.

## **A. Bonds**

*Calculation methodology: trade percentiles across liquid and illiquid bonds*

Trades below EUR 100,000 are removed from the calculation of the thresholds as the calculation of LIS or SSTI based on number of trades could be biased by a very significant amount of retail transactions in small sizes representing only a small proportion of the market volume. The EUR 100,000 threshold is taken from the Directive 2010/73/EU where the distinction between retail and professional investors in terms of investor capacity is set at a denomination per unit of at least EUR 100,000. Excluding those transactions from the calculation of the LIS and SSTI thresholds ensures that a minimum level of transparency is provided, in particular for retail investors.

Excluding trades below EUR 100,000 from the calculation already establishes an implicit floor protecting the minimum level of transparency required for retail investors. Accordingly, the final draft RTS includes the same value as floor to be applied in the very exceptional circumstance that a class of bonds (e.g. all sovereign bonds) did not record 1000 trades over the year, as said above, this rule has been introduced in order to avoid arbitrary thresholds resulting from insufficient records, which could be either way too high or way too low.

The draft RTS therefore only refers to the percentile approach for bonds. Special consideration has been given to mortgage bonds, the most liquid type of covered bonds, which play an important role in the functioning of the housing markets. In these markets, market makers put their own capital at risk acting as intermediaries between institutional investors who only want to trade in big blocks and the homeowners who need to finance their houses and trade in retail

sizes. Should market makers have to quote at sizes above the average price for houses and apartments, this could motivate them to leave this market altogether, with serious detrimental consequences for the ordinary mortgage borrowers. In order to ensure that the real economic purpose and function of the mortgage market is not affected, the trade percentile for the pre-trade SSTI is set at 40% (instead of 60%).

The proposed methodology could be biased by a few extremely huge transactions that could represent a significant percentage of the total volume being just a small proportion of transactions, hence it recognises the risk of adding the percentage of volume as a measure for setting the thresholds.

## **B. Structured finance products**

*Calculation methodology: floors to be combined with trade percentiles for liquid SFPs and fixed thresholds for illiquid SFPs*

The methodology for calculating the SSTI and LIS thresholds takes into account the results of the two tests provided in the final draft RTS and as described above for the assessment of SFP liquidity.

### Scenario A:

Test-1, i.e. the liquidity assessment of the SFP asset class, is not passed and the SSTI and LIS thresholds are set out determined by fixed threshold values:

Pre-trade SSTI:	EUR 100,000	Post-trade SSTI:	EUR 500,000
Pre-trade LIS:	EUR 250,000	Post-trade LIS:	EUR 1,000,000

The pre-trade SSTI threshold has been set to protect liquidity providers from undue risks, taking into account the retail size of the market and in reference with the EUR 100,000 threshold used for assessing retail size transactions in bonds (see above).

If Test-1, i.e. the liquidity assessment of the SFP asset class is passed, two scenarios can then occur:

### Scenario B

Test 2, i.e. the liquidity assessment at the individual SFP level is passed and the individual SFP is deemed to be liquid. The trades related to all liquid SFPs concur for the calculation of the applicable thresholds to each individual liquid SFP which should be determined as the greater of the threshold floor (set equal to the threshold values of scenario A) and the usual 60<sup>th</sup>, 70<sup>th</sup>, 80<sup>th</sup>

and 90<sup>th</sup> trade percentiles respectively for the pre-trade SSTI and LIS and post-trade SSTI and LIS.

or

#### Scenario C:

Test-2, i.e. the assessment of the individual SFP is not passed, then the individual SFP is deemed to be illiquid and the thresholds provided in scenario A apply.

### **C. Securitised derivatives**

*Calculation methodology: fixed thresholds*

Given the very limited amount of trading volume, the final draft RTS does not opt for the percentile approach to determine the SSTI and LIS threshold and just set fixed thresholds.

Pre-trade SSTI:	EUR 50,000	Post-trade SSTI:	EUR 90,000
Pre-trade LIS:	EUR 60,000	Post-trade LIS:	EUR100,000

Those thresholds have been set taking into account the retail dimension of the market and the classification of those instruments as liquid. However, the EUR 100,000 threshold that is typically used to distinguish a retail and a non-retail market does not appear meaningful here as the most traded securitised derivatives have an ADT around EUR 5000. Pre-trade and post-trade thresholds have been set as a high multiplier of the ADT as securitised derivatives already currently benefit from on-venue pre-trade and post-trade transparency.

### **D. Derivatives**

#### **a. Interest rate derivatives**

*Calculation methodology: floors to be combined with the percentile approach described above for liquid sub-classes and fixed thresholds for the non-liquid sub-classes*

Compared to the CP, different floors have been determined across different sub-asset classes since stakeholders pointed out that the previous thresholds were far below the current block trade sizes applied on venues. In particular, according to the data provided by FESE, the current block trade thresholds applied by trading venues in bond futures range from EUR 10 million to EUR 200 million while for IR futures/options the range goes from EUR 50 million to EUR 3 billion. As a result, the post-trade size thresholds have been increased also considering that even though the thresholds remain lower with respect to the current market practice, it is

worth recalling that these thresholds are the minimum ones to be applied. Furthermore, in the future landscape, they will be capturing not only ETDs but also OTC contracts for which no transparency is required at the moment.

For bond options/futures/forwards the threshold floors are:

Pre-trade SSTI floor: EUR 4 million	Post-trade SSTI floor:	EUR 20 million
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Pre-trade LIS floor: EUR 5 million	Post-trade LIS floor:	EUR 25 million
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For IR options/futures/forwards the threshold floors are:

Pre-trade SSTI floor: EUR 5 million	Post-trade SSTI floor:	EUR 20 million
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Pre-trade LIS floor: EUR 10 million	Post-trade LIS floor:	EUR 25 million
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For all the other IR sub-asset classes the threshold floors are:

Pre-trade SSTI floor: EUR 4 million	Post-trade SSTI floor:	EUR 9 million
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Pre-trade LIS floor: EUR 5 million	Post-trade LIS floor:	EUR 10 million
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## **b. FX derivatives**

*Methodology: fixed value thresholds*

Given that the class is deemed to be illiquid, fixed threshold values are set.

Pre-trade SSTI: EUR 4,000,000	Post-trade SSTI:	EUR 20,000,000
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Pre-trade LIS: EUR 5,000,000	Post-trade LIS:	EUR 25,000,000
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It should be recalled that those thresholds would be used only in the likely exceptional circumstances where, although qualified as illiquid, FX derivatives would not benefit from the pre-trade transparency waiver and post-trade transparency deferral foreseen by MiFIR.

## **c. Credit derivatives**

*Calculation methodology: floors to be combined with the percentile approach described above for liquid sub-classes and fixed thresholds for the non-liquid sub-classes*

The floors were set considering that, according to stakeholders, the average ticket size of sovereign single names is EUR 20-25 million and that of corporate single names is EUR 5-10 million.

Pre-trade SSTI floor: EUR 2.5 million	Post-trade SSTI floor: EUR 7.5 million
Pre-trade LIS floor: EUR 5 million	Post-trade LIS floor: EUR 10 million

#### **d. C10 derivatives**

*Calculation methodology: floors to be combined with the percentile approach described above for liquid sub-classes and fixed thresholds for the non-liquid sub-classes*

Although the final draft RTS foresees the possibility for freight rate derivatives to be classified as liquid, it is expected that none of them would currently do so based on the defined liquidity criteria. Accordingly, as stated above, all C10 are expected to be illiquid for the time being, hence the low floors set.

Pre-trade SSTI floor: EUR 25,000	Post-trade SSTI floor: EUR 75,000
Pre-trade LIS floor: EUR 50,000	Post-trade LIS floor: EUR 100,000

#### **e. Equity derivatives**

*Calculation methodology: fixed thresholds for ADNA classes*

Acknowledging that a single LIS threshold per sub-asset class of equity derivatives as proposed in the CP would not properly reflect the various degrees of liquidity within the respective category of contract types, the final draft RTS builds on alternative proposal provided by one of the respondents to the CP.

The SSTI and LIS thresholds are structured by liquidity bands based on the average daily notional amount (ADNA). Sub-classes are classified into 4/5 liquidity bands based on ADNA, in the same way as equities are classified into liquidity bands based on Average Daily Turnover (ADT) for determining the LIS thresholds. An SSTI and an LIS threshold is set for each of the liquidity bands, ranging, for instance, from EUR 20,000 to EUR 25 million for pre-trade SSTI and from EUR 450,000 to 260 million for post-trade LIS.

For instruments with a relatively low ADNA, the EUR 20,000 pre-trade SSTI threshold aims at catering for the development of new instruments falling in the respective sub-class regardless of whether these are traded on-exchange, via RFQ, voice trading or OTC.

The applicable pre-trade SSTI thresholds are set at roughly 95% of the corresponding LIS threshold with the aim to provide for similar transparency across exchanges and RFQ and voice

trading systems. Depending on the type of equity derivative instrument, post-trade LIS and SSTI thresholds are set 10 or 5 times higher compared to pre-trade LIS and SSTI thresholds. This reflects current practice on European trading venues.

For illiquid sub-classes, fixed threshold floors are pre-determined, as shown below:

Pre-trade SSTI floor: EUR 20,000	Post-trade SSTI floor: EUR 100,000
Pre-trade LIS floor: EUR 25,000	Post-trade LIS floor: EUR 150,000

The pre-trade floors correspond to the minimum fixed threshold values set across all the liquid sub-asset classes.

#### **f. Commodity derivatives**

##### Commodity derivatives excluding derivatives on emission allowances

*Calculation methodology: floors to be combined with the percentile approach described above for liquid sub-classes and fixed thresholds for the non-liquid sub-classes*

The below threshold floors take into account the data provided by FESE on the current block trade thresholds applied by trading venues in oil futures and options and other energy futures and options. In particular, for the former, the sizes range from EUR 1.25 million to EUR 5 million and for the latter between EUR 6,000 EUR 1.25 million.

Pre-trade SSTI floor: EUR 250,000	Post-trade SSTI floor : EUR 750,000
Pre-trade LIS floor: EUR 500,000	Post-trade LIS floor: EUR 1,000,000

##### Emission allowances and Derivatives on emission allowances

*Calculation methodology: floors to be combined with the percentile approach described above for liquid sub-classes and fixed thresholds for the non-liquid sub-classes*

The threshold floors take into account the data collected also for the purpose of the setting of the liquidity thresholds and as mentioned above, the data relates to emission allowances only. On the basis of the statistics collected, the average of the maximum trade size of the three most liquid contracts was roughly 200,000 tons of Carbon Dioxide. The average was roughly 50,000 tons of Carbon Dioxide when all contracts that traded over the period are considered.

Pre-trade SSTI floor:	40,000 tons of Carbon Dioxide
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Pre-trade LIS floor: 50,000 tons of Carbon Dioxide  
 Post-trade SSTI floor: 90,000 tons of Carbon Dioxide  
 Post-trade LIS floor: 100,000 tons of Carbon Dioxide

**g. CFDs**

*Calculation methodology: floors to be combined with the percentile approach described above for liquid sub-classes and fixed thresholds for the non-liquid sub-classes*

CFDs are also considered to be retail products and the floors are set at the same level as for securitised derivatives. CFDs may be more heavily traded than securitised derivatives but, as opposed to securitised derivatives, they mainly trade OTC. The floors set take this dimension into consideration.

Pre-trade SSTI floor: EUR 50.000                      Post-trade SSTI floor :            EUR 90,000  
 Pre-trade LIS floor: EUR 60,000                      Post-trade LIS floor:            EUR 100,000

<b>Policy objective</b>	Enhancing transparency to the benefit of market efficiency
<b>Technical proposal</b>	Determination of pre-trade SSTI and LIS thresholds. See Article 13(2) and Tables of Annex III of final draft RTS 2 for more details. Determination of post-trade SSTI and LIS thresholds. See Article 13(3) and Tables of Annex III of final draft RTS 2 for more details
<i>Benefits</i>	Compared to a percentage approach, the percentile approach to the SSTI and LIS thresholds set out in the final draft RTS takes into account the distribution of transactions and the specific trading pattern of each asset class.  The threshold floors ensure a minimum level of trade transparency in each asset class. At the same time, the methodology designed for post-trade SSTI and LIS, by means of the 97.5 <sup>th</sup> trade percentile, ensures that a relevant number of transactions are above the threshold.  The pre-trade SSTI and the pre-trade LIS are set at a threshold respectively lower than the post-trade SSTI and the post-trade LIS in consideration of the fact that they have been designed based on

	<p>available trade data, and not on order data.</p> <p>Setting at the same level fixed threshold floors for liquid instruments and fixed thresholds for illiquid instruments (except for bonds), streamlines implementation and reduces compliance costs.</p> <p>The thresholds provided in the final draft RTS set a middle ground between the sometimes extreme proposals received from the various stakeholders and take a conservative approach given the incomplete data set currently available.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Annual calculation of the SSTI and LIS thresholds are part of the ESMA's delegated project. CAs participating in the project will incur one-off set up costs and on-going maintenance costs based on their voting rights. CAs not delegating the data collection will also incur the costs to perform this step of the procedure. CAs not participating in the delegated project will incur one-off staff and IT costs to set up data collection and calculation arrangements as well as on-going staff and IT costs to proceed with the annual calculations.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues, APAs and investment firms trading OTC, including SIs, will incur one-off IT costs to include SSTI and LIS thresholds in relevant IT systems. Compliance costs will be impacted by the easiness with which stakeholders can pull relevant SSTI and LIS thresholds from ESMA and other CAs' websites.</p> <p>Trading venues and APAs will incur on-going costs to provide data to CAs or ESMA on a daily basis for SSTI and LIS threshold calculations.</p> <p>See also section 6.3 Methodology to perform the transparency calculations.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Sell side and buy side firms may incur one-off and on-going staff and IT to review order execution systems and algorithms to take into account SSTI and LIS thresholds and changes thereof.</p>



## 4. Pre-trade transparency for regulated markets, MTFs and OTFs

### 4.1. Introduction

Pre-trade transparency refers to the information publicly disclosed by regulated markets, MTFs and OTFs, collectively referred to as trading venues, on opportunities to trade. As explained in the CBA for transparency requirements in equity and equity-like instruments, pre-trade transparency is a key component of the price formation process and contributes to the mitigation of the potential damaging effect of market fragmentation. However, there are circumstances where the benefits of pre-trade transparency may be outweighed by the associated costs for stakeholders, including with respect to market liquidity, hence the need for waivers to the pre-trade transparency obligations for trading venues, taking into account the characteristics of the trading system(s) they operate and the liquidity of the instruments traded.

The draft RTS specifies the details of pre-trade information to be made public by trading venues in respect of bonds, structured finance products, securitised derivatives, emission allowances and derivatives (collectively “non-equity instruments”) and provides for the specific conditions under which this obligation may be waived.

### 4.2. Pre-trade transparency obligations

#### 4.2.1. Baseline

From a legal perspective, the legislation to consider is Article 8 of MiFIR that requires trading venues to “(...) make public current bid and offer prices and the depth of trading interests at those prices which are advertised through their systems (...)” for non-equity instruments. The requirement also applies to actionable indications of interest.

#### Empowerment/ RTS

Under Article 9(5) (c) of MiFIR, ESMA is empowered to draft RTS to specify “(...) the range of bid and offer prices or quotes and the depth of trading interests at those prices, or indicative pre-trade bid and offer prices which are close to the price of the trading interest, to be made public for each class of financial instrument concerned (...), taking into account the necessary calibration for different types of trading systems (...)”.

Although transparency obligations in non-equity instruments are being introduced by MiFIR, a number of trading venues have already implemented some pre-trade transparency either to comply with national laws and regulation or at their own initiative.

Accordingly, the additional obligation arising from the final draft RTS is the pre-trade information trading venues have to make public compared either to the Level 1 text or to current market practices where such current market practices go beyond the Level 1 requirement. However, it

is extremely difficult to disentangle the costs for stakeholders arising from the MiFIR pre-trade transparency provisions and the costs associated with the draft RTS. Any indication of costs in this area in the cost-benefit analysis below is therefore to be taken as an upper bound.

#### **4.2.2. Stakeholders**

The stakeholders that will or may be affected by the scope of the pre-trade information to be made public by trading venues in respect of non-equity instruments are similar to the ones potentially impacted by the draft RTS on transparency in respect of equity and equity-like instruments, i.e. trading venues, members/participants, systematic internalisers, buy-side firms and investors and CAs.

*Regulated markets, MTFs and OTFs:* Trading venues will incur one-off costs for amending their trading rules as well as IT costs for setting-up systems, or adjusting existing systems to meet the characteristics of pre-trade information set out in the final draft RTS.

Those trading venues could also potentially be indirectly impacted by pre-trade transparency requirements where pre-trade transparency would lead participants to increase bid/ask spreads and/or reduce available quantity at the best bid/ offer or where end-investors would turn off-venue to avoid the potential market impact the display of their order may trigger. However, regulated markets and some MTFs offering trading in non-equity instruments already provide some pre-trade transparency and the indirect impact of the draft RTS is therefore not expected to be significant.

However, MiFIR introduces a new category of trading venues in respect of non-equity instruments, the Organised Trading facilities (OTFs) and foresees two new types of trading systems that can potentially be operated by such trading venues, i.e. request for quote (RFQ) systems and voice trading systems. At this stage, it is unclear how many OTFs will be set up to trade in non-equity instruments and which trading model they will be operating, although RFQ systems currently seem to represent the principal trading model in non-equity markets that do not have a sufficient continuous buying and selling interest to support an order driven model. The potential impact of the draft RTS beyond regulated markets and MTFs is therefore difficult to assess.

It should however be noted in relation to RFQ systems that, as of today, the answers provided to a request for quote are only received by the entity which submitted the request. Public disclosure of the quotes may discourage price makers to respond to RFQs, unless the quoting size exceeds the SSTI threshold and the relevant CA waives pre-trade transparency obligations for actionable indication of interest above that threshold. Less active price makers would in turn likely affect the attractiveness of RFQ trading systems. A similar concern may arise in respect of voice trading systems on which there is currently no pre-trade transparency.

On the other hand, pre-trade transparency may attract more order flow as market participants get a better sense of the price at which their orders may be executed across trading venues. It should also be noted that High Frequency Trading (HFT) firms develop trading in financial instruments that are continuously traded on electronic platforms providing pre- and post-trade transparency.

*Members/participants of trading venues:* When moving to a pre-trade transparent environment, market and price makers may potentially be incentivised to widen the bid and ask spread and/or reduce the quantity available at that price as the market, or other price makers, may move against them. In particular, with respect to RFQ systems where there is insufficient trading interest to support continuous trading, pre-trade transparency may increase the difficulty for liquidity providers to find a counterparty to unwind their positions, leading them to manage imperfect hedges.

Conversely, where more than one market maker is making a market in a given instrument, pre-trade transparency may increase competition between market makers and contribute to reduced spreads.

*Portfolio/fund management companies, end-investors:* Pre-trade information on a financial instrument made public by a trading venue may generate additional interest from potential buyers and sellers and thereby increase liquidity on trading venues. In particular, HFT firms are attracted by trading in financial instruments with pre- and post-trade transparency. On the other hand, where pre-trade transparency would lead to a widening of spreads and/or reduced available quantity at a given price, and imperfect hedges, this would be a source of additional costs for investors.

*Competent Authorities:* CAs will have to monitor compliance with pre-trade transparency obligations by trading venues and SIs.

### **4.2.3. Cost-Benefit Analysis**

#### *Content of pre-trade information*

The pre-trade information to be disclosed by trading venues, based on the trading systems they operate, is similar to the one to be made public in respect of equity and equity-like instruments, with one exception, voice trading systems. However, as Article 9 of MiFIR on pre-trade waiver specifically refers to voice trading systems, this new type of trading system has been added to the categories of trading systems covered by the final draft RTS and Annex I. Voice trading systems are required to publish the same pre-trade transparency information as RFQ systems, i.e. the bids and offers or actionable indications of interest (IOIs) and the attaching volumes from any member or participant which, if accepted, would lead to a transaction under the system's rules

Based on the comments received to the CP, the final draft RTS has been amended in relation to RFQ systems to clarify that all quotes submitted in response to a request for quote may be published at the same time as they become executable. Otherwise stated, a trading venue operating an RFQ system does not have to make public the bids and offers or IOIs (and attached volumes) provided in response to a request for quotes before the requesting entity is able to execute a transaction under the system’s rules. This should contribute to limiting the risk that members or participants who are providing their quotes first are put at a disadvantage vis-à-vis third parties, i.e. limit the risk that other price makers be in a position to price against them. This is expected to reduce indirect compliance costs, both for participants in RFQ systems and for end-users as any additional risk borne by the responding entity that cannot be properly hedged ultimately translates into higher costs for end-users.

<b>Policy objective</b>	Enhanced pre-trade transparency in non-equity instruments contributing to improved price formation process and market efficiency.
<b>Technical proposal</b>	List of pre-trade information to be made available by RMs, MTFs, and OTFs taking into account the characteristics of the trading system.  See Article 2 and Annex 1 of draft RTS 2. See also Recital 8 for RFQ systems.
<i>Benefits</i>	The final draft RTS provides for clarity, legal certainty and predictability as to the pre-trade transparency information to be published by trading venues based on their trading systems and contributes to ensuring a level playing field across venues.  It ensures that meaningful pre-trade information is made available to market participants and can efficiently contribute to the price formation process. Meaningful pre-trade transparency also contributes to increased competition across members/participant of trading venue, to the benefit of investors.  The content and timing of the pre-trade transparency information to be made public by RFQ systems strikes an appropriate balance between the benefits of pre-trade transparency for market efficiency and the potential risks to market liquidity.
<i>Costs to regulator:</i>	Regulators will incur on-going costs to monitor compliance with pre-trade transparency obligations. We consider those costs to be attributable to

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Level 1.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues will incur one-off staff and IT costs to amend trading rules and adjust/set up IT systems to disseminate the pre-trade information required, including connectivity tests with data vendors and other third parties.</p> <p>On-going staff and IT costs will be incurred to monitor the on-going dissemination of pre-trade information and deal with any disruption.</p> <p>Those costs are expected to be more significant for trading venues operating an RFQ or a voice trading system.</p>
<p><i>Costs to other stakeholders</i></p>	<p>Liquidity providers/price makers on trading venues, including on RFQs systems and voice trading systems may have to adjust quoting strategies, i.e. bid and offer prices and quoting size, to reflect the increased market risk and execution risk entailed by public display of quotes.</p>
<p><i>Indirect costs</i></p>	<p>Increased market risk and execution risk as a result of pre-trade transparency may translate into higher transactions costs for buy-side firms and end-investors.</p>

### 4.3. Waiver to pre-trade transparency obligations

MIFIR introduces a regime for pre-trade transparency waivers in respect of non-equity instruments that is to a certain extent different from the equity and equity-like one, reflecting differences in the characteristics of the financial instruments and in trading patterns.

#### 4.3.1. Baseline

From a legal perspective, the legislation to consider is Article 9(1) of MiFIR under which CAs may waive the obligation for a trading venue to make public the pre-trade information referred to in the section above for:

- orders that large in scale compared with normal market size and orders held in an order management facility of the trading venue pending disclosure;
- actionable IOIs in RFQ and voice trading systems that are above SSTI, which would expose liquidity providers to undue risks ; and

- derivatives which are not subject to the trading obligation and other financial instruments for which there is not a liquid market.

Under Article 8(4), where a waiver is granted by a CA to RFQ and voice trading systems (see (b) above), the trading venue must make public at least indicative pre-trade bid and offer prices that are close to the price of the trading interests advertised through their systems in bonds, SFPs, emission allowances and derivatives traded on a trading venue.

#### *Empowerment/ RTS*

Under Article 9(5) of MiFIR, ESMA has to develop draft RTS to specify:

(c) the size of orders that are large in scale and the type and the minimum size of orders held in an order management facility pending disclosure for which pre-trade disclosure may be waived;

(d) the size specific to the financial instrument and the definition of request for quote and voice trading systems for which pre-trade disclosure may be waived (..);

(e) the financial instrument or the class of financial instruments for which there is not a liquid market where pre-trade disclosure may be waived (..)”.

The final draft RTS regarding financial instruments or the class of financial instruments for which there is not a liquid market is considered in the section above.

The draft RTS regarding the size of orders that are large in scale (LIS) orders and the size specific to the financial instrument (SSTI) is being discussed in the section above.

This section of the CBA therefore deals with the empowerment related to the type and minimum size of orders held in an order management facility pending disclosure and with the indicative pre-trade bid and offer prices to be disseminated by RFQ and voice trading systems.

The incremental obligations arising from the draft RTS in those areas are related to the characteristics to be met by order management facilities compared either to current market practices or to Level 1 and the conditions to be met by indicative bid and offer prices to be close to the trading interests advertised through RFQ and voice trading systems.

#### **4.3.2. Stakeholders**

The stakeholders identified are:

*Trading venues:* When offering order management facilities, trading venues will have to adjust IT systems to the minimum size for orders held in an order management facility. Trading venues

operating RFQ and voice trading systems will have to make arrangements for the publication of indicative prices based on the selected option.

*Participants/members of trading venues:* those stakeholders will be affected if changes are required to the order management facility they currently benefit from on some trading venues.

### 4.3.3. Cost-Benefit Analysis

#### *Type and size of orders held in an order management facility (OMF)*

The final draft RTS replicates the provisions set out in Article 8 of the draft RTS on transparency requirements in respect of equity and equity-like instruments. It sets out a minimum size of 10,000 euros for reserve orders held and equal to the minimum tradable quantity for the other orders held in an order management facility in all non-equity instruments. This approach has the benefit of simplicity against the complexity that would have arisen for both trading venues and market participants should have a class by class of instruments approach be considered.

#### *RFQ and voice trading systems*

RFQ and voice trading systems may be granted a waiver by CAs to disseminate at least indicative pre-trade bid and offer prices in relation to orders above SSTI.

The final draft RTS provides a definition of RFQ systems that is identical to the one provided in Table 1 of Annex I of the draft RTS on transparency requirements in respect of equity and equity-like instruments and a definition of voice trading system is proposed. None of those definitions is considered to be a source of any additional obligation or cost, as they mirror current market practice.

The key addition in the draft RTS is the three valid options that can to be used when calculating and publishing indicative prices, while allowing trading venues to choose the methodology they consider most appropriate. The draft RTS also clarifies that the methodology used has to be made public, and that the quotes have to be updated.

<b>Policy objective</b>	Enhanced pre-trade transparency.
<b>Technical proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Type and minimum size of orders held in an order management facility. See Article 4 of draft RTS 2 for more details.</li> <li>- Definition of RFQ and voice trading systems and conditions to be met for the publication of indicatives pre-trade prices. See Article 5 of</li> </ul>

	draft RTS 2 for more details.
<i>Benefits</i>	<p><i>Order Management Facility</i></p> <p>The final draft RTS provides more clarity as to the characteristics to be met by an OMF to be eligible to a pre-trade transparency waiver. This will contribute to ensuring that the waiver is not misused and will facilitate supervisory convergence around the waiver process foreseen in article 9(2) of MiFIR</p> <p>The one minimum size provided for OMF orders across asset classes is a simple and straightforward approach that reduces compliance costs both for trading venues and market participants.</p> <p><i>Indicatives prices:</i></p> <p>The final draft RTS provides clarity and legal certainty as to the methodologies that may be used by RFQ and voice trading systems and contribute to ensuring a more levelled playing field across RFQ and voice trading systems. At the same time, the three possible options provide the flexibility needed to cater for the diverse nature of the non-equity instruments covered by the provision.</p> <p>Public disclosure of the methodology will allow market participants to better understand the information conveyed through indicatives prices.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs will incur on-going costs to monitor compliance with requirements, as part of overall supervisory costs arising from the transparency obligation in respect of non-equity instruments introduced by Level 1. We consider those costs to be attributable to Level 1.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>All trading venues will incur very limited IT costs to adjust IT systems to minimum order size in OMFs.</p> <p>RFQ and voice trading systems will incur one-off costs to set up processes to calculate indicative prices and publish the methodology used. They will incur on-going IT costs to update them. Those costs are not expected to be significant.</p>
<i>Costs to other stakeholders</i>	None identified.



<i>Indirect costs</i>	<p>There could potentially be a decrease in currently available on-venue pre-trade transparency should the threshold for orders in OMF be lower than current market practices.</p> <p>The flexibility provided to choose amongst the three possible methodologies foreseen in the draft RTS for indicative pre-trade prices may not always allow for comparison across venues.</p>
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## 5. Post-trade transparency requirements for trading venues and investment firms trading outside trading venues

### 5.1. Content and timing of post-trade transparency

#### 5.1.1. Introduction

Post-trade transparency generally, and the details of transactions more specifically, enable investors or market participants to assess the terms of a transaction they are considering and to verify afterwards the conditions in which it was carried. As such, post-trade transparency contributes to the efficiency of the overall price formation process and assists the effective operation of best execution obligations. It also helps to minimise the consequences of fragmentation in trading. Post-trade transparency is also used for portfolio valuation purposes.

The purpose of flags is to complement the information content of post-trade publications by disclosing the technical characteristics of a transaction or the particular circumstances under which a transaction has occurred and further contribute to post-trade transparency objectives.

The draft RTS further specifies the details on executed transactions to be published by trading venues and by investment firms, including systematic internalisers, through APAs.

#### 5.1.2. Baseline

The legal basis to consider is Article 10 of MiFIR, which provides that a trading venue has to “(...) make public the price, volume and time of the transactions executed in respect of bonds, structured finance products emission allowances and derivatives traded on a trading venue (...). Details of such transactions have to be made public “as close to real-time as possible”.

Article 21 of MiFIR extends that obligation to investment firms, including systematic internalisers.

#### *Empowerment/RTS*

Under Article 11(4)(a) of MiFIR, ESMA has to develop draft RTS “to specify;

(a) the details of transaction that trading venues and investment firms, including systematic internalisers, to be made public for each class of financial instruments, including identifiers for the different types of transactions published, distinguishing between those determined by factors linked primarily to the valuation of the financial instruments and those determined by other factors;

(b) the time limit that would be deemed in compliance with the obligation to publish as close to real time as possible (...).”

Whereas RMs and MTFs currently publish some post-trade information on transactions in non-equity instruments, this is not the case for investment firms trading off-venues.

For RMs and MTFs, the additional obligation arising from the draft RTS is the details of transactions, including flags to be published by trading venues compared to current market practices. For OTFs and investment firms trading OTC, the baseline is MIFIR. It is, however, very difficult to disentangle the obligations and costs associated respectively with Level 1 and with the draft RTS. Any indication of costs below is therefore to be taken as an upper bound.

### **5.1.3. Stakeholders**

*Trading venues:* Regulated markets and MTFs will have to supplement the post-trade information currently published to match the list set out in the draft RTS, including with respect to flags, and to the date and time of publication. They will also have to comply with the format required. OTFs will have to include all this in their initial set-up.

*Investment firms:* Investment firms will need to set up arrangements with an APA for the publication of their OTC trades and ensure that all necessary post-trade information, including in respect of flags, is passed on to the APA for publication in due time.

*APAs:* The role of APAs could possibly be slightly different, depending on whether they require investment firms to provide all the details of the transaction that are necessary for trade publication under the correct format or whether APAs agree to “translate” the trade information received or, possibly, to supplement it, for instance by adding the illiquid instrument trade flag or some of the supplementary deferral flags.

*CAs:* CAs will have to supervise compliance with post-trade transparency requirements by trading venues and investment firms trading OTC.

### **5.1.4. Cost-Benefit Analysis**

The draft RTS sets out the details of transactions and flags to be made public by trading venues and investment firms trading OTC, as well as the format for publication. In addition, the draft

RTS clarifies the maximum time limit for making those transactions public as close to real time as possible

### Details, flags and format

The details to be published represent an incremental obligation and additional costs for regulated markets and MTFs currently offering trading in non-equity instruments not so much as regard the content of those details but mostly as regard to flags and to the format under which this information has to be made public.

Flags will be a source of additional costs both due to their increased granularity and to the required format. Whilst the flags currently published by trading venues are transaction-based, i.e. they identify a specific transaction based on its characteristics, some of the flags listed in the draft RTS combine trade characteristics and instrument characteristics (e.g. liquid or not) or simply reflect the deferred publication regime in place. This will require trading venues to put together more data sources to publish the required flags, with potentially additional risk of errors. In addition, flags will have to be published with a four character code, as opposed to the one character code which is current market practice.

In order to facilitate comparison, aggregation and analysis of data, the final draft RTS set out the format under which the post-trade information has to be made public

The format to be applied for publication of the details of a transaction is consistent with the format to be used by trading venues to report financial instrument data as per final draft RTS 23, i.e. ISO 20022. Furthermore, the alignment with the formats used for reference data, and thus with ISO 20022 methodology, concerns only the way the information is represented: for example, the same codes are used to represent the same values. It does not affect the data requirements themselves, nor the means of collection or publication of data. For instance, no specific technical format, like XML, is required for the publication of data. In practical terms, the additional obligation resulting from the alignment is limited to ensuring that the data is presented in a standard way, which should be a source of limited costs. A single format may ultimately be a source of IT synergies in technology builds and lower compliance costs.

The final draft RTS has also been amended to include an additional field for the date and time of publication of the transaction to be filled by trading venues and by APAs for OTC transactions. This additional field will allow for a better understanding of price movements by market participants and CAs; it has not been identified as a source of significant cost in the responses to the CP.

Investment firms trading OTC, including SIs, have to meet the same publication requirements as trading venues. However, as OTC transactions are published through APAs, investment firms and APAs will have to agree on their respective role. While the details of a transaction can only be provided by the investment firm, some APAs might consider offering a formatting service for

publication or supplementing transaction details with the appropriate flag where the information is available from other sources, such as for deferred publication flags.

### Package Transactions

Taking into account the responses received to the CP and in order to cater for current market practices, the final draft RTS has been modified to include a definition of package transactions

A package transaction is defined in the draft RTS as a transaction that involves the execution of two or more component transactions in financial instruments i) between two or more counterparties, ii) where each component bears meaningful economic risk which is related with all the other components and iii) where the execution of each component is simultaneous and contingent upon the execution of all other components.

Package transactions can take various forms, such as trading strategies executed on trading venues, Exchange for physicals (EFPs) or bespoke package transactions. Packages are used to manage and minimise execution costs and risks in many markets, including Interest Rates, Credit and Commodities; the bid-offer spread quoted on the package is typically less than the aggregate price of the components when priced individually and executed separately. Simultaneous contingent execution ensures that the initiator of the transaction is not left with the risks arising from unexecuted components. Package transactions are also used for diversification purposes where market participants identify that holding several instruments may provide a superior hedge for exposures compared to holding a single instrument.

Each component transaction has to be made public as close to real time as it is technically possible. However, as the price of each component transaction may be different from the price of each transaction executed separately and to avoid any confusion, the component transactions have to be published with a package transaction flag or an EFP flag that will help identifying that those transactions does not represent “addressable liquidity”.

### As close to real time as possible

The draft RTS clarifies that a transaction to be made public as close to real time as possible has to be published at the latest within 15 minutes for the first 3 years of application of MiFIDII/MiFIR, and then within 5 minutes. The delay is only available where no fully automated process is available for more immediate disclosure. Given the flexibility provided to the interpretation of “as close to real time as possible”, the draft RTS is not considered to be creating any additional obligation.

Clock synchronisation

As regards trading date and time, Table 2 of Annex II of the draft RTS refers to the draft RTS on Clock synchronisation. Please refer to the CBA on clock synchronisation.

Investment firm responsible for making the information public

The provisions regarding the investment firm responsible for making the information on OTC transactions public are similar to the ones set out in draft RTS 1 on Transparency in respect of equity and equity-like instruments. See the CBA of draft RTS1. The alignment of those two sets of provision aiming at avoiding, or limiting, over reporting will streamline implementation and reduce compliance costs.

<b>Policy objective</b>	Ensuring real-time post-trade transparency in non-equity instruments to contribute to improved market efficiency and monitoring of best execution obligations.
<b>Technical proposal</b>	Post-trade transparency obligations See Article 7 and Tables 1 and 2 and table 3 of Annex II of draft RTS 2 for more details.
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability and level playing field amongst trading venues and amongst investment firms across the EU.</p> <p>It ensures that useful and meaningful real-time post-trade information is made available to market participants, whilst a phased approach for “real-time” provides market participants sufficient time to prepare for more demanding limits.</p> <p>Harmonised format for publication will facilitate comparison, and consolidation, of post-trade data. Consistency with formats for Reference data and Transaction reporting purposes will enable synergies in technology builds.</p> <p>Granular flags will contribute to more efficient transaction costs analysis and monitoring of best execution obligations.</p> <p>Date and time of publication will allow for more refined analysis of market movements by market participants and CAs.</p> <p>The sequenced approach to the maximum time limit for real time publication caters for the broad variety of investment firms and instruments or combination of instruments traded and provides additional</p>

	<p>time to stakeholders to implement more automated solutions and meet shorter deadlines.</p> <p>Clarity on investment firm responsible for making the information public will improve data quality by avoiding, or limiting double reporting.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs will incur additional supervisory costs to ensure compliance with post-trade transparency obligations, including by investment firms and OTFs.</p> <p>We consider those costs to be Level 1 costs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>RMs and MTFs will incur one-off staff and IT costs, as well as ongoing IT costs to adjust the details and flags currently published to the draft RTS and to ensure publication under the required format.</p> <p>OTFs and investment firms trading OTC will incur one-off staff and IT costs to set up appropriate systems for disclosure of post-trade information, as well as recurring costs for running those systems. Some investment firms may have to make more significant IT investment to meet the “as close to real time as possible” requirement. In addition, investment firms will have to enter into arrangements with APAs, or supplement the arrangements they currently have for shares. Initial costs are expected to be more significant for investment firms that currently do not have an equity business.</p> <p>APAs will incur low one-off and on-going costs for adding and populating the date and time of publication field and may incur further IT costs to publish the “raw” details provided by investment firms under the required format. APAs would however charge additional fees to cover additional services.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified that would be attributable to the draft RTS.</p>
<p><i>Indirect costs</i></p>	<p>Additional costs associated with post-trade publication may be ultimately passed on to clients. We consider those indirect costs to be driven by Level 1.</p> <p>Uncertainties as to if and how CAs will actually implement the range of possible deferred publication arrangements foreseen under Article 11 of MiFIR at national level do not allow to assess the potential indirect costs associated with the draft RTS on post-trade transparency obligations.</p>

	However, any of those potential indirect costs are also considered to be Level 1 costs.
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## **5.2. Deferred publication of transactions and transparency requirements in conjunction with deferred publication at the discretion of CAs**

### **5.2.1. Introduction**

MiFIR establishes a somewhat complex regime for deferred publication of transactions that combines different time horizons, including an extended time period of deferral and an indefinite period of time, and different levels of information, with substantial discretion left to CAs. Those granular options for deferred options aim at addressing the quite different characteristics and market structures of the specific types of financial instruments included in the broad non-equity category. They also aim at striking an appropriate balance between the benefit of post-trade transparency in helping the efficiency of price formation, the valuation of products and the monitoring of best execution and the potential risk to market liquidity and efficiency. With those very same aims in mind, the final draft RTS provides for the detailed conditions under which publications of transactions in non-equity instruments may be deferred.

### **5.2.2. Baseline**

From a legal perspective, the legislation to consider is Article 11(1) and 11(3) for trading venues and Article 21(4) for investment firms trading OTC.

Article 11(1) sets out the circumstances when a CA may authorise the deferred publication of a transaction, i.e. when the transaction is LIS, when the transaction is in a financial instrument that does not have a liquid market or when a transaction is above the SSTI for that financial instrument.

Article 11(3) lists the content of the information to be published in conjunction with an authorisation of deferred publication.

#### *Empowerment/RTS*

Under Article 11(4), ESMA is empowered to draft RTS to specify the conditions for authorising trading venues and investment firms trading OTC, including SIs, to provide for deferred publication of the details of the transactions.

Compared to the Level 1, the incremental obligation arising from the final draft RTS relates to the time frame within which a transaction eligible to a deferral must be published as well as to the information to be published at the end or during the deferral period. Here again, it is extremely difficult to disentangle the costs arising from the Level 1 text and the final draft RTS.

The costs and benefits associated the LIS and SSTI thresholds as well as with the determination of financial instruments that do not have a liquid market are analysed in the sections above.

### **5.2.3. Stakeholders**

*Trading venues:* Trading venues will have to ensure that the relevant post-trade information is published at the appropriate time for each transaction eligible to a deferral. They will need to adjust IT trading systems to LIS and STI thresholds and ensure that they are aware whether their members or participants are dealing on own account other than on a matched principal trading.

*Investment firms trading OTC:* Assuming that investment firms trading OTC leave it to APAs to publish relevant information during deferral periods, they may nonetheless have to review trading strategies and/or bid ask spreads and other system parameters to accommodate the deferred publication regime that apply to the transactions they contemplate.

*APAs:* Assuming investment firms trading OTC continue to send transaction details to APAs including during deferral periods, APAs will need to have all necessary arrangements in place to ensure that only the more limited details or the aggregated information are published in due time and that they comply with the appropriate deferral regime to which the transaction is subject to especially in the circumstance where two counterparties would be allowed to execute the transaction under different transparency regimes.

*CAs:* CAs will have to supervise compliance with post-trade transparency requirements by trading venues and investment firms trading OTC.

### **5.2.4. Cost-Benefit Analysis**

The draft RTS addresses (i) the conditions for deferred publication of transactions and (ii) the information to be published in relation with deferred publication.

#### *Transactions eligible to deferred publication and deferral period*

The only additional condition set out in the final draft RTS as regards the conditions to be met for a transaction to be eligible to deferred publication relates to transactions above SSTI. As the intention of Article 11(1)(c) is clearly to limit execution risks and costs for investment firms providing liquidity to the market, the final draft RTS specifies that publication may only be waived where the investment firm is putting its capital at risk, i.e. where the investment firm is dealing on own account other than on a matched principal basis. A similar requirement applies for transactions in equity-and equity-like instruments to be eligible for deferred publication in final draft RTS 1.



The final draft RTS also clarifies that a package transaction is eligible to deferred publication when one of its component transactions is in a financial instrument that does not have a liquid market, is above LIS or is above SSTI.

As regards timing, when a CA authorises deferred publication, the transaction has to be made public by the trading venue or the investment firm trading OTC no later than 19:00 local time on T+2. Reference to two business days, as suggested by respondents to the CP, rather than 48h hours as initially proposed, will simplify implementation and ensure that all transactions are treated the same way, whatever the day they occur.

*Information to be made public in relation with deferral periods*

The final draft RTS sets out the information to be made public in relation to deferral periods with a view to providing the most harmonised possible framework across Member States, notwithstanding the discretion provided to CAs by the Level 1 text. It is not considered to create additional obligations compared to Level 1. The final draft RTS also covers deferrals from post-trade transparency for package transactions.

During the T+2 time period mentioned above, CAs may require either the publication of all transaction details except volume or the publication of transactions in daily aggregated forms in the morning of the next working day.

CAs may decide to extend the deferral period beyond the initial T+2 period. The final draft RTS specifies that this extended deferral time period is a 4 week period. Four weeks strike a balance between the split views expressed by the sell-side and the buy-side on the one hand in favour of a longer deferral, including for illiquid instruments, and exchanges generally in favour of shortening the deferral period which extends far beyond current on-venue market practices, including for block transactions. An identical extended 4 weeks period across all asset classes streamlines the implementation burden.

The final draft RTS includes the information to be made public during an extended deferral period and at the end of that period. It also sets forth the information to be made public for sovereign bonds where a CA allows for the publication of transactions in an aggregated form for an indefinite period of time.

<b>Policy objective</b>	Ensuring that the efficient functioning of market is supported by appropriately calibrated post-trade transparency waivers.
<b>Technical</b>	The final draft RTS covers the following areas: - Deferred publication of transactions. See Article 8 of draft RTS 2

<b>proposal</b>	<p>for more details.</p> <ul style="list-style-type: none"> <li>- Transparency requirements in conjunction with deferred publication at the discretion of CAs. See Article 11 of draft RTS 2 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability as to the timing and content of the information to be published when deferred publication is authorised by a CA or when a CA allows for aggregated publication for an indefinite period of time.</p> <p>The 4 week extended deferral contributes to ensuring that market participants trading in illiquid instruments, in large sizes or facing significant risks when dealing on own account are provided time to unwind positions, while limiting potential damages to the current level of post-trade transparency currently available on exchanges.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs will incur additional supervisory costs to ensure compliance with post-trade transparency obligations, including by investment firms and OTFs. Those supervisory costs may be more significant where investment firms in their jurisdiction trading OTC have to comply with different national deferred publication regimes.</p> <p>We consider those costs to be Level 1 costs.</p>
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues will incur one-off staff and IT costs to adjust and enhance trading system parameters and ensure that they have all the necessary arrangements in place enabling them to make public the required, post-trade information at the right time when deferred publication is authorised by a CA. Trading venues however retain the possibility not to implement a waiver authorised by a CA. On-going IT costs will be incurred to adjust parameters to periodic assessment of liquidity and SSTI/LIS thresholds.</p> <p>Likewise, investment firms trading OTC will incur one-off staff training and IT costs as well as on-going IT costs to send the appropriate set of information to APAs. Where this is delegated to APAs, investment firms may need to review trading strategies, algorithms and bid/offer prices in light of deferred publication regimes available.</p> <p>Compliance costs may be substantially increased where investment firms trading OTC have to comply with multiple national deferred publication regimes.</p>

	ESMA consider those costs to be driven by Level 1.
<i>Costs to other stakeholders</i>	<p>APAs will likely have an important role to play in the publication of post-trade information in relation to deferred publication as investment firms will likely continue to send them all transaction details on an on-going basis. The APA will then make the selected information public when required based on the applicable national regime, with all the details being published at the end of the deferral period.</p> <p>Staff and IT costs incurred for the set-up and maintenance of those complex publication systems will be passed on to investment firms, unless competition between APAs to attract business flow maintains pressure on fees.</p>
<i>Indirect costs</i>	<p>Uncertainties as to if and how CAs will actually implement the range of possible deferred publication arrangements foreseen under Article 11 of MiFIR at national level make it difficult at this stage to anticipate the potential indirect costs, including on market post-trade transparency at EU level.</p> <p>Should market participants consider that the 4 week extended deferral period is too short for certain financial instruments this may translate into higher bid and offer prices and reduced liquidity for end-users.</p>

### 5.3. Application of post-trade transparency to certain transactions executed outside a trading venue

#### 5.3.1. Baseline

As for equity and equity-like instruments, Article 21(5) of MiFIR empowers ESMA to draft RTS to specify the application of post-trade disclosure requirements to OTC transactions in non-equity instruments involving the use of those financial instruments for collateral, lending or other purposes where the exchange of financial instruments is determined by factors other than the current market valuation of the financial instrument. ESMA has no empowerment to establish such a list for on-venue transactions.

The baseline is considered to be MiFIR. It is however debatable as to whether the list of OTC transactions not subject to post-trade transparency set out in the final draft RTS actually includes any additional obligation. We consider that the draft RTS removes rather than creates obligations.

### 5.3.2. Stakeholders

*Investment firms trading OTC:* Investment firms trading OTC will have to make necessary arrangements at middle and back office level to ensure that the transactions included in the draft RTS are not made public.

### 5.3.3. Cost-Benefit Analysis

The final draft RTS provides an exhaustive list of exemptions from post-trade transparency (as the one specified for that same purpose in draft RTS 1 on Equity transparency). It includes transactions that are not considered as transactions for reporting purposes, as well as transactions for which post-trade transparency would not have provided any useful information to market participants given their very specific context.

Taking into consideration the responses to the CP, the initial list has been extended to include transfers of financial instruments as collateral (and no longer as segregated collateral only) and transfers of financial instruments as part of the default management process of a central counterparty).

<b>Policy objective</b>	Ensuring that post-trade transparency is applicable to transactions relevant to price formation.
<b>Technical proposal</b>	Application of post-trade transparency to certain transactions executed outside a trading venue: See Article 12 of RTS 2 for more details.
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability to investment firms as regards the scope of post-trade transparency obligations for OTC transactions.</p> <p>It prevents imposing unnecessary burden on investment firms where post-trade information does not provide meaningful information for the price formation process, monitoring of best execution obligations or market data analysis more broadly.</p> <p>Consistency with the list of transactions not included in transaction reporting will streamline implementation. Consistency with the list of transactions excluded from post-trade transparency under RTS 1 will reduce compliance costs for investments firms active in equity and non-equity instruments.</p>
<i>Costs to regulator:</i>	None identified due to the draft RTS.

- One-off	
- On-going	
<i>Compliance costs:</i>	Investment firms trading OTC will incur one-off IT costs to adjust system parameters and make the necessary arrangements to ensure that the transactions listed in the RTS are not made public.
- One-off	
- On-going	
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

## 6. Provisions common to pre-trade and post-trade transparency

### 6.1. Exemptions from transparency requirements in respect of transactions executed by a member of the ESCB (Article 1(8) of MiFIR)

#### 6.1.1. Introduction

The Market in Financial Instruments Regulation (MiFIR) establishes uniform requirements that apply to a number of areas, including pre-and post-trade transparency of non-equities. It also determines who is subject to those provisions, and who is exempted from them and in which circumstances.

ESMA understands that the purpose of the exemption in the case of the ESCB is to ensure that members of the ESCB can carry out their monetary, foreign exchange and financial stability policy operations without those policy operations being constrained by the transparency requirements set by MiFIR. However, in cases where they undertake other investment operations outside of their statutory functions, those transactions should be disclosed in the interest of transparency in the market for those types of transactions, and subsequent contribution to price discovery.

#### 6.1.2. Baseline

Article 1(6) and (7) of MiFIR establishes that disclosure obligations related to pre-trade and post-trade transparency in non-equities as well as pre-trade and post-trade disclosure obligations for systematic internalisers (SIs) in non-equities shall not apply to regulated markets, market operators and investment firms when the counterparty is a member of the ESCB, and

when that transaction is entered into when performing monetary, foreign exchange and financial stability policy operations and the ESCB has notified the counterparty that the transaction is exempt. These exemptions do not apply to transactions entered by any member of the ESCB in performance of their investment operations.

Article 1(8) of MiFIR requires ESMA to develop, in close cooperation with the ESCB, draft RTS to specify the monetary, foreign exchange and financial stability policy operations, and the types of transactions to which Article 1(6) (7) applies.

The purpose of the sections below is to set out the CBA in respect of the incremental obligation of ESMA's RTS against the MiFIR baseline mentioned above.

### **6.1.3. Stakeholders**

The stakeholders that are relevant for this standard are:

*Regulated markets/market operators/investment firms* may incur additional costs but the extent of those costs will depend on the final wording of the RTS. Any costs that could arise for trading venues or market participants from having to separate transactions exempted from disclosure should be attributable to MiFIR and not to this technical standard. However, how and to what extent those transactions are separated in practice, particularly in electronic order books, will entail costs that could be attributed to ESMA's RTS. There seems to be a trade-off between costs incurred, protection to ESCB operations and fair and orderly trading. If the exemption were to be extended to pre-trade transparency across all execution systems (electronic and manual), trading venues may need to establish arrangements and systems allowing transactions where one counterparty is a member of the ESCB to be exempted from pre-/post-trade transparency in some cases but not in others. However, this is established by MiFIR and not by this RTS.

*ESCB* members should not incur additional costs as the operations and types of transactions identified by ESMA as exempted should take into consideration existing practices, except those related to notification procedures. However, they may need to notify trading venues and their counterparties when the transactions that they are about to carry out are subject to transparency requirements.

*CAs* may be marginally affected as they may need to take into consideration those transactions excluded from disclosure when supervising regulated markets, market operators and investment firms. However, the obligation and incremental cost is established by MiFIR and not by this RTS.

#### 6.1.4. Cost-Benefit Analysis

On the one hand, the draft RTS specifies the conditions to be met by a transaction entered into by a member of the ESCB in order for that transaction to be exempted from the MiFIR transparency obligations. On the other hand, it clarifies the scope of the transactions entered into by a member of the ESCB that do not benefit from the exemption.

The extent of the actual costs and benefits for ESCB members are determined by the exact wording of the draft RTS. Any costs that could arise for trading venues or market participants from having to separate transactions exempted from disclosure should be attributable to MiFIR and not to the draft RTS.

##### *Transactions to which the transparency exemption applies*

The aim of this provision is to allow the members of the ESCB to carry out their monetary, foreign exchange and financial stability policy operations without those policy operations being within the transparency requirements set by MiFIR. The wording of the draft RTS reflects the types of transactions typically carried out by ESCB members in pursuit of their statutory functions. While counterparties (or trading venues) may bear incremental costs because of the need to separate those transactions where the counterparty is a member of the ESCB carrying out their monetary, foreign exchange and financial stability policy operations from those transactions that are unconnected with that member's performance of these tasks, the draft RTS per se should not entail incremental benefits or costs as the obligation is already established by Article 1(6) of MiFIR. The draft RTS is not expected to be a source of additional costs for Members of the ESCB as the wording of the draft RTS mirrors current market practices.

<p><b>Policy Objective</b></p> <p><b>Proposal</b></p>	<p>Ensuring that the effectiveness of monetary, foreign exchange and financial stability policy operations by ESCB members is not compromised by disclosure of information.</p> <p>Conditions to be met by a transaction entered into by a member of the ESCB for that transaction to be exempted from the MiFIR transparency obligations. See Article 14 of draft RTS 2 for more details.</p>
<p><i>Benefits</i></p>	<p>Provides legal certainty to ESCB members, investment firms and trading venues as to the scope of the exemption from transparency requirements.</p> <p>Ensures that the effectiveness of operations conducted by ESCB members under their statutory obligations is not compromised by inappropriate disclosure of information.</p>

<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	None identified.
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Investment firms and market operators may need to set up systems and controls to separate these transactions not subject to transparency from those also carried out by ESCB members which are reportable and subject to transparency requirements.</p> <p>Members of the ESCB may incur some costs stemming from the notification to the other party that these transactions are not subject to transparency.</p> <p>However, those costs are driven by MiFIR and not by this RTS.</p>
<p><i>Costs to other stakeholders</i></p>	None identified.
<p><i>Indirect costs</i></p>	None identified.

*Transactions to which the transparency exemption does not apply*

As exemptions to transparency should, as a matter of principle, be narrowly interpreted, and for the avoidance of doubts, the draft RTS clarifies the scope of transactions members of the ESCB may enter into and which are not eligible to the transparency exemption.

<b>Policy Objective</b>	Ensuring that market transparency, which contributes to the price formation process, is not unduly waived.
<b>Proposal</b>	Characteristics of transactions entered into by a member of the ESCB to which the transparency exemption does not apply. See Article 15 of draft RTS 2 for more details
<i>Benefits</i>	ESCB operations, when not conducted in performance of statutory functions, are reported to the market for transparency purposes. This should allow the markets and investors to obtain a better overview of all the transactions that are being carried out in the fixed income market, which may contribute to the price discovery process.



<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>There may be some supervision costs for NCAs from monitoring that these transactions with ESCB members for other purposes rather than their statutory functions are properly included by market operators and investment firms from transparency requirements. However, again, those costs are a result of the requirements laid out in the Level 1 MiFIR text.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Investment firms and market operators may need to set up systems and controls to separate these transactions (reportable and subject to transparency requirements) from those also carried out by ESCB members which are not subject to transparency.</p> <p>Members of the ESCB may incur some costs related to the notification to the other party that these transactions are subject to transparency.</p> <p>However, those costs are driven by MiFIR and not by this final draft RTS.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Most of the indirect effects should be attributable to MiFIR Level 1 provisions.</p>

## 6.2. Temporary suspension of transparency requirements

### 6.2.1. Introduction

MiFIR foresees circumstances under which the competent authority responsible for supervising a trading venue on which a class of non-equity instruments is traded may temporarily suspend pre- and post-trade transparency obligations in that class of instruments. The draft RTS further specifies the conditions to be met for such temporary suspension.

### 6.2.2. Baseline

The legal basis to consider is Article 9(4) in respect of pre-trade transparency obligations and Article 11(2) of MiFIR in respect of post-trade information. Those two articles provide that the CA of a trading venue where a class of non-equity instruments is traded may temporarily suspend transparency obligations in a class of financial instruments where the liquidity of that class of financial instruments falls below a specific threshold.

### *Empowerment/RTS*

Under Article 9(5)(a) of MiFIR, ESMA has to develop draft RTS to specify the parameters and methods for calculating the liquidity threshold below which a CA may temporarily suspend pre-trade and post-trade transparency obligations. The parameters and methods must be set in such a way that, when the threshold is reached, it represents a significant decline in all venues within the EU for the financial instrument concerned.

The final RTS spells out the time period to be considered for assessing a decline in trading volumes as well as the magnitude of the decline that may trigger a suspension of transparency. Here again, we consider that the final draft RTS does not create an additional obligation compared to the Level 1 text and that any associated direct or indirect cost is driven by Level 1.

#### **6.2.3. Stakeholders**

*Trading venues:* trading venues may be asked to provide data to support assessment of liquidity drops. Temporary suspension of pre-trade and post-trade transparency would impact trading volumes and revenues.

*Investment firms:* temporary suspension of pre-trade and post-trade transparency would impact trading activities and revenues.

*CAs:* CAs are responsible for making the decision to suspend pre-trade and post-trade transparency in an asset class, sub-asset class or sub-class in their jurisdiction and make the appropriate assessment of trading volumes beforehand.

#### **6.2.4. Cost-Benefit Analysis**

The final draft RTS specifies that the time period to be considered for assessing a potential liquidity decline is the previous 30 days compared to the average monthly volume calculated for the 12 full calendar months preceding those 30 days. Furthermore, the RTS clarifies that the trading volume on EU trading venues during those 30 days must represent less than 40% of the trading volume over the last 12 months in a liquid instrument, and less than 20% in an illiquid instrument, for the decline to potentially justify a temporary suspension of transparency obligations.

Reference to on-venue trading volume takes into account the fact that pre-trade transparency is typically on-venue as well as the price-forming function of many trading venues.

<b>Policy objective</b>	Maintaining a high level of transparency and ensuring that transparency obligations are suspended only in case of significant decline in trading volumes.
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<b>Technical proposal</b>	Temporary suspension of transparency obligations. See Article 16 of RTS 2 for more details.
<i>Benefits</i>	<p>The final draft RTS provides clarity on the circumstances under which a CA may temporarily suspend pre-trade and post-trade transparency. It contributes to a harmonised regulatory framework across Member States.</p> <p>The thresholds set in the draft RTS will ensure that transparency is only momentarily suspended in case of a lasting, significant and abnormal decline in on-venue trading volume at EU level.</p> <p>The two distinct thresholds for liquid and illiquid instruments cater for their specific trading characteristics.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	Where a CA is concerned by a drop of on-venue trading volume in an asset class, sub-asset class or sub-class of financial instruments in its jurisdiction and considers temporarily suspending transparency, it will incur costs to gather information on trading volume in that asset class, sub-asset class or sub-class across EU trading venues.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	Trading venues and APAs will incur non-significant costs to temporary halt pre-trade and post-trade data feeds.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	<p>Suspension of transparency will entail losses in business activities for trading venues and investment firms trading OTC as well other potential indirect costs related to missed opportunities for market participants. It may also entail a loss of revenues for APAs.</p> <p>We consider that those costs are driven by Level 1.</p>

## **6.3. Methodology to perform the transparency calculations**

### **6.3.1. Introduction**

Determining the liquidity status of a financial instrument as well as calculating the SSTI and LIS thresholds require CAs to carry out either quarterly or annual calculations. To carry out those calculations, MiFIR empowers CAs to require TVs, APAs and CTPs to provide the necessary data. For each financial instrument, the calculations will actually require aggregating data from all trading venues where the instrument is traded and all APAs through which OTC transactions in that instrument are made public, at least pending the authorisation of a CTP. Those calculations can be quite complex and time consuming, including for CAs in charge of the calculations for hundreds of instruments based on data to be provided by multiple trading venues and APAs in different Member States. 27 CAs have therefore decided to delegate to ESMA the collection of data and/or the transparency calculations based on the aggregated data.

### **6.3.2. Baseline**

From a legal perspective, the legislation to consider is:

- Article 9(1) and (2) of MiFIR on pre-trade transparency waivers and Article 11(1) of MiFIR on post-trade transparency deferrals referring to instruments not having a liquid market and to the SSTI and LIS thresholds; and
- Article 21(1) of MiFIR, which provides that in order to carry out calculations for determining the requirements for pre-trade and post-trade transparency, CAs may require information from trading venues, APAs and CTPs.

### **6.3.3. Stakeholders**

**CAs:** CAs are entrusted by MiFIR with the responsibility of carrying out calculations associated with the pre- and post-trade transparency obligations. 27 CAs have delegated the calculations to ESMA under the Delegated Project but remain ultimately responsible for the output.

**Trading venues and APAs:** trading venues and APAs will have to provide daily data to CAs or to ESMA.

**ESMA:** ESMA will be carrying out the pre-and post-trade transparency calculations for most of CAs under the Delegated Project.

### **6.3.4. Cost-Benefit Analysis**

The final draft RTS sets out the detailed calculations to be performed by CAs for each type of (class of) financial instrument. Calculations regarding the liquidity status will be performed on a quarterly basis for bonds under IBIA and on an annual basis for the other financial instruments

under COFIA. Calculations of SSTI and LIS thresholds will be performed on an annual basis. All calculations will be carried out based on the daily data to be provided by trading venues, APAs and CTPs under the ISO 20022 format.

Daily provision of data by trading venues, APAs and CTPs could potentially be considered as an incremental obligation where calculations are performed on a far less frequent basis. However, the provision of trading data on a daily basis may prove less burdensome and costly than the provision of more complex aggregated data over a longer time period and consistent with the obligation of TVs to provide reference data to CAs on a daily basis as per draft RTS on reference data. By collecting data on a daily basis, trading venues, APAs and CTPs will be alleviated from the burden of aggregating data on the different maturity buckets which change over the year for the same financial instrument. Last but not least, the performance of such calculations at a central level allows the consistent implementation of the rules across financial instruments traded in different venues.

The Delegated Project is not reflected in the final draft RTS, although it is a key component of the cost benefit analysis associated with the RTS. So is the decision made by ESMA as well to publish on its website the liquidity status and the SSTI/LIS thresholds for all financial instruments.

<b>Policy Objective</b>	Ensuring accurate calculations for the determination of the liquidity status of an asset class, a sub-asset class or a sub-class as relevant and of the associated SSTI and LIS thresholds, based on the parameters previously defined (See sections 2 and 3 above).
<b>Technical Proposal</b>	Methodology to perform the transparency calculations. See Article 13 and related Annex III of RTS 2
<i>Benefits</i>	<p>The final draft RTS provides for a harmonised and detailed methodology that should contribute to consistent calculations across Member States.</p> <p>The centralisation of data collection, validation and calculations through the Delegated Project will further contribute to the quality and accuracy of the calculations performed to the benefit of all market participants.</p> <p>The Delegated Project will reduce compliance costs for participating CAs.</p> <p>Centralisation of information on liquidity status and STTI/LIS thresholds on ESMA's website will facilitate implementation and compliance by market participants.</p>
<i>Costs to regulator:</i>	Costs for regulators will depend on participation in delegated projects.

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>The four CAs not participating in the Delegated Project will incur one-off staff and IT costs to set-up procedures and arrangements, including cooperation arrangement with ESMA and other CAs to exchange data, necessary for the performance of the quarterly or yearly determination of liquidity and of the yearly calculations of SSTI and LIS thresholds. They will incur on-going staff and IT costs to validate the data received from trading venues and APAs and perform the relevant calculations. Costs will ultimately depend on the number of (classes of) financial instruments for which the calculations are performed.</p> <p>The six CAs joining the Delegated Project for calculation purposes but not for the collection of data will incur on-going staff and IT costs for collecting, and possibly, validating data before they are sent to ESMA. They will also incur initial and maintenance fees as a contribution to their participation in the Delegated Project.</p> <p>The 21 CAs fully participating in the Delegated Project will incur initial set up and on-going maintenance fees.</p> <p>ESMA will incur human resources and IT costs for managing the Delegated Project, daily validation of the data received directly from trading venues and APAs or from partially delegating and non-delegating CAs and running periodic calculations. Those costs will be borne by participating CAs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>TVs, APAs and CTPs will incur one-off staff and IT costs to ensure appropriate IT connection with CAs or ESMA's system as well on-going staff and IT costs to provide daily data on total number of trades and total nominal amount/ notional amount/ turnover traded and to ensure that data are validated by the recipient.</p> <p>Provision of data under ISO 20022 is not expected to be a source of significant additional costs under this RTS as ISO 20022 is the standard that will have to be used by trading venues for the provision of reference data and for transaction reporting.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>The complexity of the calculations may potentially be source of errors or misinterpretations where the calculations are not carried out in a</p>

	centralised way.
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## 7. Compliance costs and market impact

### 7.1. Compliance costs

A questionnaire on pre-trade and post-trade transparency requirements in respect of non-equity instruments was sent in March 2015. The questionnaire asked about compliance costs and market effect arising from each proposed legal obligation related to the new transparency regime for non-equity instruments:

- Information to be published according to the new pre-trade transparency regime;
- Waivers for large in scale orders (LIS);
- Waivers for financial instruments for which there is not a liquid market;
- Waiver for orders held in an order management facility;
- Flags;
- Real-time publication of transactions;
- Investment firm responsible for publication, deferred publication;
- Transparency requirements in conjunction with deferred publication at the discretion of the CA;
- Annual calculation of LIS and SST;
- Transactions executed by a member of the ESCB;
- Temporary suspension of transparency obligations.

Where applicable, stakeholders were requested to specify the costs they will incur differentiating by financial instrument (bonds, SFPs, securitised derivatives, interest rate derivatives, equity derivatives, credit derivatives, FX derivatives, other derivatives, commodity derivatives, emission allowances and CFDs) and by trading system (continuous auction order book, quote-driven, periodic auction, RFQ, voice trading and other systems).

Additionally, the ESMA Questionnaire asked stakeholders to provide a set of information on orders and trades for each class of financial instruments.

Ten institutions (seven investment firms and three trading venues), with a number of employees ranging from less than 50 to more than 1000, provided data on the costs arising from complying with the draft RTS 2 on transparency requirements in respect of non-equity instruments. Precisely these institutions are: three small trading venues (less than 50 employees), one small investment firm (less than 50 employees), three medium-large size investment firms (number of employees between 251 and 1000) and three large investment firms (more than 1000 employees). It should be noted that those costs were gathered based on the version of the draft RTS published in the CP. Substantial amendments were made in the final draft RTS, but the sections covered by the Cost benefit Analysis were less impacted. Substantial changes affecting those sections are mentioned below.

Two small trading venues, one operating a periodic auction system and the other one a quote-driven system, estimated total costs related to the implementation of the proposal legal obligations on pre-trade information to be published ranging from EUR 50k to 250k, mainly related to changes in the IT platform. As indirect costs, two large investment firms replied that they would incur IT costs of up to EUR 5m.

Complying with the pre-trade waiver for large in scale orders would require a small trading venue to slightly change the business processes. The main costs are associated with the implementation of IT systems as the pre-trade transparency waiver for LIS orders is not currently available for non-equity instruments. These costs range from less than EUR 50k to 250k.

Only a small trading venue, dealing mainly with bonds and securitised derivatives, provided data regarding the costs arising from complying with the pre-trade waiver for orders which are above the size specific to the financial instrument and on the waiver for financial instruments for which there is not a liquid market. Total one-off and recurring costs are estimated to be less than EUR 50k, related mainly to IT, staff and training of current staff.

In order to comply with the pre-trade waiver for orders held in an order management facility, a small trading venue dealing mainly with commodity derivatives estimated total one-off and recurring costs ranging from EUR 50k to 250k.

With respect to the post-trade transparency regime, the implementation of flags would cost 2 large investment firms up to EUR 5m (one-off costs) and up to EUR 1m (recurring cost) as they need to adapt their information systems so that this appropriate flag is published. The costs for “real time publication” are similar to those of flags. One large investment firm expects implementation costs to be higher for OTC products than for listed products since more staff is needed in the front office to ensure orders transactions are entered into systems. Additionally, one large investment firm reported that trade reporting across multiple asset classes is expected to require a fundamental architectural change to ensure both the timeliness and controls to ensure consistency between trade and transaction reporting attributes.



Two medium size investment firms estimated the compliance costs for the new post-trade transparency requirement (i.e. the seller publishes the transaction unless only one party to the transaction is a SI in which case the SI always publishes the transaction) to be between EUR 50k and 250k. The costs are mainly related to IT system implementation.

One large investment firm responded that deferred publication at the discretion of the CA would increase compliance costs for investment firms which actively trade in more than one EU Member State, as they would have to report according to different post-trading regimes. These costs are estimated to be between EUR 5m and 10m.

The table below provides the details of the range of costs in Euros per single proposed legal obligation and per firm/trading venue size, based on the number of employees, with the number of responses received per category between brackets.

Proposed legal obligation	Trading system	Financial instrument*	Areas of costs	Type of cost	Number of employees			
					[1-50]	[51-250]	[251-1000]	>1000
[Pre-trade transparency obligations - information to be published]	Periodic auction	Commodity derivatives	General	One-off	50k-250k [1]	N/A	N/A	N/A
				Recurring	50k-250k [1]	N/A	N/A	N/A
	Quote driven	equity derivatives	General	One-off	50k-250k [1]	N/A	N/A	N/A
				Recurring	<50k [1]	N/A	N/A	N/A
[Waiver for large in scale orders ]	All trading systems	Bonds/FX derivatives	IT Costs, Staff costs	One-off	<50k [2]	N/A	250k - 1m [1]	N/A
				Recurring	<50k [2]	N/A	<50k [1]	N/A
		Commodity derivatives	IT Costs, Staff costs	One-off	50k-250k [1]	N/A	N/A	N/A
				Recurring	50k-250k [1]	N/A	N/A	N/A
[Waiver for orders which are above the size specific to the financial instrument ]	All trading systems	Bonds / Securitised derivatives	IT costs, Training costs, Staff costs	One-off	<50k [1]	N/A	N/A	N/A
				Recurring	N/A	N/A	N/A	N/A
[ Waiver for financial instruments for which there is not a liquid market]	All trading systems	Bonds / Securitised derivatives	IT costs, Training costs, Staff costs	One-off	<50k [1]	N/A	N/A	N/A
				Recurring	<50k [1]	N/A	N/A	N/A
[Waiver for orders held in an order management facility ]	All trading systems	Commodity derivatives	General	One-off	50k-250 [1]	N/A	N/A	N/A
				Recurring	50k-250k [1]	N/A	N/A	N/A
[Post-trade transparency obligations - Flags]	All trading systems	All	General	One-off	50k-250k [1]**	N/A	50K-250K [2]	250k-5m [2]
				Recurring	50k-250k [1]**	N/A	<50k-250K [2]	250k-1m [1]
[Post-trade transparency obligations- Real-time publication of transactions: maximum time limit of 15 minutes until 1 January 2020 and of 5 minutes thereafter]	All trading systems	Commodity derivatives	General	One-off	50k - 250k [1]	N/A	50K-250K [2]	250k-5m [2]
				Recurring	<50k [1]	N/A	<50k-250K [2]	250k - 5m [2]
[Post-trade transparency obligations - IF reports]	All trading systems	All	IT Costs	One-off	N/A	N/A	50k-250k [2]	N/A
				Recurring	N/A	N/A	<50k-250k [2]	N/A

[Deferred publication of transactions] ***	All trading systems	All	General	Not applicable	50k - 250k [1]****	N/A	50k - 250k [1]	1m-5m[1]
						N/A		
[Transparency requirements in conjunction with deferred publication at the discretion of the CA]	All trading systems	All	General	Not applicable	N/A	N/A	N/A	5m-10m[1]
[Annual calculation of LIS and SSTI]	All trading systems	All	General	One-off	<50k [1]*****	N/A	50k-250k [1]	N/A
				Recurring	<50k [1]*****	N/A	<50k[1]	N/A
[ Transactions to which the exemption in Article 1(6) of Regulation (EU) No 600/2014 shall apply] [ Transactions to which the exemption in Article 1(6) of Regulation (EU) No 600/2014 shall not apply] Exemption from transparency for transactions executed by ESCB members	All trading systems	Not applicable	IT Costs	One-off	N/A	N/A	50k-250k [1]	N/A
				Recurring	N/A	N/A	<50k[1]	N/A

\* The column reports the non-equity instruments identified by the respondents to the CBA questionnaire

\*\*Only for bonds, securitised derivatives, equity derivatives and commodity derivatives

\*\*\* For LIS, SSTI and transaction in liquid instruments

\*\*\*\* For commodity derivative the range of compliance costs is EUR 250k-1m

\*\*\*\*\*Only for bonds, SFPs, securitised derivatives and commodity derivatives

## 7.2. Market impact

### *Impact on business models*

Five out of seven respondents expect the cumulative cost/benefits of the RTS to have a negative impact on their business model.

The main driver is the greater difficulty in the ability to hedge post-trade in time for publication, based on the assumption that deferrals will typically last 48 hours. Deferral periods as currently drafted will likely reduce the appetite to engage in such trading in the first place. This will likely have a knock-on effect of increasing the cost of trading to the end client and/or reduce liquidity in the market.

A general drop in demand in bespoke risk management solutions is expected, impacting both the value proposition in some businesses as well as the ability and costs to manage risks. Increased running costs for infrastructure and compliance processes will provide incentives to clients to concentrate on fewer products - and ultimately also impact the choice of products/instruments offered.

Large size trade will become more expensive for end-users; liquidity providers may not offer/price them at all.

Another driver of business change is latency trading. Increased venue trading and pre-trade transparency are expected to provide more opportunities for latency motivated traders, making it harder to conduct genuine risk transfer activity. Market participants with the most sophisticated algorithms will benefit from minute price differentials close to real-time. Longer deferral periods would significantly limit the ability for sophisticated algorithms to exploit participants' inability to hedge effectively or in time before transparency obligations have to be satisfied.

A respondent notes that current voice business will require a significant element of "electronification" in order to meet pre- and post-trade transparency requirements; not all banks may choose to invest in the technology needed and some may rather withdraw from this business.

Finally, cross border differences in the post-trade regime could create the potential for arbitrage in the EU and place the EU at a competitive disadvantage internationally.

A trading venue is concerned that, as calibrated, the thresholds and levels would leave the market with substantially less transparency than currently available, especially in exchange traded derivatives, with a related increase in implicit transaction costs.

Two respondents foresee a positive impact on business models, thanks to improved level playing field amongst market participants and tighter spreads/ higher liquidity for end-investors.

### *Impact on market structure*

Three sets of positive impact on market structure were identified. First, more transparency in execution is expected to lead to more competitive pricing. In addition, greater post-trade transparency will also enhance Transaction Cost Analysis (TCA) for performance measurement of buy-side and sell-side execution desks, similar to equities. Furthermore, the market could become more efficient as MiFID II encourages greater use of the electronic market infrastructure.

More specifically, the impact of more electronic trading and connectivity identified by some respondents include:

- i. Improved market efficiency, effectiveness and audit trails through better automation, improved market intelligence;
- ii. Greater connectivity and reach throughout the EU and other regions globally;
- iii. Greater connectivity in an increasingly fragmented market through aggregators and sourcing engines;
- iv. Improve data management by new electronic trading platforms through the identification of potential buyers or sellers of bonds;
- v. Although electronic trading platforms themselves do not create liquidity, they are the “oil that greases the engine”, so any improvement in this technology will benefit the market;
- vi. Buy-side firms may increasingly become ‘price-makers’ on electronic platforms instead of predominantly ‘price-takers’ whilst certain sell-side firms may consolidate their positions as niche participants.

Conversely, respondents expressed concerns about multiple execution platform styles and models contributing to the fragmentation of liquidity and decrease in average trade size. Navigating the fragmented nature of the marketplace and models will be a learning process and a potential challenge. Increased transparency in non-equity instruments may trigger an arms race to low latency trading, which would result in smaller trade sizes and require a ramp up in technology investment.

Sell-side firms may shift towards a broking/agency trading model, rather than providing market-making services. Attrition of more experienced senior staff could result in a loss of proficiency in certain markets. Sell-side focus may favour larger buy-side firms, as banks take on a more holistic view of their service provision.

Some participants were also concerned that, given the flexibility provided to CAs to design post-trade deferral regimes on a national basis, trading volume will move to venues located in jurisdictions where CAs have less stringent transparency requirements. Participants who wish to trade dark could move trading away from EU markets and EU firms.

A trading venue notes that increased operational and compliance costs create barriers to entry, whilst less commercial freedom may restrict the ability of venues to innovate and develop solutions to meet the needs of users.

#### *Impact on liquidity*

According to a trade association the proposed RTS will have a positive impact on liquidity: electronic sourcing of liquidity (“true liquidity, using IBIA methodology”) in fragmented markets will countermand the fragmented electronic platform landscape and, together with electronic decision support tools, will assist banks with liquidity strategies and provision.

A trading venue anticipates improved liquidity for all market participants.

Negative impacts reported by respondents relate to bond market liquidity fragmentation, decrease in trade size, decrease ability to transfer a given amount of risk over a given period of time, more costly liquidity provisions and decrease in price quality.

#### *Impact on end investors*

Few respondents mentioned positive impacts on end-investors, referring to tighter spreads and higher liquidity in an environment characterised by the increased use of electronic trading.

A trade association notes that, as buy-side firms continue to grow and consolidate, there is an increased focus on more ‘internal liquidity’ through internal netting and intra-fund transacting (internal crossing engines). This may be positive for the buy-side in the short-term, but could however end up creating “private only” liquidity.

Three sets of comments on negative impacts were provided.

First, end investors/Investment managers will become more driven by liquidity considerations, rather than relative value or maturity and credit profiles. As a consequence:

- i. they may demand a greater risk premium for investing in less liquid bonds. Any “illiquidity premium” in the secondary market could impact the cost of future issuance;
- ii. institutional investors will find liquidity diminishing and hence will see their investable universe (as most have to maintain a certain liquidity in their portfolios) shrinking and concentration risk increasing;
- iii. as it becomes more difficult to unwind larger positions in the secondary market, the buy-side is increasingly taking on additional risk by running more and more buy-and-hold strategies.

Due to the impact of regulations and new technical standards, banks will take on a more holistic view of their service provision. The result could be a “barrier to entry” and constitute a

relative advantage for the biggest players in the market (either buy or sell-side). The smaller end-user or market participant could be squeezed out.

Finally, increased costs for investment firms will be passed on to end investors.

#### *Impact on Bank treasuries (Basel III/LCR)*

A trade association notes that the benefit to the market overall is that the prudential regulator using the LCR “Supervisor Monitoring Tools” could provide additional input to the NCA to justify suspension of transparency of a particular instrument if they feel the “Liquidity Shock” metrics (which use a more instrument by instrument [IBIA] approach) in their “Supervisor Monitoring Tools” warrant temporary suspension. However, if there is a market wide (prudentially deemed) “Liquidity Shock”, the problem is that Article 11(2) of MiFIR requires the whole EU market in a bond class to collapse before an NCA could temporarily suspend transparency under MiFID II rules.

That trade association also stresses that it is critical that banks be able to unwind their High Quality Liquid Assets (HQLA) buffer discretely and without significant market disruption. If the bank is challenged in liquidating instruments in the market in that short time frame, due to instruments being misclassified (false positives) and as a result of that misclassification, market makers are stepping away or pricing is too dis-advantageous, the effectiveness of a specific Bank’s HQLA buffer in a stress scenario will be compromised.

## **8. Background information**

### **8.1. Analyses carried out by market participants on COFIA and IBIA**

During the last months ESMA has received analyses on COFIA and IBIA performed by stakeholders. However, the results of these analyses cannot be easily compared since they were provided using different measures (i.e. results in terms of number of ISINs vs. number of trades); furthermore they were based on different datasets.

In particular, on one hand upon request from ESMA, Trax conducted an analysis of the proposed improvements to COFIA utilising aggregated and cleansed Trax traded data for 2014. This analysis concluded that<sup>22</sup>:

(a) it was possible to improve the accuracy of the COFIA model as proposed in the December CP by increasing the issue size thresholds across all classes;

(b) it was possible to increase accuracy in some but not all classes by imposing lower issue size thresholds for an initial period of 3 months from issuance;

(c) a class of lower thresholds for 2 weeks from issuance for corporates was more successful than a class of 3 months from issuance in capturing the increased liquidity of this class in the period immediately following issuance;

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<sup>22</sup> Trax data may not be sufficient to form a conclusive view in either EU Publics or covered bonds

(d) separating corporates into senior and subordinated classes did not significantly improve accuracy;

(e) the number of false positives on a trade count basis per bond type were as follows:

- 1.91% of trade count for EU sovereign bonds with a time from issuance up to 3 months and 2.44% of trade count for EU sovereign bonds with a time from issuance of more than 3 months;
- 3.97% of trade count for non-EU sovereigns bonds with a time from issuance up to 3 months and 19.83% of trade count for non-EU sovereign bonds with a time from issuance of more than 3 months;
- 42.48% of trade count for EU public bonds with a time from issuance up to 3 months and 49.02% of trade count for EU public bonds with a time from issuance of more than 3 months;
- 2.50% of trade count for non-EU public bonds with a time from issuance up to 3 months and 23.19% of trade count for non-EU sovereign public with a time from issuance of more than 3 months;
- 48.18% of trade count for covered bonds with a time from issuance up to 3 months and 49.29% of trade count for covered bonds with a time from issuance of more than 3 months;
- 15.79% of trade count for senior corporate bonds with a time from issuance up to 3 months and 7.79% of trade count for senior corporate bonds with a time from issuance of more than 3 months;
- 16.46% of trade count for subordinated corporate bonds with a time from issuance up to 3 months and 9.63% of trade count for subordinated corporate bonds with a time from issuance of more than 3 months;
- 7.17% of trade count for convertible bonds with a time from issuance up to 3 months and 5.64% of trade count for convertible bonds with a time from issuance of more than 3 months.

On the other hand an analysis provided by AFME, based on Traxx data, presents IBIA as being more accurate and having significantly fewer end-of-the-period misclassifications (from an ISIN, transaction and volume perspective) in comparison to COFIA false positives/negatives. In particular, in number of ISINs (please note this cannot be directly compared with the count based on number of trades of the previous paragraph):

- for EU sovereign bonds COFIA produced 28% false positives. Notably, the monthly IBIA produced end-of-the-period misclassifications of liquid bonds (i.e. bonds liquid in the previous month/quarter but illiquid in the current month/quarter) more than three times lower at 8% and a quarterly IBIA at 13%;



- for non-EU sovereigns bonds COFIA produced 67% false positives. The monthly IBIA produced 32% end-of-the-period misclassifications of liquid bonds and the quarterly IBIA 25%;
- for senior and subordinated corporate bonds, false positive were 69% and 57% for COFIA while end-of-the-period misclassifications of illiquid bonds (i.e. bonds illiquid in the previous month/quarter but liquid in the actual month/quarter) were 24% and 25% for monthly IBIA and 30% and 34% for quarterly IBIA.

## 8.2. Literature review

The literature on the effects of transparency regimes in financial markets is very rich. This section describes the main results of the literature on the effects of the introduction of market transparency, including in non-equity markets, trying to differentiate, whenever possible, the effects caused by pre-trade transparency from the ones caused by post-trade transparency rules.

Pagano and Roell (1996) argue that transparency reduces information asymmetry between informed and uninformed traders; uninformed traders that provide liquidity are encouraged to trade, thereby enhancing the overall liquidity. Rindi (2008) theorises that if the liquidity providers are the informed traders, transparency regimes reduces their willingness to trade, having a detrimental effect on liquidity.

The literature analyses also the effect of transparency on proprietary trading. Since transparency of trades implies that the trading book can be reconstructed, the predatory traders can trade against the buyer or seller of a significant amount of securities, letting the price move in the opposite direction. This is possible as the buyer or seller trade a significant amount and predators can “ride the trend” until the buyer/seller has bought or sold the required amount of securities. In this way predators reverse the trend and profit from selling at a higher price or buying at a lower one (Brunnermeier and Pedersen, 2005). This could lead to contagion and spiral of falling prices. Also it can reduce liquidity, since market makers are less incentivized to trade.

Pre-transparency regimes may also affect the competitive behaviour of market participants. Whitcom et al, (2003), studying the impacts of differing levels of transparency on the quotation behaviour of NASDAQ market makers, found that when quotes are anonymous market makers narrow the spreads. Improved competition in dealer markets is also supported by Green et al. (2003), who show that dealers in the municipality bond market have market power following increasing transparency requirements. Duffie et al. (2005) argue that investors’ bargaining power is improved since they may have better access to competing market makers and receive a tighter spread. Biais et al. (2006) don’t arrive to a firm conclusion regarding the effect of greater transparency on competition. On one hand, it

may lead to a reduction in the number of dealers competing in this market due to liquidity providers being exposed to opportunistic traders, with detrimental effect for spreads and market liquidity. On the other hand, greater transparency may reduce adverse selection and search costs, leading to more competition. Studying the effects of the introduction of the US post-trade transparency regime in the corporate bond market, Bessembinder et al. (2006) report that the concentration of trade volume for the largest 12 dealers fell from 56% to 44%, suggesting that increasing transparency opened the market to competition.

Regarding the effects of transparency on market quality, researchers took as proxy transaction costs, effective spreads, price dispersion, volume of trading concentration of large and small market participants and revenues for market makers. In terms of pre-trade transparency, Dunne et al. (2006) analysed the effect of a transparency event in the electronic market for US government bond<sup>23</sup>, occurred on June 2003. Detailed limit-order book information from Cantor Market Data became visible on Reuters to a much wider audience than previously at or soon after this date. The authors concluded that increased pre-trade transparency led to increased effective spreads (defined as twice the difference between the actual execution price and the market quote at the time of order entry). The rise lasted for roughly two months after which there was a return to the previous level.

The most studied case of increased post-trade transparency regime is the introduction of TRACE, which permitted the US corporate bond market to shift from relative opacity to a phased public dissemination of trade data. Several researchers<sup>24</sup> concluded that post-trade transparency lowered transaction costs and reduced information asymmetries between participants in the US OTC corporate bond market. Bessembinder et al. (2006) found that trade execution costs for TRACE-eligible bonds fell 50% over the study period, while the bonds not eligible for TRACE registered a decrease in 20% in execution costs, suggesting the presence of liquidity externalities. Edwards et al. (2005) anticipated that these lowered costs, together with the increased availability of pricing determinants information, may lead to increased retail trading in the market. While Bessembinder et al. (2008) confirmed that TRACE has benefitted investors by reducing the fees paid to dealers to complete trades, Asquith et al. (2013) found that in some cases dealers became more reluctant to carry inventory or stand ready to trade following the introduction of post-trade transparency regime. In terms of increased post-trade transparency effects based on the liquidity of the bond Goldstein et al. (2006) concluded that more frequently traded products could benefit more cost-savings than the infrequently traded ones. Cici et al. (2010) suggested that post-trade transparency may help reduce the range of valuations calculated for illiquid assets, while Asquith et al. (2013) found that price dispersion reduced more significantly for less actively traded products. Finally, the English market regulator FSA (2006) highlighted that it is unlikely that the effects that TRACE had on transaction costs in US would be replicated in UK or Europe, due mainly to two differences in the structures and characteristics of the relevant markets. Firstly, there exists a greater degree of pre-trade transparency in Europe now than there was in the US at the time TRACE was implemented. This means that

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<sup>23</sup> Espeed market. The details of this event are available at [www.espeed.com/articles/cmd20030613.html](http://www.espeed.com/articles/cmd20030613.html)

<sup>24</sup> Bessembinder et al (2006), Edwards et al. (2007), Goldstein (2007)

introducing a system akin to TRACE may not have the same impact on transaction costs. Secondly, The US market has greater retail participation compared to the UK, whose market is almost solely based on institutional investors.

As regard pre-trade transparency in the CDS market, while the interdealer market is highly competitive and transparent to participating dealers (Avellaneda et al., 2010), asset manager, hedge funds and others, end-users of CDS contracts do not have access to this segment of the market. They cannot observe the prices at which dealers are willing to trade among themselves. Hence, end-users rely on “dealer runs” which are sets of prospective prices at which a particular deal is willing to trade, or on individual request for quotes. In terms of post-trade transparency, only aggregate statistics on trades are provided by DTCC.

Benos et al. (2013), analysing the reported post-trade data for transactions in the UK CDS market, found that the market is relatively small and trading is infrequent and heavily concentrated in the inter-dealer market. Contradicting the literature on transparency in equity or bond markets, they also found that the relative opacity of the UK CDS market does not seem to cause end-users to trade at much inferior prices relative to dealers. This is due to the intrinsic different structure of the CDS market where dealers are considered informed and market making is concentrated around fewer dealers than in other markets.

In derivative markets in general, especially where liquidity is provided on demand via RFQ system, pre-trade transparency on order size and price may disadvantage the entity seeking the quote or its potential counterparty by permitting the broader market to use that information in a way that disadvantage the entity seeking the quote or its potential counterparty.

### **8.3. Country comparison**

#### *EU countries*

A questionnaire has been sent to 8 CAs in order to assess the level of pre- and post-trade transparency currently available in their Member State in respect of non-equity instruments.

According to the responses received, some pre-trade and post-trade transparency is indeed already available when trading takes place on a trading venue. Pre-trade transparency typically depends on the type of trading system, with trading conducted on a central limit order book being subject to a high level of pre-trade information. Some trading venues offer order management facilities such as reserve and stop orders and some transactions meeting a minimum size or bilaterally agreed may be exempted from pre-trade transparency. Content and timing of post-trade transparency vary across venues and asset classes. Derivatives instruments typically benefit from a higher level of transparency, with trade price and volume being immediately published, unless it is a block transactions benefitting from a differed publication.

As regards on-venue trading, in France pre-trade transparency information is made public on three MTFs for fixed-income instruments, on a regulated market (RM) for derivatives only,

and on a RM for both fixed income and derivatives instruments. Regarding fixed income, pre-trade transparency is ensured for all the venues and includes the 5 best limits and quantities. For one venue, iceberg orders are available. Post-trade transparency rules are in force in all the trading venues concerned: they publish the quantity, price and time of execution of the transactions carried out in the order book. Regarding derivatives, the venues ensure pre-trade transparency by publishing continuously the volume and price associated with the bids and offers submitted to the central order book. Off order book transactions without pre-trade transparency are authorised for technical trades and large in scale trades. Post-trade transparency is available: the venues inform their members of the outcome of transactions resulting from the order book in real time and disseminate this information to the public through market databases. They publish the last traded price, the last traded quantity and the total trading volume for each type of contract. Deferred publication regimes apply for large in scale and flexible contracts trades.

In the UK, the level of pre-trade and post-trade transparency depends on the type of trading system. Trading conducted under the central limit order book has a high level of pre-trade information, including the type of instrument, bid/ask price, time, type of contract and size. In contrast, for instruments traded in a RFQ system there is limited (indicative prices) or no pre-trade information available. There are no formal pre-trade transparency waivers in place. However, trades that are large in scale and trades agreed bilaterally under the rules of the exchange that meet a set of pre-agreed requirements are allowed to be exempt from pre-trade transparency. Both trading systems offer some level of post-trade transparency. A set of information on trades (type of instrument, contract, trade time, price, volume) can be disseminated via data vendors anywhere from real-time to the end of the day. Additionally, some exchanges offer order management functionalities such as reserve and stop orders and end of day volume matching auctions. Deferred publication is allowed for large in scale trades. The length of the delay depends on whether the trade is vanilla or exotic. Some exchanges have a maximum deferral period of 15 minutes for the latter type. Additionally, for voice trading models there is a deferral period to allow trades, which are typed into the system manually, to be made public.

In the Netherlands, the level of on-venue trading pre- and post-trade transparency differs across financial instruments. For fixed income instruments, pre-trade information (price and quantity) on all orders outstanding is displayed in the order book. Waivers apply for stop orders and iceberg orders. Regarding post-trade transparency, a single aggregated line per fixed income instrument including the quantity, highest and lowest price is disseminated the next trading session before the opening of the market. Deferral publication arrangements are in place for large in scale transactions. Derivatives benefit from a higher level of transparency: volume and price associated with all bids and orders are immediately and continuously published; subsequently, trade price and volume are immediately published. No pre-trade transparency waivers apply, while deferred publication is in place for large in scale transactions.

*Canada*

In Canada the Marketplace Operation rules<sup>25</sup>, that came into effect in 2001 and subsequently amended, regulate pre- and post-trade transparency for exchange traded securities, foreign exchange traded securities and unlisted debt securities. There is pre- and post-trade transparency for listed instruments traded on an exchange. However, most debt instruments are “unlisted”<sup>26</sup>.

As regards unlisted debt securities, transparency requirements differentiate between government and corporate bonds. For government securities, marketplaces<sup>27</sup> and inter-dealer brokers must provide real-time information on orders and details of trades to an information processor (full pre-trade and post-trade transparency). However transparency requirements for government securities have been deferred until January 2018, in order to allow the Canadian Securities Administrators an opportunity to consider international and domestic regulatory and industry developments (including MiFIR Implementing measures) and to determine what, if any, mandatory requirements are needed in this area.

There is currently no pre-trade transparency in respect of corporate bonds. Marketplaces, inter-dealers brokers, as well as dealers executing transactions outside a marketplace, are required to provide information on details of trades in designated corporate debt securities to an information processor. The list of designated corporate debt securities covers about 78 percent of trading in corporate debt securities in Canada. Selection criteria include trading volumes, whether bonds are included in domestic Canadian corporate bond indices and issue size, with a minimum issue size of Cdn \$250 million<sup>28</sup>. As opposed to the foreseen post-trade transparency regime for government debt, the information has to be made public within one hour from the time of the trade. If the total par value of a trade of an investment grade corporate debt security is greater than \$2 million, the trade details provided to the information processor are to be reported as "\$2 million+". If the total par value of a trade of a non-investment grade corporate debt security is greater than \$200,000, the trade details provided to the information processor are to be reported as "\$200,000+."

Regarding transparency regimes in the derivatives market, the Canadian securities regulator (CSA) has recently (January 2015) published a consultation paper<sup>29</sup>. According to it, the pre-trade transparency regime for derivatives mandated to trade to derivative trading facilities (DTF)<sup>30</sup>, requires DTFs to disclose to all users current bids, asks and market depths. Exemptions for large orders are contemplated; however they are not detailed in the

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<sup>25</sup> National Instrument 21-101 Marketplace Operation, [http://www.osc.gov.on.ca/documents/en/Securities-Category2/ni\\_20150101\\_21-101\\_unofficial-consolidated.pdf](http://www.osc.gov.on.ca/documents/en/Securities-Category2/ni_20150101_21-101_unofficial-consolidated.pdf)

<sup>26</sup> “Unlisted” would rather refer to the concept of “admitted to trading”, including on an Alternative Trading System (ATS), the equivalent to EU MTF

<sup>27</sup> Marketplaces include exchanges and ATSS,

<sup>28</sup> Around €190million as of 14 April 2015 Other factors are considered to attempt to ensure that the list of corporate bonds include bonds issued by issuers among the major industrial group of issuers, that are highly liquid (relative to comparables), that represent a majority of trade flow within the corporate bond markets, that, as between themselves, include short-term maturities, mid-term maturities and long term bonds, from each industry classification(for example, financial, utility, telecom, with at least two from each classification).

<sup>29</sup> CSA Consultation Paper 92-401 – Derivatives Trading Facilities; [http://www.osc.gov.on.ca/documents/en/Securities-Category9/csa\\_20150129\\_92-401\\_derivatives-trading.pdf](http://www.osc.gov.on.ca/documents/en/Securities-Category9/csa_20150129_92-401_derivatives-trading.pdf)

<sup>30</sup> DTF is a person or company that constitutes, maintains, or provides a facility or market that brings together buyers and sellers of OTC derivatives, brings together the orders of multiple buyers and multiple sellers, and uses methods under which the orders interact with each other and the buyers and sellers agree to the terms of trades.

consultation paper. As regards the post-trade transparency regime, DTF would be required to report to the public transactions executed on its facility as close to real-time as technically feasible. Deferred publication would be permitted in certain circumstances, such as for block trades.

## USA

Pre-trade information in US corporate bond market is not mandated. However, the market is somewhat transparent to broker-dealers who have access to inter-dealer systems that report trading interest, which does not usually include a true “quote” but is a solicitation to deal with another member of the trading system<sup>31</sup>.

As regard post-trade transparency in US corporate bond market, on 1 July 2002, the National Association of Securities Dealers (NASD) introduced TRACE (Trade Reporting and Compliance Engine). TRACE is a system that provides post-trade transparency and disseminates trading information to market users, but does not provide pre-trade transparency. While liquidity of a corporate bond is not a factor in deciding whether a transaction is reported to TRACE, it currently disseminates transaction information to the public on certain TRACE-eligible debt securities<sup>32</sup>. In the United States, for “TRACE-eligible” debt securities, the actual quantity of the transaction (the total par value of the bonds purchased or sold) is disseminated if the total par value of the reported transaction is \$5 million or less; if the reported amount is greater than \$5 million, a large volume trade dissemination cap identifier of “5MM+” is disseminated instead of the actual quantity. For non-investment grade debt securities, the actual quantity of the transaction is disseminated if the total par value of the reported transaction is \$1 million or less; if the reported amount is greater than \$1 million, a large volume trade dissemination cap identifier of “1MM+” is disseminated instead of the actual quantity. The NASD makes this information available at no cost to investors on its website (on a delayed basis with a minimum four-hour time lag). Real-time price data is available from several third-party data vendors at additional cost.

In 2002 the TRACE regime encompassed real-time pricing and trade volume information only on corporate bonds trading in the secondary market. In 2010, the TRACE reporting regime was expanded to include debt issued by federal government agencies, government corporations and government-sponsored enterprises (GSEs), as well as primary market transactions in new corporate debt issues. In 2011, Trace was expanded further to include transaction in asset-backed and mortgage backed securities. The US approach to pre-trade transparency in CDS market is to require the Swap Execution Facility (SEF)<sup>33</sup> to provide an order book on which market participants may make executable bids or offers which are displayed to all participants, and to require an RFQ to be transmitted to a minimum number of liquidity providers. Additionally, dealers have to disclose to other market participants the

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<sup>31</sup> <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD168.pdf>

<sup>32</sup> TRACE-eligible trade securities are: (i) investment grade corporate bonds with initial issuance size of \$1 billion or greater, (ii) investment grade corporate bonds rated “A3” or higher by Moody’s Investors Service, Inc., and “A-” or higher by Standard & Poor’s, with initial issuance size of \$100 million or greater, (iii) 120 bonds designated by the NASD that are rated “Baa/BBB” at the time of designation, and (iv) approximately 50 high-yield debt securities

<sup>33</sup> A SEF is a system in which multiple parties have the ability to execute or trade swaps by accepting bids or offers from multiple participants

terms of a prearranged order book trade between customers or between themselves and a customer through the 15-second rule<sup>34</sup>. Large notional size swap transactions are exempted from pre-trade transparency requirements, where they meet or exceed minimum thresholds. Consequently, a block trade could be pre-arranged and executed away from the SEF's order book.

As regards post-trade transparency in the US swap market, SEFs are required to make public “timely information on price, trading volume, and other trading data on swaps to the extent prescribed by the Commission”. Trades are to be reported to a swap data repository “as soon as technologically practicable” after execution and it is up to the repository to make the information public “as soon as technically possible”, unless a deferral is available. The same applies to off-facility transactions where the reporting party has to report the transaction to the swap repository, which will make the transaction public. A cap size applies for publicly disseminated transactions above a certain threshold and swaps with an underlying other than interest rate, credit, equity and foreign exchange, the swap is publicly disseminated by limiting the geographic detail of the underlying assets<sup>35</sup>.

Block trades benefit from a delay in public dissemination of trade data. The deferred periods are quite sophisticated and vary depending on whether the transaction was executed on- or off-facilities, and for the latter on whether or not the swap is subject to mandatory clearing, on the counterparty type and on the swap class, swaps classes with an underlying other than interest rate, credit, foreign exchange or equity benefiting from longer delays. None of those delays exceeds 4 hours in Year 1.

As an example, for on-facility block transactions, the deferral is 30 minutes during Year 1 and 15 minute after Year 1. Time delay for large notional off-facility swaps subject to the mandatory clearing requirement:

- Where at least one party is a swap dealer or major swap participant - Year 1: 30 minutes; after Year 1:15 minutes
- Where neither party is a swap dealer or major swap participant – Year 1:4 hours, Year 2:2 hours; after Year 2:1 hour

Finally, the CFTC rules provides for very detailed rules for the calculation of block sizes<sup>36</sup>.

## *Japan*

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<sup>34</sup> Pursuant to the 15-second rule, SEFs must require that brokers or dealers who have the ability to execute on a SEF's order book against a customer's order or to execute two customer orders against each other be subject to a 15-second timing delay between the entry of the two orders, such that one side of the potential transaction is disclosed and made available to other market participants before the second side of the potential transaction (whether for the trader's own account or for a second customer) is submitted for execution.

<sup>35</sup> CFTC Regulation, s. 37.9000 and s.43<sup>36</sup>Title 17: Commodity and Securities Exchanges, PART 43—REAL-TIME PUBLIC REPORTING §43.6 Block trades and large notional off-facility swaps.

<sup>36</sup>Title 17: Commodity and Securities Exchanges, PART 43—REAL-TIME PUBLIC REPORTING §43.6 Block trades and large notional off-facility swaps.

In Japan post-trade transparency information on corporate bonds trade is disseminated to the public by a non-exchange SRO. The information that is disseminated does not include trades in all corporate bonds but a subset that is selected based on the liquidity/quality of the bond. Securities companies appointed as reporting members by the Japan Securities Dealers Association (JSDA) report indications of selected bonds with a face value of 500 million yen as of 3 pm every business day. The JSDA calculates the high, low, mid and average prices based on the indication reported and publishes them as the “reference price of bonds”. The JSDA also publishes indications of retail target corporate bonds with a face value of 1 million yen as of 3 pm every business day.

As regards post-trade transparency in derivatives markets, the JFSA is currently discussing the possibility of implementing public dissemination of detailed information on OTC derivatives transaction in the future.



## **2.3. Double volume cap mechanism and the provision of information for the purposes of transparency and other calculations**

### **2.3.1 Double volume cap mechanism (Article 5(9) of MiFIR)**

#### **1. Executive summary**

The purpose of the final draft RTS is to allow ESMA to comply with the double volume cap requirements established by MiFIR by specifying the methods to collate, calculate and publish the data to use as well as how to publish the percentages of trading carried out under those waivers across the EU per trading venue.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis.

#### **2. Introduction**

In order to ensure that the use of waivers from pre-trade transparency does not unduly harm price formation, MiFIR introduces in Article 5 two caps to limit the amount of trading that receives pre-trade waivers. The calculation of these two volume caps uses the following:

- as numerator the volume of trading in a specific liquid financial instrument (i) executed under systems matching orders where the price is determined using a reference price (Reference Price Waiver - RPW) and (ii) executed using the negotiated transaction waiver specified under MiFIR Article 4(1)(b)(i) (Negotiated Trade Waiver – NTW); and
- as denominator, the total volume of trading executed on all trading venues across the Union.

The first volume cap is calculated trading venue by trading venue and set at 4% of the overall amount of trading across all TVs in the EU over the previous 12 months. The second volume cap is calculated across all TVs operating under one or both of the relevant waivers and is at the level of 8% of the overall amount of trading across all TVs in the EU over the previous 12 months.

This double volume cap mechanism is to be implemented and supervised on the basis of ESMA publications regarding the volume of trading under the waivers and an empowerment for the final draft RTS enabling ESMA to obtain the data for making such publications.

According to Article 5.2 of MiFIR, when the percentage of trading in a financial instrument carried out on a trading venue under the waivers has exceeded the 4% limit, the CA that authorised those waivers shall within two working days suspend their use on that venue in that financial instrument for a period of six months.

When the 8% limit is exceeded, all CAs shall within two working days suspend the use of those waivers across the Union for a period of six months.

### 3. **Baseline**

The relevant legal text is Article 5 of MiFIR, which establishes the double volume cap mechanism. This cap does not apply to non-liquid equity or equity-like instruments. Article 5(4) establishes that ESMA has to publish within five working days by the end of each calendar month:

- the total volume of trading per financial instrument in the prior 12 months in the EU;
- the percentage of trading in a financial instrument carried out across the EU under those waivers on each trading venue in the same period;
- the methodology to calculate those percentages.

ESMA is asked in MiFIR Article 5(9) to specify the *method* (including flagging of transactions) to collate, calculate and publish the transaction data to provide an accurate estimate of the volume for trading per financial instrument and the *percentages* of trading that use those waivers across the EU per trading venue.

The purpose of this document is to CBA the incremental obligation of ESMA's draft RTS against the MiFIR baseline described above. In practice, we will be able to attribute some of the costs to Level 1 legislation in those cases where ESMA does not impose an incremental obligation to the Level 1 text, so the costs arising from ESMA's standards in this case should be null or of minimal significance. In those cases where ESMA's standards do create a new obligation, it may be difficult to determine what part of the cost will be attributable to MiFIR and what part to ESMA's specification of the elements of MiFIR Article 5(9). Here we will compare ESMA's requirements with current market practice. As ESMA is trying to strike the right balance between a cost effective proposal and supporting calculation requirements and accuracy, we expect these costs not to be significant.

### 4. **Stakeholders**

We believe the stakeholders that could potentially be affected by this RTS are Regulators (ESMA and CAs), trading venues and CTPs.

*ESMA* may experience incremental one-off IT and systems costs to develop appropriate capacity to store the volume of data to be received and resultant calculations for the double volume cap. *ESMA* may also experience on-going IT and maintenance costs to perform and publish the total volume of trading and the percentage of which is done through pre-trade waivers on a rolling 12 month period.

*CAs* may experience some incremental IT and systems costs to collect the data for the purpose of the double volume cap mechanism on behalf of *ESMA*, check it and verify it and then transmit it to *ESMA*.

*Trading venues and CTPs* may incur costs depending on how the information collection takes place, how that affects their IT systems and the formats they currently use to store and transmit the information.

## 5. Cost-Benefit Analysis

For the technical options considered by ESMA we summarize below a description of the costs and benefits arising from them.

### Reporting requirements for TVs and CTPs, reporting requirements from CAs to ESMA for the purpose of the double volume cap calculations

<b>Policy Objective</b>	To determine how ESMA should collate and consolidate the data necessary to perform the calculations required by MiFIR regarding the double volume cap.
<b>Technical proposal</b>	<p>To collect volume under trade waivers: TVs should submit to the relevant CA the information requested by Article 6.1.b of RTS 3. CTPs should submit the same data when requested by CAs (Article 6.2.b of RTS 3) by aggregating data as prescribed in Article 6.5 of RTS 3.</p> <p>To measure the volume traded in the EU on-venue market as a whole: TVs should submit to the relevant CA the information requested by Article 6(1)(a) of RTS 3. CTPs should submit the same data only when requested by CAs (Article 6(2)(a) of RTS 3). Both should aggregate data as prescribed in Article 6(5) of RTS 3.</p> <p>Information should be sent using the form provided in Annex I and should ensure that trading venues use identifiers that are sufficiently granular (Article 6(3) of RTS 3)</p> <p>CAs to forward the information received to ESMA as prescribed by Article 7 of RTS 3.</p>
<b>Benefits</b>	<p>Enables ESMA/CAs to collect the necessary information required by MiFIR/MiFID and to check its accuracy when needed by comparing the data received from TVs with data requested on ad hoc basis from CTPs.</p> <p>Using a specific template ensures harmonization and facilitates the consolidation of data submitted by different trading venues.</p> <p>Value thresholds (as opposed to volume thresholds) allow taking into account potential increases/decreases in the number of outstanding shares for a specific financial instrument.</p> <p>By requiring data to be reported in original currency, and ESMA to do</p>

	<p>the conversion into euros, ESMA avoids the possible divergence of results from using different FX rates by different trading venues.</p> <p>By requesting that TV identifiers are unique and not shared by the same operator, ESMA should be able to distinguish all trading venues for which the market operator has received a specific authorization under MiFID II.</p> <p>The submission of data to ESMA following a public holiday now aligns the cut-off time with the usual mid and month end calculations i.e. 13.00 CET on the first working day after the public holiday.</p> <p>Adding the last 15 days to the series of data minimizes costs to firms and simplifies the submission to CAs.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>• <i>One-off</i></li> <li>• <i>On-going</i></li> </ul>	<p>ESMA and CAs may experience one-off IT and systems costs to develop appropriate capacity to collect, monitor, validate and store the volume of data to be received for the double volume cap. As data will come in the same common standard XML format, regulators may be able to use the same IT processes to aggregate data from different TVs and to check that data with the one requested from CTPs (in case of an ad-hoc collection to verify information received from TVs). Both regulators may also experience on-going IT and maintenance costs to do this on a rolling 12 month period. However, the majority of the costs should be driven by Level 1 MiFID/MiFIR obligations. CAs will incur the on-going cost of transmitting data collected to ESMA.</p> <p>In those cases where ad-hoc data is requested from both TVs and CTPs storage costs will increase for CAs and they may face staffing and system costs to compare and validate the information received, and to establish procedures for resolution of discrepancies or fixing of errors.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>• <i>One-off</i></li> <li>• <i>On-going</i></li> </ul>	<p>TVs and CTPs may incur costs to comply with this standard. The amount of costs will depend on how the data collection actually takes place and whether it requires changes in TVs' IT systems to provide the information to ESMA in the format requested. TVs will incur costs on a regular basis based on the timeframe to provide the information (twice a month). CTPs will incur one-off set up costs to have the systems ready to provide the information in the template and format requested by ESMA, but will incur only ongoing costs when the information is actually requested by CAs.</p> <p>For TVs, those compliance costs will include one-off IT and staff expenses related to the creation of the template and ongoing costs to submit the template requested to CAs. The majority of the costs</p>

	<p>should be driven by Level 1 MiFID/MiFIR obligations.</p> <p>Level 2 costs are likely to be non-significant compared to Level 1 costs, and should be already covered in the CBA of the information requested for the purposes of transparency and other calculations as required by Article 22.4 of MiFIR.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	<p>Requesting just an extra few days (in this case the next 15 days), as opposed to the whole historical series, will minimize the costs to firms, however, it may pose challenges for CAs and ESMA to monitor and check accuracy if that is not accompanied with a log of corporate actions or other relevant events to take into account in interpreting the new and old data received.</p> <p>Any other indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this final draft RTS.</p>

*Frequency of data requests, response times for TVs and CTPs, type of data to be stored*

<b>Policy Objective</b>	To determine when the obligation to submit trading data should start, what period it should cover and how frequent the data collection should be.
<b>Technical proposal</b>	<p>TVs to submit their first report to their respective CA by 3 January 2017, which will include trading data for the previous 12 months (from 3 January 2016 to 31 December 2016) and will be published by ESMA within five working days.</p> <p>From that date on, TVs to submit twice a month trading volumes to their CA as prescribed by Articles 6.8 of RTS 3.</p> <p>TVs and CTPs to respond to ad-hoc requests from CAs as prescribed by Article 6.9 of RTS 3.</p> <p>TVs to aggregate only those transactions executed in the same currency, reporting separately each aggregated volume in the currency used for the transaction.</p>
<i>Benefits</i>	Enables ESMA/CAs to collect the necessary information required by MiFIR/MiFID and to check its accuracy by collecting data twice a month.

	<p>Adding the last 15 days to the series of data minimizes costs to firms, and simplifies the submission to CAs.</p> <p>Requesting data regularly twice a month, instead of sometimes monthly and sometimes twice a month (when close to threshold), should minimize costs to firms as data requests are fully predictable and can be fully automated.</p> <p>The storage period required should allow CAs to better perform their obligations, in case past data needs to be requested.</p> <p>Aggregating data by currency and reporting in the currency used for the transaction should simplify the process, reduce costs for TVs and ensure a consistent conversion methodology across the Union.</p> <p>Requiring conversion to Euros only when trading occurs in more than one currency also avoids possible distortions of the results due to exchange rate movements.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>• <i>One-off</i></li> <li>• <i>On-going</i></li> </ul>	<p>ESMA and CAs may experience one-off IT and systems costs to develop appropriate capacity to collect, monitor, validate and store the volume of data to be received for the double volume cap. Both regulators may also experience on-going IT and maintenance costs to do this on a rolling 12 month period. However, the majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.</p> <p>Requesting data twice a month will create compliance costs arising from staffing costs related to checking, validation and treatment and resolution of discrepancies found in the data collected.</p> <p>There will be as well compliance IT costs from transmission and IT and staffing costs from processing large volumes of data to ESMA twice a month by 13:00 CET on the next working day. The transmission and processing cost should be attributable to Level 1, however to do the calculations twice a month should be an incremental obligation of this standard.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>• <i>One-off</i></li> <li>• <i>On-going</i></li> </ul>	<p>TVs may incur costs to comply with this standard and to provide the information with the frequency requested.</p> <p>In the case of TVs, it should include as well ongoing costs from the biweekly running of the IT programs to create and submit reports to the CA. In the case of CTPs it should include the one-off IT cost necessary to have the information available and ready to send to the relevant CA when requested, and the ongoing cost of sending it upon</p>

	<p>request.</p> <p>Storage costs may be non-significant as the time the information is required to be stored is likely to be already market practice.</p> <p>There will be costs for trading venues and CTPs for providing the ad-hoc information requested within the timeframe prescribed by ESMA, however, ESMA needs to receive the information on time to publish the data within five days.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

Reporting requirements for ESMA for the purpose of the double cap mechanism

<b>Policy Objective</b>	To determine how ESMA should publish the calculations required by MiFIR regarding the double volume cap.
<b>Technical Proposal</b>	ESMA to make available information for the operation of the volume cap and monitoring of the thresholds on its website as prescribed by Article 8 of RTS 3. Article 8 also prescribes how ESMA will convert trading in other currencies other than the euro for the purposes of the double volume cap mechanism.
<i>Benefits</i>	<p>Simple and cost efficient way of disseminating information that can be automated by users receiving it.</p> <p>CAs would need to convert transactions executed in other currency rather than the euro only when necessary, reducing costs to regulators.</p> <p>The usage of average exchange rates to convert the trading of one instrument in currencies that are not the euro, avoids the impact of currency swings and the need for frequent re-calibrations.</p> <p>Centralizing the currency conversion process at ESMA ensures a common methodology across the Union and reduces the cost to TVs.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>• <i>One-off</i></li> </ul>	We estimate most of the costs arising for ESMA/CAs to be related to IT systems and web publication. We assume most of the costs arising from this standard should be of minimal significance. The majority of

<ul style="list-style-type: none"> <li>• <i>On-going</i></li> </ul>	the costs should be driven by Level 1 MiFID/MiFIR obligations.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>• <i>One-off</i></li> <li>• <i>On-going</i></li> </ul>	TVs, APAs and CTPs may incur minimal costs to process the information published by ESMA. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

## 2.3.2 Providing information for the purposes of transparency and other calculations (Article 22(4) of MiFIR)

### 1. Executive Summary

The purpose of the final draft RTS is to establish the content of national competent authorities (CAs) data requests, their frequency, time to respond to them, format of the responses, type of data to be stored and minimum storage time.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the draft RTS, which aims at allowing ESMA and CAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy. The baseline section explains the starting point for assessing the incremental rule related to ESMA's RTS, which can be either the MiFIR/MiFID II requirements, or the existing practices of regulated markets when are above MiFID II. The stakeholders identified are trading venues (TVs), APAs and CTPs, ESMA and CAs. The cost-benefit analysis section provides an analysis of the benefits and costs associated with the proposals set out in the final draft RTS.

### 2. Introduction

One of MiFIR's objectives is to improve the availability and quality of data available to regulators following MiFID II implementation. These data will be used to improve the classification of financial instruments and to calibrate/recalibrate thresholds. To perform the necessary calculations both CAs and ESMA must be able to obtain robust data of a high quality for each asset class to which MiFIR applies.



Therefore Article 22 of MiFIR enables regulators to request information from trading venues, APAs and CTPs in the context of carrying out MiFIR calculations. This information should be interpreted in the context of how ESMA will determine liquid instruments and how it will establish thresholds for the pre- and post-trade transparency requirements for equity, equity-like and non-equity instruments.

ESMA is asked by Article 22(4) of MiFIR to specify the content and frequency of data requests, formats, timeframes for responding, type of data that must be stored and for how long.

### 3. **Baseline**

The relevant legal text is MiFIR Article 22, which establishes that competent authorities may request information from trading venues, APAs and CTPs to determine requirements for pre and post trade transparency, trading obligation regimes and to also determine whether an investment firm is a SI. Other Articles such as Articles 3-11, 14-21 or Article 32 of MiFIR refer to setting parameters and thresholds for transparency calculations.

The Level 1 text already imposes a number of specific parameters regarding the determination of a liquid market for financial instruments under Article 2(1)(17) of MiFIR (definition of a liquid market). Similar criteria also apply to the determination of whether an instrument is sufficiently liquid for the purposes of the trading obligation for derivatives. The parameters that Level 1 already asks for are:

#### *Non equities:*

- Number of transactions in instruments over a specified period of time;
- Volume executed;
- Number and type of market participants active;
- Size of spreads.

#### *Equities and equity-like:*

- Traded daily;
- Free float;
- Average daily number of transactions;
- Average daily volume executed.

The purpose of this document is to CBA the incremental obligation of ESMA's RTS against the MiFIR baseline described above. In practice, we will be able to attribute some of the costs to Level 1 legislation in those cases where ESMA does not impose an incremental obligation to the Level 1 text, so the costs arising from ESMA's standards in this case should be null or of minimal significance. In those cases where ESMA's standards do create a new

obligation, it will be very difficult to determine what part of the cost will be attributable to MiFIR and what part to ESMA's specification of the elements of MiFIR Article 22(4). Here we will compare ESMA's requirements with current market practice. As ESMA is trying to adopt the right balance between a cost effective proposal and supporting calculation requirements and accuracy, we expect these costs not to be significant.

#### **4. Stakeholders**

We believe there are two types of stakeholders that could potentially be affected by this Technical Standard:

*CAs/ESMA* may experience incremental one-off IT and systems costs to collect data in the format specified in the standard, as well as staff training costs. They may also incur one-off costs from developing appropriate capacity to store the volume of data to be received and resultant calculations within the format specified. They may also experience on-going IT and maintenance costs to analyse, store and retrieve the information collected. The extent of the costs will depend on how standardised/automated the data/requests are, how frequent and how different this information is from what is currently submitted to them (i.e. transaction reports) and in which format. They will also incur staffing costs from processing all this information.

*Trading venues* in a specific financial instrument/APAs and CTPs may experience one-off IT and systems costs to modify the content and formats of data requests, to automate them or to be able to respond within the required timeframes. They may also experience on-going IT and maintenance costs to store the information requested by ESMA/CAs for the time required. The extent of the costs will depend on how standardised the data/requests are, how frequent and how different this information is from what is currently submitted to regulators and/or industry standards and the format in which it has to be stored/delivered. We anticipate these costs not to be significant as ESMA has tried to be as cost efficient as possible, mirroring when applicable MiFIR/MiFID II requirements and taking into account existing practices, standards and information already submitted to regulators. There may be costs from having to convert the information into the common XML format requested by ESMA, however, we estimate these costs to be low compared to the cost arising from having to collect information from different systems which is stemming from Level 1.

#### **5. Cost-Benefit Analysis**

ESMA is asked under MiFIR Article 22(4) to propose technical options on the following areas:

1. content of data requests;
2. frequency of requests and time to respond;
3. formats of the responses;
4. type of data stored and minimum storage period.

No explicit mention to quantifiable costs and benefits was made in any of the responses to the CP. For the technical options considered by ESMA we summarise below a description of the costs and benefits arising from them

*Technical Option 1: Content of data requests*

<b>Policy Objective</b>	Establish the content of the data requests to be required by CAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy
Proposal	The reports to be submitted to the CAs by trading venues, APAs and CTPs should include all data necessary for transparency and other calculations, as prescribed by Article 2 of RTS 3
<i>Benefits</i>	Enables CAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification as well as to properly calibrate and recalibrate thresholds required by MiFIR/MiFID).
<i>Costs to regulator:</i> - <i>One-off</i> - <i>On-going</i>	We estimate most of the costs arising for ESMA/CAs to be related to staffing, IT systems and storage capacity. There will be one-off and ongoing IT systems and staffing costs to process the templates requested to firms to determine the thresholds and recalculations established by Level 2 standards. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations, which already ask to report the information requested by ESMA, or have been already considered and included in the CBA of the related RTS that establish methodologies and request information to be provided (non-equity transparency, etc.).
<i>Compliance costs:</i> - <i>One-off</i> - <i>On-going</i>	Trading venues, APAs and CTPs are not expected to incur significant costs as the content of the request should be similar to that of transparency calculations.
<i>Costs to other stakeholders</i>	N/A
<i>Indirect costs</i>	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

*Frequency of data requests and response times for trading venues, APAs and CTPs.*

<p><b>Policy Objective</b></p>	<p>Establish the frequency of the data requests to be required by CAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy, as well as the time to respond to those requests.</p>
<p>Proposal</p>	<p>Trading venues, APAs and CTPs to submit the reports each day as established by Article 3.1 of RTS 3 (except in the case of the double volume cap, which is addressed in Article 6 and discussed in the respective CBA).</p> <p>Responses to ad hoc requests shall be submitted to CAs within four weeks as specified in Article 3.2 of RTS 3 (except in the case of the double volume cap).</p>
<p><i>Benefits</i></p>	<p>Enables CAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification as well as to properly calibrate and recalibrate thresholds required by MiFIR/MiFID).</p> <p>Given that daily data is needed as per the requirements established in the RTS on equity transparency, non-equity transparency and Commission Delegated Regulation, collecting this daily data every day seems more appropriate and easier to implement than collecting this data less frequently.</p> <p>As some instruments such as derivatives, would require daily data collection, using a daily data collection for all instruments, ESMA believes this simplifies the data collection process for the industry, as establishes the same timeframe for all instruments.</p> <p>In the case of derivatives, the time to maturity is a criterion used to assess their liquidity. As time to maturity changes every day, it is important to collect daily data as the instruments allocated to a given sub-class will change dynamically every day and with that the trades executed on that instrument and relevant for the liquidity assessment. Requesting data beyond a day (i.e. weekly) would mean relying on TVs/SIs/APAs/CTPs to perform part of the transparency calculations processes on their own, instead of CAs, with increased overall cost for the industry and the risk of inconsistency across venues.</p> <p>Data of daily granularity can be collected either daily, or with lower frequency. However, the daily collection appears to be more appropriate here since it will only increase marginally the cost for the submitting entities while allowing processing smaller files more</p>

	<p>efficiently and ensuring better management of data submission, smoother data processing and easier verification of data quality. Those points are particularly relevant given the broad scope of instruments concerned and the very large amount of data to be processed.</p> <p>It is also important to ensure consistent application of criteria across financial instruments and trading venues.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>We estimate most of the costs arising for CAs, both one-off and on-going, to be related to staffing, IT systems and storage capacity to deal with the periodic and ad-hoc requests in the timeframe provided.</p> <p>However, as ESMA is not introducing new obligations in this RTS and takes into account information that is already stored or submitted to regulators, or information already requested by other RTS, we assume most of the costs arising from this standard should relate to the increased staffing processing costs from the higher periodicity of the information to be received by CAs (on a daily basis).</p> <p>The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations, which already ask to report the information requested by ESMA, or have been already considered and included in the CBA of the related RTS (i.e. non-equity transparency, etc.).</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Trading venues, APAs and CTPs may incur costs to comply with this standard, and deal with the daily submissions of information and the ad-hoc requests for data. However, as ESMA is not introducing new obligations in this RTS and takes into account information already stored or submitted to regulators and already required by MiFIR/MiFID II, needed to monitor/adjust the MiFIR/MiFID II requirements, or requested by a different RTS based on a methodology proposed by ESMA, we assume most of the costs arising from this standard should be of minimal significance.</p> <p>The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations, which already ask to report the information requested by ESMA, or have been already considered and included in the CBA of the related RTS (i.e. non-equity transparency, etc.).</p>
<p><i>Costs to other stakeholders</i></p>	<p>N/A</p>
<p><i>Indirect costs</i></p>	<p>Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this</p>

	technical standard.
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*Formats of data requests*

In the case of formats, ESMA considers that the production of data in a specific technical format is usually the last step of the data reporting process and the cost of using a specific format, although not negligible, is expected to be relatively low when compared to the cost of the whole process that includes collection and integration of all required data from different systems, ensuring consistent semantics and the required level of data quality. Therefore the key cost driver for the whole data reporting process is the increasing scope of information to be reported as required by Level 1 legislation. Some of the costs arising from the new required format may be shared with the costs imposed by other RTS such as transaction reporting and reference data.

<b>Policy Objective</b>	Establish the format of the data requests to be required by CAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy.
Proposal	Trading venues, APAs and CTPs to send the information requested in the format prescribed by Article 4 or RTS 3.
<i>Benefits</i>	Aligns how data should be represented, taking into account data also submitted for other reporting requirements  The use of a common XML format allows CAs to implement a common set of syntax validation rules and to perform and publish the required calculations centrally.  Having one standard for formats allows for data sent to regulators to be compared minimizing data quality issues
<i>Costs to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	CAs may have incremental one-off IT and staff training costs from implementing the common format set by ESMA, as they are currently familiar with TREM, which is used to exchange transaction reporting data.  ESMA will have one-off IT and staff training costs to be able to collect and process the information requested by the standard. There will be also ongoing staff costs to integrate and process the information collected using the prescribed format.
<i>Compliance costs:</i>  - <i>One-off</i>	Trading venues, APAs and CTPs may incur one-off costs to adapt their information to the templates designed by CAs/ESMA to comply with this standard. There will be one-off IT systems and staffing costs

<p>- <i>On-going</i></p>	<p>to set up and automate the templates requested to firms to determine the thresholds and recalculations established by Level 2 standards.</p> <p>Trading venues will experience on-going IT, systems and staff costs to modify the content of data requests, and to be able to respond within the required timeframes on a regular basis. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.</p> <p>Trading venues, APAs and CTPs may incur incremental IT and staff costs in case they do not use currently the format prescribed by ESMA. However this cost should be minimal compared to the cost of connecting the systems in order to provide the required reports for the purposes of other RTS (equity, transaction reporting, reference data, etc.).</p> <p>However, there may be some incremental implementation cost regardless of the format currently used by trading venues, APAs and CTPs, for the information to be transmitted to ESMA. The reason is that there are some gaps in all existing formats and there are costs involved to fill those gaps, even in the case of common XML formats. For example, even if a trading venue is using FIXML now (the majority are using the delimited version of FIX, not the XML format), it is likely they would need to implement an updated version of FIXML vs. the one they are currently using.</p>
<p><i>Costs to other stakeholders</i></p>	<p>N/A</p>
<p><i>Indirect costs</i></p>	<p>None</p>

*Type of data stored and minimum storage period*

<p><b>Policy Objective</b></p>	<p>Establish the type of data that should be stored by trading venues for the purposes of MiFIR data calculations</p>
<p>Proposal</p>	<p>Trading venues, APAs and CTPs shall store the types of data required by Article 5.1 of RTS 3 for the period specified by Article 5.2 of RTS 3.</p>
<p><i>Benefits</i></p>	<p>Enables CAs to collect the necessary information required by MiFIR/MiFID and to check that information retroactively for a period of time</p>

<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>None</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>The costs arising from this standard should be of minimal significance given the obligation being already created at Level 1 and existing market practice. In fact, some respondents to the CP have suggested a longer minimum period (5 years) for storage of data.</p>
<p><i>Costs to other stakeholders</i></p>	<p>N/A</p>
<p><i>Indirect costs</i></p>	<p>Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.</p>



## **2.4. Criteria for determining whether derivatives should be subject to the trading obligation**

### **1. Executive Summary**

The purpose of the proposed RTS is to establish the criteria to determine whether derivatives subject to the clearing obligation should be subject also to the trading obligation.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS. The baseline section explains the starting point for assessing the incremental rule related to ESMA's RTS, which can be either the MIFID requirements, or the existing market practice when above MiFID II. The stakeholders identified are investment firms and market participants trading in derivatives (financial and non-financial counterparties subject to EMIR), Competent Authorities (CAs) and trading venues (considering as such operators of regulated markets, MTFs and OTFs). The cost-benefit analysis section contains an analysis of the benefits and costs associated with the proposals set out in the draft RTS.

### **2. Introduction**

The MiFIR trading obligation applies to non-intra group transactions in sufficiently liquid contracts when traded by counterparties subject to clearing under EMIR. The application of the trading obligation is defined by Article 32 MiFIR which outlines the process for deciding which derivatives should be declared subject to mandatory trading. Once a class of derivatives has been mandated as subject to the clearing obligation under EMIR, ESMA must determine whether those derivatives (or a subset of such) should be subject to the trading obligation, meaning they can only be traded on an RM, MTF, OTF or a third country trading venue deemed to be equivalent by the Commission. In summary, whether or not a class of derivatives subject to the clearing obligation should also be made subject to the trading obligation will be determined by two main factors:

- The venue test: the class of derivatives must be admitted to trading or traded on at least one admissible trading venue; and
- The liquidity test: whether the derivatives are “sufficiently liquid” and there is sufficient third party and selling interest.

### **3. Baseline**

There are no provisions that specify when derivatives subject to the clearing obligation should be subject to the trading obligation in MiFID I Levels 1 or 2.

Therefore, the baseline becomes Article 32 of MiFIR which provides the trading obligation procedure. Article 32 of MiFIR provides three empowerments for ESMA in relation to derivatives subject to the trading obligation:

- every time a class of derivatives (or subset) is declared subject to the clearing obligation under EMIR, ESMA has six months in which to prepare, consult on and present to the Commission draft RTS stating whether those derivative should also be made subject to the trading obligation and if so, when. ESMA must consider further criteria to determine whether the class of derivatives (or subset) is “sufficiently liquid” such as average frequency and size of trades, the number and type of active market participants, the average size of spreads, the anticipated impact of the trading obligation on liquidity and the size of the transactions to which it should apply.
- ESMA must submit to the Commission draft RTS to “amend, suspend or revoke” existing RTS whenever there is a material change in: (a) the derivatives are admitted to trading or traded on at least one trading venue; and, (b) there is sufficient third-party buying and selling interest in the derivatives so that it can be considered sufficiently liquid to trade only on trading venues.
- ESMA has, on its own initiative, to draft RTS to specify the criteria to determine when there is sufficient third-party buying and selling interest in the class of derivatives (or subset) so that such a class of derivatives (or subset) is considered “sufficiently liquid” to trade on trading venues only.

#### 4. Stakeholders

Four types of stakeholders are relevant for this standard: Financial and non-financial counterparties, CAs and trading venues.

*Financial counterparties*, or investment firms and credit institutions dealing in derivatives. They will be affected as they may need to trade on venue some derivatives currently traded OTC and that ESMA will consider subject to the trading obligation.

*Non-financial counterparties* subject to the clearing obligation in EMIR (NFC+) may also be affected in a similar manner to financial counterparties.

ESMA will have to establish which derivatives are considered sufficiently liquid, according to MiFIR Article 32, and the provisions set in this draft RTS. CAs will have to supervise compliance with the RTS provisions, which will be facilitated in the case of NFC+ counterparties by the notifications received by both ESMA and CAs and related to the clearing obligation.

*Trading venues* participating in derivative markets may incur costs both IT and staff to admit some of these derivatives subject to the trading obligation to trading on their venues, in case not already traded on venue. However, this also represents a revenue opportunity in case a trading venue would decide to grow in that market.

## 5. Cost-Benefit Analysis

The purpose of this section is to provide a cost-benefit analysis of the obligations considered incremental against a baseline that is aligned either with current market practice or with the MIFID II Level 1 legal baseline described above.

### *Sufficient third party buying and selling interest*

<b>Policy Objective</b>	Support orderly markets, increase transparency to non-equity markets and meet G-20 recommendations by ensuring derivatives sufficiently liquid are traded exclusively on MiFIR venues.
<b>Proposal</b>	Article 1 of RTS 4 establishes when there is sufficient party buying and selling interest, which is further specified in Article 2, average frequency of trades, Article 3, average size of trades, Article 4, number and type of active market participants and Article 5, average size of spreads.
<i>Benefits</i>	<p>Brings greater transparency to non-equity markets.</p> <p>Derivatives deemed to have a liquid market for transparency purposes are not deemed automatically to be sufficiently liquid for the trading obligation and the thresholds may differ, taking into account the different purposes of the two assessments.</p> <p>Provides flexibility to accommodate classes or subsets of derivatives and takes into consideration the particularities of packaged transactions.</p> <p>Reduces implementation complexity and costs by aligning the criteria for determining whether there is a “liquid market” under MiFIR transparency regime with the criteria for considering whether an instrument is “sufficiently liquid” to be subject to the trading obligation.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>In the case of ESMA, no costs are expected to arise from the general obligation RTS, as those relate to Level 1.</p> <p>Once the different classes of derivatives subject to the trading obligation are specified, those costs will consist mainly on marginal one-off staff costs for ESMA to publish which derivatives should be also subject to the trading obligations.</p> <p>CAs would incur costs to collect and submit the relevant information to perform the calculations set in the draft RTS to determine which derivatives are subject to the trading obligation. There will be supervision costs as well to monitor and enforce compliance with the</p>

	rule by trading venues, financial companies and NFC+.
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>No costs are expected to arise from the general obligation RTS, as those relate to Level 1.</p> <p>Once the different classes of derivatives subject to the trading obligation are specified, financial and non-financial counterparties (NFC+) may incur on-going staff and IT compliance costs from ensuring derivatives subject to the trading obligation are only traded on venue.</p>
<i>Costs to other stakeholders</i>	None.
<i>Indirect costs</i>	<p>There may be higher costs for market participants for on-venue vs. OTC trading.</p> <p>If the trading obligation were to be extended to such instruments that are not traded on the most common trading venues or only on very few trading venues, market participants may have to connect to a number of trading venues as the trading venue they are already connected with may not offer trading in all instruments subject to the trading obligation.</p> <p>There may be adverse incentives for venues to push for derivatives to be declared subject to the trading obligation. Trading venues may see higher volumes and revenues as more derivatives are traded on venue.</p>

## **2.5. Interaction of trading obligation with Third Country Counterparties (Article 28(5) of MiFIR)**

### **1. Executive Summary**

The purpose of the final draft RTS is to establish the types of contracts with third country counterparties that are subject to the obligation to trade on RMs, MTFs and OTFs, and recognised third-country trading venues, as well as the cases where the trading obligation is necessary and appropriate to prevent evasion of the MiFIR provisions.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the draft RTS, which aims at establishing the relationship of third countries to the trading obligation. The objective is to mitigate the effects of third country firms' trading activities that could threaten financial stability in the EU, to make sure that market participants do not evade the trading obligation rules, and also to ensure alignment to EMIR clearing obligation whenever possible. The baseline section explains the starting point for assessing the incremental rule related to ESMA's RTS, which can be either the EMIR requirements, or MiFIR. The stakeholders identified are trading venues, particularly those focused on derivatives contracts, financial and non-financial third country firms with branches in the Union, financial firms within the Union providing guarantees to third country entities operating in OTC derivatives and national competent authorities (CAs). The cost-benefit analysis section provides an analysis of the benefits and costs associated with the proposals set out in the final draft RTS.

### **2. Introduction**

Following the financial crisis and G-20 decisions, Regulation (EU) No 648/2012 (EMIR) was enacted in the EU. This Regulation established clearing and reporting obligations with the objectives of increasing transparency and reducing counterparty and operational risks. EMIR also covered the clearing obligation of third country firms trading in the EU, to prevent that risks resulting from OTC derivative contracts entered into by counterparties outside of the Union could be imported in the Union, and to prevent evasion of rules and obligations provided by EMIR.

According to MiFIR, any derivative class or sub-class subject to the clearing obligation, must be traded on at least one trading venue and be considered sufficiently liquid to trade only "on venue" before being subject to the trading obligation. Therefore the trading obligation is closely related to and should take into close consideration the already existing requirements established by EMIR for the clearing obligation.

MiFIR also determines that the trading obligation shall apply to third-country entities, that would be subject to the clearing obligation if they were established in the Union, which enter into derivative transactions pertaining to a class of derivatives that has been declared subject to the trading obligation, provided that the contract has a direct, substantial and foreseeable

effect within the Union or where such obligation is necessary or appropriate to prevent the evasion of any provision of this Regulation.

In relation to EMIR clearing obligation, Commission Delegated Regulation No 285/2014 defined which contracts had a direct, substantial and foreseeable effect within the Union, and also the cases where it is necessary or appropriate to prevent the evasion of rules or obligations provided for in EMIR.

Under EMIR, there are two cases in which transactions between two non-EU counterparties may have a direct, substantial, and foreseeable effect within the European Union. The first case is when OTC derivative contracts entered into by a third country counterparty benefit from a guarantee issued by an EU guarantor that is a financial counterparty. The second case relates to transactions between two non-EU entities operating through EU branches if both entities were financial counterparties had they been established in the European Union.

ESMA is asked in Article 28(5) of MiFIR to establish when a third country counterparty should be subject to the trading obligation mandated by Article 28 of MiFIR, and to provide for identical RTS to those adopted under EMIR whenever possible.

### **3. Baseline**

Article 28 of MiFIR establishes the obligation to trade certain types of derivatives on RMs, MTFs, OTFs or third country trading venues (where an effective equivalence system exists). Article 28(2) indicates that the trading obligation also applies to counterparties entering into a transaction in a derivative class subject to the trading obligation with third country financial institutions and other third country entities that would be subject to the clearing obligation if they were established in the EU. Article 28(4) empowers the Commission to determine that a third country trading venue is suitable for use under the terms of the trading obligation.

Article 28(5) requires ESMA to define which derivative contracts involving third country counterparties have a “direct, substantial and foreseeable effect within the Union”. Article 28(2) also obliges ESMA to monitor the derivatives market in general and report on situations which might give rise to systemic risk or regulatory arbitrage.

In relation to EMIR clearing obligation, Delegated Regulation 285/2014 defined which contracts had a direct, substantial and foreseeable effect within the Union, and also the cases where it is necessary or appropriate to prevent the evasion of rules or obligations provided for in EMIR. The criteria established in Regulation 285/2014 are exactly the same as the ones established in this RTS.

ESMA is asked to draft RTS on MiFIR Article 28(5) specifying the types of contracts with third country counterparties that are subject to the trading obligation, as well as the cases where the trading obligation is necessary and appropriate to prevent avoidance of the provisions in MiFIR. This draft RTS, where possible and appropriate, should be identical to the one adopted under Article 4(4) of EMIR which specifies the types of contracts with third country counterparties that are subject to the clearing obligation as well as the cases where

the clearing obligation is necessary and appropriate. As a consequence, compliance costs will be ultimately dependent on what is established in other RTS that may determine the categories of derivatives that may be subject to the clearing obligation.

#### 4. Stakeholders

This draft RTS establishes some extraterritoriality provisions, affecting the following stakeholders:

*-Trading venues, (RMs, MTFs and OTFs, and recognised third-country trading venues) particularly those focused on derivatives contracts;*

*-Financial and non-financial third country firms with branches in the Union;*

*-Financial firms within the Union providing guarantees to third country entities operating in OTC derivatives;*

*-Competent Authorities (CAs).*

*Trading venues* may need to hold systems and controls to determine whether third country parties trading on them should be also subject to the trading obligation. In addition, they may decide to create new exchange traded derivative products, if they think they will be captured by the trading obligation, however we assume they will only do that if they think the opportunity could be profitable for them.

*Third country firms with branches in the European Union* may have to establish a monitoring function, as well as recordkeeping within their compliance function in order to comply with the obligations of this draft RTS in case not already subject to EMIR.

*Financial firms* within the Union providing guarantees to third country entities operating in OTC derivatives may have to monitor the size of the guarantees provided to those third country firms in line with the thresholds established in this draft RTS, as well as the liability arising from it, compared to their own OTC exposures. They may have also to reassess complying with the thresholds established either when the liability increases or the exposure decreases when that takes place or on a monthly basis, if not already subject to EMIR. While that should be true for the firm overall, it could be that trading desks monitor obligations independently of clearing desks, without communication to each other and the costs this draft RTS would create would be incremental (at least the procedures to link the two departments together to monitor jointly clearing and trading obligations related to this RTS).

#### 5. Cost-Benefit analysis

For the technical options considered by ESMA we summarise below a description of the costs and benefits arising from them.

*Contracts with direct, substantial and foreseeable effect within the EU*

<b>Policy objective</b>	To establish a framework to determine which transactions with third country counterparties have a “direct, substantial and foreseeable effect” within the EU that is enforceable and offers legal certainty for financial counterparties.
<b>Technical Proposal</b>	Article 2 of RTS 5 indicates when an OTC derivative contract shall be considered as having a direct, substantial and foreseeable effect within the Union.

Definition of guarantee

<b>Policy objective</b>	Establish which types of guarantee fall within the definition of “guarantee” for the purposes of the trading obligation.
<b>Technical Proposal</b>	Article 1 of RTS 5 defines the meaning of “guarantee”.

Cases where it is necessary or appropriate to prevent the evasion of rules or obligations established by MiFIR

<b>Policy objective</b>	Establish the cases where the trading obligation is deemed necessary for OTC derivatives in order to prevent the circumvention of rules and obligations established by MiFIR.
<b>Technical Proposal</b>	Article 3 of RTS 5 indicates the cases in which it is necessary or appropriate to prevent the evasion of rules or obligations.

Contracts with direct, substantial and foreseeable effect within the EU; definition of guarantee; cases where it is necessary or appropriate to prevent the evasion of rules or obligations established by MiFIR

<b>Benefits</b>	<p>To establish the same criteria as EMIR for determining the clearing obligation of third country firms, minimising compliance costs for firms already subject to EMIR, and at the same time possibilities of circumvention of MiFIR trading obligations.</p> <p>It will allow covering all contracts that have a particular strong nexus with the Union as they are concluded through Union branches.</p> <p>To establish a framework within the EU that is enforceable and offers legal certainty for financial counterparties.</p> <p>Derivatives’ trading venues may see an increase in volume trading</p>
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	through them, as well as increased revenues.
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may have increased staff supervision costs arising from the need to monitor compliance with the final draft RTS provisions, part of which may be driven by MiFIR trading obligation requirements.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues may need to devote resources to identify new procedures to address the requirements of the trading obligation (i.e. those that arise in addition to procedures to implement the clearing obligation) and may need also to have additional systems and controls to determine whether third country parties clearing through them should also be subject to the trading obligation.</p> <p>Third country firms with branches in the Union may experience increased compliance costs arising from one-off and ongoing staffing, systems and controls and recordkeeping in order to comply with the obligations of this draft RTS, in case they are not already subject to EMIR. If they are subject to EMIR, compliance costs arising from this draft RTS should be minimal. However these firms may still incur costs in relation to IT development, systems and staffing to adapt their trading functions to trade some of the derivatives captured by the trading obligation on-venue.</p> <p>Where subject to EMIR but clearing and trading desks are separated, with no communication between both areas, third country firms may incur incremental costs to comply with this RTS, at least the cost of monitoring jointly the clearing and trading obligations.</p> <p>Financial firms within the Union providing guarantees to third country firm may experience similar compliance costs, unless already subject to EMIR. In cases where clearing is handled in a different department than trading, with no communication between both areas, the costs arising from this final draft RTS may be incremental, as mentioned in the paragraph above.</p> <p>Compliance costs for this final draft RTS will be ultimately dependent on what is established in other RTS that may determine the categories of derivatives that may be subject to the clearing obligation.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>

<i>Indirect costs</i>	<p>Extraterritorial provisions may impact firms' business practices and business models outside the EU, and could drive some firms to move some of their trading outside of the EU.</p> <p>Trading costs may increase when moving from OTC to on-venue, bid-ask spreads may widen or compress for the transactions that would be captured by this final draft RTS. Higher costs may be passed to end customers.</p>
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### **3. MICROSTRUCTURAL ISSUES**

#### **3.1. Organisational requirements of investment firms engaged in algorithmic trading, providing direct electronic access and acting as general clearing members (Article 17.7 of MiFID II)**

##### **1. Executive Summary**

The purpose of the final draft RTS is to specify the systems, procedures, arrangements and controls to be put in place and maintained by investment firms engaged in algorithmic trading to address the risks that may arise in financial markets in connection with the increased use of technology and recent developments in trading technology.

This document covers four main topics dealing respectively with i) investment firms engaged in algorithmic trading, ii) investment firms providing Direct Electronic Access (DEA), iii) firms acting as general clearing members (GCMs) and iv) investment firms that engage in a high frequency algorithmic trading technique.

For each topic there are four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the final draft RTS. The Baseline section explains the starting point for assessing the incremental rule related to the final draft RTS, which can be either the MIFID II requirements, or current practices of investment firms implementing the 2012 ESMA Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and competent authorities. The stakeholders identified for the whole RTS are investment firms engaged in algorithmic trading (including providers of direct electronic access and investment firms engaged in high-frequency algorithmic trading), firms accessing trading venues through DEA, general clearing members and their clients, CAs and, indirectly, operators of RMs, MTFs and OTFs.

The cost-benefit analysis section contains a description of the benefits and costs associated with the final draft RTS for ii) investment firms providing Direct Electronic Access (DEA), and iv) investment firms that engage in a high frequency algorithmic trading technique, there is an additional subsection on compliance costs, which have been collected through the ESMA CBA Questionnaire.

##### **2. Requirements for investment firms engaged in algorithmic trading**

###### **2.1. Introduction**

As stated in Recital (59), the use of trading technology has evolved significantly over the past decade and is now extensively used by market participants. The potential risks arising from algorithmic trading can be present in any trading model supported by electronic means and deserve specific attention and regulation. Accordingly, Article 17 of Directive 2014/65/EU (MiFID II) establishes a number of requirements with respect to investment firms engaging in

algorithmic trading. The final draft RTS developed by ESMA under article 17(7)(a) of MiFID II further specifies the organisational requirements to be met by all investment firms engaging in algorithmic trading, providing direct electronic access (DEA) or acting as general clearing members in a manner appropriate to the nature, scale and complexity of their business model, addressing the potential impact of algorithms on the overall market. Those requirements supplement the authorisation and operating conditions to be met by each and every investment firm authorised under MiFID II.

## **2.2. Baseline**

MiFID I did not explicitly established any provision regarding systems and controls for automated trading. Those issues were however addressed by ESMA in the Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and competent authorities published in 2012 (the Guidelines). The Guidelines were adopted by CAs in all EU Member States. Accordingly, we expected that most market participants have implemented these Guidelines and that they form part of their regular practices.

Article 17 of MiFID II sets out a number of requirements to investment firms engaged in algorithmic trading with respect to their systems and controls, the provision of direct electronic access and the provision of clearing services.

For the purposes of this CBA we have assumed that the Guidelines are the current market practice against which any potential additional obligation arising from the final draft RTS should be assessed. Where the draft RTS addresses issues not covered in the Guidelines, the baseline is either MiFID I or MiFID II, as specified.

## **2.3. Stakeholders**

*Investment firms engaged in algorithmic trading (including DEA providers and clearing firms)*

Investment firms engaged in algorithmic trading would need to comply with additional requirements in the areas of governance, staffing and training. In particular, investment firms may need to review current training policies, extend their scope and have them more customised to the needs of the different types of staff members.

Investment firms must also ensure that their algorithmic trading systems and trading algorithms are fully tested and properly monitored, that they are resilient and have sufficient capacity. This will require a substantial review, and possibly enhancement of, internal procedures and may entail allocation of additional staff, or reallocation of existing staff, to some key areas. In addition, whereas the requirements regarding the resilience of algorithmic trading systems may largely be current market practice at some firms, they will likely translate into IT investments or increased use of third party providers for some others.

In particular, investment firms must undertake the necessary measures for maintaining real time and accurate trade and account information, having in place automated alert

mechanisms and taking prompt remedial action warranted by signs of disorderly trading or market abuse. Some firms will also have to invest in IT, and in particular in new software able to reflect the new testing and monitoring responsibilities for the use of algorithms.

The DEA provider is responsible for ensuring that DEA clients comply with the requirements of MiFID II and the rules of the trading venue. The controls applied to Sponsored Access (SA) should be at least equivalent to the controls applied to Direct Market Access (DMA) clients. This may entail additional human resources that are able to deal with those monitoring responsibilities.

As regards clearing, the minimum criteria to be considered for the assessment of prospective clients are expected to be in line with current market practice for many GCMs but will ensure a greater level of consistency amongst those clearing firms.

#### *Competent authorities (CAs)*

CAs will have to enhance current supervisory practices to include the larger set of requirements that investment firms have to meet, to supervise more complex procedures and arrangements and to process more information. This may require additional technical expertise, scaled-up IT capability and increased staffing.

The flexibility provided in the final draft RTS to accommodate the nature, scale and complexity of investment firms' businesses may also affect CAs to the extent that it could potentially challenge supervisory convergence.

#### *Trading venues*

The operators of RMs, MTFs and OTFs will need to provide appropriate testing environment so that their members can comply with their testing obligations. The impact of investment firms' testing obligations on trading venues is more fully considered in the CBA of organisational requirements for trading venues in final draft RTS 7. Please refer to that section for more details.

## **2.4. Cost-Benefit Analysis**

The following section outlines the policy objectives and the key incremental obligations associated with the final draft RTS and considers their related costs and benefits.

The final draft RTS on organisational requirement for investment firms was not identified as a source of significant costs by respondents to the Cost Benefit questionnaire, except by a smaller investment firm concerned about the fees trading venues may be charging for the performance of conformance testing.

The draft RTS considered in this CBA differs from the one annexed to the December 2014 CP since it has been informed by the feedback subsequently received. Where the changes made in the final draft RTS are relevant from a cost-benefit perspective, they are identified as such.

### 2.4.1. General organisational requirements

Those general organisational requirements cover i) governance, role of compliance staff in the governance process and staffing and ii) IT outsourcing and procurement.

Depending on the nature, scale and complexity of their business, investment firms currently have in place governance arrangements ranging from very complex structures with multiple layers of control to streamlined structures with a few persons in key functions. However, the overall governance process is central to compliance with regulatory obligations, including for firms engaging in algorithmic trading.

Compared to the Guidelines, the final draft RTS expressly mentions that the overall governance and decision making framework is to take into account the nature, scale and complexity of the investment firm's business, according to the proportionality principle. The final draft RTS is also more specific on:

- a. segregation of functions and responsibilities between trading desks and supporting functions in such a way that potential unauthorised trading activity cannot be concealed;
- b. adequate staff seniority for critical functions, in addition to technical skills;
- c. staff training and competences in relation to order submission not to impair fair and orderly markets and to comply with relevant rules and regulations;
- d. staff initial and on-going training on what constitutes market abuse and sufficient knowledge by staff exercising risk management and compliance functions to follow-up on information provided by automatic alerts and to challenge staff responsible for algorithmic trading when the trading activity gives rise to disorderly trading conditions or suspicion of market abuse;
- e. IT outsourcing and requirements.

#### *Governance, role of compliance staff in the governance process and staffing*

The final draft RTS supplements the Guidelines by setting out more clearly that investment firms have to develop and monitor their trading systems and trading algorithms taking into account the nature, scale and complexity of their business. It adds a new obligation for investment firms to have an appropriate segregation of functions and responsibilities between trading desks and supporting functions, but no longer requires, as in the earlier draft RTS, to segregate between front, middle and back office functions. This will be a source of reduced compliance costs for smaller firms.

The draft RTS expands on the necessity for compliance staff to remain in contact with persons in charge of the trading system or of a single algorithm. The RTS also establishes that the outsourcing of the compliance function should not affect the efficiency of such function.

As regards staffing, the final draft RTS spells out the seniority of staff responsible of critical functions, such as compliance, in addition to technical skills. It also supplements the Guidelines on staff training in relation to order submission procedures and understanding of what constitutes market abuse. Staff exercising risk management and compliance functions should have sufficient knowledge of algorithmic trading systems and trading strategies, in addition to regulatory requirements.

<b>Policy Objective</b>	Ensuring that investment firms have in place clear, formalised and efficient governance process and appropriate staffing for the development and monitoring of trading systems and trading algorithms, in line with the nature, scale and complexity of their business.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Governance, general requirements and proportionality. See Article 1 of RTS 6 for more details.</li> <li>- Role of compliance function. See Article 2 of RTS 6 for more details.</li> <li>- Staffing. See Article 3 of RTS 6 for more details.</li> </ul>
<i>Benefits</i>	<p>Using a proportionality principle will allow overall governance to be best fitted to the nature, scale and complexity of firms' business.</p> <p>Ensuring that any decision regarding the development, deployment and subsequent updates of trading algorithm is duly reviewed will contribute to a more secure trading environment for all market participants.</p> <p>Involvement of compliance staff with at least a general understanding of the way the algorithmic trading systems and algorithms of the investment firm operate will enhance their ability to develop and maintain procedures to ensure that algorithmic trading systems comply with regulatory obligations. Compliance staff should be able to better prevent, detect and correct compliance failures if in close contact with the trading personnel.</p> <p>Appropriate staffing, both in respect of number and technical knowledge, will help ensure that the firm meets its legal and regulatory obligations and that its trading systems and algorithms are not a source of disorderly markets or potential market abuse.</p>
<i>Costs to regulator:</i>	On-going staff costs associated with periodic supervision of the role of the different functions within the firm.

- <i>One-off</i>	
- <i>On-going</i>	
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Investment firms that currently do not have in place a clear segregation of functions and responsibilities between trading desks and supporting functions may incur low one-off costs related to changes in internal procedures. Smaller firms where the same person may currently fulfill multiple roles may need to hire additional staff, incurring more significant costs relative to their size.</p> <p>Training of compliance staff on the algorithmic trading systems and algorithms used by the investment firm may be a source of low one-off and on-going costs.</p> <p>More generally, some investment firms may have to increase their staff or enhance their technical knowledge to comply with expectations and will accordingly incur one-off and on-going staff costs.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	The costs of hiring additional personnel could force some incumbent smaller firms out of the market and subject new firms to greater barriers to entry, thus limiting competition. However, this may also help ensure that only firms with appropriate organisation actually engage in algorithmic trading.

### *IT outsourcing and procurement*

Outsourcing and procurement was not addressed in the Guidelines. The final draft RTS introduces general obligations under which the investment firm remains fully responsible for fulfilling its obligations when outsourcing or procuring any software or hardware used in its algorithmic trading activity. In addition, investment firms are required to have a sufficient understanding of the functioning of any procured or outsourced hardware or software used in algorithmic trading. Those outsourcing requirements are an adaptation to algorithmic trading of the general requirements for the outsourcing of critical or important activities or functions under MiFID I (and MiFID II). Therefore, they are not expected to be a source of significant costs.

<b>Policy</b>	Ensuring that IT outsourcing or procurement does not affect the resilience of investment firms' trading systems.
<b>Objective</b>	



<b>Technical Proposal</b>	The final draft RTS sets out the requirements to be met by investment firms for the outsourcing or procurement of their trading systems or trading algorithm. See Article 4 of RTS 6 for more details.
<i>Benefits</i>	<p>The final draft RTS will contribute to ensure that the quality, security and reliability of the software and hardware used in trading activities are maintained when procured or outsourced.</p> <p>As investment firms remain ultimately responsible for the outsourced or procured software and hardware used in algorithmic trading activities, it is critical that they have some in-house knowledge and understanding of that hardware and software.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	No additional costs expected from this specific provision.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	The final draft RTS is not expected to be a source of significant additional costs for investment firms. Some smaller firms may have to improve their understanding of the software provided by third parties.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

## 2.4.2. Resilience of Trading Systems

According to Article 17(1) of MiFID, investment firms must ensure that their systems are fully tested and properly monitored. The final draft RTS encompasses three types of processes or procedures that investment firms must put in place with a view to ensuring the resilience of their trading systems: i) testing and deployment of trading algorithms and systems; ii) post-deployment management; and iii) means to ensure resilience.

### 2.4.2.1. Testing and deployment of trading algorithms and systems

The final draft RTS sets out rigorous obligations with regards to conformance testing, non-live environment testing of algorithms and controlled deployment in a live environment. The core of those obligations is set out in the Guidelines, including with respect to controlled

deployment. However, the final draft RTS is more specific on the development and testing procedures and methodologies to be implemented by investment firms.

Investment firms currently perform a variety of testing methods. Conformance testing is already widespread practice across the industry as firms are typically required to pass this test with the investment firm providing access when implementing a new direct access system or with the trading venue in case of a substantial change in the trading platform’s functionality.

*General methodology*

The Guidelines already had some requirements on testing and controlled deployment of trading algorithms.

The final draft RTS adds to the Guidelines by requiring a sign-off by a responsible party prior to the initial deployment or substantial update of an algorithm, an algorithmic trading system or strategy. In addition, investment firms are required to keep records of all material changes to the software used for algorithmic trading in order to determine when a change was made and the procedure that was followed. The final draft RTS is also more specific about the areas to be covered and the objectives to be achieved by the development and testing methodologies and scenarios.

<b>Policy Objective</b>	Ensuring that algorithmic trading is not a source of risk to the fair and orderly operation of markets.
<b>Technical Proposal</b>	General methodology for the testing and deployment of trading algorithms and systems. See Article 5 of RTS 6 for more details.
<i>Benefits</i>	<p>Ensuring that no algorithmic trading system, trading algorithm or algorithmic trading strategy is being deployed unless properly tested and duly signed-off will contribute to limiting the risks that such systems or strategies may pose to the orderly functioning of markets.</p> <p>The testing methodologies will prove all the more efficient if they are adapted to the trading venues and markets where the algorithms will be deployed.</p> <p>More generally, development and testing methodologies will also help investment firms ensure that the operation of algorithmic trading systems or trading algorithms is compliant with their legal and regulatory obligations under MiFID II.</p> <p>Keeping track of material changes to software used for algorithmic trading will allow investment firms and CAs, to have a clear understanding of the nature and circumstances of the changes, including where a change would subsequently raise some concerns.</p>

<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Increased staff on-going costs associated with the supervision of investment firms. Some CAs may incur one-off costs to upgrade their IT expertise in monitoring and supervisory functions.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Overall, the testing requirements will require significant effort, time and resources from investment firms.</p> <p>More specially, investment firms will face one-off costs to review and enhance as needed their development and testing methodologies, including in respect of allocation of responsibilities, escalation procedure, sign-off and record keeping.</p> <p>They will incur on-going costs to implement those development and testing methodologies prior to the development or substantial update of a trading system, trading algorithm or algorithmic trading strategy and for record keeping.</p> <p>Those costs can translate into staff and IT where those testing methodologies are developed and conducted internally. They may translate into consultancy costs where investment firms opt for outsourcing.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Although investment firms are required to ensure that their trading system algorithms and strategies are not a source of “disorderly trading conditions”, those terms are undefined. This uncertainty could potentially be a source of discrepancies amongst investment firms’ testing methodologies, including when accessing the same trading venue, and a source of risk for the trading venues accessed. This risk could be addressed by further elaboration of those terms by ESMA.</p>

### *Conformance testing*

The Guidelines foresaw obligations related to a minimum level of functionality of the investment firm’s systems conformance with the trading venue accessed or with the provider of DMA. The final draft RTS specifically requires investment firms to undertake conformance testing of trading systems and trading algorithms with the trading venue accessed and with the DMA provider, in those cases where the investment firm accesses the trading venue through a DMA provider.

<b>Policy Objective</b>	Maintaining orderly markets, including through algorithmic trading.
<b>Technical Proposal</b>	Conformance testing. See Article 6 of RTS 6 for more details.
<i>Benefits</i>	The final draft RTS contributes to ensure that investment firms' trading systems and algorithms correctly and smoothly interact with each of the trading venues accessed, taking into account their specificities (e.g. gateways) and that no disruption arises in data flow from investment firms to trading venues and vice versa.
<i>Costs to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	Increased on-going costs associated with the supervision of investment firms.
<i>Compliance costs:</i>  - <i>One-off</i>  - <i>On-going</i>	Conformance testing with each of the trading venue accessed for initial deployment and subsequent material change of trading systems, trading algorithm or trading strategy will be a source of IT and staff one-off and on-going costs for investment firms, the magnitude of which will depend on the number of venues accessed and the pricing policies of trading venues.  Conformance testing with DMA providers will be a source of one-off and on-going IT and staff costs both for investment firms accessing the market this way and also for DMA providers.
<i>Costs to other stakeholders</i>	Trading venues (and DMA providers) will have to set up and provide conformance testing facilities.
<i>Indirect costs</i>	None identified.

### *Testing environments and controlled deployment of algorithms*

The Guidelines included general obligations related to testing outside live trading environments and to controlled deployment, which are made more specific under the final draft RTS. Taking into account the comments received, the final draft RTS no longer requires non-live testing to be performed exclusively with a trading venue and offers the option to conduct such testing either internally, with a third party provider, a DEA provider or with a trading venue. The multiple options offered are expected to be a source of potentially lower compliance costs for investment firms.

<b>Policy Objective</b>	Maintaining orderly markets, including through algorithmic trading.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Testing environments. See Article 7 of RTS 6 for more details.</li> <li>- Controlled deployment of algorithms. See Article 8 of RTS 6 for more details.</li> </ul>
<i>Benefits</i>	<p>Strict segregation between non-live testing environment and production environment will avoid unintended and potentially damaging uncontrolled release of algorithms/strategies.</p> <p>As it is extremely difficult for a non-live environment to accurately mimic a production environment due to the absence of interaction with other participants, controlled deployment provides for additional safeguards against potentially unintended behaviour of a trading system/algorithm/strategy.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Increased on-going staff costs associated with the supervision of investment firms. Some CAs may need to upgrade their IT expertise in monitoring and supervisory functions.</p>
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Setting up a non-live environment that accurately mimics a production environment will prove challenging and costly. The various options offered for non-live testing may however create competing offerings with potentially lower compliance costs.</p> <p>When opting for internal testing, including to avoid information leakage, smaller firms may have to develop and maintain a second, independent infrastructure of critical trading components for testing purposes, which would be a source of significant costs for them compared to their size.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	<p>Some concerns have been expressed that controlled deployment of algorithms associated with market making activities could potentially challenge the investment firm's ability to meet its market making obligations. The limited presence time required under the final draft RTS 8 on market making will allow for controlled deployment outside the mandatory presence time.</p> <p>Likewise, concerns have been expressed that controlled deployment</p>

	<p>could limit an investment firm’s ability to effectively manage portfolio risks for clients where the trading strategy trade various securities or asset classes at the same time as part of a hedging strategy and as a mean to offset risks. However, the damages to orderly markets that an uncontrolled deployment of an algorithm could potentially create are considered to outweigh the potential momentary limitations to hedging opportunities arising from controlled deployment.</p> <p>See also comments above about the lack of definition of “disorderly trading conditions”.</p>
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### 2.4.2.2. Post-deployment management

Post-management obligations include annual self-assessment and validation reports as well as stress testing and change management procedures.

#### *Annual self-assessment and validation of systems*

Compared to the Guidelines, the final draft RTS introduces a formal obligation for investment firms to perform an annual self-assessment and validation process of their algorithmic trading systems and trading algorithms, of their governance and business continuity arrangements as well as with their overall compliance with Article 17 of MiFID II. The final draft RTS includes a list of elements to be at least taken into account by investment firms for the self-assessment. The investment firm’s risk control function is responsible for the validation report that will have to be audited by the firm’s internal audit function where such function exists. Taking into account the responses to the CP, the final draft RTS no longer indirectly requires such internal audit function to be set up by all investment firms.

<b>Policy Objective</b>	Ensuring that the investment firm’s trading systems and algorithms in compliance with legal and regulatory obligations, are periodically reviewed so that they do not become a source of risk to fair and orderly markets.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following area:</p> <ul style="list-style-type: none"> <li>- Annual self-assessment and validation of systems. See Article 9 of RTS 6 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS will help ensuring on-going compliance of algorithmic trading systems and trading algorithms with MiFID II requirements.</p> <p>The parameters to be at least taken into account for the self-assessment provide more clarity and certainty as to CAs’ expectations whilst the proportionality principle will require investment firms to</p>

	<p>actually take into account the nature, scale and complexity of their business when reviewing procedures and arrangements rather than just go through a box-ticking exercise.</p> <p>Auditing of the assessment report by an internal audit function, where it exists, will provide additional confidence and comfort to senior management and CAs on content and conclusions. Based on the proportionality principle, the draft RTS abstains from indirectly requiring each and every investment firm to have an internal audit function in place, which may have been a source of significant costs for some investment firms compared to their size.</p> <p>Approval of the self-assessment report by senior management will help ensure that it is given due care and consideration.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Increased on-going staff costs associated with the supervision of investment firms. Some CAs may need to upgrade their IT expertise in monitoring and supervisory functions.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Investment firms will incur one-off staff and IT costs to set up procedures and processes for the annual self-assessment and validation report and for approval by senior management.</p> <p>On-going staff and IT costs will be incurred for the annual performance of those assessments.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

### *Stress testing and management of material changes*

Stress testing, and management of material changes are obligations expressly spelled out in the final draft RTS. Taking into account the comments received, the final draft RTS has been amended to require the stress testing of algorithmic trading systems to be carried out at least on an annual basis, instead of every 6 months. This is expected to be a source of lower compliance costs.

Stress testing based on twice the highest volume of messaging received or sent by the firm and twice the highest trading volume were identified as a source of significant costs for smaller firms, including for buy-side ones, in the responses to the CP.

<b>Policy Objective</b>	Maintaining orderly markets.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Stress testing. See Article 10 of RTS 6 for more details.</li> <li>- Management of material changes. See Article 11 of RTS 6 for more details.</li> </ul>
<i>Benefits</i>	<p>Stress testing will help to ensure that trading systems can continue to operate even in cases of very significant increases in messaging volume or trading volume without being a source of disorderly markets.</p> <p>Management of material changes will ensure that material changes to the production environment of algorithmic trading are given due consideration before implementation, thereby limiting the risk of disorderly markets.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Increased on-going staff costs associated with the supervision of investment firms. Some CAs may need to upgrade their IT expertise in monitoring and supervisory functions.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Firms may incur one-off costs IT and staff costs to set up or upgrade their stress testing systems to meet messaging volume and traded volume tests, and on-going staff costs to run those stress tests.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	<p>Due to increased costs, some smaller firms may have to withdraw from algorithmic trading. Increased costs may also act as a barrier to entry, thereby reducing competition.</p> <p>Stress testing provisions will require investment firms to operate a trading system with significantly larger capacity than required for its</p>



	usual operation. Whilst the capacity of a trading system can usually be increased by adding additional hardware, this leveraging effect is not always applicable. There are natural limits in every trading system design that can only be extended by a fundamental redesign of the overall framework.
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### 2.4.2.3. Means to ensure resilience

The final draft RTS sets out obligations for investment firms to ensure that algorithmic trading is monitored on an on-going basis to avoid creating disorderly markets and to prevent or identify potential market abuse or breach of the rules of trading venues. The resilience of trading systems is also dependent on appropriate business continuity and security arrangements.

#### *Real-time monitoring*

The final draft RTS adds to the Guidelines by requiring that real time monitoring be undertaken not only by relevant traders in charge of the algorithms but also by an independent risk function. The final draft RTS clarifies that a risk function is considered as independent as long as it is not hierarchically dependent on the trader and can offer appropriate challenge as necessary within the governance framework. The final draft RTS also specifies that monitoring systems must have real-time generation alerts generated within 5 seconds of the relevant event. In a recital, the final draft RTS clarifies that any action following that monitoring should be undertaken as soon as humanly possible.

<b>Policy Objective</b>	Maintaining orderly markets.
<b>Technical Proposal</b>	The final draft RTS addresses obligations for investment firms with respect to real-time monitoring of trading for signs of disorderly markets and remedial actions. See Article 16 of RTS 6 for more details.
<i>Benefits</i>	The incremental obligation minimises the risk that the automated trading activity gives rise to disorderly trading, including from a cross-market, cross asset-class or cross-product perspective and seeks to ensure that appropriate remedial action is taken as soon as possible.  It sets out multi-layered controls and a rigorous approach to market monitoring.
<i>Costs to regulator:</i>  - <i>One-off</i>	On-going costs associated with supervision of real-time monitoring obligations.

- <i>On-going</i>	
<i>Compliance cost</i> - <i>One-off</i> - <i>On-going</i>	The incremental obligations described above are likely to bring one-off IT costs for enhanced monitoring tools, including from a cross-asset and cross-product perspective where applicable, and for real-time generated alert solutions (either developed internally or purchased from third parties). They may also be a source of additional one-off and on-going monitoring staff costs to manage the alerts automatically generated.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	Higher costs for investment firms may be passed on to clients.

#### *Kill functionality*

Compared to the Guidelines, the final draft RTS specifically requires firms to be in a position to know which trader, trading desk or client is responsible for each order sent to the market and to cancel unexecuted orders depending on their initiator. As an emergency measure, the investment firm should also be able to cancel all of its outstanding orders at all trading venues.

The final draft RTS clarifies that the cancellation of outstanding orders per trader, trading desk or client is to be considered as an emergency measure. This should reduce the indirect costs potentially associated with the activation of this functionality as the use of the kill functionality is limited to circumstances where the benefits for orderly markets would clearly outweigh the costs incurred.

<b>Policy Objective</b>	Maintaining orderly markets.
<b>Technical Proposal</b>	Kill functionality. See Article 12 of RTS 6 for more details.
<i>Benefits</i>	Effective “kill button” procedures as an emergency measure contributes to adequate risk management and to safeguarding of the orderly functioning of markets.
<i>Costs to regulator:</i> - <i>One-off</i> - <i>On-going</i>	Any supervisory cost related to the kill button procedure is expected to be included in the increased supervisory costs already mentioned in relation to the resilience of investment firms’ trading systems and algorithms.

<p><i>Compliance cost</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>All investment firms must have kill functionalities and use them as a last resort in truly exceptional circumstances. This could involve a one-off set up IT and staff cost, however, most investment firms have already in place kill switches (“red buttons”) at different trading desks, so the impact of the incremental component of these rules may be very limited. The on-going costs are those associated with training the staff on the use of the functionality and are estimated to be very low.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Trading venues and DEA clients may be affected when an investment firm activates this functionality.</p>

*Prevention and identification of potential market abuse or breaches*

Compared to the Guidelines, the final draft RTS is more specific as to the monitoring systems that investment firms have to put in place to prevent and identify potential market abuse. In particular, the final draft RTS requires investment firms to maintain surveillance systems that are automated and scalable, and where appropriate, to employ visualisation tools. The surveillance system has to be reviewed at least once a year so as to remain adequate to the firm’s obligations and trading behaviour. Monitoring systems should be able to generate operable alerts at the beginning of the next trading day or, when manual processes are involved, at the end of the next trading day. Finally, the final draft RTS stresses the need for investment firms to maintain accurate, complete and consistent trade and account information.

The final draft RTS has been amended to adapt the requirement for the automated systems to conduct market monitoring to the nature, scale and complexity of the firm’s trading activity. Finally, to avoid potential overlaps or inconsistencies which are sources of additional compliance costs, a reference to the relevant Market Abuse Regulation (MAR) Implementing Regulation has been added with respect to the submission of suspicious transaction or order reports.

<p><b>Policy Objective</b></p>	<p>Maintaining market integrity through enhanced monitoring of algorithmic trading.</p>
<p><b>Technical Proposal</b></p>	<p>Prevention and identification of potential market abuse or breaches. See Article 13 of RTS 6 for more details.</p>
<p><i>Benefits</i></p>	<p>The final draft RTS provides more certainty and predictability as to CAs’ expectations with respect to monitoring systems across investment firms engaging in algorithmic trading.</p>

	<p>Automated surveillance systems across investment firms will contribute to more efficient detection (and prevention) of potential market abuse and, indirectly to enhancing and maintaining market integrity.</p> <p>Reference to potential manual processes in the analysis of the alerts automatically generated acknowledges the variety of investment firms potentially captured by the RTS.</p> <p>Consistency with MAR provisions will reduce compliance costs.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs may receive more suspicious transaction or order reports as a consequence of the incremental obligation set out in the final draft RTS, with ensuing additional costs to further investigate the notification received.</p>
<p><i>Compliance cost</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Investment firms that currently do not have in place automated surveillance alert systems will incur one-off staff/IT costs to develop such systems internally or externally through third-party providers. Some firms may also have to hire additional staff or to train existing staff to meet the new obligations.</p> <p>Annual review of systems, and upgrade as needed, will be a source of on-going costs.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

### *Business continuity arrangements (BCAs)*

Compared to the Guidelines, the final draft RTS clarifies that BCAs have to be documented and adds a specific requirement for firms to have BCAs that are bespoke to each of the trading venues they access.

The final draft has been amended to delete the prescriptive list of disruptive events to be taken into account by BCAs, focussing more on the nature, scale and complexity of the investment firm’s business. The final draft no longer requires pending orders to be executed manually, which could have been a source of significant costs, but to have alternative arrangements to “manage” pending orders and positions and recognises that timely resumption of algorithmic trading may not be appropriate in all circumstances.

<b>Policy Objective</b>	Ensuring that investment firms have appropriate arrangements to adequately address disruptive incidents.
<b>Technical Proposal</b>	Obligations for investment firms with respect to business continuity arrangements. See Article 14 of RTS 6 for more details.
<i>Benefits</i>	<p>The final draft RTS contributes to market stability through timely resumption of trading following unexpected disruptive events.</p> <p>It leaves room for judgement to the investment firm to decide on timely resumption of trading “where appropriate”, taking into account the characteristics of the firm’s business activities and of its clients, if any.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	BCAs are considered to be already part of CAs’ supervision of investment firms and are not expected to be a source of additional regulatory costs.
<i>Compliance cost</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Most of the requirements of the draft RTS are expected to be already good practice at investment firms’ and will be a source of low or modest additional costs.</p> <p>However, investment firms that trade a broad variety of instruments across a number of venues, including buy-side firms, may incur one-off and on-going costs that may not be insignificant to review their BCAs and ensure that they are bespoke to each venue accessed.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### *Pre-trade controls on order entry and post-trade controls*

Pre-trade and post-trade controls are all the more critical in algorithmic trading where a very high number of orders, and more broadly messages, may be sent to a trading venue in an extremely short period of time. This has the potential to create disorderly market conditions on the trading venue accessed and beyond, and be a source of significant market and credit risk for the investment firm.

Compared to the Guidelines, the final draft RTS introduces the obligation to have pre-trade controls that include price collars both on an order by order basis and over a specific time

period, in addition to maximum order value, maximum order volume and maximum message limits. Where appropriate to the venue accessed, the investment firm must also have strategy and product repeated automated execution throttles.

With respect to post-trade controls, the final draft RTS no longer requires investment firms to use drop copies for reconciliation of information, which would have been a source of costs for trading venues that currently do not provide such copies.

<b>Policy Objective</b>	Preventing algorithmic trading being a source of disorderly markets.
<b>Technical Proposal</b>	The final draft RTS covers the following areas: <ul style="list-style-type: none"> <li>- Pre-trade controls on order entry. See Article 15 of RTS 6 for more details.</li> <li>- Post-trade controls. See Article 17 of RTS 6 for more details.</li> </ul>
<i>Benefits</i>	The final draft RTS contributes to orderly markets by avoiding unintended errors particularly when there is a large number of messages or orders being sent to trading venues.  It provides clarity as to the minimum controls that, at least, need to be put in place.  The pre-trade and post-trade controls required positively contribute to investment firms' risk management.
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	CAs will incur one-off and on-going costs associated with the monitoring of the systems in place to run pre-trade and post-trade controls.
<i>Compliance cost</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	It is expected that most of those pre-trade and post-trade controls are already current market practice for a number of firms.  Some firms may nonetheless have to upgrade their pre-and post-trade controls, including with respect to price collars over a specified period of time or maximum messages limits. One-off costs may be incurred to integrate pre-trade risk limits and post trade control parameters in the programming of their trading systems and algorithms as well as on-going costs to run those pre and post-trade controls.
<i>Costs to other stakeholders</i>	DEA users may incur some costs. See Section 3.

<i>Indirect costs</i>	None identified.
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### *Security and limits to access*

Compared to the Guidelines, the final draft RTS introduces an obligation to promptly inform CAs of material breaches in their physical and electronic security measures and to provide them with an incident report. In addition, investment firms are required to undertake penetration tests and vulnerability scans against cyber-attacks at least on a yearly basis. They must be able also to identify all persons with critical user access rights to IT systems and monitor such accesses.

Taking into account the comments received, the final draft RTS requires investment firms to perform penetration tests at least on a yearly basis, instead of every six months as required in the RTS in the CP, which will be a source of reduced compliance costs.

<b>Policy Objective</b>	Maintaining fair and orderly markets through resilience of algorithmic trading systems to attacks against, or intrusion in, information systems.
<b>Technical Proposal</b>	Security and limits to access. See Article 18 of RTS 6 for more details.
<i>Benefits</i>	The final draft RTS contributes to maintaining confidentiality and integrity of data as well as reliability and robustness of systems, thereby ultimately contributing to orderly markets.
<i>Costs to regulator:</i> - <i>One-off</i> - <i>On-going</i>	One-off and on-going staff costs associated with the monitoring of the existence of such arrangements.
<i>Compliance cost</i> - <i>One-off</i> - <i>On-going</i>	Incremental obligations with regard to IT security measures may entail one-off costs related to investments in identity and access management solutions. One-off and on-going costs will be incurred to set up and run penetration tests and vulnerability scans on a yearly basis.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### **3. Direct Electronic Access (Article 17(5) of MiFID II)**

#### **3.1. Introduction**

The potential impact of the activities of DEA clients on trading venues is the main driver to require investment firms and TVs to have adequate arrangements in place before offering DEA capabilities to their clients, i.e. non-members.

Article 17(5) of MiFID II establishes that investment firms providing direct electronic access (DEA providers) to a trading venue should have in place effective systems and controls which ensure a proper assessment and review of the suitability of clients using the service. DEA clients are prevented from exceeding appropriate pre-set trading and credit thresholds. The trading carried out by the clients shall be properly monitored and appropriate risk controls shall prevent trading that may create risks to the investment firm itself or that could contribute to a disorderly market, contrary to Regulation (EU) No 596/20144 or contrary to the rules of the trading venue accessed.

Investment firms offering DEA services should also monitor the transactions in order to identify infringements of those rules, disorderly trading conditions or other kind of conduct that may involve market abuse. They should also ensure that there is a binding written agreement with the client regarding the rights and obligations arising from the provision of the service. Investment firms will be responsible for ensuring that clients using that service comply with the requirements of the Directive and the rules of the trading venue.

Under Article 17(7) of MiFID II, ESMA is required to draft RTS specifying the exact requirements to the controls concerning DEA in order to ensure a proper assessment and review of the suitability of clients using the service.

#### **3.2. Baseline**

The baseline for the assessment of the incremental obligations is Article 17(5) of MiFID II, together with Guidelines and market practice. The final draft RTS have expanded the Guidelines and added new obligations on the due diligence process, on-going review of DEA clients and systems and controls of DEA providers.

In terms of market practice, DEA providers across the EU conduct at present due diligence on prospective DEA users, including a thorough review of governance structure, training programs, security policies, operational set-up, procedures for responding to errors, competency of staff, regulatory status and licenses, algorithm testing policies, and the creditworthiness of the client. This is in addition to meeting Know-Your-Customer (KYC) and Anti-Money Laundering (AML) requirements where applicable.

Currently, sponsored access (SA) providers do not hold stored data of alerts generated through SA clients.



### 3.3. Stakeholders

#### *Investment firms providing direct electronic access services (DEA Providers)*

DEA providers are responsible for ensuring that clients using the service comply with the requirements of MiFID II and the rules of the relevant trading venue. Investment firms offering DEA services must undertake the necessary steps to apply pre-trade and post-trade controls to their clients, monitor their activity and trading, and apply market surveillance controls. Therefore, they will incur staff compliance costs to meet their monitoring and supervision responsibilities. However, these compliance costs should be considered jointly with the obligations imposed under Article 48(7) of Directive 2014/65/EU.

### 3.4. Cost-Benefit Analysis

#### 3.4.1. Summary Cost-Benefit Analysis

Under Article 17(5) of MiFID II, ESMA has been required to develop draft RTS covering the following key areas:

#### *General provisions for DEA systems and controls of DEA providers; specifications for DEA provider systems*

Since firms that provide DEA services are responsible for the activity and trading of their DEA clients, they must apply pre-trade and post-trade controls on their clients' trading. The final draft RTS expands the Guidelines by clarifying that DEA providers will have the ability to monitor any order submitted by their DEA clients, block or cancel orders from individuals or DEA clients under specific circumstances or withdraw DEA services to any client for which the DEA provider has concerns regarding fair and orderly trading or market integrity.

<b>Policy Objective</b>	Contribution to orderly markets by ensuring that DEA providers have effective control over the trading flow of their clients, the DEA users.
<b>Technical Proposal</b>	Article 19 of RTS 6 establishes some general requirements on DEA providers. DEA providers shall apply pre-trade and post-trade controls on the order flow of their clients and shall monitor the credit and market risk to which they are exposed in order to adjust efficiently their systems and controls. See Articles 20 and 21 of RTS 6 for more details.
<i>Benefits</i>	Contribution to orderly markets by ensuring that orders submitted to trading venues meet pre-determined parameters.  Allowing DEA providers to have control over the trading flow of their DEA clients, regardless of whether the type of access provided is direct market access (DMA) or SA.
<i>Costs</i> to	There may be on-going compliance costs for CAs associated with supervision and monitoring of compliance with the RTS obligations.

<p><i>regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>While these functions may be embedded into the existing supervision teams, the cumulative incremental obligations in organisational requirements may require CAs to increase staff in these areas.</p>
<p><i>Compliance cost</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Investment firms may incur substantial costs from performing the following tasks to comply with the RTS obligations: i) monitoring intraday, and on a real-time basis, their clients' trading activity, ii) applying pre-trade and post-trade controls to individual clients, financial instruments or groups of clients, iii) using an internal flagging system to identify and to block single clients or a small group of clients, iv) having in place procedures aimed at evaluating, managing and mitigating market disruption and firm-wide risk, v) assigning unique IDs to their clients, vi) recording relevant data related to the orders submitted by their DEA clients, vii) following up the alerts generated by their monitoring systems.</p> <p>Obligations related to the application of pre-trade and post-trade controls may require incremental one-off IT costs. Monitoring of market risk, will require additional systems, additional experienced people and the training of the current staff.</p> <p>The rest of obligations would entail both one-off and on-going costs from significant changes to internal rules and procedures, assigning new responsibilities to the risk management and control functions within the investment firms, substantial investments in technical, storing and processing capabilities and operational resources including technological interfaces/connectivity.</p>
<p><i>Costs to other stakeholders</i></p>	<p>DEA users may incur compliance costs from having to adapt their systems and processes to comply with the requirements of their DEA providers.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

*Due diligence on prospective DEA clients*

The final draft RTS supplements the Guidelines by setting out more clearly what aspects the due diligence carried out by DEA providers on prospective DEA clients should cover.

<p><b>Policy Objective</b></p>	<p>Ensure that DEA users have both the controls and the incentives to avoid disorderly trading.</p>
<p><b>Technical</b></p>	<p>Investment firms offering DEA shall conduct due diligence on their prospective DEA clients, in respect of the risks, scale and complexity of</p>

<b>Proposal</b>	their prospective trading activities and the service being provided. At a minimum, the process shall cover the items described in Article 22 and 21(4) of RTS 6.
<i>Benefits</i>	It provides assurance to the DEA provider that it can safely provide DEA to its clients.  It contributes to orderly markets by ensuring that prospective DEA users are suitable to use those services.
<i>Costs to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	CAs may incur compliance costs from having to check that an investment firm is able to meet the requirements of providing DEA, and in particular able to manage the risks arising from providing that service.
<i>Compliance cost</i>  - <i>One-off</i>  - <i>On-going</i>	DEA providers may incur incremental staff compliance costs from conducting the enhanced due diligence required by the RTS.
<i>Costs to other stakeholders</i>	DEA users may incur compliance costs from being subject to a comprehensive pre-assessment and providing evidence of meeting the criteria.
<i>Indirect costs</i>	Incremental costs arising from the RTS may be passed to final users and market participants.

#### *Periodical review of DEA clients*

The Guidelines already state that the due diligence assessment should be periodically reviewed by the DEA provider. The final draft RTS implements the Guidelines by setting out the obligation on investment firms of reviewing their due diligence assessment at least once per year as well as carrying out an annual risk-based assessment of their client's controls.

<b>Policy Objective</b>	Contribution to orderly markets by ensuring that the initial due diligence to prospective DEA clients remains appropriate on an annual basis.
<b>Technical Proposal</b>	Investment firms acting as a DEA provider shall review their due diligence assessment processes and carry out risk-based reassessment of their clients' systems and controls, taking into account relevant changes. See Article 23 of RTS 6 for more details.

<i>Benefits</i>	<p>It allows the DEA provider to have a comprehensive, dynamic understanding of its clients.</p> <p>It provides assurance to the DEA provider that the conditions to safely provide DEA to its client remain.</p> <p>It contributes to orderly markets by ensuring that DEA users meet the conditions required.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs may incur incremental on-going staff compliance costs from the supervision of investment firms providing DEA services to their clients.</p>
<p><i>Compliance cost</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>The incremental obligations from this RTS will entail on-going compliance costs related to staff involved in the annual review of the due diligence processes and reassessment of the adequacy of clients' systems and controls.</p>
<i>Costs to other stakeholders</i>	<p>DEA clients may experience on-going costs from complying with the on-going monitoring of DEA providers.</p>
<i>Indirect costs</i>	<p>None identified.</p>

### 3.4.2. Compliance Costs

ESMA requested investment firms and proprietary traders using algorithmic trading techniques to report to the extent possible the costs derived from complying with the draft RTS on organisational requirements of investment firms engaged in algorithmic trading and more specifically with the provisions on DEA.

Nine investment firms provided an estimation of their costs with respect to DEA services. One small proprietary trader within the category of 1 to 50 employees estimated total one-off and on-going costs to be less than EUR 50k as they do not expect significant changes arising from the RTS. Regarding medium size firms (51 to 250 employees), three institutions (two MIFID investment firms and one MIFID investment firm dealing with algorithm trading) estimated compliance costs to range between EUR 250k and 5m (one-off) and EUR 50k to 1m (on-going). Respondents mentioned that high costs may arise from increasing the capacity of the current systems, secure data connections, hiring consultants for implementation and additional experienced persons for monitoring.

Two medium-large firms, within the category of 251 to 1000 employees reported costs ranging from less than EUR 50k to 250k (one-off and on-going) mainly related to setting-up costs and relevant IT implementations. With respect to large firms (more than 1000 employees), three institutions (two MIFID investment firms engaged in algorithmic trading and one credit institution) provided an estimation of compliance costs (one-off and on-going) ranging from EUR 1m to 10m. Respondents mentioned they would incur substantial initial and on-going IT costs in terms of systems changes to store and analyse their client's trading patterns as well as relevant on-going staff costs and compliance costs related to calculation of credit and market risk.

The table below indicates the range of costs provided in Euros, considering firm size in terms of number of employees. The number of responses received in each category and used to create the cost estimates ranges shown on the table are presented in brackets.

		Number of employees			
Areas	Type of cost	[1-50]	[51-250]	[251-1000]	>1000
IT	One-off	<50k [1]	<50k-250k [2] 1m-5m [1]	50k-250k [2]	5m-10m [2]
	On-going	<50k-250k [1]	50k-1m [2]	50k-250k [2]	1m-5m [2]
Training	One-off	<50k [1]	≤ 50k[2]	<50k [2]	250k-1m [2]
	On-going	<50k [1]	<50k-250k [2]	<50k [2]	250k-1m [2]
Staff	One-off	<50k [1]	50k-1m [3]	<50k-250k [2]	1m-5m [3]
	On-going	<50k [1]	50k-1m [3]	<50k-250k [2]	1m-10m [3]
Total	One-off	<50k [1]	250k-5m [3]	<50k-250k [2]	1m-10m [3]
	On-going	<50k [1]	50k-1m[3]	<50k-250k [2]	1m-10m [3]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

#### **4. Organisational requirements for firms acting as general clearing members (GCMs) (Article 17(6) of MiFID II)**

##### **4.1. Introduction**

Investment firms acting as general clearing members for other investment firms are faced with additional risks, including counterparty and liquidity risks, which have to be mitigated and addressed. Whilst other European regulations are also relevant to address the requirements for investment firms acting as general clearing members (GCM), including the second Banking Directive, the Capital Requirements Directive (CRD IV) or EMIR, MiFID II focusses on the suitability of, and requirements imposed on, clearing clients by GCMs.

##### **4.2. Baseline**

In the absence of specific MiFID I provisions or Guidelines in this area, the legislation to consider is Article 17(6) of MiFID II, which should be read in conjunction with Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories (EMIR).

Article 17(6) of MiFID II provides that “an investment firm that acts as a general clearing member for other persons” shall have in place effective systems and controls to ensure clearing services are only applied to persons who are suitable and meet clear criteria and that appropriate requirements are imposed on those persons to reduce risks to the investment firm and to the market. The investment firm shall ensure that there is a binding written agreement between the investment firm and the person regarding the essential rights and obligations arising from the provision of that service.”

##### *Empowerment/RTS*

Under Article 17(7)(a) of MiFID II, ESMA has to “develop draft RTS to specify the details of organisational requirements laid down in paragraph 6 to be imposed on investment firms (...)”.

The final draft RTS creates additional obligations dealing with systems and controls of firms acting as general clearing members, regarding the determination of suitable persons, position limits and client disclosures. However, with the exception of client disclosures, we estimate the provisions of the draft RTS to mainly reflect current market practice and consider that any potential additional cost in this area is driven by the Level 1 text.

##### **4.3. Stakeholders**

The stakeholders identified are:

*GCMs:* GCMs will be subject to additional requirements, which are expected to be mainly related to client disclosures.

*Clearing clients:* prospective clearing clients will have to undergo a suitability test. Clearing clients will have to meet trading and position limits, as well as margin calls. The new disclosure obligations will contribute to facilitate the selection process when looking for a clearing member and will positively impact clearing clients.

*Competent Authorities (CAs)* will be required to process some more information to monitor compliance with the final draft RTS.

#### **4.4. Cost-Benefit Analysis**

The final draft RTS addresses three main issues. Two of them deal with the systems, procedures and arrangements to be put in place by investment firms to mitigate and manage the risks arising from clearing clients, i.e. assessment of prospective clearing clients and position limits. The third one deals with the information to be made available to prospective clearing members.

##### *Due diligence on clients*

The final draft RTS sets out a list of criteria against which the GCM must assess each prospective clearing client, as a minimum.

A careful balance has to be struck here between managing the risks arising from the general clearing firm’s clients and not dis-incentivising clearing firms to provide clearing services to prospective clients in order for the latter to be able to reduce counterparty risks through the use of a CCP where available.

The decision of accepting a client or not is typically driven by a combination of risk and commercial factors. Most clearing firms already have in place client acceptance policies covering the minimum criteria listed in the RTS. The acceptance procedures within a clearing firm are based on decisions based on multiple factors such as client type, size, activities, jurisdiction, legal structure, regulatory status, geographic location, credit standing and portfolio composition. In general, reviews are decided depending on the outcome of a risk assessment (i.e. credit rating, type of business cleared, nature of client, volume of business cleared). The criteria and the nature of the client will impact the frequency of the review. In practice, client relationship management requires clearing firms to be in contact with their clients almost every day. Many of the criteria relate to the “business as usual” relationship between GCMs and clients and are monitored continuously (e.g. trade processing, payment/settlement, collateral). However, collateral reviews are less frequent if the client does not trade actively. An annual review is made of criteria such as legal agreements, business strategy, financials, etc. Many clearing firms have in place triggers, such as change in trading behaviour, failed payment or change in rating, to prompt immediate reviews.

<b>Policy Objective</b>	Mitigating the risks associated with the provision of clearing services by limiting the provision of service to suitable persons.
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<b>Technical Proposal</b>	Due diligence on clients. See Article 25 of RTS 6 for more details.
<i>Benefits</i>	The final draft RTS provides more clarity and predictability as to CAs' minimum expectations with respect to the due diligence process.  Whilst assessment may be more stringent on a per client basis, outlining minimum suitability criteria for prospective clients' assessment will ensure a greater level of consistency amongst firms acting as GCMs.
<i>Costs to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	No additional cost expected as supervision of appropriate due diligence is already part of CAs' supervisory function.
<i>Compliance costs:</i>  - <i>One-off</i>  - <i>On-going</i>	The obligations set out in the draft RTS are considered to be current market practice and therefore not a source of additional compliance costs for GCMs
<i>Costs to other stakeholders</i>	The obligations set out in the draft RTS are considered to be current market practice and therefore not to be a source of additional compliance costs for prospective clearing clients.
<i>Indirect costs</i>	None identified

### *Position limits and margining*

The final draft RTS requires GCMs to set trading and position limits to their clients, to monitor those limits and to have procedures in place for managing the risk of breaches of those limits.

The capacity to monitor limits on a real time basis depends upon the sophistication of the clearing firms' systems. Where the clearing firm is also the DEA provider, pre-trade and post-trade risk controls allow the firm to monitor the client's activity in real-time. Where the clearing firm is not the DEA provider, the clearing firm relies on post-trade risk controls that are updated as soon as trades are received by the clearing firm. Most clearing firms have post-trade intra-day risk systems that monitor client positions in real-time where required depending on client type, activity, and markets cleared, or once a day depending on the choices that a client has made with regard to where, how, through whom to execute, and when to allocate a trade. In practice, smaller clients that execute few trades are usually



monitored once a day since the costs of real feeds would be too costly to be passed on to the client. However, larger clients with higher volume bring higher risks and therefore a clearing firm monitors these clients on a near to real time basis. In certain cases, it may not be possible to achieve real time but rather close to real-time monitoring. For example, a real time view may not always be achievable as clearing members do not always have full transparency on a real time basis regarding the end client allocation of trades pre-clearing.

<b>Policy Objective</b>	Mitigating and managing the risks associated with the provision of clearing services
<b>Technical Proposal</b>	The final draft RTS covers the following area: - Position limits. See Article 26 of RTS 6 for more details.
<i>Benefits</i>	Setting trading and position limits and monitoring those limits as close to real-time as possible will help mitigate and manage the counterparty, liquidity, operational and other risks a GCM may face.  This will ultimately benefit the CCPs they are a member of, and the overall market.
<i>Costs to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	No additional cost expected as already included in CAs' supervisory function.
<i>Compliance costs:</i>  - <i>One-off</i>  - <i>On-going</i>	The obligations set out in the draft RTS are considered to be current market practice and therefore not a source of additional compliance costs for GCMs.
<i>Costs to other stakeholders</i>	The obligations set out in the draft RTS are considered to be current market practices and therefore not a source of additional compliance costs for clearing clients.
<i>Indirect costs</i>	None identified.

#### *Disclosure of information about the services provided*

The final draft RTS introduces an obligation for GCMs to publicly disclose the general framework concerning fees and conditions applicable to prospective clearing clients, including the details of the different levels of segregation offered and the main legal implications thereof.

<b>Policy Objective</b>	Transparency on terms and conditions offered by GCMs.
<b>Technical Proposal</b>	Disclosure of information about the services provided. See Article 27 of RTS 6 for more details.
<i>Benefits</i>	Ensures that minimum harmonised information is offered on terms and conditions by GCMs to the clients to which they offer clearing services. It mirrors parallel requirements for CCPs vis-à-vis their direct clearing members under EMIR.  Will facilitate preliminary comparison by prospective clearing clients when selecting a clearing member and allow for comparison.
<i>Costs to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	CAs will incur one-off and on-going staff costs associated with monitoring compliance with the disclosure obligations.
<i>Compliance costs:</i>  - <i>One-off</i>  - <i>On-going</i>	GCMs will incur low one-off and on-going costs to publicly disclose, and update, their general framework for fees and conditions applicable to clearing clients.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

## 5. Investment firms that engage in high-frequency algorithmic trading

### 5.1. Introduction

HFT is a specific type of automated or algorithmic trading that is typically not a strategy in itself but corresponds to trading activities that employ sophisticated, algorithmic technologies to interpret signals from the market and, in response, implement trading strategies that generally involve the high frequency generation of orders and a low latency transmission of these orders to the market.

Whilst having some beneficial effects on the markets, HFT can also create some risks that need to be monitored by regulators, in pursuit of their objectives of market integrity, orderly and sound functioning of financial markets, and consumer protection. HFT may increase volatility in times of market stress and enable the implementation of fraudulent strategies for

market manipulation such as layering or quote stuffing. These risks create a need for regulators to implement enhanced market surveillance of HFT, in order to fulfil their objectives. Surveillance of orders is key for the detection of market manipulation of orders and for the analysis of major market incidents (e.g. flash crashes and algo glitches), through the rebuilding of the chain of events on the basis of the different order-books.

## 5.2. Baseline

The MiFID I/MiFID II/MiFIR provisions to consider are the following:

- Article 7 of the MiFID Implementing Regulation sets out the details to be kept by investment firms of every order received from a client or every decision to deal taken in providing the service of portfolio management, whilst Article 51(1) of the MiFID Implementing Directive requires those records to be kept for a 5 year period.
- MiFID II Article 16(6) sets out a general requirement for all investment firms to keep records of all services, activities and transactions undertaken by it which shall be sufficient to enable the CA to fulfil its supervisory tasks and to perform the enforcement actions.
- More specifically, MiFID II Article 16(7) sets out that such records “*shall include the recording of telephone conversations or electronic communications relating to, at least, transactions concluded when dealing on own account and the provision of client order services that relate to the reception, transmission and execution of client orders. Such telephone conversations and electronic communications shall also include those that are intended to result in transactions concluded when dealing on own account or in the provision of client order services that relate to the reception, transmission and execution of client orders, even if those conversations or communications do not result in the conclusion of such transactions or in the provision of client order services*”.
- The detailed content of the records to be kept under MiFID II Article 16(6) and 16(7) will be specified through delegated acts.
- MiFIR Article 25 covers the general obligation for investment firms to maintain data related to all orders and all transactions in financial markets, which they have carried out, whether on own account or on behalf of a client for five years.
- MiFID II Article 17 (2) subparagraph 5 sets out a specific requirement for investment firms engaging in high frequency trading to store in an approved form, accurate and time sequenced records of all its placed orders on trading venues, including cancellation of orders, executed orders and quotations on trading venues, and to make them available to CAs upon request.

ESMA is mandated by Article 17(7)(d) of MiFID II to develop draft RTS specifying the content and format of the approved form referred to in Article 17(2) subparagraph 5 as well as the

time period during which order records should be kept by HFT firms. The incremental obligations arising from the final draft RTS in those areas are to be assessed against the MiFID/MiFIR baseline described above. We consider costs in this area to be mostly driven by Level 1.

### **5.3. Stakeholders**

We identified two categories of stakeholders:

*Investment firms engaging in high-frequency algorithmic trading (HFT firms):* investment firms engaging in high-frequency algorithmic trading may need to make investments into their record keeping system (IT storage, systems and staffing). Costs may arise from having to adapt their record keeping systems to accommodate content in a format that may be different from what they currently store.

*Competent Authorities (CAs):* to implement the final draft RTS, CAs will have to deploy resources to monitor and evaluate the new information collected upon request. The changes implied by the RTS may also require CAs to upgrade their IT systems and modify existing processes. On the other hand, more comprehensive order record keeping will improve their ability to carry out their regulatory responsibilities related to market integrity, market monitoring and market abuse surveillance and provide extensive data to do an in-depth forensic analysis when there is a suspicion of abuse.

### **5.4. Cost-Benefit Analysis**

#### **5.4.1. Summary Cost-Benefit Analysis**

Each and every investment firm has to comply with record-keeping requirements under Article 16 (6) and (7) of MiFID II and to maintain data related to orders and transactions for five years under Article 25(1) of MiFIR.

The final draft RTS sets forth the information to be maintained by HFT firms, with respect to their high-frequency trading activity with respect to placed orders. It includes information relating to every initial decision to deal and incoming orders received from clients on the one hand, and information on outgoing orders, i.e. orders sent to trading venues on the other hand. It also specifies the information to be maintained in relation to outgoing and executed orders.

This information has much in common with the Technical Advice on MiFID II Article 16(6) and 16(7) sent by ESMA to the Commission in December 2014 and with record keeping requirements for trading venues, as set out in draft RTS .

However, as the Technical Advice on record keeping requirements for investment firms was submitted as early as in December 2014, the work on record keeping of orders by HFT firms conducted since then by ESMA led to the addition of some specific information and fields that are equally considered as useful for the analysis and understanding of market

participants' trading patterns and behaviours and to their particular regulatory scrutiny, as set out in MiFID II Recital (62).

Additional obligations arise from the final draft RTS in the following areas:

- the fields/contents of orders to be included in record-keeping in addition to the ones required under the Technical Advice. However, the actual incremental obligation, and costs, if any, arising from the final draft RTS, will ultimately be the add-ons to the final content of the order record-keeping requirements under the Delegated Act to be adopted by the Commission under Article 16 of MiFID II. Compared to the Technical Advice, the additional pieces of information to be included in record keeping of orders with respect to outgoing orders mainly relate to the identification of liquidity provision activity and to more specific fields dealing with the order type, such as pegged limit price, remaining quantity including hidden, displayed quantity, traded quantity, minimum acceptable quantity, minimum executable size (MES), MES first execution only, self-execution prevention, new order/modification/cancellation/rejections;
- the format under which the data has to be maintained. No format was recommended in the Technical Advice delivered to the Commission in December 2014. Therefore, this will represent an incremental obligation;
- the time period for which order records must be maintained. Consistent with the general obligation for investment firms under Article 25 MiFIR to maintain data related to all orders and all transactions in financial markets for five years under MiFIR, the final draft RTS requires investment firms engaged in high-frequency algorithmic trading to maintain records of orders for a five year period as well. This will represent an incremental obligation just for the additional information on orders to be recorded and kept compared to the Delegated Act;
- indirectly, the granularity of time stamping. Annex II of the final draft RTS refers to the final draft RTS 25 on clock synchronisation. The final draft of RTS 25 has been modified post consultation to introduce a more demanding obligation for HFT firms to have a granularity of time stamping of 1 microsecond or better.

The responses received to the December 2014 consultation expressed concerns that were actually mostly related to the Level 1 text. The final draft RTS has been amended mainly to align Annex II with the amendments made to the Annexes of final draft RTS 22 on Transaction reporting and to the record keeping of orders by trading venues under draft RTS 24. The final draft RTS is also impacted by the amendments made to the final draft RTS on Clock synchronisation

In their responses to the CBA questionnaire, four market participants mentioned that all of the data required was not currently available. IT systems would have to be enhanced or rebuilt to provide the full output and that compliance and risk control functions would have to be upgraded to meet the new obligations. The currently missing data cited includes algorithm identifiers, identification of relevant parties through LEIs or trader identification code

regarding investment decision and execution. It should be noted that this data will have to be collected anyhow for transaction reporting purposes under final draft RTS 22.

Respondents also noted the incremental costs arising from the additional data storage capacity required to maintain all the fields listed in the Annex to the final draft RTS.

<b>Policy Objective</b>	Enabling CAs to fulfil their supervisory tasks under MiFID II, MAD II and MAR in the specific context of high-frequency trading.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Content and format of order records. See Article 28 and Annex II of RTS 6 for more details.</li> <li>- Time Limits. See Article 29 and Annex II of RTS 6 for more details.</li> </ul>
<i>Benefits</i>	<p>Detailed content and harmonised format of order record keeping will facilitate data processing by CAs with respect to detection and investigation of potential market manipulation or attempt at committing market manipulation, to the benefit of market integrity.</p> <p>Granular time stamping will allow for more precise and refined analysis of the trading patterns involved.</p> <p>Consistency of period for maintaining records with general record keeping obligation will ease compliance.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs will incur one-off and on-going costs to supervise compliance with these order keeping requirements.</p> <p>In addition, as more information will be available to detect and investigate potential market manipulation or other inappropriate behaviour arising from high-frequency algorithmic trading technique, CAs may incur additional investigation costs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Investment firms engaged in algorithmic trading will incur substantial one-off IT costs, and staff training costs to update their IT systems to ensure that all the information required is maintained, under the format required. They will also incur on-going IT storage costs.</p> <p>However, a significant portion, yet to be precisely determined, of those costs will actually be attributable in the first place to the obligations set out in the Delegated Act to be adopted by the Commission with respect to Article 16(6) of MiFID II on record keeping obligations for investment firms.</p> <p>As regards the granularity of time stamping, please also refer to the</p>

	CBA for RTS 25 on Clock synchronisation.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

#### 5.4.2. Compliance Costs

ESMA requested firms that engage in high-frequency trading to report, to the extent possible, the costs that would derive from complying with the requirements to maintain records of orders, as set out in the draft RTS 35 annexed to the CP, and more specifically with the following proposed legal obligations: content of the order records, format of the order records, and record-keeping period.

Three institutions (two investment firms and one proprietary trader) with a number of employees ranging from less than 50 to more than 1000 provided data on the costs arising from complying with record keeping of orders.

Respondents estimated the total costs related to the implementation of the draft RTS on record keeping to be between EUR 50k and 10 million. However the distribution of costs varied significantly based on the size of the firm. A small firm (proprietary trader) estimated total one-off and on-going costs to be above EUR 10m, for all three proposed legal obligations concerned. However, given the costs indicated by slightly larger firms, it may be possible that they either have a different and more onerous understanding of the obligations of the RTS in the CP than the other respondents or they do not have in place any of the RTS requirements. Even in the case of medium firms, one firm estimates costs related to content and format of the order records of EUR 50k–250k. The large firm that replied indicates one-off costs of EUR 1-5m for both content and format of the order records. The main area of cost is IT (related also to additional storage requirements and refinement of the retention policy), followed by staff and training costs.

The table below shows the intervals of compliance costs per category and size of firms. Additionally, the numbers in brackets show the total number of companies that replied for each proposed legal obligation.

		Number of employees			
Proposed legal obligation	Type of cost	[1-50]	[51-250]	[251-1000]	>1000
Content of the order records	One-off	>10m [1]	50k-250k [1]	N/A	1m-5m [1]
	On-going	>10m [1]	50k-250k [1]	N/A	250k-1m [1]

Format of the order records	One-off	>10m [1]	50k-250k [1]	N/A	1m-5m [1]
	On-going	>10m [1]	50k-250k [1]	N/A	50k-250k [1]
Record-keeping period	One-off	>10m [1]	N/A	N/A	<50k [1]
	On-going	>10m [1]	N/A	N/A	<50k [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets



## **3.2. Organisational requirements of regulated markets, multilateral trading facilities and organised trading facilities enabling or allowing algorithmic trading through their systems (Article 48 of MiFID)**

### **1. Executive Summary**

One of the key additions of MiFID II compared to MiFID is the willingness to address the potential risks arising from the increased use of technology, including algorithmic and high frequency trading techniques both at investment firms' and trading venues' level.

The purpose of draft RTS 7 is to further specify the organisational requirements of Regulated Markets (RMs), Multilateral Trading Facilities (MTFs) and Organised Trading Facilities (OTFs) enabling or allowing algorithmic trading through their systems to ensure that the trading systems of those venues are resilient and have adequate capacity.

The Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and competent authorities ("the Guidelines") published by ESMA in 2012 was the first regulatory attempt at addressing similar of issues. The draft RTS confirms and, in many instances, supplements the Guidelines. It includes general organisational requirements in relation to proportionality, governance, to the compliance function within the governance process, staffing and outsourcing. It also includes requirements in relation to due diligence for members or participants, testing, capacity and monitoring obligations, means to ensure systems' resilience, direct electronic access and security.

This document covers three main topics: i) general organisational requirements for trading venues enabling or allowing algorithmic trading through their systems, ii) requirements in respect of capacity and resilience of trading venues and iii) direct electronic access and sponsored access to trading venues.

Each topic contains four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the final draft RTS, the baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which will be the MiFID requirement, ESMA Guidelines 2012/122 or current market practice where it exceeds previous legislation. The stakeholders identified are of regulated markets (RMs), multilateral trading facilities (MTFs) and organised trading facilities (OTFs), members, participants or clients of trading venues, outsourcing providers and Competent Authorities (CAs). The cost-benefit analysis contains an analysis of the benefits and costs associated with the provisions set out in the final draft RTS.

### **2. General organisational requirements**

#### **2.1. Introduction**

The use of trading technology has evolved significantly and is now extensively used by market participants, including for algorithm trading purposes. As stated in Recital (63) of MiFID II, the potential risks from increased use of technology are best mitigated by a combination of measures and specific risk controls directed at firms that engage in algorithmic trading techniques and other measures directed at operators of trading venues that are accessed by such firms. This final draft RTS on organisational requirements for RMs, MTFs and OTFs (collectively “trading venues”) enabling or allowing algorithmic trading through their systems is therefore to be read together with the final draft RTS 6 on organisational requirements for investment firms engaging in algorithmic trading.

The new obligations set out in the final draft RTS are twofold. One set of those measures deal with general organisation requirements, i.e. the framework within which trading venues must operate in order to ensure that they comply at all times with their legal and regulatory obligations and ultimately ensure that the trading systems they have deployed and that enable or allow algorithmic trading (“algorithmic trading systems”) do not create disorderly markets.

The final draft RTS 7 builds on, and supplements, the ESMA Guidelines in those critical areas for orderly markets.

## **2.2. Baseline**

The relevant legal text to consider is 48(1) of MiFID II, which requires a regulated market “to have in place effective systems, procedures and arrangements to ensure its trading systems are resilient, have sufficient capacity to deal with peak order and message volumes, are able to ensure orderly trading under conditions of severe market stress, are fully tested to ensure such conditions are met and are subject to effective continuity arrangements to ensure continuity of its services if there is any failure of its trading systems”. Under Article 18(5) of MiFID II, those requirements extend to MTFs and OTFs.

MiFID I did not explicitly established any specific provision addressing the electronic trading systems operated by trading venues. Those issues were however addressed by ESMA in the Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and competent authorities published in 2012 (the Guidelines). The Guidelines were adopted by CAs in all jurisdictions in the EU. Accordingly, we expect that most market participants have implemented these Guidelines in their regular practices.

## **2.3. Stakeholders**

The relevant stakeholders to consider are trading venues, outsourcing providers and CAs.

*Trading venues:* most incremental requirements impact directly trading venues. However, trading venues are expected to be largely compliant with a significant majority of the governance requirements. Not only has good governance become best practice, it has also become a commercial imperative. However there will be costs incurred for those trading

venues that have not adapted their structures according to the Guidelines. They may have to revise some of their existing outsourcing agreements.

*Outsourcing providers* will be required to put in place stricter governance processes around any software and hardware outsourced. There are also additional clauses expected in the agreements concluded with third part providers/vendors on audit rights for firms and CAs, access to relevant technical documentation (e.g. access to the source code on request or by entering into a code escrow agreement), and confidentiality arrangements.

*Competent Authorities* will be required to process greater quantities of more detailed information, necessitating sufficient technical expertise and resources to meet their supervisory responsibilities. As a result, some CAs may require further investment in human capital and/or IT services.

## 2.4. Cost-Benefit Analysis

The final draft RTS expands the initial proposals in the Guidelines and creates the following incremental obligations in the following areas:

- Organisational requirements,
- Governance,
- Compliance,
- Staffing, and
- Outsourcing.

### 2.4.1. Governance, general requirements and proportionality

The incremental rule compared to the Guidelines relates to the self-assessment to be carried out by trading venues before the deployment of a trading system and least on a yearly basis to assess their degree of compliance with Article 48 of MiFID II, taking into account the nature, scale and complexity of their business. Self-assessments have to include an analysis of the parameters set out in the annex to the final draft RTS and records have to be kept for a period of five years.

<b>Policy Objective</b>	Ensuring that trading venues monitor compliance with MiFID II requirements on an ex ante and on-going basis and that they do contribute to the maintenance of orderly markets.
<b>Technical Proposal</b>	Governance, general requirements and proportionality. See Article 2 and Annex I of RTS 7 for more details.
<i>Benefits</i>	Self-assessment before the deployment of a new trading system will contribute to ensuring that any such deployment is not a source of

	<p>disorderly markets.</p> <p>Periodic self-assessment will help ensure that the trading systems deployed by trading venues allowing algorithmic trading through their systems remain resilient and have adequate capacity, thereby contributing to orderly markets.</p> <p>The list of parameters to be considered by trading venues in the self-assessment provides more clarity and predictability as to CAs' expectations and contributes to an enhanced level playing field across trading venues in the EU.</p> <p>At the same time, under the proportionality principle, trading venues will have to pay due consideration to the particular characteristics of their different trading systems when carrying out self-assessments according to the set parameters.</p> <p>The record keeping period of five years is aligned with general record keeping obligations under MiFID II.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur on-going staff compliance costs from additional supervision resources to review the self-assessment reports prepared by trading venues either before the deployment of a new system or on a periodic basis.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues will incur one-off staff and IT cost to set up or enhance arrangements and procedures for self-assessment and on-going staff and IT costs to carry out those ad-hoc and periodic self-assessments.</p> <p>They will incur as well IT storage costs.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

#### 2.4.2. Governance

Compared to the Guidelines, the final draft RTS introduces a requirement for governance arrangements to provide for the segregation of functions to ensure effective supervision of the venue's compliance with its legal and regulatory obligations. The final draft RTS also clarifies that the management body or the senior management of a trading venue is

accountable for the self-assessment to be carried out under Article 48, for measures to expand capacity after a historical peak of messages or for measures planned to resolve material shortcomings.

<b>Policy Objective</b>	Ensuring the involvement of sufficiently senior staff to contribute to the resilience of electronic systems and thereby to orderly markets.
<b>Technical Proposal</b>	Governance arrangements to be set out by trading venues. See Article 3 of RTS 7 for more details.
<i>Benefits</i>	Segregation of functions will contribute to ensure that appropriate checks and controls are performed by different people and thus to limit the risk that a potential infringement of the trading venue's legal and regulatory obligations remains undetected internally.  Involvement of senior management helps ensuring that due consideration is given to resilience and capacity critical issues.
<i>Costs to regulator:</i>  - One-off  - On-going	CAs may need additional resources to monitor trading venues' governance in this area.
<i>Compliance costs:</i>  - One-off  - On-going	Many of these obligations are currently already deemed best practice.  Some trading venues may nonetheless incur one-off staff costs to review existing procedures and arrangements to ensure that they meet governance requirements and on-going staff costs where senior management would not be yet involved in self-assessments or other decisions they bear responsibility for.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### 2.4.3. Compliance Function within the Governance arrangements

Compared to the Guidelines, the final draft RTS is more specific about the need for compliance staff to be in continuous contact with persons with detailed technical knowledge of the venue's algorithmic trading systems and to have access, directly or indirectly, to the kill functionality. Finally, the draft RTS specifies the conditions for outsourcing of the compliance function or elements of it.

Taking into account the comments received and the fact that the exact scope of responsibilities entrusted to the compliance function may vary across trading venues, the final draft RTS no longer requires the compliance function to ensure that any failure to comply with legal or regulatory obligations is detected and remedied. This is expected to be a source of lower compliance costs as no trading venue will have to go through substantial internal re-organisation to comply with the RTS.

<b>Policy Objective</b>	Ensuring that the compliance function positively supports, and contributes to, the trading venue meeting their legal and regulatory obligations and preventing disorderly market conditions.
<b>Technical Proposal</b>	Obligations on trading venues regarding the compliance function within the government process. See Article 4 of RTS 7 for more details.
<i>Benefits</i>	<p>The final draft RTS will help ensure that the compliance function has all necessary means to effectively fulfil its critical role in assisting the trading venue to meet its legal and regulatory obligations.</p> <p>The final draft RTS also helps ensure this critical role is maintained whatever the arrangements and that neither the efficiency or effectiveness of the compliance function are undermined by outsourcing to external compliance consultants.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs may need to have in place systems and processes to monitor trading venues' compliance function but this should already be part of their trading venues' supervision efforts.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Many of the obligations outlined are currently already deemed best practice and therefore no incremental compliance costs are expected.</p> <p>Some trading venues may incur one-off staff costs to enhance their compliance staff's knowledge in algorithmic trading systems or to review their procedures governing compliance function's access to persons with technical knowledge or kill functionality.</p>
<i>Costs to other stakeholders</i>	Contractors may incur incremental compliance costs as they should establish direct access to trading venue's employees as if they were the trading venues' own compliance staff.
<i>Indirect costs</i>	None identified.

#### 2.4.4. Staffing

The key incremental obligation in the final draft RTS compared to the Guidelines is that staffing obligations may be met by employing staff with sufficient seniority to represent their functions effectively within the trading venue, offering appropriate challenge as necessary within the governance framework.

<b>Policy Objective</b>	Ensuring that staff of trading venues have sufficient skills, technical knowledge and, where appropriate, seniority, to properly run their trading systems.
<b>Technical Proposal</b>	Trading venues must ensure that they employ a sufficient number of staff with the necessary, expertise and seniority to manage their trading systems. See Article 5 of RTS 7 for more details.
<i>Benefits</i>	<p>Due to the speed of technological development, it is critical to orderly markets that staff of trading venues has the necessary skills and technical knowledge to manage the trading venue's algorithmic trading systems and anticipate the potential impact of investment firms' algorithmic trading and HFT techniques on the venue's trading systems, including through initial and on-going training. The final draft RTS will contribute to that objective.</p> <p>However, it is also critical that skills and technical knowledge be combined with seniority so that the concerns potentially raised by staff with such skills and knowledge are given due consideration by senior management.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	Monitoring of appropriate staffing of trading venues is expected to be already part of CAs' supervisory efforts.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	Some trading venues may incur additional one-off and on-going staff training costs and other staff costs where they would need to upgrade Human Resources (HR) in some critical area such as testing or monitoring of their algorithmic trading systems.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### 2.4.5. Outsourcing requirements

Outsourcing is an area where the final draft RTS substantially adds to the Guidelines.

Compared to the Guidelines, the final draft RTS introduces some restrictions on outsourcing of operational functions (e.g. clarification that it cannot alter the responsibility of the senior management or the management body; the terms and conditions with the members and participants cannot be altered; no removal or modification of any requirement subject to which the trading venue’s authorisation was granted) and requires due diligence to be conducted in the selection, management, monitoring and termination of outsourcing. The final draft RTS also sets out a list of conditions to be met at all times by the service providers and the trading venue outsourcing operational functions as well as the areas to be covered by the binding written agreement to be entered into by the trading venue and the service provider. Finally, the draft RTS introduces a requirement for trading venues to report their intention to outsource operational functions where the service provider is providing the same service to other trading venues or where the trading venue intends to outsource critical operational functions. In the latter case, outsourcing requires the prior approval of the CA.

Taking into account the comments received, the final draft RTS has been amended to clarify what is meant by “operational functions” and “critical operational functions”, which is expected to streamline compliance. The explicit reference to on-site access by CAs to the offices of the service provider has been replaced with a more outcome focussed provision stating that the outsourcing agreement must ensure that both the trading venue and the service provider must facilitate the exercise by the CA of its supervisory power. This may contribute to reduce compliance costs for smaller trading venues that were concerned that explicit reference to one-site visit by CAs may deter some providers from continuing to provide services and lead the remaining providers to increase fees.

<b>Policy Objective</b>	Ensuring that outsourcing of operational and compliance functions is not a source of additional risks to trading venues and orderly markets.
<b>Technical Proposal</b>	Obligations on trading venues in respect of outsourcing. See Article 6 of RTS 7 for more details.
<i>Benefits</i>	<p>Detailed harmonised outsourcing requirements provide more clarity, legal certainty and predictability as to CAs’ expectations, which may benefit third party providers as well.</p> <p>Those requirements set a level playing field across EU trading venues.</p> <p>The conditions to be satisfied for outsourcing operational functions should ensure that the circumstances where outsourcing of operational functions may potentially be a source of risks to the management and monitoring of a venue’s algorithmic trading systems</p>



	<p>or to compliance with their legal and regulatory obligations are identified and properly managed.</p> <p>The provisions of the outsourcing agreement will contribute to the smooth implementation and termination of those agreements.</p> <p>Prior CAs' authorisation for outsourcing of critical operational functions and a complete overview of all the operational functions outsourced by a trading venue will enhance CAs' understanding of a trading venue's reliance on outsourcing and assessment of potential risks thereof.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Mandatory prior written authorisation by CAs for the outsourcing of critical operational functions and review of other outsourcing agreements may be a source of additional on-going staff supervisory costs for CAs for which this is not current market practice.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues will face one-off costs to review existing outsourcing agreements to see if they meet the new requirements and determine whether contracts need to be renegotiated, there may also be one-off costs involved in renegotiating the existing contracts.</p> <p>When selecting outsourcing providers, trading venues may incur additional on-going staff costs to deal with an increase in due diligence, administration and documentation around the selection process and to monitor the implementation of the outsourcing agreements along the lines set out in the final draft RTS.</p> <p>Trading venues will also incur one-off costs to seek prior authorisation for outsourcing of critical functions. Those authorisation costs are likely to be all the more significant for smaller trading venues with limited in-house resources.</p>
<p><i>Costs to other stakeholders</i></p>	<p>Service providers may face additional staff and legal costs due to increased complexity of outsourcing agreements and potentially increased expectations from trading venues. Those costs may be passed on to trading venues, depending on the competitive environment in which those providers operate and as a consequence, to their members, participants or clients.</p>
<p><i>Indirect costs</i></p>	<p>None identified</p>

### **3. Capacity and Resilience of trading venues**

#### **3.1. Introduction**

The rest of measures on organisational requirements for trading venues enabling or allowing algorithmic trading through their systems focusses on the capacity and resilience of the venue's trading systems and the management of risks that may affect the core elements of the trading systems, including the hardware, software and associated communication lines used by trading venues and members or participants. MiFID I did not explicitly establish any provision regarding systems and controls for automated trading but those issues were addressed by ESMA in the Guidelines.

The provisions of the final draft RTS 7 in relation to due diligence for members or participants, testing, capacity and monitoring obligations, means to ensure systems' resilience, direct electronic access and security are broadly in line with the Guidelines. However, the final draft RTS supplements the Guidelines in a number of key areas.

#### **3.2. Baseline**

As for the general organisational requirements, the legal text to consider is 48(1) of MiFID II. (See above).

MiFID I did not explicitly establish any specific provisions regarding the capacity and resilience of the electronic trading systems operated by trading venues beyond a requirement for "effective contingency arrangements". However, those issues have been addressed by ESMA in the Guidelines.

Due Diligence for members or participants of trading venues was partially covered under Guideline 3 where trading platforms were required to perform adequate due diligence on applications by firms, that are not credit institutions or investment firms under EU law, to become a member/participant or user.

The obligation to test trading systems was referred to in Guideline 1 where trading platforms should prior to deploying an electronic trading system, and prior to deploying updates, make use of clearly delineated development and testing methodologies. The use of these methodologies should seek to ensure that, amongst other things, the operation of the electronic trading system is compatible with the regulated market's and multilateral trading facility's obligations under MiFID and other relevant Union or national law, that compliance and risk management controls embedded in the systems work as intended (including generating error reports automatically) and that the electronic trading systems can continue to work effectively in stressed market conditions.

Testing members algorithms to avoid disorderly trading conditions is referred to in Guideline 3 where trading platforms should have standardised conformance testing to ensure that the systems that members and participants are using to access the platform have a minimum

level of functionality that is compatible with the trading platforms' electronic trading system and will not pose a threat to fair and orderly trading on the platform.

Trading venue's capacity was addressed in Guideline 1 where regulated markets' and multilateral trading facilities' electronic trading systems should have sufficient capacity to accommodate reasonably foreseeable volumes of messaging. They should be scalable to allow for capacity to be increased in order to respond to rising message flow and emergency conditions that might threaten their proper operation. Measures to cope with excessive flooding of the order book, prevention of capacity limits being breached and measures to halt or constrain trading were addressed under Guideline 3.

On-going monitoring and periodic review of the performance and capacity of the trading systems was addressed in Guideline 1 under governance; in Guideline 3 under monitoring and review; and again under Guideline 5, where trading platforms are required to have sufficient systems to monitor and conduct periodic reviews and internal audits of procedures and arrangements to prevent and identify instances of conduct that may involve market abuse.

Means to ensure resilience of trading venues was addressed in Guideline 3 under monitoring and review, measures to cope with excessive flooding of the order book, prevention of capacity limits being breached and measures to halt or constrain trading.

Prevention of disorderly trading conditions is addressed under Guideline 3 where trading platforms should have the ability to prevent (in whole or in part) the access of a member or participant to their markets, be able to cancel, amend or correct a transaction; to implement measures to halt or constrain trading, to prevent capacity limits being breached and to establish monitoring.

Guideline 3 already imposed on trading venues to require their members or participants to have in place pre- and post-trade controls. The final draft RTS specifies that trading venues shall ensure that their members operate the pre-trade risk limits and controls described in the section on the organizational requirements for investment firms.

Article 48(12)(a) of MiFID II mandates ESMA to draft RTSs "(..) to further specify the requirements to ensure trading systems of regulated markets are resilient and have adequate capacity(..). More specifically, Article 48(12)(g) of MiFID II mandate ESMA to draft RTSs to ensure appropriate trading of algorithms so that algorithmic trading systems, including high frequency trading systems, cannot create or contribute to create disorderly trading conditions on the market.

For the purposes of this CBA we have also assumed that the Guidelines are the current market practice against which any potential additional obligation arising from the final draft RTS should be assessed. Where the draft RTS addresses issues not covered in the Guidelines, the baseline is either MiFID I or MiFID II, as specified.

### **3.3. Stakeholders**

The stakeholders identified are:

#### *Trading Venues*

Trading venues will have to enhance procedures, arrangements and systems to comply with the incremental obligations introduced by the final draft RTS, including in respect of testing of algorithms. Whilst the vast majority of trading venues covered within the scope of the final draft RTS are expected to be largely compliant with a significant majority of them, the nature, scale and costs of the enhancements required will vary depending on the nature and scale of the trading venue's activity and their degree of current compliance with the Guidelines.

#### *Competent Authorities*

CAs will be required to process greater quantities of more detailed information, necessitating sufficient technical expertise and resources to meet their supervisory responsibilities. As a result, some CAs may require further investment in human capital.

#### *Members of trading venues*

Members of trading venues will be affected by the due diligence to be conducted by trading venues and the obligations imposed on them by trading venues as regards testing.

### **3.4. Cost-Benefit Analysis**

In the final draft RTS, the incremental rules for trading venues cover the following areas:

1. Due Diligence on members of trading venues,
2. Testing of the trading systems,
3. Capacity of algorithmic trading systems,
4. Monitoring obligations,
5. Periodic review of the performance of algorithmic trading systems,
6. Business continuity,
7. Resilience through prevention of disorderly trading conditions, mechanism to manage volatility and pre-trade and post-trade controls,
8. Security.

The costs and benefits resulting from the incremental obligations imposed by ESMA are examined in the tables below.

### 3.4.1. Due Diligence for members or participants of trading

Compared to the Guidelines, the final draft RTS expands on the elements to be included by trading venues in the standards to be met by members for using their electronic order submission systems. However, and based on the comments received, the final list of such elements has been reduced to focus on areas of most relevance in the context of electronic order submission systems, such as pre-trade controls, qualification of staff in key positions or potential provision of DEA to the member’s clients . In addition, the final draft RTS has been modified to require trading venues to conduct a yearly risk-based assessment of their members against those parameters, instead of a yearly assessment of all members. Those amendments will reduce compliance costs both for trading venues and their members.

<b>Policy Objective</b>	Ensuring that members/participants of trading venues do not contribute to the creation of disorderly trading conditions.
<b>Technical proposal</b>	Due diligence for members or participants of trading venues. See Article 7 of RTS 7 for more details.
<i>Benefits</i>	<p>The final draft RTS will help ensure that only members with suitable arrangements in place, and with qualified supporting staff, have access to the venue’s order submission system and that the required standards are maintained on an on-going basis by members.</p> <p>It prevents or limits the risk that members are a source of disorderly trading conditions when submitting orders to the venue’s trading.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs may incur one-off and on-going staff costs to enhance their supervisory function and ensure compliance by trading venues.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>The incremental obligations will entail one-off staff costs for trading venues to review and enhance the pre-defined standards to be met by their members.</p> <p>Trading venues will incur on-going staff costs for the annual review of the due diligence processes, the documentation of processes and remedial action if required.</p>
<i>Costs to other stakeholders</i>	Members of trading venues will incur staff costs to proceed with the periodic review of their status.
<i>Indirect costs</i>	None identified.

### 3.4.2. Testing of the trading systems

Testing obligations include testing of the venue's trading systems, compliance testing and testing of the members' algorithms.

#### i. Testing of the trading systems

The Guidelines already require trading venues to make use of clearly delineated development and testing methodologies prior to deploying or updating a trading system. Testing by trading venues of their trading systems is not discussed in this CBA as we do not consider it as an incremental rule compared to the Guidelines.

#### ii. Conformance testing

Conformance testing aims at ensuring that members' trading systems and algorithms can interact as expected with the trading venue's matching logic and that data from and to the trading venue can be adequately processed.

Although the Guidelines referred to conformance testing, the final draft RTS specifies that conformance testing must be undertaken prior to the deployment or substantial update of the access to the trading venue's system or of the member's trading system, trading algorithm or trading strategy. The final draft RTS is also far more specific on the scope of conformance testing and on the characteristics of the conformance testing environment to be provided by a trading venue to its members or prospective members.

Taking into account the feedback received, the final draft RTS has been modified to clarify, that conformance testing is only required in case of a substantial update in the trading venue's access functionality or in the member's systems or algorithms and that the conformance testing environment may be limited to a list of financial instruments representative of the ones available in the live environment, covering every class of instruments. Those modifications will reduce the compliance costs arising from conformance testing, both for trading venues and members.

#### iii. Testing of the members' algorithms to avoid disorderly trading conditions

The Guidelines already established the obligation for investment firms to have their trading systems and algorithms tested but it was not made compulsory for trading venues to offer a platform testing environment. Article 48(6) of MiFID II introduces this new obligation and the final draft RTS sets out the characteristics of the testing environment to be offered to test their members' trading systems and trading algorithms.

As simulation facilities which reproduce as realistically as possible the production environment may be quite challenging and costly to implement for some trading venues, the final draft RTS has been modified to allow for testing symbol environments. In addition, the RTS now makes clear that, whilst members have to certify trading venues that their algorithms have been tested, trading venues are not responsible for validating the certification. Those modifications will contribute to reduce compliance costs.

For both conformance testing and testing of members' algorithms, trading venues must ensure a separation between testing and production environments. Where this is not possible, the final draft RTS has been modified to foresee that testing must take place outside trading hours. This will be another source of reduced compliance costs, including for smaller trading venues.

Compliance costs for those two testing obligations will ultimately depend on market practice. Testing facilities provided to participants and prospective participants currently vary from venue to venue. Some venues will provide full equivalent testing facilities whereas others only provide access to a limited number of securities in a significantly smaller parallel service.

Some venues offer members and prospective members' access to a full certification suite, which is made available and offers real-time simulation trading during trading hours and at no additional charge. This test environment replicates the live system and includes everything that is available in the live market plus any new segments, instruments or markets that may be launched shortly. An order generator will constantly generate orders into the test environment to ensure that there is sufficient flow available for members to interact with, using prices on the generated orders taken from the live market.

Where venues do not currently support an independent conformance test service, they may have to create a completely new testing environment in order to meet the requirements specified within the proposals which could run to significant additional costs. Standardised test packs would have to include additional staffing costs to support the process.

<b>Policy Objective</b>	Ensuring a smooth interaction between trading venues' and members' trading systems and maintaining orderly market conditions.
<b>Technical proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Conformance testing. See Article 9 of RTS 7 for more details.</li> <li>- Testing of members' algorithms to avoid disorderly trading conditions. See Article 10 of RTS 7 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability as to the conformance testing to be undertaken by trading venues and the testing environment to be made available to members. It contributes to ensure a level playing field across trading venues and will facilitate supervisory convergence.</p> <p>It will help ensuring that only members and participants with sufficient appropriate robust and secure technical solutions will be able to access the trading venue and deploy their algorithms on that venue, thereby limiting risks to the orderly operation of the trading venue's</p>

	trading systems.
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	Some CAs may incur one-off and on-going costs to enhance their existing supervisory monitoring function to ensure trading venues meet testing obligations.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues may incur one-off and on-going staff and IT costs to enhance their conformance testing as to undertake those tests whenever required.</p> <p>They may also incur one-off and on-going staff and IT costs to set up and run the trading testing environment facility to be made available to their members.</p>
<i>Costs to other stakeholders</i>	The likely impact for investment firms will be additional staff costs and potential IT development effort to set up, and carry out, conformance testing packs with each of the trading venues accessed and to deliver algorithms testing certification.
<i>Indirect costs</i>	None identified.

### 3.4.3. Capacity

The ESMA Guidelines only referred to the obligation for trading venues to have sufficient capacity. The incremental obligation under the final draft RTS is for trading venues to ensure that their systems have sufficient capacity to accommodate at least twice their historical peak of messages expressed as the highest number per second recorded on that system for the previous five years, a time period which is in line with the record keeping obligations for trading venues.

The research conducted has revealed that trading venues are already undertaking periodic reviews to assess system capacity. This became industry wide practice in August 2011, at the height of the Grexit crisis, when messaging peaks reached their height, and as such trading venues have already increased system capacity.

However, responses to the December 2014 Consultation Paper and to the March 2015 Cost Benefit questionnaire indicated that operating at 50% headroom over and above their highest ever day will prove challenging for smaller regional trading venues in the European Union. It is also unlikely that all venues will maintain a full 50% spare capacity considering the number of days on which this parameter will be breached may be very small. However, it has to be noted that the requirement has been revised to take into account the responses to the consultation, and the final draft RTS only requires to consider the last five years of trading. Additionally, the final draft RTS foresees that there might be cases where the peak is



breached due to very exceptional circumstances and it might not be necessary to expand the infrastructure. The final draft RTS provides that where the number of messages has exceeded the historical peak, a trading venue has to reassess whether the capacity of its trading systems is still adequate and inform the competent authority about any measures planned to expand capacities.

The final draft RTS also introduces an obligation for trading venues to make public and report to CAs and members of any severe trading interruption not due to market volatility and any other material connectivity disruptions. This is however already current market practice.

<b>Policy Objective</b>	Ensuring that trading venues have sufficient capacity as a contribution to robust and resilient markets
<b>Technical proposal</b>	Trading venues' capacity. See Article 11 of RTS 7 for more details.
<i>Benefits</i>	To ensure that all trading venues will have sufficient capacity to continue operating even in extreme conditions.
<i>Costs to regulator:</i>  - One-off  - On-going	<i>Low cost</i> of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues meet capacity obligations.
<i>Compliance costs:</i>  - One-off  - On-going	The most significant compliance cost will be the increase in capacity where the trading venue does not currently meet the required 50% excess capacity. This will include the implementation cost of additional hardware and on-going costs to ensure capacity levels are monitored to the required standard.  For those that currently have such excess capacity, there may be additional IT costs when capacity limits are breached and appropriate action is required.  Again, while the major exchanges and MTFs currently may have the capability in place to manage this obligation, a number of smaller exchanges or MTFs may need to upgrade their technology to run periodic load tests to ensure capacity is sufficient, including trend monitors to see if breaches could potentially occur.
<i>Costs to other stakeholders</i>	In the cases described above, the costs may be passed on to the members, participants or clients of a trading venue.
<i>Indirect costs</i>	There is a risk that the implementation cost of additional hardware and on-going costs to ensure capacity levels are monitored to the required

	standard, including staffing costs, could lead to significant start-up costs which may prove a barrier to entry which may lead to reduced variety and choice for consumers.
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### 3.4.4. Monitoring Obligations

The concepts of real-time monitoring and periodic review of trading systems were introduced in the Guidelines where trading platforms are required to monitor their electronic trading systems in real time to spot possible signs of disorderly trading and deal adequately with the problems identified as soon as reasonably possible.

While the thrust of the obligations are similar to the ones set out in the Guidelines, the final draft RTS is more detailed about the scope and content of those monitoring obligations. In particular, the RTS sets forth the minimum elements to be included in the real-time monitoring activity and specifies that a real-time monitoring device should be able to generate alerts within five seconds of the relevant events. Likewise, the final draft RTS sets out the minimum parameters to be taken into account for the monitoring of the performance and degree of usage of the elements of their trading systems, such as the percentage of the maximum message capacity utilised per second, gateway-to-gateway latency per second or matching engine progress.

The level to which trading venues currently monitor their business will differ from venue to venue and the number of staff required to monitor and take action will relate to the extent to which they have been able to automate the monitoring process.

The research conducted has indicated that some trading venues have a number of real-time monitoring systems that are available to all of the monitoring team and are usually accessible by management. They include monitors to show operating capacity, server capacity, gateway and disk usage and open order count along with visual graphs to show the current status of capacity vs expectations. A chain of command then exists via the development or infrastructure teams to inform the chief technology officer and management if and when action is required to address either hardware or software capacity issues.

However, there will be development required to introduce the additional elements of monitoring and potential increases in staff costs and training.

<b>Policy Objective</b>	Ensuring that algorithmic trading platforms operated by trading venues remain continually effective and preventing or limiting risk of disorderly markets.
<b>Technical proposal</b>	The final draft RTS covers the following areas:  - General monitoring obligations. See Article 12 of RTS 7 for more details.

	- On-going monitoring. See Article 13 of RTS 7 for more details.
<i>Benefits</i>	<p>The final draft RTS provides more clarity and predictability as to CA's minimum expectations. It also contributes to setting a more levelled playing across trading venues while taking into account their specific business profile.</p> <p>Monitoring obligations will allow for early identification of any potential problems with the orderly operation of a trading venue's electronic systems and consequently enable quick remedial action.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs may incur one-off and on-going staff and/or IT costs to enhance their existing monitoring function to ensure trading venues adhere to monitoring requirements.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>It is now an important part of a trading venue's business model to ensure that their systems are adequately monitored; however the level to which existing trading venues currently monitor their businesses will differ, and the number of staff required to monitor and take action directly relates to the extent to which they automate processes.</p> <p>For trading venues that will incur additional IT and management costs, these will include one-off costs to formalise procedures and further on-going costs to cover the monitoring and review, testing and implementation of adjustments where required. Both requirements will also need to include relevant staffing and training costs.</p> <p>Since many of the proposed obligations are becoming standard market best practice, we estimate low compliance costs arising from these provisions.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	There is a risk that the overall implementation costs associated with the capacity and resilience obligations of trading venues could lead to start-up costs which may prove a barrier to entry and lead to reduced variety and choice for consumers.

### 3.4.5. Periodic review of the performance of algorithmic trading systems

The concept of periodic testing was again introduced under ESMA Guideline 1, where the operators of trading platforms should periodically review and evaluate their electronic trading

systems, and associated process for governance, accountability and sign-off and associated business continuity arrangements.

Compared the Guidelines, the final draft RTS specifies that, as part of their annual compliance review with Article 48 of MiFID II, trading venues are required to run periodic stress tests appropriate to the nature, scale and complexity of their business and lists the minimum adverse scenarios to be considered. The review and evaluation process of a trading venue’s algorithmic trading systems are to be conducted by an independent assessor or by a department within the trading firm different from the one in charge of the function being reviewed.

Taking into account the comments received, the final draft RTS has been modified and no longer foresees that a trading venue may require its members to participate in stress tests. Potentially the costs for investment firms could have been significant, depending on the number of trading venues that they connect to and therefore the need to support multiple tests. The final draft RTS now establishes that scenarios can be tested by only simulating the members’ activities.

<b>Policy Objective</b>	Ensuring the continued safe and orderly operation of a trading venue’s algorithmic trading systems.
<b>Technical proposal</b>	Periodic review of the performance of algorithmic trading systems. See Article 14 of RTS 7 for more details.
<i>Benefits</i>	The final draft RTS provides clarity as to the minimum scope of the periodic review and stress tests to be undertaken by trading venues, it will contribute to a more harmonised framework.
<i>Costs to regulator:</i>  - One-off  - On-going	CAs may incur one-off and on-going staff and/or IT costs to enhance their existing monitoring function to ensure trading venues adhere to monitoring requirements.
<i>Compliance costs:</i>  - One-off  - On-going	For trading venues periodic reviews may require additional IT and management costs, including one-off costs to formalise procedures and further on-going costs to cover the review periodically. This will include technology costs such as hardware, software and communications, as well as analysis, testing and implementation of any adjustments where necessary. This will also include relevant staffing and training costs.  However again, many of the proposed obligations are standard market best practice for a number of trading venues and as such may not be

	considered incremental for the purposes of this CBA.
<i>Costs to other stakeholders</i>	None identified,
<i>Indirect costs</i>	There is a risk that the overall implementation costs associated with the capacity and resilience obligations of trading venues could lead to start-up costs which may prove a barrier to entry which may lead to reduced variety and choice for consumers.

### 3.4.6. Business continuity arrangements (BCAs), Business continuity plan (BCP) and periodic review

Here again, the high level obligations set forth in the Guidelines in respect of BCPs are supplemented with more detailed requirements, such as the minimum content of a trading venue's BCP.

One of the key incremental obligation is for the business continuity arrangements to target a recovery time of no later than two hours and a recovery point objective measured in terms of frequency of backups close to zero. The final draft RTS also specifies that clock synchronisation has to be included in business continuity scenarios and stresses the role of senior management in establishing clear objectives and strategies in terms of business continuity, and approving the BCP, ensuring that appropriate resources are allocate to BCAs and being informed of the controls and audits performed on the adequacy of the BCP.

As with other areas reviewed under this CBA, the investment in the area of business continuity is well underway by the larger trading venues and is deemed a necessary part of the cost of doing business, and as such the incremental costs for those larger trading venues in this area should be minimal. Incremental costs may be more significant for smaller trading venues that would not benefit from the synergies associated with being part of a wider group infrastructure.

It is worth noting that many investment firms will be considering the BCAs of a trading Venue as part of the risk assessment of trading on a new trading venue.

<b>Policy Objective</b>	Ensuring that, as potentially systemic infrastructures, all trading venues can manage a catastrophic failure.
<b>Technical proposal</b>	The final draft RTS covers the following areas: - Business continuity arrangements. See Article 15 of RTS 7 for more details.

	<ul style="list-style-type: none"> <li>- Business continuity plan. See Article 16 of RTS 7 for more details.</li> <li>- Periodic review. See Article 17 of RTS 7 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS provides more clarity, legal certainty and predictability as to CA's minimum expectations in respect of business continuity arrangements. It also contributes to setting a more levelled playing across trading venues.</p> <p>By requiring trading venues to have robust business continuity arrangements, the final draft RTS contributes to ensuring that the effective and efficient operation of trading venues' algorithmic trading systems can be maintained in case of disruptive events or can be timely resumed, thereby avoiding or limiting potential negative impact for members and market participants more broadly.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur one-off and on-going staff and/or IT costs to enhance their existing monitoring function to ensure trading venues adhere to monitoring requirements.</p>
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Whilst most trading venues will have business continuity arrangements in place, there will be an initial one-off staff cost in ensuring that the procedures and operational activities are in line with the full list of obligations foreseen in the final draft RTS, including in respect of senior management's involvement.</p> <p>Additionally where firms current business continuity arrangements are not as stringent as those proposed they will need to increase the level of continuity provision which could include hardware, premises, staff and management costs.</p>
<i>Costs to other stakeholders</i>	<p>Members, participants or clients of trading venues may have to align with the trading venues' business continuity arrangements.</p>
<i>Indirect Costs</i>	<p>None identified.</p>

### 3.4.7. Resilience of trading systems: prevention of disorderly trading conditions, mechanisms to manage volatility and pre-trade controls.

The Guidelines high-level provisions are replaced here again with more detailed obligations that can be seen as a source of incremental costs but also as a way of guiding and facilitating implementation.

As part of the incremental obligations, the final draft RTS introduces an obligation for trading venues to be able to operate a “kill functionality” to cancel orders submitted by a member or a sponsored access participant under specific circumstances and to cancel or revoke transactions in case of malfunctioning of the trading venue’s mechanisms to manage volatility or of the trading system. Likewise, as part of their membership arrangements, members are required to operate their own kill functionality.

The policies and arrangements set up and maintained by a trading venue to prevent disorderly trading conditions, i.e. throttling limits, have to be made public in general terms and records of those policies and arrangements have to be kept for five years.

As regards the mechanisms to manage volatility, the final draft RTS adds obligations in terms of testing and monitoring of the mechanisms put in place to manage volatility and in terms of record keeping.

Finally, the final draft RTS introduces specific pre-trade controls obligations for each financial instrument both in terms of order value and order volume.

The final draft RTS has been modified in a number of areas to take into account the comments received and the amendments introduced are expected to lead to a more streamlined implementation and reduced compliance costs compared to the December 2014 draft RTS.

Normal practice dictates that members and participants are responsible for all orders submitted to trading venues, but the proposal requires that trading venues operate certain checks in addition. Some of these checks will be in place for some venues, but for others these will need to be developed and maintained, implying staff and IT one-off and ongoing costs.

When a kill switch is used, the members will need to ensure that an appropriate process exists for the restart. Kill buttons for both trading venues and members will need to be available at different levels: individual users, members and for all trading. All investment firms and trading venues must have kill functionalities to use as a last line of defence as part of standard business practice. Therefore the incremental cost is likely to be limited. The on-going costs would relate to staff training, testing and monitoring but again are likely to be considered non-significant.

<b>Policy Objective</b>	Ensuring that trading venues have arrangements in place to prevent situations that may lead to a disorderly market.
<b>Technical proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Prevention of disorderly trading conditions. See Article 18 of draft RTS 7 for more details.</li> <li>- Mechanisms to manage volatility. See Article 19 of RTS 7 for more</li> </ul>

	<p>details.</p> <ul style="list-style-type: none"> <li>- Pre-trade and post-trade controls. See Article 20 of RTS 7 for more details.</li> </ul>
<i>Benefits</i>	To ensure that all trading venues protect their interfaces and order handling mechanisms against disorderly and stressed market conditions.
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur one-off and on-going staff and/or IT costs to enhance existing monitoring function to ensure trading venues adhere to monitoring requirements.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Whilst many of the proposals are considered best practice, each trading venue will need to carry out a review to identify where they currently fail to comply and then there may be development, hardware, staffing and training costs to bring their processes up to the required standard.</p> <p>As part of the on-going cost there may be additional costs around the support and monitoring of the new features.</p> <p>Monitoring staff may also require additional training in how to interpret and act upon the information provided through the monitoring process.</p>
<i>Costs to other stakeholders</i>	Investment firms may potentially incur one-off and on-going staff and IT costs to enhance pre- and post-trade controls to access a trading venue but those controls are expected to be current market practice and therefore not a source of significant costs.
<i>Indirect costs</i>	Investment firms may have to amend their systems to work within the parameters that are implemented from these proposals, for example limiting the number of orders sent down through a single link as it may breach the throttle limits imposed by the trading venue.

### 3.4.8. Security and limits to access

The final draft RTS is more specific than the Guidelines in respect of the risks related to unauthorised access, system interferences or data interferences to be addressed by a trading venue in its procedures and arrangements for physical and electronic security. In addition, the draft RTS introduces an obligation for trading venues to promptly provide an



incident report to their CA in case of any successful breach in their physical and electronic security measures.

<b>Policy Objective</b>	Protecting algorithmic trading systems from misuse and protecting the integrity of the data that passes through the systems.
<b>Technical proposal</b>	Provisions governing security and limits to access. See Article 23 of RTS 7 for more details.
<i>Benefits</i>	Protecting algorithmic trading systems from misuse or unauthorised access and protecting the integrity of the data that passes through the systems.
<i>Costs to regulator:</i> - One-off - On-going	CAs may incur one-off and on-going staff and/or IT costs to enhance their existing monitoring function to ensure trading venues adhere to monitoring requirements and to review incident reports where this is not current market practice yet.
<i>Compliance costs:</i> - One-off - On-going	Trading venues may incur one-off staff and IT costs to enhance physical and electronic measures of security as well as on going costs for reviewing those measures on a periodic basis.  Should the case arise, they will incur on-going staff costs to provide incident reports to CAs in case of breach of security measures.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

#### *Additional comments to Cost Benefit Analysis*

Taken separately, each of the incremental rules may not be a source of significant one-off or on-going costs for trading venues. However the cumulative costs of those obligations may end up being quite significant, including for smaller trading venues, even though those obligations are to be implemented taking into account the nature, scale and complexity of their activities. As opposed to larger trading venues, smaller ones will likely not have in-house resources to enhance their IT systems and related arrangements and procedures to comply with the new obligations and will have to rely on consultants and other third party providers to do so. Final compliance costs may therefore ultimately depend on the pricing power of the parties involved.

In addition, the increased costs of being authorised as a trading venue allowing or enabling algorithmic trading to take place through its systems, which is a typical feature of trading systems, at a time where MiFID II/ MiFIR aims at increased competition across trading venues, including in non-equity trading, and more efficient market, may act as a barrier to entry with market participants being offered less choice.

#### **4. Direct electronic access and sponsored access to trading venues**

##### **4.1. Introduction**

The potential impact of technological developments and the associated risks related to the ability of investment firms to offer DEA to their clients is one of the main drivers to require both investment firms and trading venues to tighten the arrangements they have in place before offering DEA capabilities to their clients, i.e. non-members.

Article 48(7) establishes that a regulated market permitting DEA should have in place effective systems, procedures and arrangements to ensure that members or participants are only permitted to provide such services if they are investment firms authorised under MiFID or credit institutions under Directive 2013/36/EU, that appropriate criteria are set and applied regarding the suitability of persons to whom such access may be provided and that the member or participant retains responsibility for orders and trades executed using that service in relation to the requirements of MiFID II. The regulated market should also:

- Set appropriate standards regarding risk controls and thresholds on trading through such access;
- Be able to distinguish, and if necessary to stop, orders or trading by a person using DEA separately from orders or trading by the member or participant; and
- Have arrangements in place to suspend or terminate the provision of DEA by a member or participant to a client in the case of non-compliance.

Under MiFID II Level 1 Article 48(12)(c) ESMA is required to draft RTS specifying the controls concerning DEA and ensuring that the controls applied to SA are at least equivalent to those applied to DMA.

##### **4.2. Baseline**

The baseline for the assessment of the incremental obligation is the MiFID II Level 1 legislation, together with ESMA Guidelines and market practice where relevant.

ESMA Guideline 7<sup>37</sup> introduced substantial rules around the organisational requirements for regulated markets and multilateral trading facilities whose members/participants and users provide DMA/SA. These rules and procedures sought to ensure that, in cases where

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<sup>37</sup> ESMA Guidelines Systems and Controls in an automated trading environment for trading platforms, investment firms and competent authorities

members/participants or users allow DMA/SA, the provision of that service is compatible with fair and orderly trading. It also sought that trading platforms and their members/participants retained control and performed close monitoring of their systems. The objective was to minimise any potential disruption caused to trading venues by these third parties, to avoid any potential misconduct or market abuse of DMA/SA clients or being vulnerable to their inadequate/erroneous systems.

Guideline 7 also established that trading platforms have to set out whether or not it is permissible for their members/participants or users to offer DMA and/or SA.

The Guidelines have been reflected in the RTS on organizational requirements for investment firms (ORIFs). The RTS on organizational requirements for trading venues require trading venues to set out the specific requirements for their members (including the regulatory obligations in ORIFs). For SA, trading venues have to authorise the access of a client through SA.

### **4.3. Stakeholders**

Whilst the headline of these draft RTS are aimed at trading venues there will be a significant impact on the investment firms whose business models may be affected by many of the proposals. The actual impact of the final draft RTS will depend on the current arrangements for both trading venues and investment firms. The impact on investment firms is covered in more detail in the CBA of the RTS covering organizational requirements for investment firms.

Although the ultimate responsibility for what is sent to trading venues for execution lies with the member, under the draft RTS proposed by ESMA, trading venues now have additional responsibility to ensure that members' activity and members and client's activity is conducive to the provision of orderly trading on their venue. Whilst many CAs may have already introduced guidelines at a national level, some of the obligations for trading venues established by the RTS may be incremental vs. current market practice.

#### *Trading Venues*

Trading venues will need to have pre-defined standards and arrangements to determine whether their members or participants may provide DEA to their own clients and if so, the conditions applicable to those clients. Therefore, trading venues permitting DEA through their systems need to set out and make public the rules and conditions pursuant to which their members (DEA providers) may provide DEA to their own clients (DEA clients).

Those conditions should cover at least the requirements for the provision of DEA established by the RTS related to investment firms engaged in algorithmic trading as well as the minimum standards to be demonstrated by a prospective DEA client at the due diligence process of the DEA provider, as per the requirements of the same RTS.

In addition, under the RTS, trading venues' self-assessment should include the number of members providing DEA access (including, where applicable, specific numbers for SA) and the conditions under which DEA is offered or can be delegated.

Current market practice does not demand that members of all trading venues systematically inform their venues that they are offering DMA to their clients. Therefore, some trading venues may need to put in place a number of controls that may include the following:

- Guidelines as to the profile of who is suitable for DEA and conditions applicable to those clients.
- Specific requirements where the trading venue accepts SA users.

Due to the nature of SA, this requirement already exists by virtue of the fact that the venues themselves must provide the sponsoring member with access to the controls and limits directly at the exchange. Failure to do so would result in naked access, which was banned under MiFID II.

#### *Investment Firms*

Trading venues permitting DEA through their systems need to ensure that only suitable clients have access, that the member or participant providing DEA to its own clients (DEA provider) has the ability to monitor order flow, halt any unauthorised activity and suspend or withdraw services.

Trading venues accept that the provisions of DMA is a standard offering and all potential members will be subject to on-boarding due diligence that will cover many of the requirements set out in this final draft RTS, with the overriding principle that the member is responsible for the settlement of all business entered in their name. The difference between existing market practice and the RTS is that trading venues will now be required to formally incorporate all of the final draft RTS obligations into their member agreements and would need to set up a process to monitor the adherence to that obligation by their members. Investment firms may need to review their agreements with trading venues, as a result.

There is currently no formalised industry standard for a DEA agreement unlike ISDA's. As such, some firms added terms and conditions for trading DMA into the general terms and conditions for trading with the firm (with annexes for any additional new requirement from a CA) as a result of MiFID I. Other firms maintain a separate agreement which is a two way agreement and must be signed by the accessing client. For some members/clients they will rely on the strength of the relationship with the client and the accepted industry precedent for trading DEA. However for users of SA, market practice is that the user will have an agreement between both their sponsoring broker and the trading venue in question and will carry out all technical on-boarding activities direct with the trading venue.

According to the feedback received, the majority of the controls discussed above are largely considered best practice by members of trading venues and therefore we expect only limited incremental changes. Nonetheless, there will be a significant administrative burden for investment firms in the set-up of the approvals for offering DEA with each of the trading venues of which they are members.

#### 4.4. Cost-Benefit Analysis

##### 4.4.1. Summary cost-benefit analysis

This section provides an analysis of costs and benefits for the two articles in RTS 7 that refer to DEA:

1. The pre-determination of the conditions to provide DEA (Article 21),
2. Specific requirements for trading venues permitting SA (Article 22).
  - i. Pre-determination of the conditions to provide DEA and specific requirements for SA.

<b>Policy Objective</b>	Contribution to fair and orderly trading by ensuring that trading venues better control and monitor the DEA activity passing through their systems.
<b>Technical Proposal</b>	This technical proposal sets out obligations for trading venues offering DEA to create and publish rules and conditions pursuant to which their members and participants may provide DEA to their own clients. See Article 21 and 22 of RTS 7 and CBA on the provision of DEA by investment firms for more details.
<i>Benefits</i>	<p>Contribution to orderly markets by ensuring that all DEA users are able to access the trading venue in an orderly manner.</p> <p>Enhanced risk management, controls and monitoring of DEA activities and clients and standardization of control requirements. It ensures that trading venues will have the capability to restrict any trading flow that could have an impact on the stability of the venue from reaching the market, and contributes to prevention of malfunctioning algorithms from affecting markets.</p> <p>Increased clarity in the contractual agreements between TVs and DEA providers.</p> <p>Increased visibility on DMA activity versus a firm's own activity which is beneficial to trading venues.</p> <p>Creates a framework that formalises a situation in which trading venue members are responsible for ensuring that flows from their DEA clients comply with their rulebook.</p>
<i>Costs to regulator:</i>	CAs may incur some on-going compliance costs arising from having to check that a trading venue can monitor an investment firm's ability to meet the requirements of providing DEA and to manage the risks

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>that could arise.</p> <p>CAs may also incur on-going costs from checking that trading venues authorize the provision of SA and also check that a venue effectively monitors that firms accessing through SA have sufficient pre-trade risk limits and controls. However, these checks and controls may be included in the regular supervision of trading venues, and in that case costs would be marginal.</p>
<p><i>Direct compliance costs</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues may incur one-off costs to set up specific authorization and monitoring processes for SA users and to make changes and extensions of internal rules and other legal frameworks. Trading venues will have to formally incorporate the obligations to the members or participants providing DEA to their clients into their member agreements which will involve one-off administration costs.</p> <p>There may be some ongoing costs related to the trading venues' publication and development of rules and conditions. Staff costs such as training and dedicated personnel may arise from setting up or upgrading a monitoring function or carrying out a review of client internal risk controls whenever necessary, rules development, set-up of approvals for offering DEA, etc.</p> <p>In the case of SA there may be additional one-off costs related to set up processes and procedures that would enable them to authorize the provision of SA, making sure SA providers can set or modify the parameters that apply to pre and post trade controls over SA clients, and suspend or withdraw the provision of SA. There may be on-going costs to administer this on a regular basis.</p>
<p><i>Costs to other stakeholders</i></p>	<p>The obligation of members or participants of a trading venue to undertake due diligence on prospective clients and the minimum standards that they should meet may lead them to incur additional administrative and management costs. Some of the costs could have been already attributed to the Guidelines, in some cases there will be some incremental ones.</p> <p>These incremental costs will include one-off costs to formalise legal agreements and prior written authorisations between DEA providers and users and on-going costs to cover the additional systems and controls to be established, maintained and monitored. This may include technology costs such as hardware, software and communication costs, as well as analysis, testing and adjustments where necessary – to restrict access for example. This may also require relevant staffing and training costs. Additionally, DEA providers may also bear fines or sanctions imposed by the trading</p>

	<p>venue as a consequence of its DEA client's behaviour.</p> <p>Software companies and third party vendors who offer DEA services will be required to implement these additional controls for any investment firm that uses their trading system technology, which could create incremental costs, and perhaps also incremental revenues depending on the contracts they have in place.</p> <p>Firms accessing through SA may not have the same level of controls as a regular member or participant of a trading venue, so they may have to make one-off investments to reach that level or to modify their arrangements (for instance, moving to a DMA agreement).</p>
<i>Indirect costs</i>	None identified.

#### 4.4.2. Compliance Costs

ESMA requested trading venues to report to the extent possible the costs derived from complying with the draft RTS 7 with respect to Direct Electronic Access. Five trading venues provided an estimation of compliance costs with regards to DEA. Two small trading venues between 1 and 50 employees estimated total costs to be from less than EUR 50k to 1m for one-off costs and up to EUR 250k for on-going costs. One-off costs are mainly related to staff and IT issues while on-going costs are related to the continuous monitoring activities.

Regarding medium size trading venues (51 to 250 employees), two institutions estimated compliance costs to range from EUR 50k to 5m (one-off costs) and from EUR 50k to 1m (on-going costs). Some respondents stated that costs would arise from changes and extensions to exchange laws and other legal frameworks or from the implied frequency of testing of the trading platforms. Concerning medium-large trading venues, one respondent estimated total one-off and on-going costs to be between EUR 1m to 5m, as they expected significant investments in hardware in order to increase capacity and investments to hire new staff to monitor and service the new hardware.

The table below indicates the range of costs in EUR provided considering firm size in terms of number of employees, showing in brackets the number of responses received in each category and used to create the ranges shown.

Areas	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
IT	One-off	250k-1m [1]	5m-10m [1]	1m-5m [1]	N/A
	On-going	250k-1m [1]	250k-1m [1]	250k-1m [1]	N/A
Training	One-off	50k-250k [1]	<50k-250k [2]	50k-250k [1]	N/A
	On-going	50k-250k [1]	<50k [1]	50k-250k [1]	N/A
Staff	One-off	<50k-250k [2]	50k-250k [2]	50k-250k [1]	N/A
	On-going	<50k-250k [2]	250k-1m [1]	250k-1m [1]	N/A
Total	One-off	<50k-1m [2]	50k-5m [2]	1m-5m [1]	N/A
	On-going	<50k-250k [2]	250k-1m[1]	1m-5m [1]	N/A

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets



### **3.3. Market making, market making agreements and market making schemes**

#### **1. Executive Summary**

The purposes of the final RTS are:

- To further clarify the circumstances in which an investment firm performing a market making strategy should enter into a market making agreement and the content of such agreement;
- To specify the requirements to ensure that market making schemes are fair and non-discriminatory; to establish minimum market making obligations that trading venues (although Article 48 of MiFID refers to regulated markets only, those obligations are extended to other types of trading venues, namely MTFs and OTFs, by virtue of Article 18(5) of MiFID II) must provide when designing a market making scheme and to establish the conditions under which the requirement to have in place a market making scheme is not appropriate.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS. The Baseline section explains the starting point for assessing the incremental obligation related to ESMA's RTS, which can be either the MiFID requirements, or the existing practices of regulated markets, MTFs and OTFs when they are above MiFID II. The stakeholders identified are investment firms engaged in algorithmic trading (including providers of direct electronic access (DEA), Competent Authorities (CAs) and trading venues (considering as such operators of regulated markets, MTFs and OTFs). The cost-benefit analysis section contains an analysis of the benefits and costs associated with the proposals set out in the final draft RTS.

#### **2. Introduction**

MiFID II pursues two main goals in specifying the market making obligations of algorithmic traders engaged in market making strategies as well as the correlative obligations of trading venues. First, it introduces an element of predictability of liquidity as investment firms pursuing market making strategies are bound by contractual obligations. Second, it requires the presence of those firms in the market during a specified proportion of the trading venue's trading hours, particularly during stressed market conditions.

#### **3. Baseline**

MiFID II introduces a number of concepts to promote orderly and efficient functioning of markets in the current market environment in relation to firms pursuing a market making strategy on a trading venue.

From a legal perspective, in the case of investment firms, the relevant baseline to assess the impact of the RTS are Articles 17(3) and 17(4) of MiFID II as there was no equivalent obligation for algorithmic traders to enter into a market making agreement before MiFID II.

Also, there are currently no EU-wide minimum standards for the content of market making agreements.

Article 17(3) of MiFID II determines that “an investment firm that engages in algorithmic trading to pursue a market making strategy shall, taking into account the liquidity, scale and nature of the specific market and the characteristics of the instrument traded:

- carry out this market making continuously during a specified proportion of the trading venue’s trading hours, except under exceptional circumstances, with the result of providing liquidity on a regular and predictable basis to the trading venue;
- enter into a binding written agreement with the trading venue which shall at least specify the obligations of the investment firm;
- have in place effective systems and controls to ensure that it fulfils its obligations at all times.

According to Article 17(4) of MiFID II, “an investment firm that engages in algorithmic trading shall be considered to be pursuing a market making strategy when, as a member or participant of one or more trading venues, its strategy, when dealing on own account, involves posting firm, simultaneous two-way quotes of comparable size and at competitive prices relating to one or more financial instruments on a single trading venue or across different trading venues, with the result of providing liquidity on a regular and frequent basis to the overall market”.

In the case of trading venues, the legal text to consider is Article 48(2) and (3) of MiFID II, which requires trading venues to have in place:

- i. written agreements with all investment firms pursuing a market making strategy on the regulated market;
- ii. schemes to ensure that a sufficient number of investment firms participate in such agreements which require investment firms to provide liquidity to the market on a regular and predictable basis, where such a requirement is appropriate to the nature and scale of the trading on that trading venues.

The written agreement between the trading venue and the investment firm pursuing a market making strategy shall at least specify:

- i. the obligations of the investment firm in relation to the provision of liquidity and where applicable, any other obligation arising from participation in the scheme;
- ii. any incentives offered by the trading venue to an investment firm to provide liquidity on a regular and predictable basis and, where applicable, any other rights accruing to the investment firm as a result of participation in the scheme.

The trading venues shall monitor and enforce compliance by investment firms with the requirements of such binding written agreements and inform the CA about the content of the binding written agreement and provide upon request additional information necessary to enable the CA to monitor the compliance by the trading venues.

ESMA has been empowered to specify the Level 1 rule by issuing a Level 2 text in the form of draft RTS (Article 17(7)(b) and (c) and Article 48(12)(f) of MiFID II). The mandate requires ESMA to:

- further specify the circumstances in which an investment firm engaged in algorithmic trading has to enter into a market making agreement;
- define the content of these agreements;
- specify situations constituting exceptional circumstances;
- the conditions under which trading venues are obliged to have market making schemes in place, the minimum content of those schemes and the requirements to ensure those schemes are fair and non-discriminatory.

Based on the information gathered, existing market making agreements take into account:

- Price, liquidity and volatility of the instrument;
- Business model and size of the market maker; and
- Business model and scale of trading on the trading venue.

Most of these agreements also contain:

- Minimum size and maximum spread of bid-ask quotes;
- Percentage of presence in the market during continuous trading hours;
- Incentives.

Current market making agreements also make a distinction between circumstances where a retreat from the market is inevitable, for instance in the case of problems with data feeds for the underlying securities of an ETF where the market making agreement covers the ETF, and circumstances of wider price movements, where the obligation is not waived but requirements are relaxed<sup>38</sup>. However, not all firms pursuing market-making strategies are currently covered by market-making agreements. For these firms without existing market making agreements, the final draft RTS rules are an incremental set of obligations. The RTS

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<sup>38</sup> See for Instance Rule 4102 on page 57 of the rulebook of the London Stock Exchange. <http://www.londonstockexchange.com/traders-and-brokers/rules-regulations/rules-lse.pdf>

represents also incremental obligations in the case of existing market making agreements or schemes which cover different provisions than the ones specified in the final draft RTS.

Market practice today is not harmonised, not all trading venues currently have in place market making agreements or schemes and when they do, not all of them are made public.

#### 4. Stakeholders

Three types of stakeholders are relevant for this standard: Investment firms engaged in algorithmic trading, CAs and trading venues.

*Investment firms engaged in algorithmic trading* may be impacted in two different ways: those firms which were not engaged in any type of binding contract to provide liquidity will have, if they satisfy the conditions set in the RTS, to enter into a market making agreement and face specific obligations in terms of time presence, size of the quotes and bid-ask spreads with respect to the current situation. For firms already acting under a market making or liquidity provision scheme, the market-making requirements may expand the existing obligations under those contracts.

The main impact of the final draft RTS may be an increased risk exposure due to a higher minimum presence time. However, it is very difficult to measure this impact due to the wide range of arrangements and strategies currently present in the market. Resulting changes of business strategy could have unintended consequences on the overall liquidity provision.

In some cases investment firms may need to upgrade their existing IT and physical systems to be able to perform the market making obligation. However, it should be stressed that the final RTS minimises those costs since it introduces similar conditions for an investment firm to qualify as pursuing a market making strategy and the consequent obligation this would trigger (posting quotes for 50% of trading hours). In other words, if an investment firm has sufficient IT capacities to qualify as pursuing a market making strategy, it is likely that it also has the IT capacity (or only marginal improvements to undertake) to satisfy the obligations arising from the market making agreement. The legal certainty achieved through the final draft RTS should avoid potential conflicts of interest that could arise (for instance, between a trading venue and a member or participant which is also a competitor in other areas).

CAs currently do not monitor the content of market making agreements. They might need to do so where they believe that adherence is not well monitored by the trading venues. Monitoring of potentially thousands of different types of agreements might require them to deploy additional resources and to create internal procedures to ensure proper enforcement of the final draft RTS. Cooperation with other CAs may be required as well.

*Trading venues* will have to publish on their website the terms of market making schemes, the names of the undersigned firms and the financial instruments covered by these agreements. TVs will have to monitor on an ongoing basis the effective compliance of the participants with the market making schemes (which is also a Level 1 obligation from Article

48(3) of MiFID II) as well as identify and communicate to participants the existence of stressed market conditions and of exceptional circumstances.

## 5. Cost-Benefit Analysis

The purpose of this section is to provide a cost-benefit analysis of the obligations considered incremental against a baseline that is aligned either with current market practice or with the MIFID II Level 1 legal baseline described above. However, the costs associated with the incremental obligation will be a combination of the effects of Level 1 and Level 2 provisions. As the Level 1 effects will be very difficult to disentangle, indications of costs are to be considered as an upper bound.

### Circumstances in which an investment firm is obliged to enter into a market making agreement

<b>Policy Objective</b>	Providing clarity and transparency on when a market making agreement is needed, with some predictability of liquidity and presence in the market.
<b>Technical Proposal</b>	Article 1 of RTS 8 establishes the circumstances where investment firms are considered to be pursuing a market making strategy, and therefore, should sign a market making agreement.
<i>Benefits</i>	<p>Creates an element of predictability to the apparent liquidity in the order book and fosters the presence of market makers during stressed market conditions.</p> <p>Establishing specific requirements facilitates the practical implementation of the obligation.</p> <p>Minimum standards allow for a level playing field between market makers while acknowledging the need for flexibility in the individual agreements.</p> <p>The higher threshold of time presence introduced in the final draft RTS vs. the one in the RTS attached to the CP reduces the burden for trading venues and firms that would have needed to enter into market making agreements when some of these firms may not have been genuine market makers.</p> <p>Requiring trading venues to monitor only market making strategies pursued on their own venue reduces the costs and complexity for trading venues.</p> <p>Limiting the obligation to have a market making scheme in place to those situations and instruments where algorithmic trading entails a greater risk of overreaction to external events which can exacerbate</p>

	<p>market volatility reduces the cost and operational burden of trading venues and investment firms. Trading venues may establish under their own initiative any market making scheme for other financial instruments or trading systems not covered by the final draft RTS.</p> <p>Having only one threshold for all asset classes reduces the complexity and administrative burden.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>As the requirement to supervise and enforce market making agreements is set at Level 1, the additional requirement to review whether these agreements are in line with these requirements would not create additional costs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Investment firms will bear very low to no incremental one-off compliance staff costs in assessing whether their behaviour is in line with the final draft RTS requirements. No incremental compliance costs are expected unless a particular venue and investment firm do not currently have signed market making agreements and would need to put them in place, a case in which there will be associated one-off staffing costs.</p> <p>Trading venues may incur staff compliance costs to monitor and enforce compliance by investment firms with the terms of the agreement signed.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Quality and quantity effects: any investment firm pursuing a market making strategy for more than the threshold set in the final draft RTS will be obliged to enter into a market making agreement and increase their presence. This could result in a reduction of their presence to just below that threshold in order not to be captured. This may have the effect of reducing overall liquidity in the market if other market makers are unable to fill the resulting “gap”.</p>

Content of market making agreements

<p><b>Policy Objective</b></p>	<p>Ensuring more predictable liquidity particularly in cases of stressed market conditions.</p>
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<b>Technical Proposal</b>	A binding written agreement should contain at least the content specified in Article 2 of RTS 8. Trading venues should monitor compliance on an ongoing basis.
<i>Benefits</i>	This option leaves ample room for trading venues and investment firms to adjust the requirements in terms of presence as well as quoting requirements to the market, the instrument traded and the way of trading. Therefore, the unintended impact will be minimised and liquidity resilience will be improved.
<i>Costs to regulator:</i>  - One-off  - On-going	Some compliance costs may arise where the CA judges that adherence is not well monitored by the trading venues. This might require them to deploy resources and may have an impact on their enforcement procedures and may translate into on-going staff monitoring costs.
<i>Compliance costs:</i>  - One-off  - On-going	For those trading venues or investment firms that already have an agreement which already covers the minimum content specified in the final draft RTS or goes beyond it, there are no incremental costs.  Incremental obligations and related one-off staff compliance costs may arise for those firms that are not currently covered by an agreement or this agreement does not cover the areas specified in the final draft RTS.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	There may be indirect costs arising from an increased risk exposure due to a higher minimum presence time required.

### Exceptional circumstances

<b>Policy Objective</b>	Clarify which situations qualify as exceptional circumstances where the obligation to provide liquidity on a regular and predictable basis does not apply.
<b>Technical Proposal</b>	Article 3 of RTS 8 establishes the circumstances where the obligation to provide liquidity does not apply. Article 4 determines when trading venues should make public exceptional circumstances, extension of declaration of exceptional circumstances and procedures to resume normal trading.

<p><i>Benefits</i></p>	<p>Provides clarity and certainty so as to contribute to orderly markets without imposing unreasonable obligations on market makers. It also clarifies the role of trading venues in the identification of those exceptional circumstances and, where necessary, in the dissemination of this information to all their members or participants. Appropriate communication with respect to exceptional circumstances should also allow a level playing field for members and participants when those circumstances occurred and ultimately ensuring fair and non-discriminatory implementation of market making schemes.</p> <p>Provides an exhaustive list of situations that constitute an exceptional circumstance, allows for a harmonised application of the RTS across different markets and so does making trading venues responsible for identifying the occurrence of exceptional circumstances.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur minimal costs to verify compliance which may be absorbed by the existing supervision teams covering investment firms and trading venues.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues may incur on-going staff compliance costs to update their policies and procedures, in case their current agreements contemplate different situations as exceptional circumstances. Trading venues may also need to make exceptional circumstances public in a specific timeframe, and set out clear procedures to resume normal trading after the exceptional circumstances have ended. However, this should be already current market practice so any potential costs should be marginal.</p> <p>Market makers may also incur staff compliance costs to update their policies, procedures and compliance efforts to also comply with the final draft RTS, in case their agreements contemplate different exceptional circumstances.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Some market makers may experience an effect on their income statement if the provisions of the final draft RTS are more stringent than their current arrangements.</p>



Conditions under which it is not appropriate to have a market making scheme in place.

<b>Policy Objective</b>	Contributing to the orderliness of the market by defining the conditions under which it is not appropriate to have a market making scheme in place.
<b>Technical Proposal</b>	Market making schemes are not required in the cases specified by Article 5 of RTS 8 (except for liquid shares and ETFs, options and futures related to those, liquid equity index futures and options traded through a continuous auction order book)
<i>Benefits</i>	<p>Imposes an obligation to have market making schemes in place for those situations and financial instruments where algorithmic trading can lead to effective disorderly trading conditions. This measure contributes to improve liquidity resilience.</p> <p>Reduces compliance costs for trading venues and market makers as the obligation to have a market making agreement is limited to the cases indicated above.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Regulators would need to supervise that investment firms and trading venues captured by this final draft RTS have in place a market making scheme. We anticipate this could be embedded into the existing supervision teams of investment firms and trading venues creating no incremental costs.</p> <p>However, we should note that the collective increase of obligations on both investment firms and trading venues arising from the package of organisational requirements RTS may require regulators to increase their staff in these areas.</p>
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>There are no incremental costs for those trading venues or investment firms that already have formalised market making schemes in place in the areas mentioned in the final draft RTS.</p> <p>Incremental obligations and related compliance costs may arise for those firms that are not currently covered by an agreement or this agreement does not cover the areas specified in the final draft RTS.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

Minimum market making obligations in a market making scheme, fair and non-discriminatory market making schemes

<p><b>Policy Objective</b></p>	<p>Contributing to the orderliness of the market by ensuring that investment firms have sufficient incentives to enter into a market making scheme and to be present in the market in times of higher price volatility with the objective to bring liquidity to the market on a regular and predictable basis.</p> <p>Provide access to market making schemes in a fair and non-discriminatory way.</p>
<p><b>Technical Proposal</b></p>	<p>A market making scheme should contain the incentives and parameters that must be met in terms of presence, size and spread to access those incentives under stressed market conditions. The scheme may contain similar incentives and parameters to access those incentives during normal market conditions (at the discretion of the trading venue). Trading venues have to set out the parameters to identify stressed market conditions, and consider the resumption of trading after volatility interruptions as stressed market conditions. Please see Article 6 of RTS 8 for more details.</p> <p>Article 7 of RTS 8 enumerates the conditions a market making scheme needs to have to be considered fair and non-discriminatory.</p>
<p><i>Benefits</i></p>	<p>Special incentives compensate market makers for the risks taken, particularly during stressed market conditions and incentivise them to stay in the market. This contributes to improve market liquidity resilience.</p> <p>Trading venues still have the ability to adjust their scheme of incentives and, for instance, only reward the best performers as long as this is done in a non-discriminatory manner.</p> <p>Publishing on the trading venues' websites the terms of market making schemes and the names of market makers that have signed them and the instruments covered provides transparency to the market.</p> <p>Provides certainty on how much notice trading venues should give when communicating changes to market making schemes.</p> <p>Provides objective measures to use when designing incentives that apply to all market makers, while at the same time provides some leeway to trading venues to determine access to incentives.</p>

<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Minimal costs for CAs to verify, in the context of their supervisory efforts, the existence of such clauses in market making schemes.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Minimal costs are expected to arise for trading venues or investment firms. Current market practice is such that extra incentives during stressed market conditions are already in place. These special incentives usually take the form of a widening of the spread regime instead of an outright waiver of the market making obligation. It is market practice that trading firms identify stressed market conditions at present.</p> <p>Trading venues may need to incur some one-off staff compliance costs to change the current schemes signed with investment firms in cases either incentives are not mentioned or the parameters used to access those incentives are different than those established in Article 6. They may also have some marginal costs from setting out the parameters to identify stressed market conditions, in case they do not currently have them in place.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

## **3.4. Ratio of unexecuted orders to transactions**

### **1. Executive Summary**

The purpose of the proposed final draft RTS is to further specify the requirements to determine the order-to-trade ratio (OTR) that might be entered into a trading system by a member or participant under Article 48(12)(b).

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, the baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which can be either the MiFID requirement, or current market practice where it exceeds the MiFID requirements. The stakeholders identified are trading venues and investment firms operating a Multilateral Trading Facility (MTF) or an Organised Trading Facility (OTF). The cost-benefit analysis section provides an analysis of the benefits and costs associated with the provisions set out in the final draft RTS

### **2. Introduction**

While MiFID I did not explicitly establish any provision regarding systems and controls for algorithmic trading, this issue was addressed by ESMA in its Guidelines on Systems and Controls in an Highly Automated Trading Environment for trading venues, investment firms and competent authorities published in 2012 (the Guidelines).

Guideline 3 referred to measures to cope with excessive flooding of the order book and provided that “trading platforms should have arrangements to prevent excessive flooding of the order book at any one moment in time, notably through limits per participant on order entry capacity”.

MiFID II introduces specific requirements with respect to algorithmic trading, both for investment firms and trading venues, with the aim of mitigating the potential risks from increased use of technology in trading and strengthening the resilience of markets. Trading venues must, amongst other things, have in place effective systems, procedures and arrangements to ensure algorithmic trading systems cannot create or contribute to disorderly trading conditions on their market. This includes a limitation of the messages that can be entered by a member/participant through a maximum ratio of unexecuted orders compared to the transactions executed by that a member/participant.

### **3. Baseline**

In the absence of MiFID I provisions in this area, the baseline is considered to be the Guidelines. The Guidelines were adopted by Competent Authorities (CAs) in practically all jurisdictions in the EU. Accordingly, it is expected that most market participants have implemented these Guidelines in their regular practice since then, including with respect to “arrangements to prevent excessive flooding of the order book” at any one moment in time, notably through limits per participant on order entry capacity”.

MiFID II is however more specific by making an explicit reference to a limit to the ratio of unexecuted orders to transactions.

Under Articles 48(6) of MiFID II, a regulated market must have in place “(...) effective systems, procedures and arrangements to ensure algorithmic trading systems cannot create or contribute to disorderly trading conditions on their market and to manage any disorderly trading conditions arising from such algorithmic trading systems, including systems to limit the ratio of unexecuted orders to transactions that may be entered into the system by a member or participant (...)”. Article 18(5) of MiFID expands the scope of its obligations to MTFs or OTFs.

Under Article 48(12)(b) of MiFID II, ESMA is required to develop draft regulatory technical standards to further specify the ratio of unexecuted orders to transactions, taking into account factors such as the value of unexecuted orders in relation to the value of executed transactions.

However, further discussion with the European Commission clarified that ESMA’s empowerment was limited to the development of a methodology to calculate the order to trade ratio (OTR) and did not encompass setting a limit to this ratio.

Many trading venues already calculate OTRs for their members/participants. For those trading venues, the additional obligation arising from the final draft RTS is the methodology prescribed to calculate OTRs.

For trading venues that currently do not have OTRs in place, or that do not have OTRs for all financial instruments, it is extremely difficult to disentangle the costs associated with the Level 1 requirement and the methodology set out in the final draft RTS. We consider any cost thereof to be driven by Level 1.

#### **4. Stakeholders**

*Trading venues:* RMs, MTFs and OTFs will have to apply the methodology established by ESMA to calculate OTRs. As such, even trading venues that currently calculate an OTR may need to adapt current procedures to the methodology set out in the final draft RTS. This will entail additional IT and staff costs.

*Members/participants of trading venues* may need to amend their trading patterns or parameters as a consequence of changes to current e OTR regime or in the wake of the introduction of OTRs.

#### **5. Cost-Benefit Analysis**

The draft RTS specifies the methodology to be used by trading venues to calculate an OTR for each member or participant and for each financial instrument traded on an electronic continuous order book, a quote-driven or a hybrid trading system.

The final draft RTS leaves total discretion to trading venue to decide on the actual OTR to be met by each member or participant. As a consequence, the potential costs for members/participants arising from breaching the maximum OTR itself are attributable to the trading venue setting the OTR, and not to the final draft RTS.

The final draft RTS also includes an annex setting out the counting methodology per order type. The counting methodology will facilitate implementation thereby reducing compliance costs.

<b>Policy Objective</b>	Ensuring that algorithmic trading systems cannot create or contribute to disorderly trading conditions on trading venues.
<b>Technical proposal</b>	<p>The final draft RTS covers the following areas;</p> <ul style="list-style-type: none"> <li>- Scope of the obligation to calculate an OTR. See Article 1 of RTS 9 for more details.</li> <li>- Methodology for determining the ratio of unexecuted orders to transactions. See Article 2 of RTS 9 for more details.</li> </ul>
<i>Benefits</i>	Provides clarity, legal certainty and predictability as to how OTRs are to be calculated. Such clarity benefits both trading venues and members/participants.
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	CAs will need to check the compliance of trading venues with the obligations prescribed in this RTS, as part of their supervision efforts. We think these costs should be not significant.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>ESMA's mandate only refers to the methodology to be used to calculate the OTR (and not to the OTR level).</p> <p>Trading venues that are currently applying a different methodology to set out the OTR will incur one-off IT costs to adapt their systems to the appropriate methodology. We estimate any associated costs to be not significant.</p> <p>Trading venues that do not have an OTR in place will incur one-off and on-going IT costs to implement the methodology required for the calculation. These costs are attributable to Level 1.</p>

<p><i>Costs to other stakeholders</i></p>	<p>Investment firms and their clients may need to amend their trading patterns or parameters as a consequence of the introduction of the OTR regime.</p> <p>However, we consider that any cost thereof will be driven by the actual OTR level set up by the trading venue, rather than by the methodology provided for in the final draft RTS.</p>
<p><i>Indirect costs</i></p>	<p>None identified</p>

## **3.5. Requirements to ensure co-location and fee structures are fair and non-discriminatory**

### **3.5.1 Co-location**

#### **1. Executive Summary**

The purpose of the proposed draft RTS is to further specify the requirements to ensure that co-location services are fair and non-discriminatory.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, the baseline section explains the starting point for assessing the incremental rule related to ESMA's final draft RTS, which can be either the MiFID requirements, or current market practice where it exceeds the MiFID requirements. The stakeholders identified are trading venues providing co-location services (and third party providers if service outsourced), investment firms using co-location services and Competent Authorities (CAs) supervising them. The cost-benefit analysis section provides an overview of the benefits and costs associated with the proposals set out in the final draft RTS. This final section contains a sub-section on compliance costs.

#### **2. Introduction**

Under Articles 48(8) of MiFID II, trading venues have to ensure that their rules on co-location are transparent, fair and non-discriminatory.

Under Article 48(12)(d) of MiFID II, ESMA is required to develop draft RTS to further specify the requirements to ensure that co-location services are fair and non-discriminatory.

#### **3. Baseline**

MiFID I did not explicitly establish any provision regarding co-location, it referred to regulated markets having non-discriminatory rules in Article 42(1), "Member States shall require the regulated market to establish and maintain transparent and non-discriminatory rules, based on objective criteria, governing access to or membership of the regulated market". Co-location was not covered specifically as such in the ESMA guidelines on systems and controls in an automated trading environment published in 2012. Therefore the baseline is Article 48(8) of MiFID II, which establishes that trading venues have to ensure that their rules on co-location are transparent, fair and non-discriminatory, or current market practice, whichever is higher.

The purpose of this document is to CBA the incremental obligation of ESMA's draft RTS as per Article 48(12)(d) against the baseline described above.



#### 4. Stakeholders

The stakeholders involved are any trading venue that provides co-location services, third party providers that may provide co-location services, any investment firm that uses co-location services and the CAs supervising them.

*Trading venues* may face some on-going costs arising from monitoring latency measures to ensure there is non-discriminatory treatment of any of the users (if data centres are owned by a trading venue), ensuring third party compliance when services are contracted out (if data centres are owned by a trading venue and managed by a third party or owned and managed by a third party and in cases where proximity hosting services are owned and managed by a third party) and publishing their policies regarding co-location services on their website.

*Third party providers* of co-location services may incur similar costs to trading venues, in case trading venues outsource their co-location services, including compliance costs related to monitoring compliance with the draft RTS obligations.

CAs may experience costs from supervising compliance with the RTS requirements, however, these costs may be marginal, as CAs may be able to use their existing supervision teams to verify compliance with the draft RTS.

#### 5. Cost-Benefit analysis

Most of the costs identified for the stakeholders mentioned should arise from Level 1 provisions.

##### 5.1. Summary cost-benefit analysis

*Types of co-location services covered; fair and non-discriminatory co-location services*

Policy Objective	Ensuring a level playing field in the provision of co-location services
Technical proposal	<p>Trading venues to publish on their website their policy regarding co-location services provide those services on the basis of objective, transparent and non-discriminatory criteria to the different types of users within the limits of facilities available in the cases mentioned in Article 1 of RTS 10.</p> <p>Trading venues to ensure that third party providers of co-location services are subject to equivalent obligations in terms of fair and non-discriminatory service provision.</p> <p>Trading venues should provide access to their network under equivalent conditions to all users subscribing to the same co-location services and take reasonable steps to monitor connections and latency</p>

	<p>to ensure non-discriminatory treatment.</p> <p>Users should have the possibility to subscribe only to certain co-location services without being required to purchase bundled services</p> <p>See Articles 1 and 2 of RTS 10 for more details.</p>
<i>Benefits</i>	<p>Ensuring trading venues provide a level playing field on co-location services, providing access under equivalent conditions for the same services.</p> <p>Trading venues that use third party providers are subject to the same standards as those that do not outsource their services.</p> <p>Users of co-location services will be able to subscribe only to the services they need.</p> <p>Publishing information on co-location services on the trading venues website ensures the information is equally available to all interested users.</p> <p>Facilitates supervision of compliance with the standard to CAs</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Regulators should be able to absorb any on-going staff costs arising from monitoring compliance with this standard into their regular supervision functions</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Trading venues may incur one-off and on-going costs related to IT, training and staff costs. Staff one-off costs may arise from updates to trading venues' regulations. On-going costs may be created from continuous supervision/update/monitoring of the contractual basis with third party providers to fulfil the RTS requirements.</p> <p>Seven companies responded to the ESMA CBA questionnaire on co-location (three investment firms, three trading venues and one proprietary trader. Respondents provided a range estimate for one-off and ongoing costs of compliance with the RTS of EUR 50K-5M. For more detailed information please see the section below with details on compliance costs.</p>
<i>Costs to other stakeholders</i>	<p>Third party providers used by trading venues to provide co-location services may also incur similar compliance costs to trading venues</p>
<i>Indirect costs</i>	<p>Higher costs faced by third party providers may be passed on to</p>

	trading venues.
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## 5.2. Compliance costs

ESMA sent a questionnaire on co-location and fee structures to trading venues, investment firms and proprietary traders using algorithmic trading techniques. ESMA requested to report to the extent possible the costs deriving from complying with the co-location services RTS.

Seven institutions (three investment firms, three trading venues and one proprietary trader) with employees ranging from less than 50 to more than 1000 provided data. While the costs gathered were based on the version of the draft RTS consulted on in the CP, the same level of costs should still hold as amendments made to the final draft RTS are minimal.

Respondents estimated the total costs related to the implementation of the draft RTS on co-location to be between EUR 50k and 5m. However, the distribution varied significantly based on the size of the firm, or even within the same firm size. Given the scale and scope of the obligations mentioned in the draft RTS there is a chance some respondents overstated the costs that would arise from this draft RTS.

Total one-off costs ranged from EUR 50k to 250k for small firms, 50k to 5m for small medium firms and EUR 250k to 5m for large firms. On-going costs were EUR 50k - 250k for small firms, 50k to 1m for small medium firms and 250k to 5m for large firms. The main cost category was one-off IT costs for small and medium size firms, and IT and staff costs for large firms.

The table below indicates the range of costs provided in Euros, considering firm size in terms of number of employees. The number of responses received in each category and used to create the cost estimates ranges shown on the table are presented in brackets.

Areas	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
IT	One-off	50k-1m [1]	50k-5m [3]	N/A	50k-1m [2]
	On-going	50k-250k [2]	50k-1m [3]	N/A	50k-1m [2]
Training	One-off	50k-250k [2]	50k-250k [3]	N/A	50k-250k [1]
	On-going	50k-250k [2]	50k-250k [3]	N/A	50k-250k [1]
Staff	One-off	50k-250k [2]	50k-1m [3]	N/A	50k-1m [2]
	On-going	50k-250k [2]	50k-250k [3]	N/A	50k-1m [2]
Total	One-off	50k-250k [1]	50k-5m [3]	N/A	250k-5m [2]
	On-going	50k-250k [1]	50k-1m [3]	N/A	50k-5m [2]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire are reported in brackets

## 3.5.2 Fee structures

### 1. Executive Summary

The purpose of the proposed draft RTS is to further specify the requirements to ensure that fee structures are transparent, fair, non-discriminatory and do not incentivise disorderly trading conditions or market abuse.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, the baseline section explains the starting point for assessing the incremental rule related to ESMA's final draft RTS, which can be either the MiFID requirements, or current market practice where it exceeds the MiFID requirements. The stakeholders identified are trading venues, investment firms, and Competent Authorities (CAs) supervising them. The cost-benefit analysis section provides an overview of the benefits and costs associated with the proposals set out in the final draft RTS and contains a subsection on compliance costs.

### 2. Introduction

Under Articles 48(9) of MiFID II, trading venues have to ensure that their rules on fee structures are transparent, fair, non-discriminatory and do not incentivise disorderly trading conditions or market abuse.

Under Article 48(12)(d) of MiFID II, ESMA is required to develop draft RTS to further specify the requirements to ensure that fee structures are fair, non-discriminatory and do not create incentives for disorderly trading conditions or market abuse.

### 3. Baseline

MiFID I did not explicitly establish any provision regarding fee structures, it referred to regulated markets having non-discriminatory rules in Article 42(1) "Member States shall require the regulated market to establish and maintain transparent and non-discriminatory rules, based on objective criteria, governing access to or membership of the regulated market". Fee structures were not covered specifically as such in the ESMA Guidelines. Therefore the baseline is Article 48(9) of MiFID II, which establishes that trading venues have to ensure that their fee structures are transparent, fair and non-discriminatory and do not create incentives for disorderly trading conditions or market abuse, or current market practice, whichever is higher.

In terms of market practice, two trading venues indicated their fee schedule already complies with the proposed draft RTS to a large extent. Fees related to connectivity services are currently not made public on the website but are provided on request to potential members, data vendors, independent software providers and application software providers.

The purpose of this document is to CBA the incremental obligation of ESMA's draft RTS against the baseline described above.

#### 4. Stakeholders

The stakeholders involved are trading venues, investment firms and CAs supervising them.

Most of the costs should arise from Level 1 provisions. Trading venues may face some one-off and on-going costs arising from providing their fee structures on their websites (IT, staff costs) with the granularity required by the final draft RTS.

Costs for CAs should arise from supervising compliance with the RTS requirements; however, those may be already embedded in their regular supervision efforts.

#### 5. Cost benefit analysis

*Fair and non-discriminatory fee structures and fee structures that may create incentives for disorderly trading*

<b>Policy objective</b>	Ensuring fee structures are fair, non-discriminatory and do not create incentives for disorderly trading or market abuse
<b>Technical proposal</b>	Trading venues to publish on their website their fee structures (execution fees, ancillary fees, rebates, incentives and disincentives) with sufficient granularity, to allow users to subscribe only to the services they want, to charge the same price and provide the same conditions to all users of the same type. Different fee structures can be established based on a number of parameters mentioned on the draft RTS. See Article 3 of draft RTS 10 for more details  Trading venues shall not offer cliff edge fee structures. See Article 4 of draft RTS 10 for more details.
<i>Benefits</i>	Contributes to orderly markets.  Ensures transparency on disclosure of fees, more clarity on how fees are calculated.  Provides more flexibility to users who can subscribe only to the services they need.  Ensures a level playing field on access to services and their fees.  Does not arbitrarily limit the rebates, incentives or discounts that could be offered by a trading venue.
<i>Costs to regulator:</i>  - <i>One-off</i>	Regulators should be able to absorb any costs arising from monitoring compliance with this standard into their regular supervision functions.

- <i>On-going</i>	
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	In case the proposed requirements imply changes to existing fee structures and documentation there would be a one-off cost associated with making the changes and an on-going exercise to monitor compliance with the new requirements. One respondent mentioned they would incur staff costs, coming from the proper disclosure of fee structures and rationales, at the rate of EUR 50K. For more detailed information please see the section below with details on the compliance costs.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### 5.1 Compliance costs

A questionnaire on co-location and fee structures was sent to trading venues, investment firms and proprietary traders using algorithmic trading techniques. ESMA requested to report to the extent possible the costs derived from complying with the RTS 10 on fee structures.

The costs gathered by ESMA and shown below were based on the version of the draft RTS published in the CP. The costs arising from the draft final RTS should be lower than those from the draft RTS consulted on in the CP, as ESMA has taken into consideration the comments and feedback provided by respondents to the CP and the CBA questionnaire on microstructural issues. ESMA is now proposing lower costs solutions for the areas that were most controversial and giving rise to the most significant costs whenever possible.

Four trading venues, one MiFID investment firm and one proprietary trader responded to the questions on fee structures. They estimated the cost implications amounting from very low (less than EUR 50K) to medium low (EUR 50K-250K). Total one-off costs ranged from EUR 50K-1M for small firms and EUR 250K-1M for large firms, while small medium firms indicated costs of less than EUR 50K. On-going costs were EUR 250K-1M for both small and large firms, and less than EUR 50K-1M for small medium size firms. The cost categories were equally distributed between IT, training and staff costs for small and medium small firms and mainly IT and staff one-off costs and IT and training on-going costs for large firms.

One of the respondents mentioned that if the proposed requirements involved changes to existing tariffs and documentation there would be a one-off cost associated with making the changes and an on-going cost to monitor compliance with the new requirements.

Respondents made a reference to charging for testing in their cost estimates, which under the proposal of the CP would have become a new chargeable service. However, this requirement has been removed from the final draft RTS as investment firms have now three

ways of testing algorithms (testing facilities of the venue, ‘test symbols’ of the venue or test algos in a third party facility).

The table below indicates the range of costs provided in Euros, considering firm size in terms of number of employees. The number of responses received in each category and used to create the cost estimates ranges shown on the table are presented in brackets.

Areas	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
IT	One-off	50k-250k [2]	<50k [2]	N/A	250k-1m [1]
	On-going	50k-250k [2]	<50k [2]	N/A	250k-1m [1]
Training	One-off	50k-250k [2]	<50k [1]	N/A	50k-250k [1]
	On-going	50k-250k [2]	<50k [1]	N/A	50k-250k [1]
Staff	One-off	50k-250k [3]	<50k [1]	N/A	250k-1m [1]
	On-going	50k-250k [2]	<50k [1]	N/A	50k-250k [1]
Total	One-off	50k-1m [2]	<50k [1]	N/A	250k-1m [1]
	On-going	250k-1m [1]	<50k-1m [2]	N/A	250k-1m [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

### **3.6. Tick size regime for shares, depositary receipts and exchange traded funds (Article 48(6) and Article 49 of MiFID II)**

#### **1. Executive Summary**

The purpose of the final draft RTS is to further specify the minimum tick sizes or tick size regimes for shares, depositary receipts (DRs), exchange traded funds (ETFs), certificates, similar financial instruments or other specific financial instruments specified by ESMA, where necessary to ensure the orderly functioning of markets.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, the baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which can be either the MiFID requirement, or current market practice where it exceeds the MiFID requirements. The stakeholders identified are trading venues, investment firms, and Competent Authorities (CAs) supervising them. The cost-benefit analysis section provides an overview of the benefits and costs associated with the proposals set out in the RTS.

#### **2. Introduction**

Under Article 49 of MiFID II, trading venues have to adopt tick size regimes for shares, DRs, ETFs, certificates, similar financial instruments or other specific financial instruments specified by ESMA, where necessary to ensure the orderly functioning of markets. These regimes should be calibrated to reflect the liquidity profile of the financial instrument in different markets and the average bid-ask spread, taking into account the desirability of enabling reasonably stable prices without unduly constraining further narrowing of spreads. The tick size needs to be adapted for each financial instrument appropriately.

Under Article 49(3) of MiFID II, ESMA is required to develop draft regulatory technical standards to further specify tick sizes or tick size regimes for the instruments mentioned above.

As MiFID I introduced competition for trading between regulated markets and multilateral facilities, newcomers were typically keen to try and offer competitive advantages in a number of areas, including technology, fee structures, reduced tick sizes and clearing costs. Reduced tick sizes were part of the strategy aiming at reducing friction costs. Enhanced and cheaper technology combined with reduced friction costs attracted new market participants, such as HFT firms, as well as new trading strategies. Regulated markets in turn had to cater for the needs of those new market participants, and responded to competitive pressure by, among other things, reducing tick sizes for the most liquid and therefore multi-traded shares.

Competition on tick sizes is one case in which the overall common good may be different than individual firm incentives. Trading venues may have strong incentives to provide lower tick sizes than their competitors, which may not be in the interest of market efficiency or the users and end investors. Tick sizes that make placing large orders to have only a marginal advantage, may in turn negatively affect market depth (i.e. liquidity), increasing costs for



users and have spill over effects on related derivatives markets. Some critics argue that very low tick sizes may negate time priority as it becomes very cheap to jump in front of a limit order, and this would dissuade participants to post liquidity. This is particularly the case when the typical spread in an underlying is many ticks wide.

Under MiFiD I, tick size was an area left for judgement to trading venues, as long as they were providing for “orderly trading”. Prior to 2009, there were about 25 different tick size regimes across EU trading venues.

In 2009, the industry, under the umbrella of the Federation of European Securities Exchanges (FESE), developed four tick size tables. The industry was concerned by the potential detrimental effect of excessive tick size granularity on market efficiency and the arbitrage opportunities based on tick sizes that could develop for the most liquid shares traded across venues. Regulated markets agreed, on a voluntary basis, to use one of the four tables for the multi-traded shares and MTFs agreed to apply the tick size table adopted by the listing venue for those multi-traded liquid shares. Three tables are currently used and were last updated in 2011. However, there are exchanges that use none of the FESE tables but a tick size table that better suits their market.

In contrast to MiFiD I, Articles 49 and 18(5) of MiFiD II require EU regulated markets and MTFs respectively (and organised trading facilities, in case a tick size regime were to be developed for non-equity instruments as well) to adopt a harmonised tick size regime for shares, depositary receipts, exchange-traded funds, certificates and other similar instruments, to be designed by ESMA.

The analysis that follows takes into account the responses received to the Discussion Paper (DP) published in May 2014, Consultation Paper (CP) published in December 2014 and the Cost Benefit Analysis questionnaire distributed by ESMA in March 2015.

### **3. Baseline**

MiFiD I did not explicitly establish any provision regarding tick sizes and neither did any ESMA Guidelines. Article 49 of MiFiD II is not prescriptive in terms of the actual tick sizes for equity and equity-like instruments. It only demands that the regime “shall be calibrated to reflect the liquidity profile of the financial instrument in different markets and the average bid-ask spread, taking into account the desirability of enabling reasonably stable prices without unduly constraining further narrowing of spreads”.

As a consequence, the baseline scenario is considered to be current market practice, which includes the existing FESE tick size tables for multi traded shares that exchanges and MTFs agreed to implement. In the FESE tables, tick sizes depend only on the price range of the stock.

In terms of market practice not all trading venues apply the existing FESE tables<sup>39</sup>, and if they do, they apply them usually to the most liquid shares only. A tick size regime that is suited to a particular market, or for those instruments other than the most liquid ones, is used in the other cases.

The purpose of this document is to CBA the incremental obligation of ESMA's RTS in Article 48(12) against current market practice. However, for practical purposes, we will analyse the impact of the proposed tick size table in the final draft RTS vs. FESE table 2, as FESE 2 is currently the most used table by trading venues.

Most of the costs should arise from the Level 1 provisions, imposing harmonisation of tick sizes, in particular for small trading venues that establish tick sizes once a day instead of adapting them to the price of the order submitted.

In practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment<sup>40</sup> covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions

#### 4. Stakeholders

The stakeholders involved are trading venues, investment firms engaged in high frequency trading other members or participants of trading venues, institutional and retail investors, issuers and Competent Authorities (CAs).

##### Trading venues

Trading venues may incur one-off and on-going compliance costs from having to adapt their IT systems to the new tick size regime. Cost should arise from adapting the existing table structure (technical development and testing before implementation) and ongoing maintenance (eventual possible reversal or adjustments to the tick size table) and verification of compliance.

Trading venues may experience market effects that would vary by trading venue, based on their business model, including the type of clients that they target, their fee structures<sup>41</sup> and the tick size table (FESE or other customised table) they currently use. In addition, any costs

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<sup>39</sup> Details on the trading venues that agreed to use these FESE tables:

Table 1: LSEG – HLS. Table 2: Bourse Belin/Equiduct - FTSE 350 ; LSEG – London ; LESG – Milan ; NASDAQ OMX - Stockholm - S30 shares (inc dual listed); NASDAQ OMX - Copenhagen - C20 shares (inc dual listed); NASDAQ OMX - Helsinki - H25 shares (inc dual listed); Oslo Bors; SIX Swiss Exchange - Blue Chips. Table 3: NONE. Table 4: BME - IBEX 35 stocks, Deutsche Bourse – all; Bourse Belin/Equiduct - all others; Irish Stock Exchange; Euronext.

<sup>40</sup> See [http://ec.europa.eu/internal\\_market/securities/docs/isd/mifid/SEC\\_2011\\_1226\\_en.pdf](http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf)

<sup>41</sup> See IOSCO Final Report on Trading Fee Models and their Impact on Trading Behaviour, [http://www.csrc.gov.cn/pub/csrc\\_en/affairs/AffairsIOSCO/201402/P020140213529122654245.pdf](http://www.csrc.gov.cn/pub/csrc_en/affairs/AffairsIOSCO/201402/P020140213529122654245.pdf) The report identifies four pricing models: Maker/taker, where the provider of liquidity (maker) receives a rebate and the taker of liquidity (taker) pays a fee; Inverted maker taker, where the provider of liquidity (maker) pays a fee and the taker of liquidity (taker) receives the rebate; Symmetrical pricing model, where both the active and passive side of a trade pay the same fee; and Asymmetrical pricing model where both the active and the passive side of a trade pay a fee, but the fee paid is not the same.

incurred by trading venues may be passed on to their customers. Some indirect effects/costs may also impact specific markets if the harmonised table proposed is very different than the one currently applied by those markets/trading venues (i.e. those not using FESE 2 tick size table).

Rest of stakeholders

Investment firms engaging in algorithmic trading are likely to be impacted by the final technical standard. A change in tick size may lead to a change in HFT behaviour and strategies. The tick size regime, including for the most liquid shares may have an impact on the competitive pricing obligation of these firms and when pursuing a market making strategy; the smaller the spread to tick ratio, the more challenging it is to post competitive prices.

A change in tick sizes may also affect other members or participants of trading venues' (broker/dealers) profitability, as bid-ask spread and volume traded may change. Retail or institutional investors may thus be indirectly affected by the proposed RTS.

Issuers may be indirectly affected as changes in tick sizes could make the market environment to raise capital more or less favourable for them.

National competent authorities (CAs) may incur staff and/or IT costs to establish or upgrade a monitoring function in some cases, and in some others it may be embedded in their existing supervisory functions of trading venues.

Costs for CAs should arise from supervising compliance with the RTS requirements; however, those may already be embedded in their regular supervision efforts.

**5. Cost-Benefit Analysis**

**5.1. Summary cost-benefit analysis**

*Applicable tick size for shares, depositary receipts and exchange-traded funds*

<b>Policy Objective</b>	Ensure orderly markets at the Union level.
<b>Technical Proposal</b>	The approach to tick sizes mentioned in the CP is maintained and a tick size is proposed based on price and level of liquidity, with a few amendments in terms of scope (certificates are no longer subject to RTS), modified liquidity bands (more granularity with one additional band added) and regime for ETFs (exclusively applies to ETFs with underlying components which are themselves subject to the regime). See Article 2 of draft RTS 11.
<i>Benefits</i>	A better calibrated tick size regime, which will help prevent excessive flickering in the order book, thus contributing to greater market confidence, which will off-set potential (but minor) widening of

	<p>spreads that are expected. The final draft RTS tries to strike a balance between discouraging overbidding, which can have a detrimental effect on market quality by creating thin liquidity at the top of an order book and widening spreads in a way that drives up artificially the costs of trading.</p> <p>One of the most cited benefits of an increase in tick size is enhanced liquidity (market depth), especially for small cap stocks. Another benefit is the increased incentive for companies to raise capital on equity markets. For smaller price ranges, tick sizes will increase accordingly to what participants recommend for SMEs. The proposed table is expected to incentivise trading in these stocks and the potential for spread-earning will be more aligned with the level of risks incurred. The proposed level of granularity (4 decimals) may enhance price formation.</p> <p>The benefits of a decrease in tick size according to the literature are lower bid-ask spreads and lower transaction costs.</p> <p>The modification made to the tick size regime for ETFs limits any possible negative effects for highly liquid ETFs, and tries to address the risk that an inflexible tick size regime that ignores the underlying liquidity of an ETF will favour trading away from regulated lit markets. This is particularly an issue for the larger more liquid ETFs where the underlying securities trade with very tight spreads (e.g. money market or short duration funds).</p>
<p><i>Direct Costs to Regulators:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>One-off and on-going costs to establish a monitoring function (or enhancement of an existing monitoring function) to ensure trading venues meet the obligations regarding the minimum tick size regime.</p>
<p><i>Direct costs to trading venues:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>One-off and on-going: Trading venues may have to adapt their IT systems to the new tick size regime, However most of them should already have mechanisms to adapt to new tick sizes.</p> <p>Additionally, trading venues should revise on an annual basis that the instruments are allocated in the right liquidity band, in line with the average number of transactions in the most relevant market in terms of liquidity.</p> <p>The costs indicated by respondents to the ESMA CBA questionnaire</p>

	range from EUR 50k-1m for one-off costs and from less than EUR 50k to 250k for ongoing costs. See section below for further details
<i>Costs to other stakeholders</i>	Investment firms may have IT costs related to adapting their systems to the new tick size tables. They may need system changes from system providers in order to implement automated population of changed instrument static data from the trading venues. There may be also costs arising from changes in technical specifications of communication with some venues. Some venues may also opt to make announcements only in a non-automated way which would require to manually update the system parameters on an instrument by instrument basis.
<i>Indirect costs</i>	<p><i>Trading venues:</i> The impact of a tick size change on trading venues depends on their fee structures. Those venues charging clients on numbers of orders may be negatively impacted by an increase in tick sizes, since wider ticks may lead to higher bid-ask spreads and reduce the frequency and total number of trades. In addition, correlation between ETF spread and turnover and ETF price is very small.</p> <p><i>HFTs:</i> HFTs pursuing arbitrage strategies will increase their profit opportunities with smaller tick sizes as they can trade in and out of a larger number of small positions given the increased number of ticks within the spread is bigger. On the other hand, HFT market makers will benefit from wider tick sizes.</p> <p><i>Members or participants of trading venues:</i> The profitability of other members of trading venues may be impacted by a change in tick size. Dealers may be negatively affected by a decrease in tick sizes since it may reduce the spread. Brokers, whose commissions are based on traded volumes may benefit from a wider tick if this leads to an increased average trading size. The strategy utilised and the liquidity of the instruments traded may also have an impact. One investment firm mentioned that increases in tick sizes would require decreasing the size of their quotes/orders. One respondent mentioned that increases in tick sizes may decrease liquidity as the tick size defines the minimal potential loss and with higher tick sizes it is riskier to quote and any trade may lead to potential greater losses.</p> <p><i>Institutional investors:</i> Changes in tick sizes may impact institutional investors who trade in large sizes. Some of the literature claims that institutional investors incur higher transaction costs if tick sizes increase, other studies claim that a tick size reduction leads to no change or, eventually, an increase in transaction costs for actively</p>

	<p>managed funds.</p> <p><i>Retail investors</i> may be negatively impacted in those cases where there is an increase in tick sizes. This is the case if a wider tick leads to higher transaction costs, passed through by investment firms, or to higher bid-ask spreads.</p> <p><i>Issuers:</i> Following the US SEC reduction in tick sizes in 2004, a number of studies claimed that an increase in tick sizes may indirectly lead to an increase in the number of IPOs. In light of these studies, the US SEC recently launched a 12-month pilot with a tick size increase for small cap shares. However, there are also some studies coming to the conclusion that the US decrease in the IPOs was not due to a decrease in tick sizes and largely driven by other economic factors.</p>
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## 5.2. Compliance costs and market effects

### *Direct compliance costs*

The costs gathered by ESMA through its CBA questionnaire and shown below were based on the version of the draft RTS published in the CP. The costs arising from the draft final RTS should be lower than those from the RTS presented in the CP as ESMA has taken into consideration the feedback received and proposed lower costs solutions for the areas that were most controversial and giving rise to the most significant costs.

Six trading venues, two MiFID investment firms engaged in algo trading, one MiFID investment firm and one proprietary trader responded to the questions on tick sizes. Four trading venues had less than 50 employees, one had between 51-250 employees and the other one had more than 1,000 employees. One proprietary trader had less than 50 employees, one MiFID investment firm engaged in algo trading had 51-250 employees.

We provide below the quantitative estimates of costs received by ESMA which have been grouped based on number of employees, as a proxy for the size of the firm.

*Trading venues:* One-off compliance IT costs for trading venues with 50 employees or less ranged from less than EUR 50k to 1m, training and staff costs were from less than EUR 50k to 250k. One trading venue with 51-250 employees reported costs to range from less than EUR 50k to 250k.

This venue stated that as the liquidity band will be published by the CA, the tick size table will be in the RTS and all venues have to provide volume data for the purposes of calculating the double volume cap, the cost of implementation will be the same for all venues irrespective of whether or not they are the most relevant market in terms of liquidity. As most trading venues already use one of the FESE tick tables, the costs of applying a different table will be minimal, and will consist of having to adapt their IT systems to the new tick size regime. The

trading venue with more than 1,000 employees mentioned as well that compliance costs should range between less than EUR 50k to 250k.

There are some small trading venues that set the tick size for a share using the end of last trading day price instead of the real price of the order. These small venues are the ones for which the RTS would have a wider impact in terms of one-off IT costs.

*Investment firms:* A large MiFID investment firm engaged in algo trading mentioned that one-off costs could reach EUR 1m, primarily from IT systems. The other MiFID investment firm engaged in algo trading indicated one-off costs of less than EUR 50k. The MiFID investment firm mentioned one-off IT costs from EUR 50k to 250k, and training and staff costs of less than EUR 50k.

The table below indicates the range of costs in EUR provided by the respondents to the ESMA CBA questionnaire. The number of responses received in each category and used to create the cost estimates ranges shown on the table are presented in brackets.

Areas	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
IT	One-off	<50k-1m [5]	50k-250k [2]	<50k [1]	50k-1m [2]
	On-going	<50k-250k [4]	<50k [2]	<50k [1]	<50k-250k [2]
Training	One-off	<50k-250k [4]	<50k [2]	<50k [1]	<50k-250k
	On-going	<50k-250k [5]	<50k [2]	<50k [1]	<50k [2]
Staff	One-off	<50k-250k [4]	<50k [2]	<50k [1]	<50k-250k [2]
	On-going	<50k-250k [5]	<50k [2]	<50k [1]	<50k [2]

Competent authorities (CAs) may incur staff and/or IT one-off costs to establish or upgrade a monitoring function. They will incur as well one-off IT costs and on-going IT costs from having to calculate the average number of trades per day. On-going IT and staff costs are created as well by the annual calculation for the most relevant market in terms of liquidity of the average number of trades per day and its publication to the market. In addition, there are ongoing costs related to education of market participants and responses to queries for all CAs.

According to the responses received to the ESMA CBA questionnaire, this draft RTS is expected to have minimal costs for CAs, estimated at less than EUR 50k for both one-off and ongoing costs. One-off costs are driven by staff costs related to implementation, such as a gap analysis between current supervisory practices and the obligations stemming from the draft RTS, development or adaptation of an appropriate supervisory strategy, adaptation of internal processes, and external communication (i.e. responding to questions from market participants, external presentations, development of Q&As on website, etc.)

On-going costs are driven by staff costs, including on-going evaluations of compliance by market participants and interpretative questions directly related to the RTS.

### *Indirect costs and market effects*

Trading venues may experience indirect costs that will depend on their fee structure. There are trading venues that have developed new business models based on charging aggressive orders and paying rebates for passive orders posted in the book (maker/taker fee structures). This model is opposite to the taker/maker one, where fees are applied to charge liquidity providers and subsidise liquidity takers. This model provides trading venues with a way to bypass tick size constraints by undercutting the prices. Researches<sup>42</sup> argue that an increase in tick size would incentivise non-HFTs to enter the taker/maker market more frequently than HFTs, as in order to exploit profitability opportunities in the maker/taker model, the execution needs to be carried out at the front of the queue. Since non-HFTs do not have the speed advantage to be at the front of the queue, they would rather prefer to pay to provide liquidity.

Some trading venues apply a fixed fee per executed order and members are charged independently from the order's volume. Alternatively if the trade is based on the executed order volume, an order is free of charge until it will be matched against orders on the opposite side of the book; the member has to pay a certain percentage of the executed order volume to the trading venue. A trading venue may also charge their clients for the submission, modification or cancellation of orders. As an alternative to fee based on executed volumes or number of executed orders, a trading venue can charge a minimum transaction fee per billing period or a flat fee that is independent from actual activity.

A decrease in tick size, leading to a larger number of trades, may benefit those trading venues whose fees are based on number of trades, while it may be detrimental for those whose fees are based on executed traded volume in case the resulting volumes are lower after the decrease in tick size. An increase in tick size may decrease the messaging noise, thus reducing the probability of glitches and the related operating costs.

A decrease in tick size generally favours HFTs pursuing arbitrage strategies as the spread to tick ratio decreases. In principle, market making strategies would benefit from increased tick sizes. However, it has to be noted that an increase of the tick leads to an increase of the importance of speed in trading: in price/time priority order books, the more the price improvement is constrained, the more time priority becomes critical. As a consequence, firms pursuing these types of strategies will incur, or continue to incur IT costs to ensure that they are not systematically slower than their competitors. The tick size regime, including for the most liquid shares may also have an impact on the competitive pricing obligation to be met by firms engaged in algorithmic trading and pursuing a market making strategy; the smaller the spread to tick ratio, the more challenging it is to post competitive prices within the spread, as requested by the RTS on market making for firms engages in a market making agreement.

Trading venues may additionally be impacted by increased competitive pressure from SIs. The harmonised tick size regime does not apply to SIs, which will potentially be in the

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<sup>42</sup> Yao, Ye (2014)



position to provide price improvement, including in the trading obligation for shares environment.

For other members of trading venues, dealers and brokers may benefit from wider tick sizes. Dealers' profitability may be negatively affected by a decrease in tick since it reduces the spread. Brokers, whose commission is a percentage of traded volume, may benefit from a wider tick if this leads to an increased average trading size.

Some respondents to the CBA questionnaire have mentioned that there may be indirect costs from imposing a tick that is too wide due to not considering volumes traded on other venues to determine the tick size tables. ESMA in choosing its proposal has had to balance the pros and cons of the different alternatives and has selected an alternative that is easy to monitor and enforce by regulators and easy to follow for the market as a whole.

Market effects for trading venues may vary based on their business model, including the type of clients they target and the tick size regime they currently use.

There are trading venues that have developed new business models based on charging those participants executing aggressive trades and paying rebates to those posting passive orders on the book (maker/taker fee structures). These venues would be affected as well due to the impact that an increase/decrease on the tick size might have on what Article 17(4) MiFID II defines as "market making strategies".

Trading venues whose fees are based on turnover may be differently impacted by a change in tick size than trading venues whose fees are based on the number of orders. Additionally, trading venues relying on HFTs as a significant source of revenue may be impacted if those change their behaviour and strategies.

One small venue responding to ESMA's cost benefit survey indicated that they charge their market participants a variable fee on the basis of individual trades, limited at the bottom and top by a floor and a cap, respectively. While agency and proprietary business is charged the same, market makers pay reduced fees without a floor and with a lower cap. The venue does not differentiate between manual and algorithmic/HFT order flow or makers/takers. This venue has fairly low turnover but significant algorithmic flow. As a result they expect a negative impact with respect to trading volume and market spread for stocks if the tick size is enlarged beyond the current status.

Another trading venue mentioned they use maker/taker pricing. In this case, they estimate the impact of the RTS will be small and will only concern the transaction costs if more orders are sent, decreasing their trading activity significantly in illiquid and in the low price range stocks.

Another venue said they use maker taker, which is charged based on value, rather than number of transactions. As their revenues are based on overall volumes, if a larger tick promoted a smaller number of larger trades, then revenue impact could be neutral. A wider tick may increase the spread price paid by retail investors as they generally trade at or inside

the BBO (best bid-offer). This particular venue was of the opinion that it is likely to reward those market makers with the lowest latency systems – generally the HFT market making firms – as price competition will be removed leaving only speed as a factor in being the first to respond to a change in price. Accordingly HFT market makers are likely to get more trades and rewarded with a wider spread. This venue indicated they did not envision changing their fees.

Another venue mentioned that as a standard practice, they apply a percentage fee at transaction level. At the level of market making activities they apply a smaller percentage based on quoting requirements fulfilment. This venue did not identify how the draft RTS would affect them.

A big trading venue mentioned they use an ad-valorem fee for executed orders. It comprises a floor-range-cap structure and a volume rebate scheme. For passively executed proprietary orders in Exchange Traded Funds and Exchange Traded Products no fee is charged. For passively executed “top-of-book orders” in high-liquid stocks credits are offered to registered “TOP-Liquidity-Providers”. For Designated Sponsors (i.e. market makers) transaction fees are refunded in case prerequisites for liquidity provision are fulfilled. This venue does not foresee any impacts arising from tick sizes on the fees charged on equity trades.

Changes in tick sizes may have an effect on market quality (spreads, liquidity/depth, etc.), transactions costs or execution speed. Spreads represent the round-trip cost of trading and are connected to liquidity (the lower spread the highest the liquidity). Liquidity is supplied by both investors who submit limit orders and by market professionals who trade when liquidity is needed. Depth measures how much liquidity is being supplied by end investors and market makers at a given price and point in time, however usually refers only to displayed liquidity. One way to measure actual supply of liquidity, both displayed and hidden, is to measure the effective spread which measures the cost to trade against the actual supply of liquidity. Execution speed measures how long it takes for investors to execute orders. Liquid markets usually have lower spreads and greater depth than illiquid markets.

In principle, the optimal tick size should be large enough to not constrain the spread and at the same time small enough to keep transaction costs unaffected. A too wide tick may discourage investors from placing orders at the best bid prices as the queuing time becomes longer, which in turn increases implementation risk. On the opposite a too small tick increases the room to overbid at reduced costs, leading to noise in the order book.

According to the literature, the vast majority of event-based studies<sup>43</sup> demonstrate that on average smaller tick sizes have reduced both quoted and effective bid-ask spreads. Econometrically, the change in tick size effect can be isolated by other market trends by performing several robustness checks, one of which<sup>44</sup> is creating a matching control group of stocks, identical in all characteristics (similar price, traded volume, volatility, traded volume,

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<sup>43</sup> Most of the studies on the decrease in tick size are based on the US market. Furfine (2003); Ahn, Cao, Choe (1998); Ahn Chai, Chan, Hamao (2007); Aitken and Forte (2005); Chakaravarty, Wood, Harris (2001); Chung and Ness (2001); Chung and Chuwongnanant (2004).

<sup>44</sup> Chakaravarty, Wood and Harris (2001)

market capitalisation, etc.) except that they were trading in wider ticks. These studies also find the size of the transaction matters. They find that smaller transactions have larger declines in effective spreads than larger transactions, indicating stronger liquidity effects for smaller transactions. However, a contradicting study<sup>45</sup> on the US decimalisation, demonstrates that the change in spreads for the smallest capitalisation stocks before and after the decrease in tick size is not statistically significant. Regarding the effect of a tick size increase, a study<sup>46</sup> on the tick size structure of the KLSE<sup>47</sup> demonstrates that stocks that are subject to larger mandatory tick sizes have wider spreads.

In terms of trade size, the literature suggests that quoted sizes generally fell after a decrease in tick sizes, particularly for more liquid stocks<sup>48</sup>. Wider tick sizes, on the contrary, should in theory make the top of the book deeper and less volatile, making it safer to make markets and easier to trade size.

In terms of depth, the academic literature finds that quoted depth on average declined after a decrease in the tick but cumulative depth at competitive prices did not change. However, those studies focus on quoted spreads and do not take into account undisplayed liquidity, which may be much bigger<sup>49</sup>. Therefore, a better measure seems to be the effective spreads mentioned above, which show declines for all stocks. However, it is worth mentioning that the spread declines for small caps were not statistically significant. A wider tick should in principle increase market depth and liquidity<sup>50</sup>, by reducing bargaining and processing costs and by providing more incentives for limit orders and market makers to provide liquidity. However there are studies<sup>51</sup> that demonstrate that the increase in market depth is only temporary, the order book is replenished slowly after trades and orders are more likely to be hidden.

In terms of execution speed, the literature studying the decimalisation effect report that the total time to work institutional orders appears to have increased after the tick size decrease. An increase in tick may lead to the opposite effect.

In terms of market maker participation, the academic literature has found that it has increased after the US decimalisation across all market capitalisation categories, without an apparent reduction in profitability since more opportunities to step ahead are offset by lower spreads. In particular, specialists started participating more after decimalisation for all size groups. The number of shares traded as a fraction of the total volume increased by 5.9%, 2.6%, and 1.4% for small, medium and large capitalisation stocks, respectively<sup>52</sup>. This contradicts the statements of a study<sup>53</sup> that says that market making in smaller company stocks after decimalisation is no longer profitable. Proponents of wider tick sizes stress that

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<sup>45</sup> Bessembinder (2003)

<sup>46</sup> Chung, Kim, Kitsabunnarat (2004)

<sup>47</sup> Kuala Lumpur Stock Exchange

<sup>48</sup> Chakravarty, Panchapagesan, and Wood (2005)

<sup>49</sup> Jones and Lipson (2001) affirm previous research into NYSE trading volume that found in 1999 that only 25% of NYSE executed volume is executed against the limit order book.

<sup>50</sup> Weild, Kim, Newport (2013), Harris (1991).

<sup>51</sup> O'Hara, Saar, Zhong (2013); Yao, Ye (2015)

<sup>52</sup> Coughenour and Harris (2004)

<sup>53</sup> Weild, Kim, Newport (2013)

the higher profitability of market making operations at sell-side firms could lead to greater analyst coverage, enhanced promotion by brokers and thus increased willingness of companies to go public.

In terms of usage of limit orders, decimalisation does not seem to have reduced the use of limit orders, but it does appear to have decreased the size of limit orders and increased the frequency of cancellation

In terms of market return volatility, the academic literature suggests that a decrease in tick size would lead to an increased volatility in the short-run but decreased volatility in the long-run due to trader learning or traders becoming accustomed to the new market.

In terms of incentives to brokers to promote trading operations, the reduction in relative spreads may have reduced broker incentives to promote stocks.

One element to be considered in particular should be the impact of the tick size on competition across venues, based on their trading models. As tick sizes and spreads increase, institutional investors may be more incentivised to use dark venues that use reference price waivers, where price improvement is available in the form of the mid-price of the bid-ask spread. However, that impact will be limited by the double volume cap mechanism introduced by MiFIR. In addition, trading venues may additionally be impacted by increased competitive pressure from Systematic internalisers (SIs). The harmonised tick size regime does not apply to SIs, which will potentially be in the position to provide price improvement, including in the trading obligation environment.

Changes in tick sizes may produce different effects depending on the liquidity of the stock concerned. A study<sup>54</sup> demonstrates that a decrease in tick size increases competition among liquidity suppliers and improves market quality for liquid stocks. The same decrease has an opposite effect on illiquid stocks as it discourages liquidity provision.

Some of the respondents to the CP have mentioned some negative market effects stemming from an increase in tick sizes, such as:

- Incentivising dark trading at midpoint under the Reference Price Waiver and also OTC (via VWAP trading) as when the spread is artificially constrained by the tick on transparent markets, execution at the midpoint and VWAP trading become very attractive options for market participants to obtain a better price.
- Creating price improvement opportunities on SIs and dark venues to the detriment of lit multilateral trading – the fact that the tick size regime only applies to regulated markets and MTFs means that other types of platforms will be able to offer price improvement at a very low cost.

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<sup>54</sup> Buti, Rindi, Wen, Werner (2013)

- Benefiting the lowest latency members, as with higher absolute tick sizes volume will concentrate at touch points of wider spreads. As the time between posting and execution increases, being the first in the queue becomes more important, thereby giving an advantage to those market participants that are fast enough to achieve higher queue priority.
- Incentivising trading on venues where the 'waiting' line will be lower, increasing fragmentation. Wider tick sizes may increase the time between posting and execution. Finding a venue with a shorter waiting line at the best bid and offer will become important for market participants, potentially increasing fragmentation.
- Incentivising venues operating several order books for the same stocks – when the waiting line becomes too long, trading venues may be incentivised to reduce it by distributing liquidity across several split order books for the same stocks, thereby increasing fragmentation.

Some academic studies<sup>55</sup> show that smaller tick sizes may discourage market makers to provide liquidity and discourage institutional investors to post large orders in the order book as they may incur higher trading costs. However, there are some studies that show that effective spreads for large trades do not significantly react to a change in tick size. The literature<sup>56</sup> considered also the impact of a tick size reduction depending on mutual fund strategies: actively managed mutual funds incur higher costs following a reduction in tick sizes, while tracking mutual funds do not. Turnover explains the difference impact, as actively managed funds have a turnover of 65% while index tracking funds have only 6%. Since trading costs are a direct function of turnover, a reduction in tick size has a more prominent effect on actively managed funds.

Retail investors could be negatively impacted by a wider tick, if it leads to increased transaction costs borne by investment firms and passed over to retail investors. Retail traders would benefit from a decrease in tick, since it would lower the bid-ask spread. Some respondents to the CP have mentioned that using the average number of executed transactions would imply that retail stocks that trade more often may fall into the most liquid bands, and stocks that trade as part of institutional orders may fall into the lower bands and therefore have higher tick sizes.

Issuers may be indirectly impacted by an increase in tick size, as it may increase liquidity for small stocks, leading to greater analyst coverage, potentially leading to incentives for issuers to raise capital via trading venues and increased interest in their stocks from market makers.

### **5.3. Data analysis**

Based on the responses to the tick size table presented in the CP, we discuss below in more detail the methodology that has been used by ESMA. We present as well a more detailed

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<sup>55</sup> Goldstein (2000) , Jones, Lipson (2001)

<sup>56</sup> Bollen and Busse (2006)

analysis of the CP proposal and its impact, other options considered to amend the tick size table as well as the tick size table presented in the final draft RTS.

### *Sample description*

The sample used for the analysis took the MiFID database as a starting point (irrespective of the liquidity level of the shares) and added pricing information from a financial data provider. The sample timeframe is one year of data, from 1st November 2012 to 31st October 2013.

At that time the MiFID database was covering about 5,900 shares admitted to trading on a regulated market (before data cleaning) which relate to 27 EU Member States and 2 EEA countries (shares traded on MTFs were not taken into account due to incomplete access to the dataset).

Once the initial data was collected, the sample was cleaned and the relevant information was selected to perform the tick size required calculations. The process undertaken was the following:

- Data cleaning: Elimination of information not usable or that could not be processed, such as data relating to instruments that have been admitted to trading on a regulated market but have never traded, or information related to shares that contained incomplete data.
- Data selection: Selection of the relevant data, mainly price, average spread, number of trades and applicable tick size table on the securities under consideration<sup>57</sup>.

This resulted in 829,076 data points and 4,220 shares. The distribution of these data points and shares per country and liquidity class (in average number of trades per day) is presented hereunder:

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<sup>57</sup> In those cases where the necessary information and data relating to a share could not be found in the data from the financial provider used, that particular share was excluded from the sample

Liquidity bands	Nederland	France	Germany	Ireland	Portugal	Spain	Italy	Cyprus	Czech Republic	Sweden	Norway	Denmark	Estonia	Finland	Austria	Iceland	Bulgaria	Belgium	Greece	Lithuania	Hungary	Poland	Total
0-10	23	113	117	1	17	6	10	3	295	33	62	66	8	30	13	7	159	29	88	14	22	61	1177
10-20	12	72	48	3	5	9	33	1	112	52	35	30	4	25	4	4	4	8	33	10	6	117	627
20-30	6	35	23		2	5	25	1	62	16	11	7	2	10		2	1	13	12	8	2	61	304
30-40	3	21	12	1	2	5	21	1	23	17	11	3		5	1			2	12		3	26	169
40-50	2	25	14	1	1	5	12	1	24	9	6	6	1	6	3			7	6		1	22	152
50-60	3	10	13		1	1	12		24	14	4	5	1	1	3			5	2		1	16	116
60-70	2	8	6	1	1	3	9		21	7	5	1		4	2			1	7		1	15	94
70-80	2	5	6			5	6		13	6	3	1		3				1	2		1	11	65
80-90		9	8			2	8		17	11	3			1	1			2			1	12	75
90-100		5	6			3	6		11	4	3	1		6	1				1			5	52
100-200	7	37	24	2	3	7	32		57	28	18	12		7	5			14	7			27	287
200-300	2	13	19	2		9	10	2	37	18	10			5	6			3	5		1	15	157
300-400	5	8	9	2	1	4	8		24	12	5	4		2	1			6	8			5	104
400-500	4	7	12			4	9	1	17	2	3	1		1	1			2	3			5	72
500-600	1	5	6	3	2	1	9		10	8	1	1		2	2			3	1		1	4	60
600-700	1	5	4			1	3		10	1	1	2		1	1				2			2	34
700-800	1	4	4				6		19	5	1				1			1	1		1	3	47
800-900	1	7	6	1			3		13	3	2	1		1	1			2	1			1	43
900-1000	1	3	7		1	1	2		4	2				2	1			1				2	27
1000-2000	6	27	33		2	11	15		81	13	7	10		9	2			5	5			6	232
2000-3000	7	11	12		4	9	11		38	12	9	5		5				2	1		1	2	129
3000-4000	5	9	5		1	8	4		13	7	6	1		5				3	2			1	70
4000-5000	4	6	3				3		6	3		1						1				1	28
5000-6000	5	8	6			1			5	5		1											31
6000-7000		7	2			2	2		4	1								1					19
7000-8000	1	5	2			1	1		2	1													13
8000-9000	1	2					3																6
9000-10000	2	3	1						1														7
10000-11000		1				1	1		3									1					7
11000-12000	1								4					1									6
13000-14000		2																					2
14000-15000						1	1																2
>15000	1	2				1	1		1														6

In aggregate, the number of stocks in the sample by liquidity band and across jurisdictions is presented in the table below. The liquidity bands selected are those presented in the final draft RTS.

### Exhibit 1: Total number of stocks considered by liquidity band

Band	Number	%
0-10	1,177	28%
10-80	1,527	36%
80-600	807	19%
600-2000	383	9%
2000-9000	296	7%
>9000	30	1%
	4,220	100%

Given that 28% of the sample is within the 0-10 band, and 36% between 10-80, the analysis that follows contains more granularity in the liquidity bands chosen. Given the small number of stocks above 9,000, this becomes the threshold for most liquid stocks.

Moreover the 0-10 liquidity band may address issues raised by some respondents on SMEs, for which a very small tick size may be detrimental and discourage market makers to post liquidity in their order book.

Even though there are a lot of shares (in number) in the less liquid bands, one should note that the 500 most liquid stocks concentrate more than 95% of the overall amount traded<sup>58</sup>.

### *Methodology*

The methodology used to calculate the tick size table proposed uses an algorithm that takes into consideration two variables: the price of the stock and its liquidity (measured as average number of trades per day). It applies a “decision function” or “cost function”, which calculates the cost of changing the tick for that particular financial instrument. This function tries to balance tick size and spread compression.

The basis for the calculations used is an amended version of FESE table 2 with a price increment of 1, 2 and 5 (we refer to this table as FESE table 2 in the document). A comparison to FESE table 4 would have led to an overall shift by 2 increments.

FESE table 2 is then “shifted” for each price and liquidity band, by either a positive or negative number. For each class of liquidity (starting with a very granular approach), the algorithm:

1. Shifts the FESE table 2 by choosing the most relevant shift for each liquidity class.
2. Applies the modified FESE table 2 as per 1 to each observation point in the dataset.
3. Calculates the expected<sup>59</sup> spread to tick ratio base on the modified FESE table 2.

The table presented below illustrates the first step of shifting FESE table 2, using an example to illustrate how the methodology works. It presents the distribution of the expected spread to tick ratio for the liquidity band 100-200 if several possible shifts are applied to FESE table 2. For example (in grey), applying a shifted version by 1 increment would lead to 24.9% of stocks in the liquidity band 100-200 to fall within the spread to tick ratio range 1.5 to 3.

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<sup>58</sup> According to the MiFID database export from November 2013.

<sup>59</sup> For the purpose of simplicity, the expected spread is equal to the current spread divided by the new proposed tick – if needed one can apply a different model to calculate the expected spread.



FESE_2_SHIFT	nb	New spread to tick ratio					
		<1,3	[1,3-1,5]	[1,5-3]	[3-5]	[5-10]	>10
-2	69841	0,2%	0,0%	0,1%	0,1%	1,0%	98,6%
-1	69841	0,2%	0,0%	0,2%	1,1%	12,3%	86,2%
0	69841	0,3%	0,1%	3,0%	12,6%	40,1%	44,0%
1	69841	1,9%	2,7%	24,9%	31,3%	26,7%	12,5%
2	69841	20,9%	12,6%	40,1%	15,4%	7,7%	3,3%
3	69841	66,2%	10,4%	17,0%	3,4%	2,0%	0,9%
4	69841	91,7%	2,8%	4,2%	0,4%	0,5%	0,4%

Once the different shifted versions of FESE 2 have been applied to the dataset, the algorithm has to define which one is the most suitable for each liquidity band targeting a 1.3 to 5 spread to tick ratio and ideally falling within the range 1.5 to 3. The table below illustrates this decision process for the 400 – 500 liquidity band:

- Shifted version by -2 or -1 increment of FESE 2 would lead to most stocks having a spread to tick ratio above 5 or 10 ticks, and therefore doesn't seem suitable.
- Shifted version by 0 or 1 increment of FESE 2 would lead to a more balanced solution, the first one with smaller tick sizes (and therefore larger spread to tick ratios) and the second with larger ticks.
- Shifted version by 2, 3 or 4 increment of FESE 2 would lead to a very large number of stocks having a constrained spread.

Therefore, it seems easy to discard shifted version -2,-1, 2, 3, 4, and **the algorithm needs to choose between 0 and 1 as the targeted shift.**

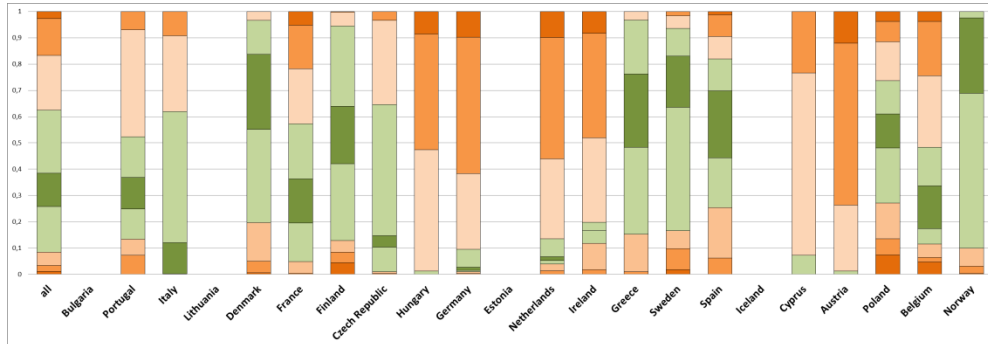
Liquidity band	FESE 2 SHIFT	# points	New spread to tick ratio						Choice	Decision Function
			<1,3	[1,3-1,5]	[1,5-3]	[3-5]	[5-10]	>10		
[400:500]	-2	17 477	0,2%	0,0%	0,1%	0,2%	8,5%	91,1%	? ==> Large spread to tick ratio	93
[400:500]	-1	17 477	0,2%	0,0%	0,9%	10,3%	37,4%	51,4%	? ==> Large spread to tick ratio	40
[400:500]	0	17 477	0,5%	0,8%	21,7%	29,7%	33,0%	14,4%	? ==> balance solution ?	12
[400:500]	1	17 477	15,9%	11,2%	42,0%	19,1%	9,0%	2,9%	? ==> balance solution ?	24
[400:500]	2	17 477	59,0%	12,9%	20,9%	4,5%	1,9%	0,8%	? ==> constraining the spread	744
[400:500]	3	17 477	89,9%	3,8%	5,1%	0,5%	0,5%	0,3%	? ==> constraining the spread	15 332
[400:500]	4	17 477	98,4%	0,5%	0,8%	0,0%	0,2%	0,1%	? ==> constraining the spread	63 576

The decision function calculates the cost of each shift and chooses the one with the lowest cost. In the example above, the decision function would have favored a shift of 0 as its cost is 12 and smaller than the cost of a shift of 1.

The decision process described above is then run for each liquidity band (starting with a very granular approach). Therefore for each band ([100-200] [200-300] ...) the algorithm assigns a shift, based on what is considered optimal for that liquidity band.

Liquidity bands with the same shift assigned are then grouped to produce a table by liquidity band and shift in tick size.

Then ESMA evaluates the impact of the new table for each country and for each liquidity band. The impact is presented in the following format:



Data is presented for each country, for a purpose of comparability countries are always sorted in the following order: all (all countries together), Bulgaria, Portugal, Italy, Lithuania, Denmark, France, Finland, Czech Republic, Hungary, Germany, Estonia, Netherlands, Ireland, Greece, Sweden, Spain, Iceland, Cyprus, Austria, Poland, Belgium and Norway

Each color refers to a change in tick size:

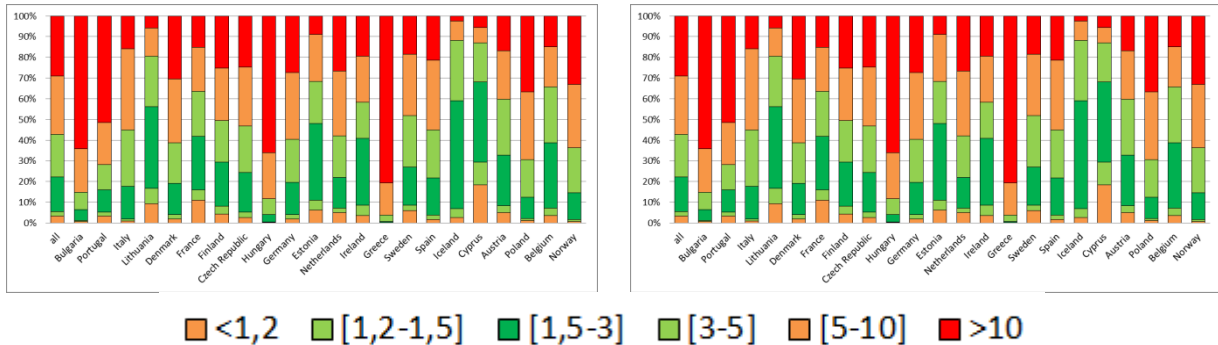
- The control group is presented in dark green; it corresponds to stocks for which the tick size won't change with the proposed regime.
- In light green are presented changes of +/- half a tick size level, i.e. a change by half an increment of the FESE table 4 (it refers to the new increment of 0.02 and it usually corresponds to a multiplication/division by 2 or less of the tick size) or one increment of FESE table 2. The stocks presented in the CP with no change refer to those in dark (no change) and light green (small change).
- In light orange, one can observe changes of 1 and 2 tick size levels from FESE table 4 (it corresponds to a multiplication/division by 5 and 10 of the tick size).
- In dark orange, large changes (multiplication/division by at least 10) are presented.

ESMA presents the changes in distribution of the spread to tick ratio for each country and each liquidity band in the following format:

## Spread to tick size ratio

Situation with the proposed table

Current situation



The expected distribution based on the proposed tick size table is presented on the left graph and the current distribution is presented on the right graph, so the changes are easily comparable. The current distribution is based on the dataset obtained from a financial data provider and described on the sample description section above. Each color refers to a given spread to tick ratio:

- In red: the graph presents the number of data points with a spread to tick ratio above 10.
- In orange: on the bottom of the graph it corresponds to spread to tick ratios below 1.2 and on the top to spread to tick ratios between 5 and 10.
- In light green: the graph represents spread to tick ratio between 1.2 and 1.5 or 3 to 5.
- In dark green: the graph represents the target range, from 1.5 to 3.

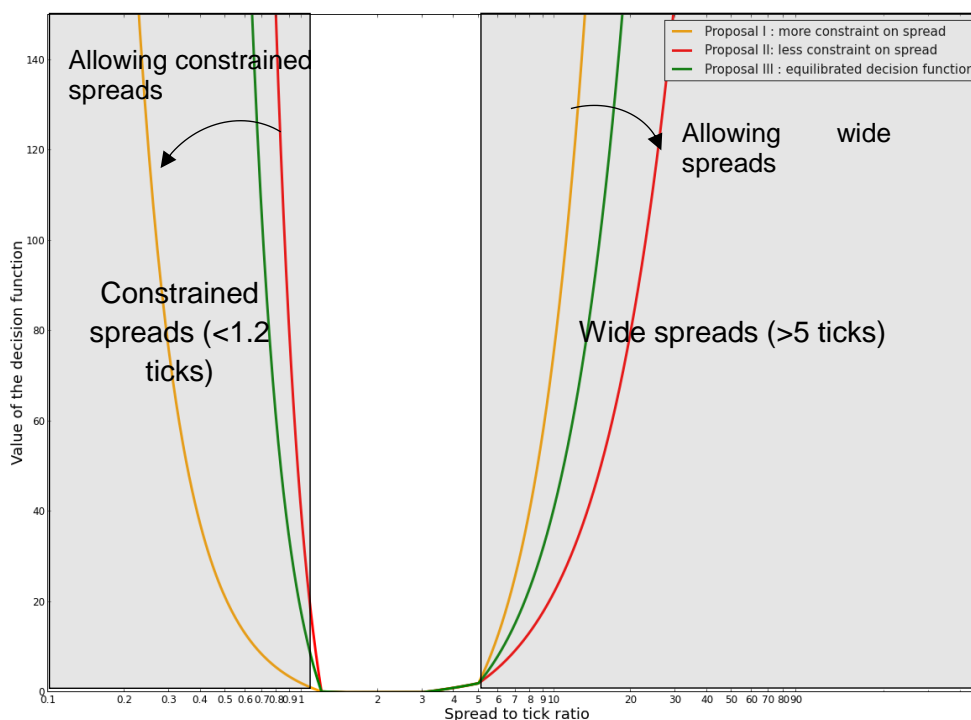
Both the impact and the distribution charts take into account every observation from the sample data (after the cleaning process), a stock might therefore only change tick size half of the time in the graph even though its liquidity band is fixed. For example, a stock currently subject to FESE 4 with a number of trades per day of 5000 and a price that is below 20 during 50% of the time and above 20 during the other half of the time will see its tick size increase when the price is below 20. However, its tick size will be unchanged when the price is above 20. Therefore the impact analysis on tick size for this stock will be: 50% increase and 50% unchanged.

### *The approach followed for this analysis*

The analysis that follows uses the same dataset as in the DP and CP but introduces more granularity for less liquid stocks. It introduces a 0-10 liquidity band given the percentage of stocks in the total sample that this liquidity band accounts for.

ESMA evaluated three possible tick size tables using three different decision functions: the first decision function favored large tick sizes which would have led to constrained spreads, the second decision function favored small tick sizes which would have led to very wide spreads and the last function is a tradeoff between ensuring a relevant cost to overbidding and constraining the spread. This is the amended proposal presented in the final draft RTS, which will be discussed below.

The three decision functions used for the three proposals are presented below. For each decision function the “cost” of having an observation in the wide spreads zone or in the constrained spreads zone (the grey areas presented hereunder) increase dramatically to prevent data points falling within these areas. The main difference between each cost function is the slope: if the slope is higher in a given area, fewer data points are expected to fall within that area.



The first proposal is close to FESE table 2 (proposal I), the second proposal is close to FESE table 4 (proposal II) and the last one is a tradeoff between FESE table 4 and FESE table 2 (proposal III).

Next, we present in detail the analysis of the CP proposal followed by the analysis of proposal III (the green function indicated above), which is the one that has been adopted by ESMA in the draft final RTS as it seems to be a better fit than the other ones considered given the existing market microstructure within the Union.

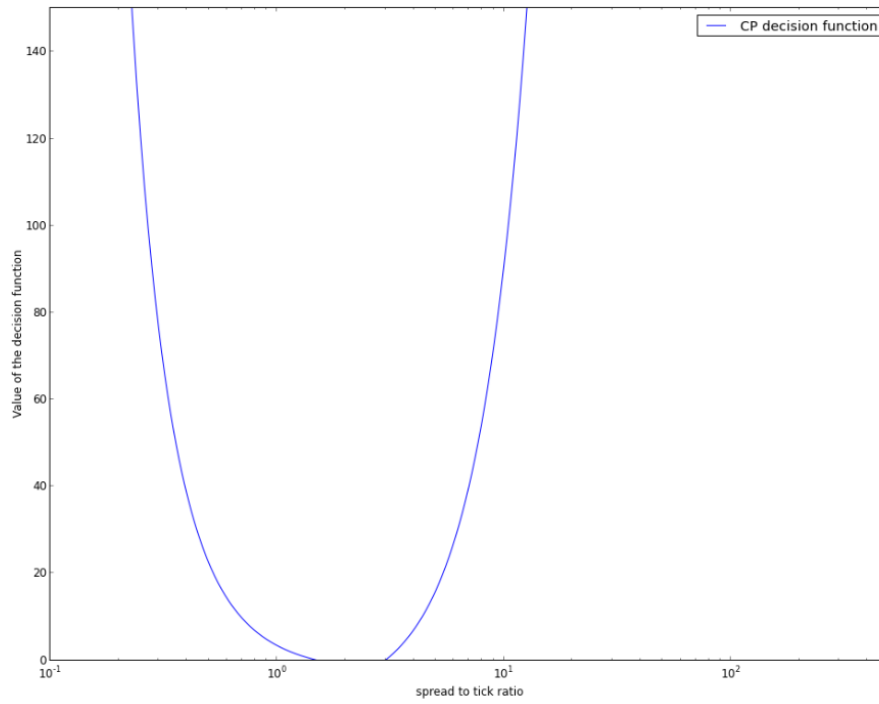
## Analysis

### 1. Tick size proposal in the CP

The tick size table proposed in the CP was the following:

		Liquidity Bands					
		NA	0-100	100-500	500-2000	2000-15000	15000-
Price Ranges	0-0,1	0,0005	0,0002	0,0001	0,0001	0,0001	0,0001
	0,1-0,2	0,001	0,0005	0,0002	0,0001	0,0001	0,0001
	0,2-0,5	0,002	0,001	0,0005	0,0002	0,0001	0,0001
	0,5-1	0,005	0,002	0,001	0,0005	0,0002	0,0001
	1-2	0,01	0,005	0,002	0,001	0,0005	0,0002
	2-5	0,02	0,01	0,005	0,002	0,001	0,0005
	5-10	0,05	0,02	0,01	0,005	0,002	0,001
	10-20	0,1	0,05	0,02	0,01	0,005	0,002
	20-50	0,2	0,1	0,05	0,02	0,01	0,005
	50-100	0,5	0,2	0,1	0,05	0,02	0,01
	100-200	1	0,5	0,2	0,1	0,05	0,02
	200-500	2	1	0,5	0,2	0,1	0,05
	500-1000	5	2	1	0,5	0,2	0,1
	1000-2000	10	5	2	1	0,5	0,2
	2000-5000	20	10	5	2	1	0,5
	5000-10000	50	20	10	5	2	1
	10000-20000	100	50	20	10	5	2
	20000-50000	200	100	50	20	10	5
50000-	500	200	100	50	20	10	
<b>Shift</b>		3	2	1	0 (FESE 2)	-1	-2

The “decision function” used for the CP was well balanced between constraining the spread and avoiding very small ticks.



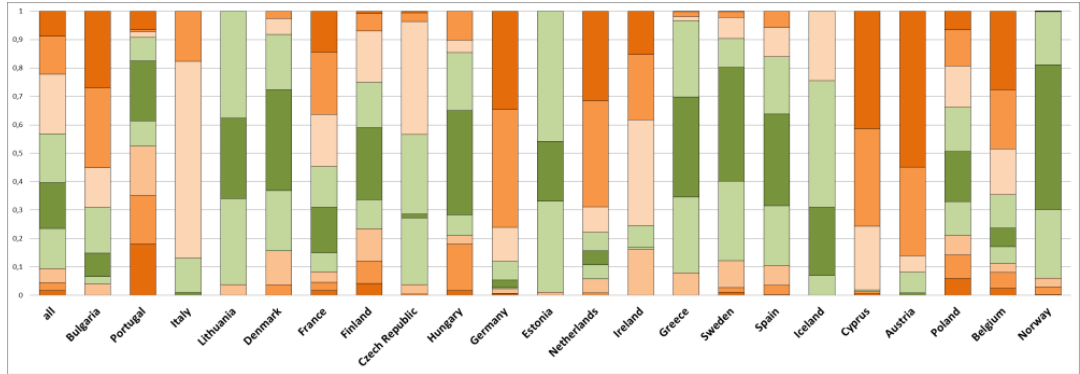
Applying the shifts shown above to FESE 2 table, we can see the following impact per liquidity band and country.

### Liquidity bands

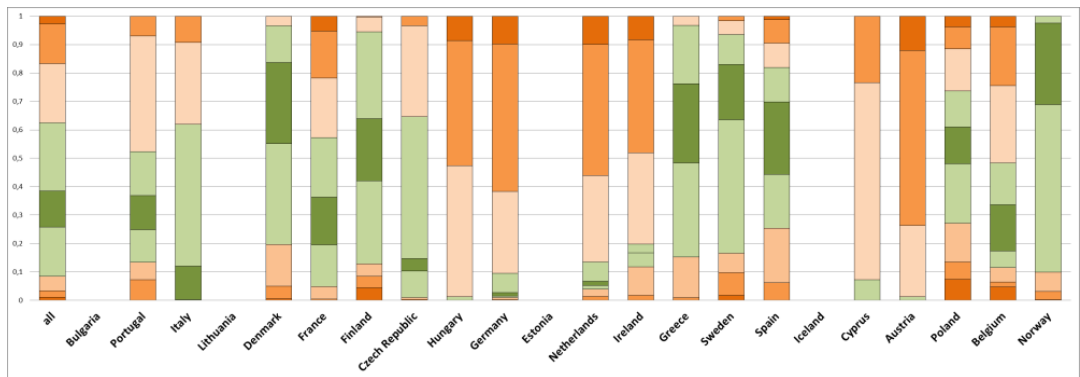
### Impact Analysis

■ <-2 ts levels  
 ■ -2 ts levels  
 ■ -1 ts level  
 ■ -1/2 ts level  
 ■ no change  
 ■ +1/2 ts level  
 ■ +1 ts level  
 ■ +2 ts levels  
 ■ >+2 ts levels

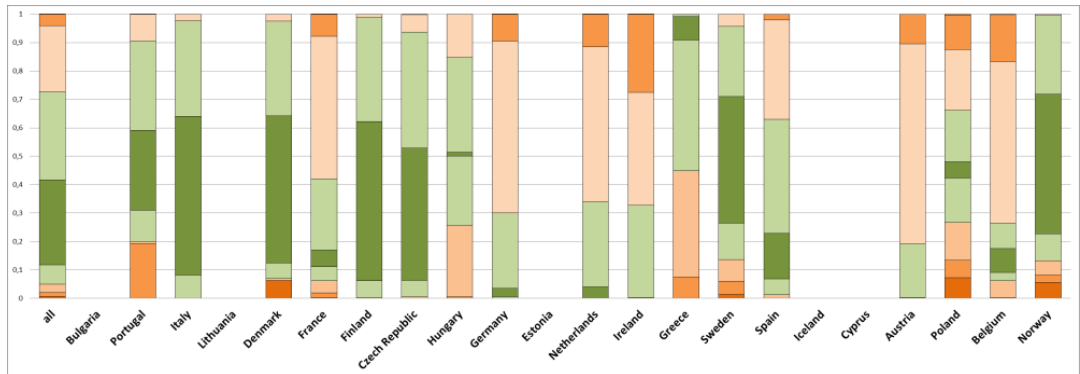
0-100



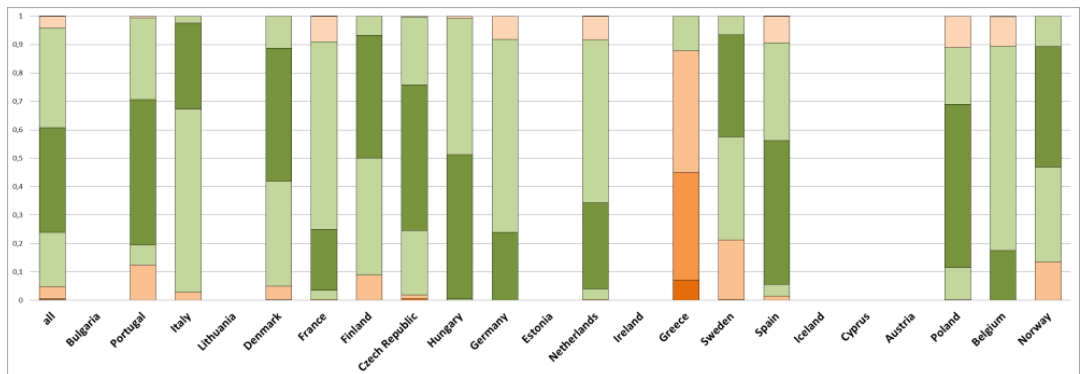
100-500



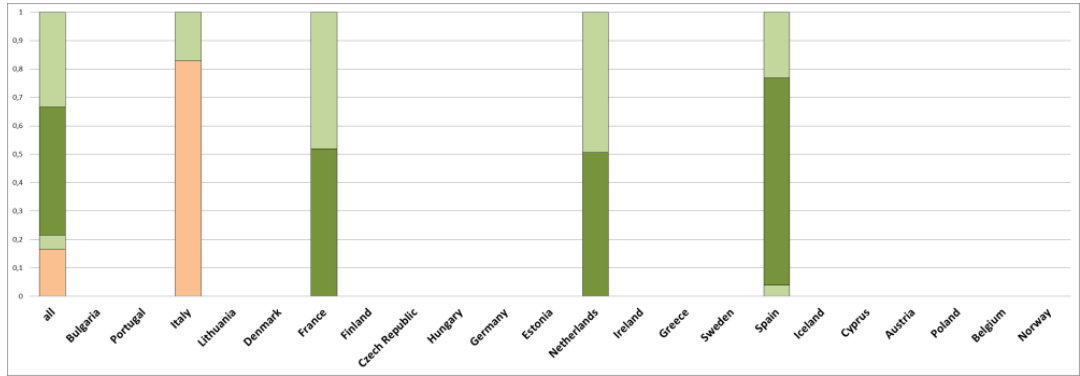
500-2000



2000-15000



15000-



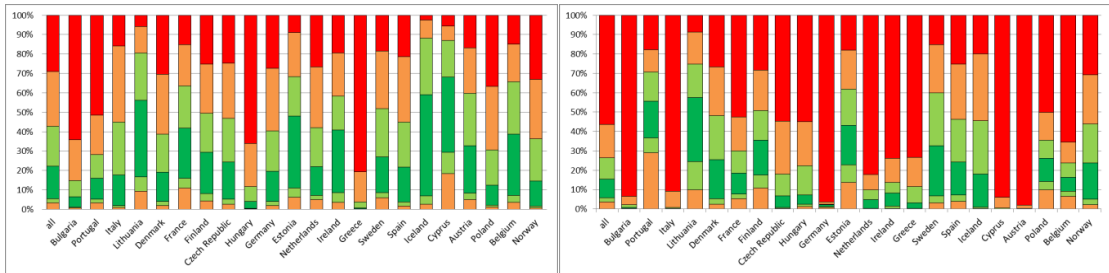
The distribution of spread to tick ratio by country and liquidity band was the following:

■ <1,2   
 ■ [1,2-1,5]   
 ■ [1,5-3]   
 ■ [3-5]   
 ■ [5-10]   
 ■ >10

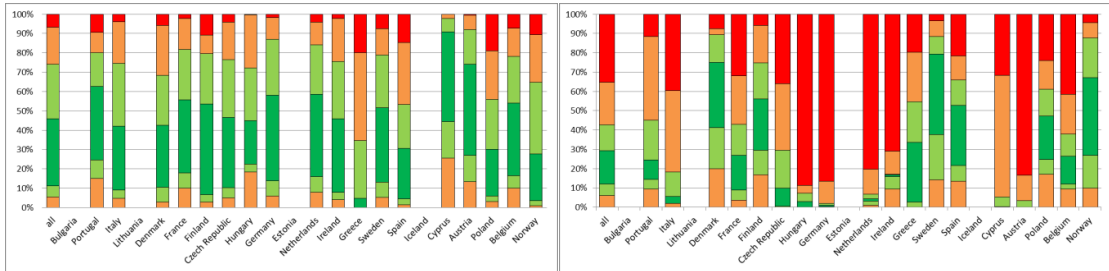
0-100

Situation with the CP proposed table

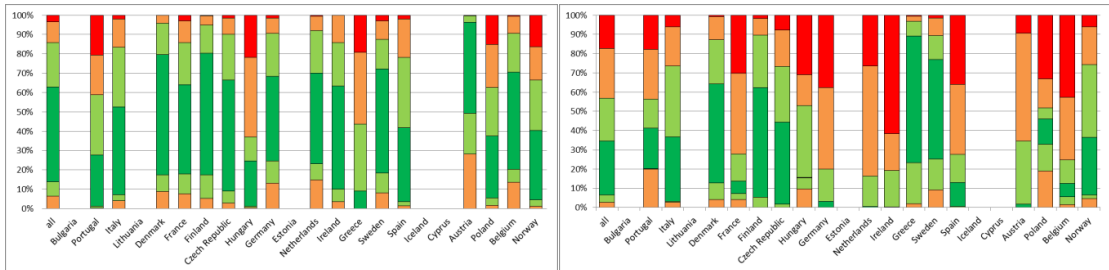
Current Situation



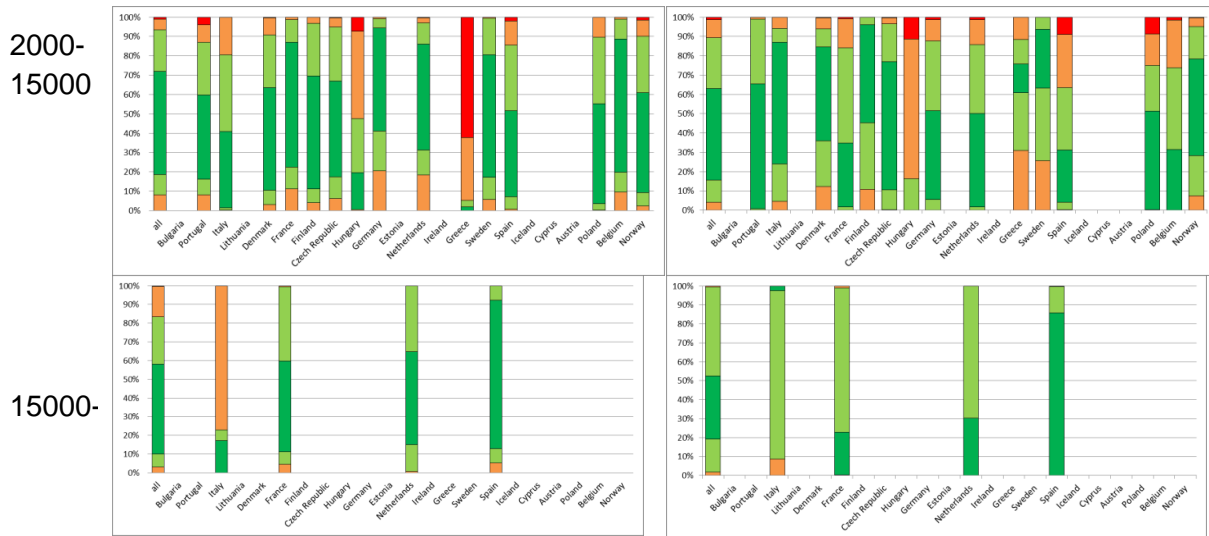
100-500



500-2000







It results from the analysis that the new regime would lead to many more stocks having a spread to tick ratio between 1.3 and 5, with a relatively homogeneous distribution for all countries.

Moreover, the impact on the three most liquid classes (which represent more than 90% of the traded amounts) is rather limited: the control group seems to be relevant (always >33%) and most of the stocks for these classes only change tick because of the new increment in the table (+/- half a tick size level).

For the less liquid stocks (0-500 trades), the CP proposal would lead to a larger increase in ticks such that more than two thirds of the stocks with liquidity between 100 and 500 trades per day and more than one third of the stocks with liquidity below 100 trades per day would have a spread to tick ratio in the range 1.3 to 5. Such an impact was expected as the current spread on these stocks is very large.

Even though the impact of the regime proposed in the CP was close to the desired one, some respondents argued that the most liquid band was too high, and that constraining the spread on very liquid stocks could be detrimental to their liquidity. Moreover some respondents pointed out that a too wide spread for poorly liquid stock will discourage market makers and be detrimental to their liquidity.

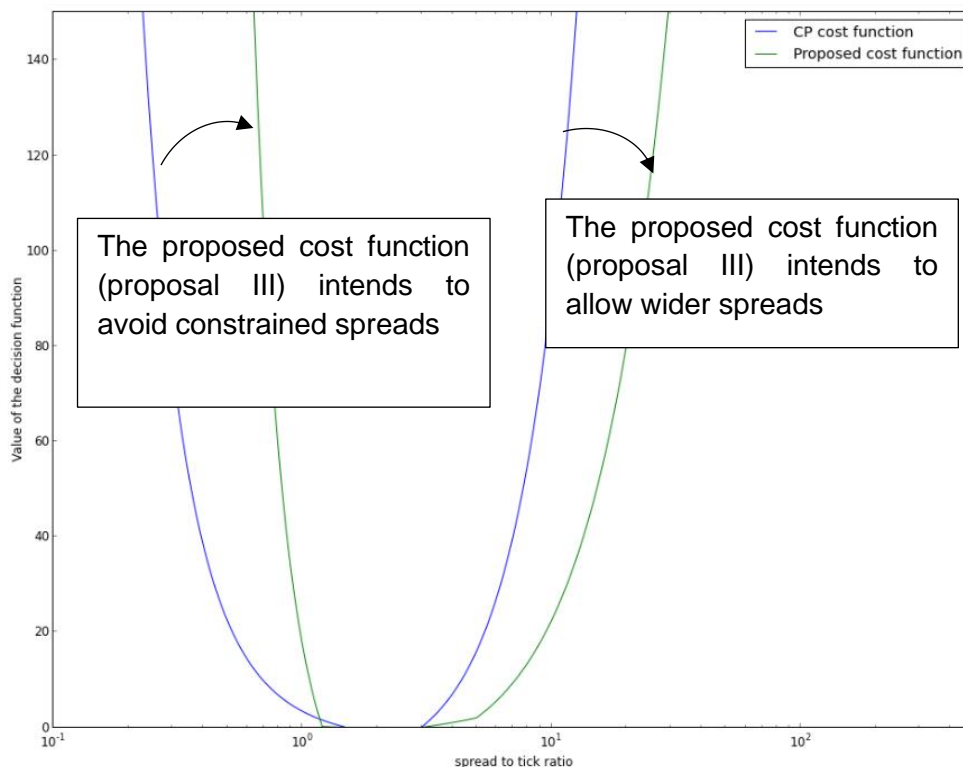
ESMA took these responses into consideration to develop its final draft RTS. The new proposal was built with a thinner granularity which lead to small adjustments in the liquidity bands and to the creation of a liquidity band for extremely poorly liquid stocks. It was as well built to avoid constraining the spread of very liquid stocks, which leads to lowering the thresholds for the most liquid band.

## 2. Tick size table in the final draft RTS (Proposal III)

Several respondents pointed out that the tick size should not constrain the spread; otherwise the new regime would have a detrimental impact on the liquidity of some securities, leading to liquidity fleeing from lit order books and into dark ones. Therefore, ESMA's methodology and the proposal shown in the CP, have been refined to prioritize not constraining the spread, and reduce the number of cases in which the tick size may constrain the spread.

While the "decision function" used for the CP appeared, in principle, to be well balanced between constraining the spread and avoiding very small ticks, several respondents to the CP indicated that this decision function could be revised to reduce the number of situations where the tick size may constrain the spread.

Hence, to obtain the final tick size table proposed, ESMA has applied the same methodology as the one used in the CP with a different "decision function" that favors unconstrained spreads (smaller tick sizes).



To avoid constraining the spread, the spread to tick ratio that falls below the targeted ratio of 1.3 is assigned a large score/cost by the decision function so the observation point is penalised. As a result, the newly defined decision function should have (by construction) the following impact:

- It should reduce the number of stocks with a constrained spread (spread to tick ratio below 1.3).
- It should increase the number of datapoints in the range 1.3 to 5 ticks, as it is close to the targeted range (1.5 to 3).

The results obtained from using these two cost functions are presented in the table below using as an example the liquidity band of 9000-10000 trades. While the previous balanced cost function (the one presented in the CP) was favouring the shift of the -1 band (minimum cost equal to 2 and larger tick sizes) the new decision function (proposal III), created based on the comments received from trading venues, is favouring the shift of the -2 (minimum cost equal to 4).

Shift	Liquidity band	FESE 2 SHIFT	# points	New spread to tick ratio					Choice	New Decision	Previous Decision	
				<1,3	[1,3-1,5]	[1,5-3]	[3-5]	[5-10]				>10
	[9000:10000]	-2	1 679	0,1%	0,1%	26,4%	44,0%	26,1%	3,4%	? ==> balance solution ?	4	13
	[9000:10000]	-1	1 679	11,3%	17,8%	56,6%	11,4%	2,5%	0,4%	? ==> balance solution ?	5	2
	[9000:10000]	0	1 679	77,0%	12,0%	9,7%	0,9%	0,4%	0,0%	? ==> constraining the spread	375	7
	[9000:10000]	1	1 679	97,9%	1,0%	1,1%	0,1%	0,0%	0,0%	? ==> constraining the spread	15 774	61
	[9000:10000]	2	1 679	99,8%	0,2%	0,1%	0,0%	0,0%	0,0%	? ==> constraining the spread	82 622	374
	[9000:10000]	3	1 679	100,0%	0,0%	0,0%	0,0%	0,0%	0,0%	? ==> constraining the spread	110 407	1 090
	[9000:10000]	4	1 679	100,0%	0,0%	0,0%	0,0%	0,0%	0,0%	? ==> constraining the spread	113 870	1 301

Applying the decision function presented above, the resulting tick size table is the following:

### Shifts

resulting shift	FESE 2 SHIFT
[0:10]	3
[10:20]	2
[20:30]	2
[30:40]	2
[40:50]	2
[50:60]	2
[60:70]	2
[70:80]	2
[80:90]	1
[90:100]	1(*)
[100:200]	1
[200:300]	1
[300:400]	1
[400:500]	1
[500:600]	1
[600:700]	0
[700:800]	0
[800:900]	0
[900:1000]	0
[1000:1250]	0
[1250:1500]	0
[1500:1750]	0
[1750:2000]	0
[2000:2250]	-1
[2250:2500]	-1
[2500:3000]	-1
[3000:3500]	-1
[3500:4000]	-1
[4000:4500]	-1
[4500:5000]	-1
[5000:6000]	-1
[6000:7000]	-1
[7000:8000]	-1
[8000:9000]	-1
[9000:10000]	-2
[10000:15000]	-2
[15000:]	-2(*)



### resulting tick size table

Price Ranges	Liquidity Bands					
	0-10	10-80	80-600	600-2000	2000-9000	9000-
0-0,1	0,0005	0,0002	0,0001	0,0001	0,0001	0,0001
0,1-0,2	0,001	0,0005	0,0002	0,0001	0,0001	0,0001
0,2-0,5	0,002	0,001	0,0005	0,0002	0,0001	0,0001
0,5-1	0,005	0,002	0,001	0,0005	0,0002	0,0001
1-2	0,01	0,005	0,002	0,001	0,0005	0,0002
2-5	0,02	0,01	0,005	0,002	0,001	0,0005
5-10	0,05	0,02	0,01	0,005	0,002	0,001
10-20	0,1	0,05	0,02	0,01	0,005	0,002
20-50	0,2	0,1	0,05	0,02	0,01	0,005
50-100	0,5	0,2	0,1	0,05	0,02	0,01
100-200	1	0,5	0,2	0,1	0,05	0,02
200-500	2	1	0,5	0,2	0,1	0,05
500-1000	5	2	1	0,5	0,2	0,1
1000-2000	10	5	2	1	0,5	0,2
2000-5000	20	10	5	2	1	0,5
5000-10000	50	20	10	5	2	1
10000-20000	100	50	20	10	5	2
20000-50000	200	100	50	20	10	5
50000-	500	200	100	50	20	10
Shift	3	2	1	0 (FESE 2)	-1	-2

(\*) resulting shift has been slightly modified so that one can group consecutive liquidity bands.

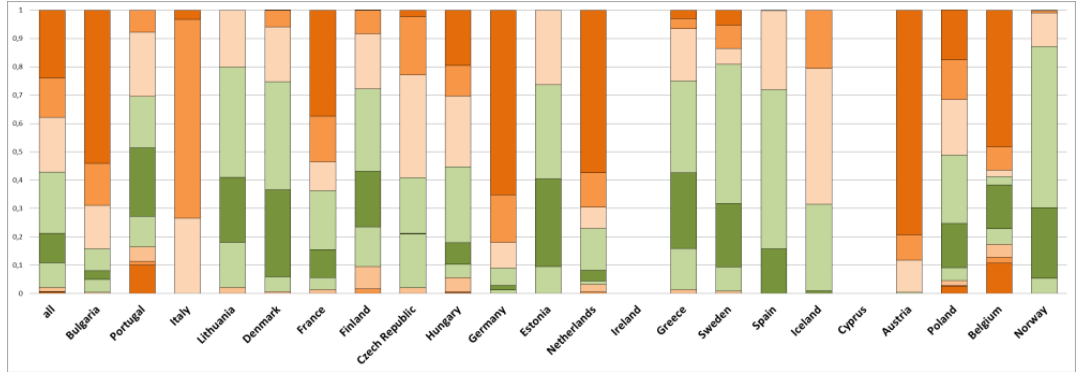
Compared to FESE table 2, there is a decrease in tick for stocks above 2000 trades per day, and an increase in tick size for stocks below 600 trades per day. The impact analysis of applying this new decision function is presented below:

### Liquidity bands

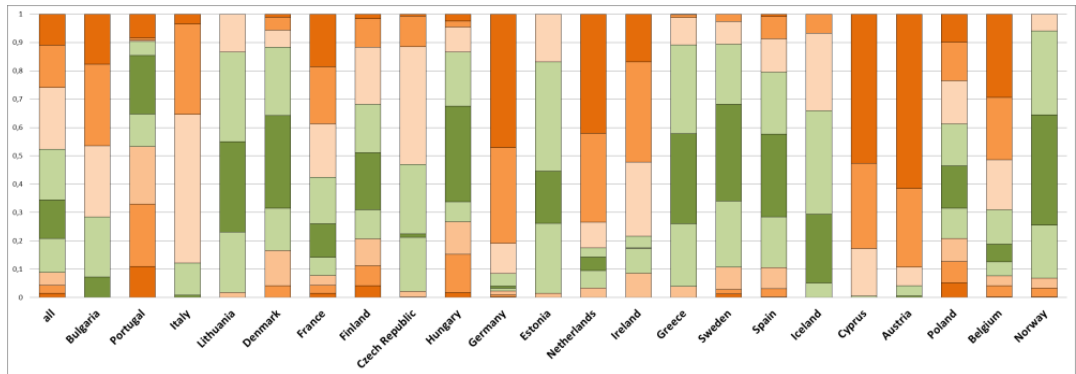
### Impact Analysis

■ <-2 ts levels  
 ■ -2 ts levels  
 ■ -1 ts level  
 ■ -1/2 ts level  
 ■ no change  
 ■ +1/2 ts level  
 ■ +1 ts level  
 ■ +2 ts levels  
 ■ >+2 ts leve

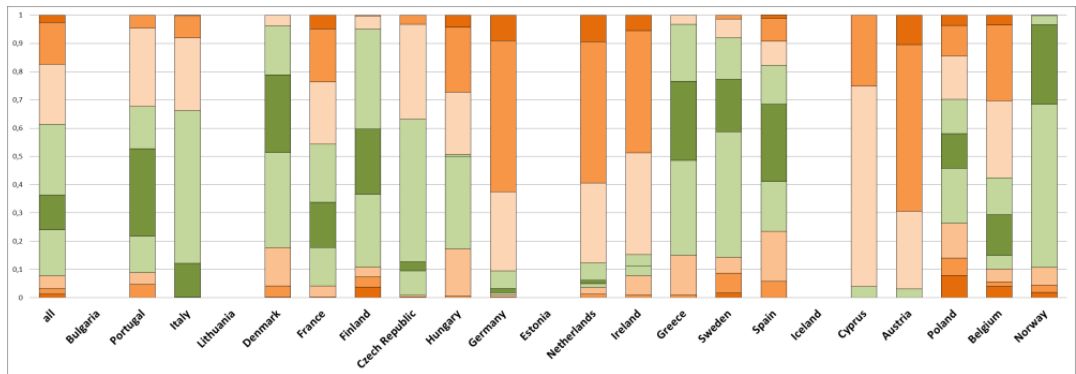
0-10



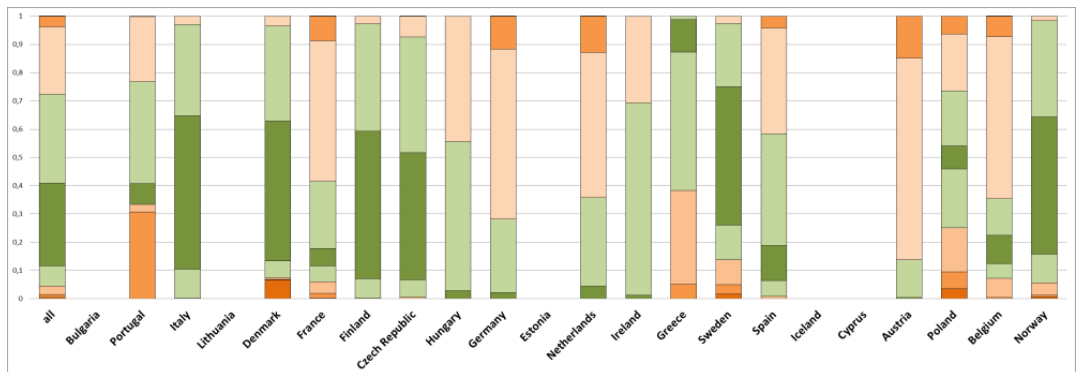
10-80



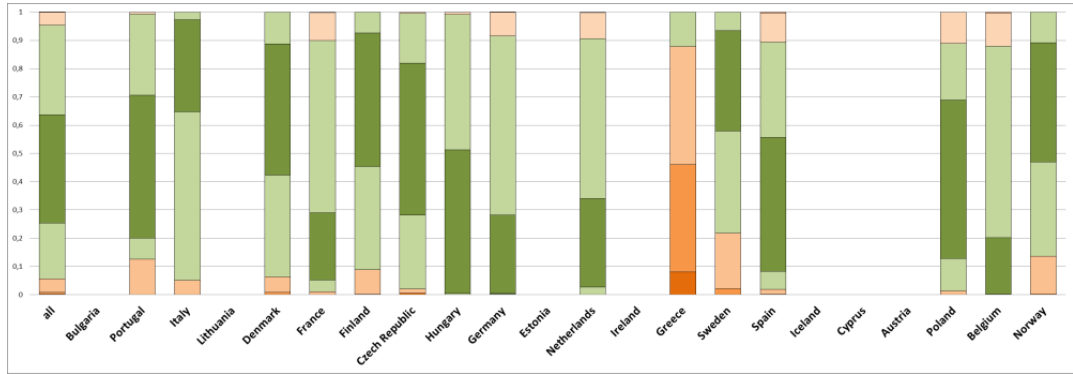
80-600



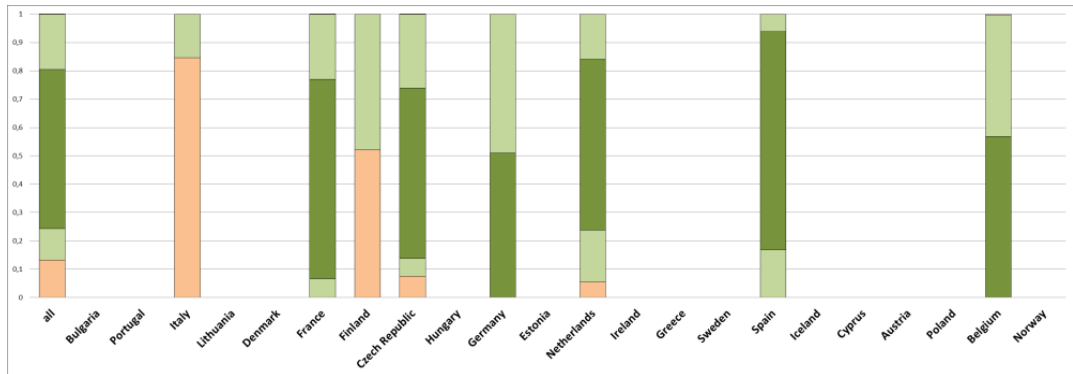
600-2000



2000-9000



9000-



Note: "ts" refers to tick sizes.

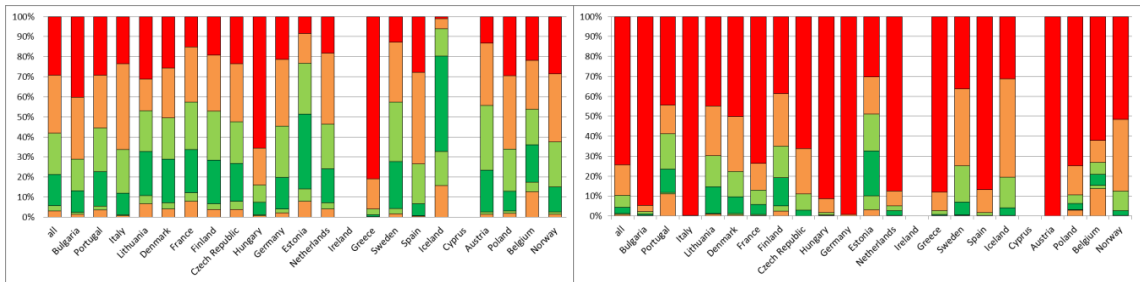
The new distribution of the spread to tick ratio with this new tick size table is the following:

■ <1,2   
 ■ [1,2-1,5]   
 ■ [1,5-3]   
 ■ [3-5]   
 ■ [5-10]   
 ■ >10

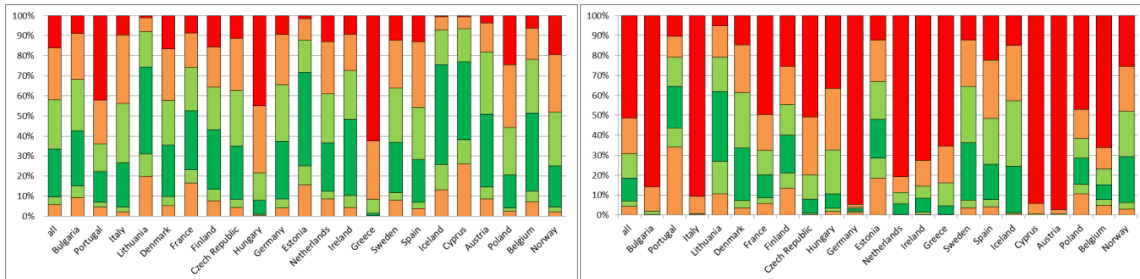
Situation with the proposed table

Current Situation

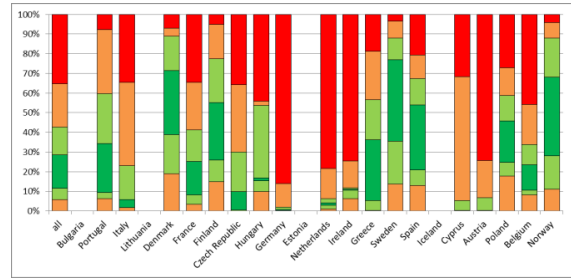
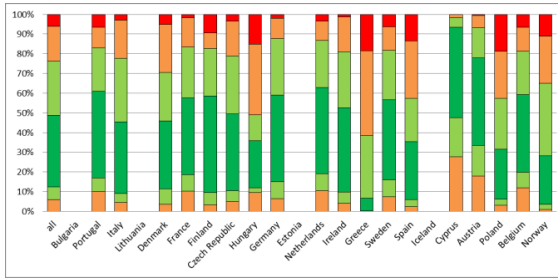
0-10



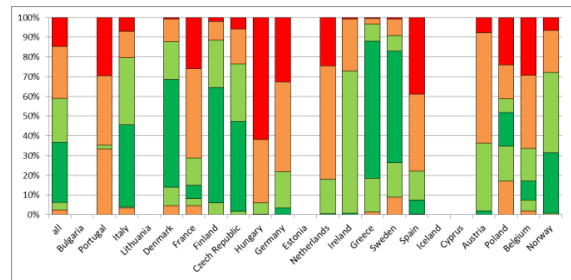
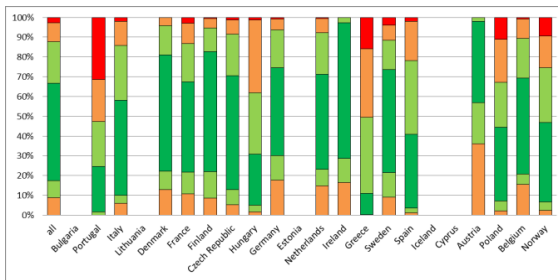
10-80



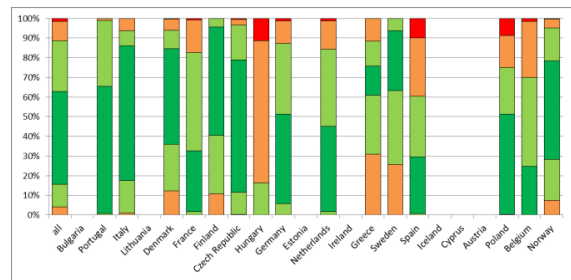
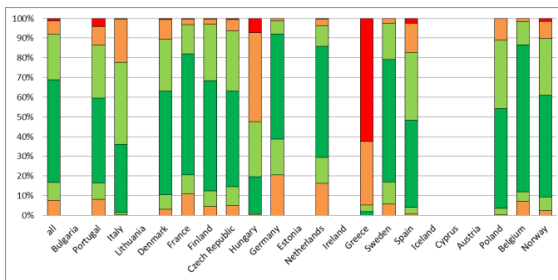
80-600



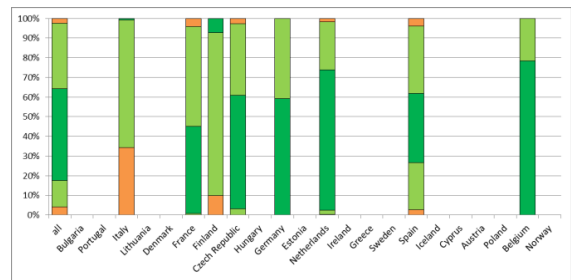
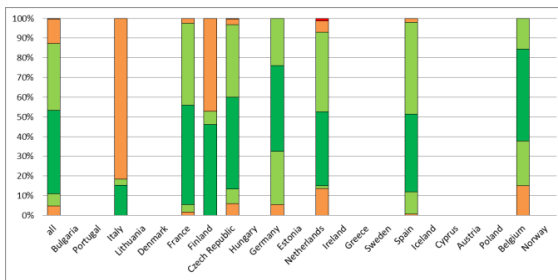
600-2000



2000 - 9000



9000 -

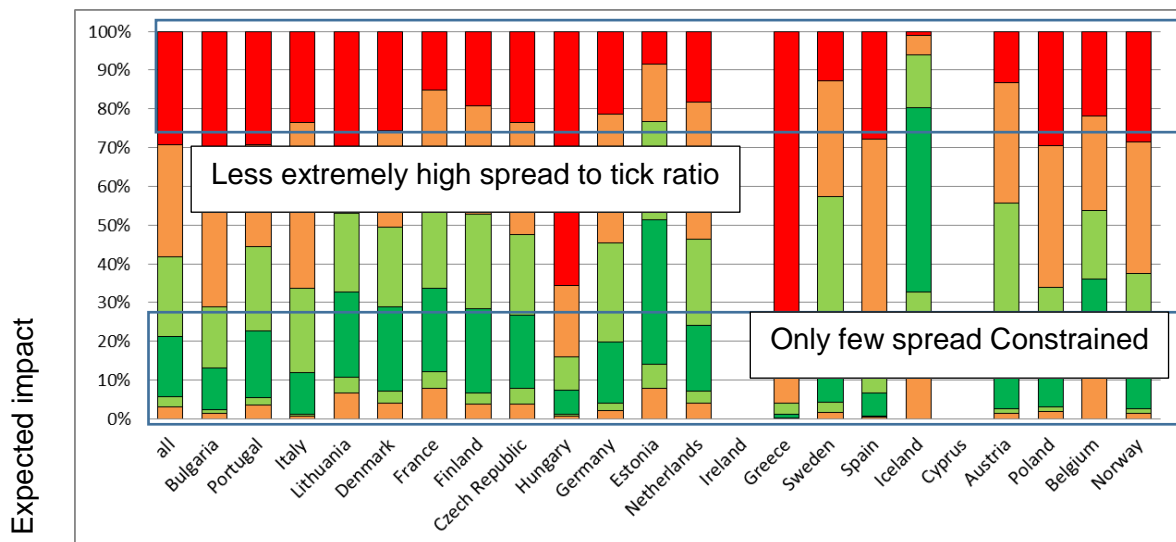
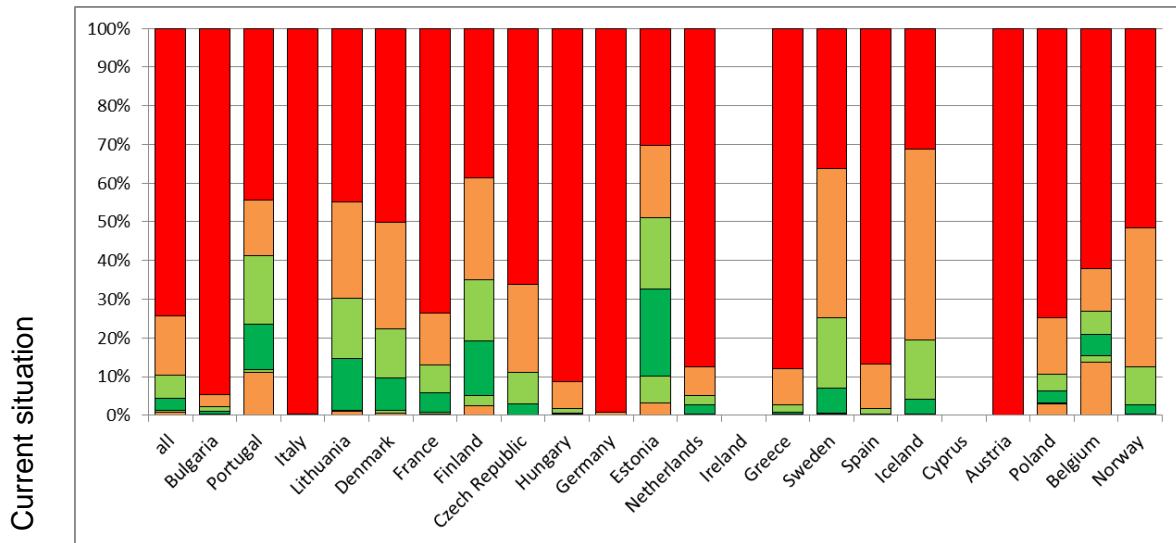


The overall impact is very close to the one proposed in the CP. The higher level of granularity leads to slight adjustments in the liquidity bands (for example, liquidity band 0-100 became 10-80, 100-500 became 80-600). The main differences arose from the reduction of the most liquid liquidity band and of the creation of a liquidity band for stocks with less than 10 trades per day.

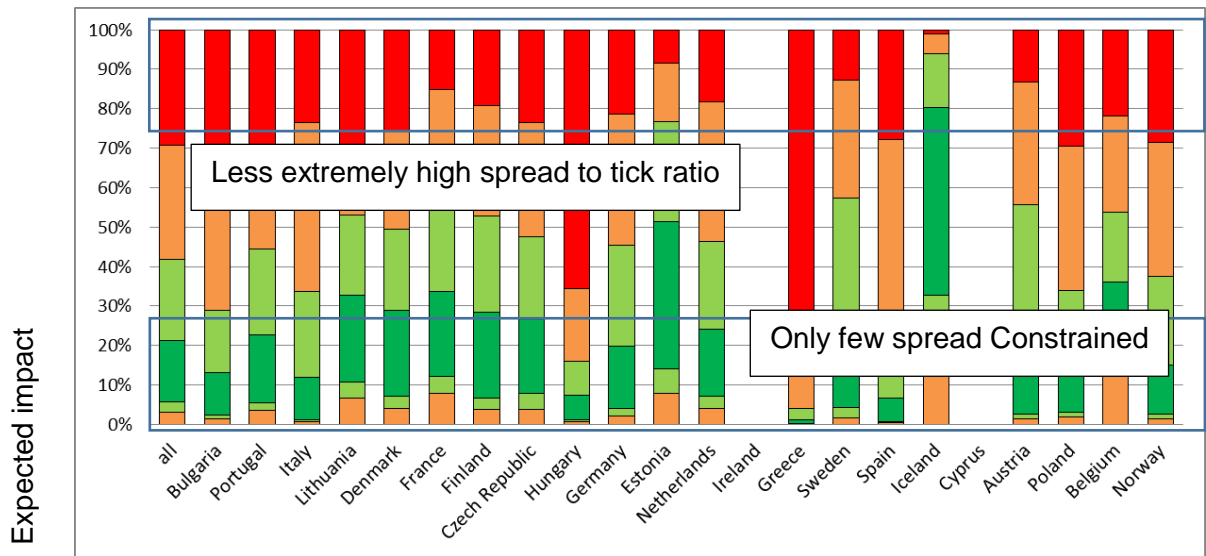
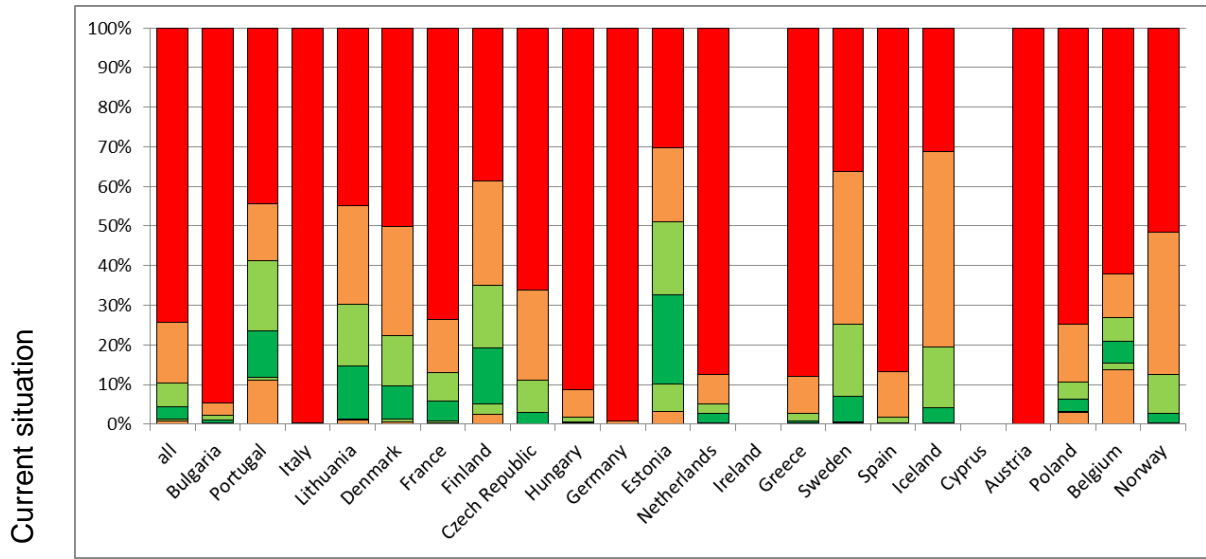
Across jurisdictions, most stocks fall within the 1.3-5 target spread to tick ratio. For the most liquid stocks, we observe fewer cases of constrained spread as some of the stocks previously falling within the liquidity band 2000-15000 now fall within the 9000 liquidity band. Nevertheless for the French, German and Dutch markets there is still a small number of data points with a constrained spread (~5%) compared to the 3% of stocks with this ratio in the current situation.

Most Nordic Countries (especially Sweden, Finland and Norway) will experience a decrease in tick size compared to their current situation and will see the spread to tick ratio increase for most of their stocks. However, as the proposed regime is a minimum tick size they might not even be impacted as they can maintain their previous tick size table.

For most of illiquid stocks (and also for liquid stocks other than those most liquid), we observe fewer cases of extremely large spread to tick ratios.







## 6. Summary of literature review

This section provides a table with a review of the relevant articles, whose main messages have been discussed in the previous sections.

*Decrease in tick size: Effects on market quality (bid-ask spreads, liquidity/depth, and volatility)*

Authors	Tick size decrease analysed	Result of the study
<b>Ahn, Cai, Chan, Hamao (2007)</b>	Reduction in tick size on Tokio Stock Exchange in 1998	Reduction in bid-ask spread
<b>Ahn, Cao and Choe (1998)</b>	Reduction of tick size from C\$0.125 to C\$0.050 for all stocks traded at or above C\$5 on Toronto Stock Exchange in 1996	Reduction in bid-ask spread
<b>Aitken and Comerton-Forde (2005)</b>	Reduction in tick sizes on the Australian Stock Exchange	Reduction in bid-ask spread except for a group of higher priced stocks with low liquidity
<b>Bacidore, Battallio, Jennings (2003)</b>	NYSE reduction in tick size to \$0.01	Reduction in displayed liquidity; limit order investors are more likely to use smaller sized orders.
<b>Bartlett, McCrary (2013)</b>	Allowing sub-penny tick size	Increase in HFT trading, decrease in dark liquidity
<b>Bessembinder (1999)</b>	Nasdaq-listed firms whose tick size changed as their share prices passed through \$10 during calendar year 1995.	Bid-ask spread decrease. Liquidity not affected.
<b>Bessembinder (2003)</b>	US Decimalisation	Bid-ask spread and quoted size decreased. Intraday return volatility decreased.
<b>Ball, Chordia (2001)</b>	NYSE tick size reduction in June 1997	For very large stock the reduced tick produce tighter market maker spread, and lower costs to retail customers.
<b>Bollen, Whaley (2002)</b>	Adoption of decimalisation	Reduction in bid-ask spread, market depth and transaction costs

<b>Bollen, Busse (2003)</b>	Adoption of decimalization	Actively traded mutual funds incurred higher trading costs while index tracking funds were unaffected
<b>Buti, Consonni, Rindi, Werner (2013)</b>	US decrease in tick size as the stock price fall below \$1	Spread improves but depth deteriorates
<b>Buti, Rindi, Wen, Werner (2013)</b>	US decimalisation	Market quality fell for illiquid but increased for liquid stocks
<b>Chakravarty, Panchapagesan, and Wood (2005)</b>	Adoption of decimalisation on NYSE in 2001	Trading costs declined; increase in time to execute order
<b>Chakravarty, Wood and Harris (2001)</b>	Adoption of decimalisation on NYSE in 2001	Reduction in bid-ask spread; reduction in market depth
<b>Chakravarty, Wood and Van Ness (2004)</b>	Adoption of decimalisation on NYSE in 2001	Increased volatility in the short run, decline in the long -run
<b>Chung and Chuwonganant (2004)</b>	Reduction to \$1/16 tick size by Nasdaq	Significant reduction in bid-ask spread once; greater competition between liquidity providers
<b>Chung and Ness (2001)</b>	Reduction to \$1/16 tick size by Nasdaq	Significant reduction in bid-ask spread, decline is the largest during the last trading hours
<b>Coughenour and Harris (2004)</b>	Decimalisation of tick on NYSE in 2001	Market maker participation increased
<b>Czerwonko, Khoury, Perrakis, Savor</b>	Tick size reduction in the option market	Increased efficiency of price discovery process
<b>Darley and Outkin (2007)</b>	Agent based modelling - impact of planned reduction in tick size from \$1/8 to \$ 1/16 by Nasdaq in 1997	Increase in bid-ask spread
<b>Furfine (2003)</b>	Decimalisation of tick on NYSE in 2001	Reduction in average bid-ask spreads with the largest declines observed for most actively traded stocks
<b>Gibson, Singh and Yerramilli (2003)</b>	Reduction to \$1/16 tick size by Nasdaq	Significant reduction in bid-ask spread
<b>Goldstein and Kavajecz (2000)</b>	Reduction to \$1/16 ticks by NYSE in 1997	Reduction in bid-ask spread; market liquidity declined
<b>Harris (1991)</b>	Model based – projections of a decrease in tick from 1/8 to 1/16	Bid-ask spread and quotation sizes decrease. Market depth unaffected.

<b>Jones, Lipson (2001)</b>	NYSE tick size reduction in 1997	Quoted and effective spreads declined; realised execution costs increased
<b>Ronen and Weaver (2001)</b>	Decimalisation of tick on NYSE in 2001	Decreased volatility
<b>Weild, Kim, Newport (2013)</b>	Decimalisation of tick on NYSE in 2001	Reduced number of IPOs

*Increase in tick size: Effects on market quality (bid-ask spreads, liquidity/depth, and volatility)*

Authors	Tick size increase analysed	Effect
<b>Angel (1997)</b>	Model based	Enhanced liquidity by reducing bargaining and processing costs and by providing more incentives for limit orders and market makers to provide liquidity. A larger tick size reduces the number of possible price outcomes, and thereby reduces the time required for buyers and sellers to negotiate and complete a trade
<b>Chung, Kim, Kitsabunnarat (2004)</b>	KLSE step-increasing tick size regime	Increase in bid-ask spread; lower transaction negotiation costs; detrimental to market liquidity, market depth not enhanced
<b>O'Hara, Saar, Zhong (2013)</b>	NYSE Step-increasing tick size regime	Little evidence on increased liquidity; HFT market makers have a prominent role in liquidity provision for stocks with larger tick sizes
<b>Yao, Ye (2015)</b>	Uniform 1-cent tick size (relative larger tick size as price of stock decreases)	Encourages high-frequency trading and taker/maker-fee markets. US proposals to increase tick size will not improve liquidity but will encourage high frequency trading and lead to proliferation of markets that bypass the tick size constraints. Price completion is constrained, HFT are encouraged to achieve time priority over non-HFT at constrained price

## 7. International comparison - US

In the United States, the tick size is \$0.01 if the stock price is equal to or greater than \$1 and \$0.0001 if the stock is priced less than \$1.

In 1992, the SEC approved an American Stock Exchange (AMEX) rule that lowered its tick size for stocks priced between \$0.25 and \$5 to 1/16<sup>th</sup> of a dollar. A subsequent rule in 1997 applied this tick size to all AMEX stocks trading at or above \$0.25. Also in 1997, the New York Stock Exchange (NYSE) and NASDAQ promulgated rules to use 1/16th as tick sizes.

Other stocks used  $1/32^{\text{nd}}$ . The SEC mandated that exchanges started implementing decimal pricing in September 2000 and finished implementation by April 2001.

The prior regime was deemed to be the cause of artificially wide spreads and considered to be hindering competition, leading to excessive profits for market makers. Moreover, the SEC expressed concerns that such a regime puts the U.S. equity markets at a competitive disadvantage to foreign equity markets that used decimal pricing increments. Against this background, in April 2001 the SEC adopted Regulation NMS Rule 612 that set the tick size for all stocks at \$0.01. In 2004, this Regulation was modified so that for stocks trading at less than \$1 the tick size became \$0.001.

Over the last decade researchers have analysed the question whether decimalisation has been detrimental to small and medium sized enterprises, with different conclusions. In particular, the opponents of decimalisation argued that it has reduced incentives for underwriters to pursue public offerings for small companies, limited the production of sell-side research for small and middle capitalisation companies<sup>60</sup>, and made it less attractive to become a market maker in the shares of smaller companies.<sup>61</sup>

It is questionable whether all these effects can be attributed to changes in tick sizes alone. Other macroeconomic variables and industry developments may have also had an effect (dotcom bubble, recession, increased popularity of technology stocks, changes in sell-side research economics, etc).

In light of that, in 2012 the SEC conducted, and subsequently submitted to the Congress, a study on how decimalisation affected the number of IPOs. While the study did not reach any firm conclusions about the impact of decimalisation on the number of IPOs or the liquidity and trading of small capitalisation companies, it did recommend continuing to investigate this area.

In light of this, in February 2013, the SEC held a roundtable with participation from a wide range of market participants and academics; there was broad support for the SEC to conduct a pilot program to gather information with respect to the impact of wider tick sizes on liquidity in small cap stocks.

As a consequence, the SEC has recently decided (June 2014) to launch a 12-month pilot program to widen tick sizes for certain small capitalisation stocks<sup>62</sup>. The purpose of the pilot is to assess the effect of an increase in tick size on liquidity, execution quality for investors,

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<sup>60</sup> The definition of small, middle and large capitalization is generally study specific. For example, Bessembinder (2003) uses \$3.3 billion to \$336 billion as large capitalization, \$398 million to \$3.1 billion as middle capitalization, and \$18.5 million to \$336 million as small capitalization

<sup>61</sup> For a complete overview of these studies see SEC staff report, July 2012 <http://www.sec.gov/news/studies/2012/decimalization-072012.pdf>.

<sup>62</sup> Market capitalization of USD 5 billion or less; an average daily trading volume of one million shares or less; and a share price of USD 2 per share or more. The pilot will consist of one control group and three test groups with 300 securities in each test group selected by stratified sampling. 1. Quoted (displayed) at 5 cents (Can trade anywhere within the NBBO), 2. Quoted and traded at 5 cents (Dark allowed at midpoint and touch only), 3. Quoted and traded at 5 cents (Dark restricted to midpoint unless removing lit NBBO). The \$5 billion market cap means this pilot is including a number of companies in the S&P 500, estimated at 66% of the total stocks traded, of which over more than 60% will not see their spreads widen as already higher than five cents, according to KCG, [https://www.kcg.com/uploads/documents/KCG\\_Tick\\_Size\\_Analysis\\_Final.pdf](https://www.kcg.com/uploads/documents/KCG_Tick_Size_Analysis_Final.pdf).



volatility, market maker profitability, competition, transparency, and institutional ownership on small cap stocks.

## **3.7. Material market in terms of liquidity relating to trading halt notifications**

### **1. Executive Summary**

The purpose of the proposed final draft RTS is to further specify the determination of where a regulated market is material in terms of liquidity in a relevant instrument under Article 48(5) of MiFID II.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, the baseline section explains the starting point for assessing the incremental rules related to ESMA's draft RTS, which can be either the MiFID requirement, or current market practice where it exceeds the MiFID requirements. The stakeholders identified are trading venues (RMs, MTFs and OTFs) and competent authorities (CAs). The cost-benefit analysis section presents an analysis of the benefits and costs associated with the proposals set out in the RTS

### **2. Introduction**

Article 48(5) of MiFID II imposes on regulated markets which are material in terms of liquidity in a given instrument to have the necessary systems and procedures in place to notify CAs of trading halts so as to permit the coordination of a market-wide response if necessary whereby other markets should follow that action. This requirement is extended to MTFs and OTFs by virtue of Article 18(5) of MiFID II.

Member States will require trading venues to be able to halt trading in a specific financial instrument for a short period of time in cases of significant price movements or in some cases to be able to cancel, vary or correct any transaction that already took place.

In order to identify which markets are relevant enough to eventually determine a trading halt across other venues, ESMA must develop a draft RTS to establishing the conditions for a market to qualify as a material market in terms of liquidity for a financial instrument. The purpose of this document is to establish what are the costs and benefits of the incremental obligations of this RTS.

### **3. Baseline**

MiFID I defined 'material market in terms of liquidity' in the context of transaction reporting for equity and non-equity instruments. The material market in terms of liquidity in MiFID I was where the instrument was first admitted to trading, with some exceptions in the case of foreign stocks. CAs could then challenge this definition based on trading volumes in that instrument.

However, MiFIR not only increases the instruments that are within scope with respect to MiFID I to non-equity instruments but also establishes, in addition to "a material market in terms of liquidity" two different concepts of 'most relevant market in terms of liquidity': one for



transparency purposes and another for transaction reporting purposes. For equities, the relevant market in terms of liquidity under MiFID II for transparency purposes is the market with the highest liquidity (turnover), while under MiFID I it was where the instrument was first admitted to trading. This change in criteria may make the relevant market in terms of liquidity to change more frequently than before. For non-equity, the concept of first admission to trading is maintained, so no changes with respect to MiFID I.

From a legal perspective, the relevant legislation to consider is Article 48(5) and Article 18(5) of Directive 2014/65/EU.

Under Article 48(5) of MiFID II, Member States shall require a regulated market to be able to halt or constrain trading if there is a significant price movement in a financial instrument on that market or a related market during a short period and, in exceptional cases, to be able to cancel, vary or correct any transaction that took place. The parameters used for deciding to halt trading and any material changes to those parameters must be reported to the CA which in turn shall report them to ESMA.

The parameters used for halting trading must be appropriately calibrated in a way that takes into account the liquidity of different asset classes and sub-classes, the nature of the market model and types of users.

Article 18(5) of Directive 2014/65/EU extends the requirements of Article 48 of MiFID II to MTFs and OTFs.

As MiFID I did not determine the obligation of trading venues to report trading halts (as opposed to trading suspensions) or the coordination of those trading halts across jurisdictions, the baseline for this RTS is MiFID II Level 1.

Article 48(12)(d) of MiFID II requires ESMA to develop draft RTS further specifying the determination of where a regulated market is material in terms of liquidity in a given instrument for that market.

It is also worth noting that this RTS leverages on concepts developed and clarified in other RTS (RTS 1 on equity transparency and RTS 23 on reference data in particular) and therefore some of the costs which could arise from this RTS might already have been taken into consideration in the context of other RTS.

#### **4. Stakeholders**

*Trading venues:* Trading venues, identified as relevant markets for these purposes, have to notify the relevant CA of trading halts that take place on that venue in order to coordinate a market-wide response, where appropriate. These trading venues will need to establish systems and procedures to notify those trading halts. However, this cost should arise from Level 1 legislation.

*Competent Authorities (CAs):* CAs may incur some marginal costs from collecting the relevant data and performing the calculations required to identify the relevant trading venues. Most of these costs should be attributed to Level 1.

In addition, the costs arising from the determination of the material markets in terms of liquidity may overlap with the calculations already performed for transparency purposes in the equity, non-equity and double volume cap RTS.

## 5. Cost Benefit Analysis

Below is a summary of the main costs and benefits arising from this RTS.

### Material market in terms of liquidity

<p><b>Policy Objective</b></p>	<p>Identification of potentially systemic trading venues whose trading halts should be particularly monitored as they may eventually trigger a coordinated trading halt to prevent the expansion of disorderly trading conditions to the market as a whole.</p>
<p><b>Technical proposal</b></p>	<p>This technical proposal sets out the criteria for determining when a trading venue is considered a material market in terms of liquidity for a specific financial product. See Article 1 of RTS 12 for more details.</p>
<p><i>Benefits</i></p>	<p>It provides clarity to determine material markets in terms of liquidity for the purpose of trading halts notifications.</p> <p>It leverages, where possible, on existing concepts and published information which allow CAs and TVs to determine whether a TVs is material in terms of liquidity for a specific financial instrument without performing burdensome calculations.</p> <p>The revised proposal should bring all financial instruments into the scope of the Regulation.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>There may be low one-off and recurring costs related mainly to staff in order to determine the relevant market in terms of liquidity for a particular financial instrument, as new calculations need to be performed to exclude some transactions.</p> <p>Costs arising from the identification of material markets in terms of liquidity can be attributed to both Level 1 and Level 2. However, costs attributed to this RTS should be low since the RTS relies mainly on</p>

	existing concepts and calculations covered in other RTSs.
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>For equities and related instruments:</p> <ul style="list-style-type: none"> <li>- No costs to determine material market in terms of liquidity as costs should already arise for calculations to be performed under RTS 1 on equity transparency.</li> </ul> <p>For non-equity and related instruments:</p> <ul style="list-style-type: none"> <li>- For instruments which are admitted to trading on a regulated market, there will be no incremental costs, as data should be available under the reference data system.</li> <li>- For instruments which are not admitted to trading on a regulated market (but traded on an MTF or OTF), there will be limited one-off staff costs relating to the determination of the venue where the instrument was first traded. However, some of these costs may be also covered in RTS 23 on reference data (publication of the venue of first admission).</li> </ul>
<i>Costs to other stakeholders</i>	<ul style="list-style-type: none"> <li>- None identified.</li> </ul>
<i>Indirect costs</i>	<ul style="list-style-type: none"> <li>- None identified.</li> </ul>

## **4. DATA PUBLICATION AND ACCESS**

### **4.1. Draft regulatory technical standards on authorisation, organisational requirements and the publication of transactions for data reporting service providers**

#### **1. Executive Summary**

MiFID II introduces a new type of services that are subject to authorisation and supervision: Data Reporting Services (DRSs) operated by Data Reporting Services Providers (DRSPs). DRSs include the operation of Approved Publication Arrangements (APAs), Consolidated Tapes (CTs) and Approved Reporting Mechanisms (ARM). MiFID II provides for a regulatory framework governing DRSPs globally and each of them more specifically, where appropriate.

The purpose of this draft RTS is to further specify the information to be provided to Competent Authorities (CAs) when seeking authorisation as a DRSP, to set forth the organisational requirements to be met by DRSPs at the time of authorisation and on an ongoing basis and to provide for more specific requirements in relation to the publication arrangements.

This document covers three main topics: i) general authorisation of DRSPs, ii) organisational requirements and iii) publication arrangements.

Each of the topics (or subtopics) contains four sections: introduction, baseline, stakeholders and cost-benefit analysis, except in the case of authorisation of DRSPs which contains as well as section on background information. The introduction sets the ground for the draft RTS, and is followed by an explanation of the baseline i.e. of the starting point against which the incremental rule arising from the draft RTS is assessed. The stakeholders identified are APAs, ARMs, Consolidated Tape Providers (CTPs) and CAs. The cost-benefit analysis section contains a summary of the benefits and costs associated with the final draft RTS. There is a section at the end on compliance costs and market impact that contains subsections on direct compliance costs, impact on business model and impact on market structure for the RTS overall.

The final draft RTS considered in this CBA differs from the one annexed to the December 2014 CP since it has been informed by the feedback subsequently received. Where the changes made in the final draft RTS are relevant from a cost-benefit perspective, they are identified as such.

#### **2. General authorisation for DRSPs**

##### **2.1. Introduction**

Enhanced market transparency and efficiency, combined with appropriate tools for competent authorities to enable them to exercise their market integrity and investor

protection is at the heart of MiFID II/MiFIR. In that context, the provision of core market data services appears all the more critical for users to be able to obtain the desired overview of trading activity across the Union's financial markets and for CAs to receive accurate and comprehensive information on relevant transactions. Whilst the MiFID Implementing Regulation included some minimum requirements to be met by transaction reporting systems and by trade publication arrangements, one of the key changes in MiFIDII/MiFIR is the introduction of DRSPs as services requiring prior authorisation by CAs. The regime is entirely new for Consolidated Tape Providers (CTPs).

Entities other than trading venues seeking authorisation as DRSPs have to go through a fully-fledged authorisation procedure. Trading venues may be authorised to become DRSPs without seeking a separate authorisation, provided they meet some organisational and other specific requirements. This section of the draft RTS develops the information to be provided to the CA at the time of authorisation and thereafter so that the CA can assess whether the applicant has made the necessary arrangements to meet its obligations under Title V of MiFID II.

## **2.2. Baseline**

From a legal perspective, the legislation to consider is:

In respect of APAs and CTPs: Article 59(1) of MiFID II, provides that “the provision of data reporting services (...) as a regular occupation or business shall be subject to prior authorisation (...)” and Article 61(2) of MiFID II, under which a DRSP has to provide all information, “including a programme of operations setting out, inter alia, the types of services envisaged and the organisational structure, necessary to enable the competent authority to satisfy itself that the data reporting services provider has established, at the time of initial authorisation, all the necessary arrangements to meet its obligations (...)”. For APAs, the MiFID II provisions build on Article 32 of the MiFID Implementing Regulation which provides for the requirements to be met by a trade publication arrangement but without providing for a specific approval or authorisation.

In respect of ARMs, Article 12(1) of the MiFID Implementing Regulation sets out the requirements to be met by trade reporting systems and Article 12(1) provides that such systems must be approved by the CA. However, as stated in the CESR Guidelines on MiFID Transaction Reporting (CESR/07-301) the process of approval is not specified in detail, and the reporting system does not benefit from a European Passport. Articles 59(1) and 61(2) of MiFID II substantially elaborate on the MiFID Implementing Regulation and are therefore considered to be the legal baseline.

Under Article 59(2) of MiFID II, an investment firm or a market operator operating a trading venue may operate an APA, CTP and ARM subject to the prior verification of their compliance with the requirements set out in Title V of MiFID II but without having to go through a separate authorisation process.

Regarding the requirements for the management body of a DRSP, Article 63(1) of MiFID II sets out that all the members of the management body of a DRSP must at all times be of sufficiently good repute, possess sufficient knowledge, skills and experience and commit sufficient time to perform their duties. The management body must possess adequate collective knowledge, skills and experience to be able to understand the activities of the DRSP. Each member of the management body must act with honesty, integrity and independence of mind to effectively challenge the decisions of the senior management where necessary and to effectively oversee and monitor management decision-making where necessary.

Under Article 63(3) of MiFID II, the DRSP must notify the CA of all members of its management body and of any changes to its membership, along with all information needed to assess whether the entity complies with the requirements set out in Article 63(1) of MiFID II above.

### *Empowerment*

Under Article 61(4) of MiFID II, ESMA is mandated to draft RTSs to specify:

- (a) the information to be provided to the CA, including a programme of operations setting out, inter alia, the types of services envisaged and the organisational structure and;
- (b) the information to be included in the notification of all the members of the management body with the information needed to assess that they are of sufficiently good repute, possess sufficient knowledge, skills and experience and commit sufficient time to perform their duties.

The incremental rules in the final draft RTS relate to the content and details of the information to be provided to the CA when seeking authorisation as a DRSP compared either to current market practices when they are above MiFID II requirements (see above below) or to MiFID II. However, it is very difficult to disentangle the costs arising from the general MiFID II requirements for authorisation of DRSPs and the costs arising from the draft RTS. Any indication of costs for related to the draft RTS is therefore to be taken as an upper bound.

### **2.3. Stakeholders**

*Entities that intend to become DRSPs under MiFID II* will benefit from the legal certainty and predictability provided by the RTS. For entities already providing such services, the new or more substantial authorisation requirements will entail one-off and on-going costs. Operators of trading venues will have to meet the requirements for DRSPs but will not have to go through a separate authorisation process.

*CAs in charge of the authorisation and supervision of DRSPs* will incur additional one-off costs to set up an authorisation procedure for DRSPs and for processing the initial authorisation and storage of information. They will also incur on-going costs for the on-going supervision, to process the new information in case of any change to the membership of the

management body of DRSPs, and data storing costs but may benefit from improved quality in transaction reporting.

*Market participants* will benefit from an improved post-trade transparency framework.

## 2.4. Cost-Benefit Analysis

The final draft RTS sets forth the detailed list of information to be provided to the CA when applying for authorisation, and to be updated in case of change after authorisation. The information includes general information of the organisation of the applicant and its corporate governance structure and information on members of the management bodies

### 2.4.1. Information on organisation and corporate governance

The incremental obligation is the detailed list of information to be provided to the CA so that the CA is able to assess whether the applicant has the necessary arrangements to meet its obligations at the authorisation stage, and to then monitor that the DRSP complies at all times with the conditions of initial authorisation. The information to be provided includes a programme of operation comprising information on the organisational structure, compliance policies and procedures and outsourced functions as well as information on internal corporate governance policies and the procedures governing its management body and senior management.

The associated costs will vary according to the current status of the entity intending to become a DRSP. The costs are expected to be lower for firms that are authorised (or confirmed) to provide transaction reporting or trade publication services in Member States with a pre-existing formal authorisation regime in place.

<b>Policy Objective</b>	Enabling CAs to assess/monitor whether the applicant/DRSP has the necessary arrangements and requirements to meet its obligations under Title V of MiFID II.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Information to CAs. See Article 1 of RTS 13 for more details.</li> <li>- Information on the organisation. See Article 2 of RTS 13 for more details.</li> <li>- Corporate governance. See Article 3 of RTS 13 for more details.</li> </ul>
<b>Benefits</b>	<p>The final draft RTS provides clarity, legal certainty and predictability to applicants seeking authorisation as a DRSP. It will contribute to ensuring a consistent assessment of applications across the EU.</p> <p>The information provided will allow the CA to satisfy itself that the applicant firm complies with all relevant requirements and is able to properly serve the purpose for which the DRSP regime was introduced by MiFID II, i.e.: improved quality of post-trade data, consolidation of</p>

	<p>post-trade information and enhanced quality of transaction reporting.</p> <p>More specifically, the organisational chart will enable CAs to assess whether the applicant has sufficient human resources and appropriate oversight over its business.</p> <p>Given the key role played by the members of the management body, the information provided on corporate governance will help to ensure that a robust process is in place for their appointment and the evaluation of their performance.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>One-off costs: CAs will incur one-off staff costs to process DRSPs' applications, or ensure that trading venues meet all relevant requirements for authorisation of DRSPs.</p> <p>On-going costs: CAs will incur on-going staff and IT costs for DRSPs' supervision and for reviewing changes to initial authorisation, including changes to the members of the management body or to their responsibilities. They will incur on-going IT costs for data storage.</p> <p>We consider those costs to be driven by Level 1.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>DRSP applicants will incur one-off costs to draft the policies and procedures, and more generally to prepare all the documentation to be provided to the CA for authorisation. This includes, but may not be limited to, staff costs and possibly outsourced fees (e.g. lawyers, consultants.).</p> <p>On-going costs will be incurred to update the information in case of changes to the members of the management body and/or responsibilities.</p> <p>We consider those costs to be driven by the Level 1 authorisation requirement.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

#### 2.4.2. Information on members of the management body

Applicants (and DRSPs after authorisation) have to provide CAs with information on the professional background, experience and knowledge of each members of the management body so that CAs can assess whether those experience and skills are sufficient and



adequate to perform the responsibility contemplated. For a full assessment and strengthened confidence in the adequacy of the appointment, the final draft RTS foresees that CAs should be able to inquire about any potential adverse decision or penalty that may have affected a member of the management body in previous responsibilities or affected an undertaking in which that member had management responsibilities. In addition, and in order to try to assess that the responsibilities entrusted will indeed be fulfilled, the applicant (and the DRSP after authorisation) has to provide an approximation of the minimum time that will be devoted to the performance of the person's duties within the DRSP.

<b>Policy Objective</b>	Ensuring that members of a DRSP's management body are persons with sufficiently good reputation and possess sufficient knowledge, skills and experience.
<b>Technical Proposal</b>	Information on the members of management bodies. See Article 4 of the RTS 13 for more details.
<i>Benefits</i>	<p>The information provided will help ensuring that the management body, including non-executive directors, are of sufficiently good reputation and possess sufficient knowledge, skills and experience so as to be in a position to meet their responsibilities on an on-going basis.</p> <p>Indirectly, this will contribute to ensure that DRSPs meet their regulatory obligations and contribute to fulfil the objectives of improved trade transparency and transaction reporting quality. Clients of DRSPs, market participants in general and CA can therefore be considered as indirectly benefiting from the final draft RTS proposal as well.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs will incur one-off staff cost to process the information received from the applicant at the time of authorisation.</p> <p>CAs will incur on-going staff cost to process the notification received from the DRSP after authorisation in case of a change to the members and/or responsibilities of the members of the management body and data storage costs.</p> <p>We consider those costs to be driven by the Level 1 authorisation requirement.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Applicants will incur one-off costs to provide the information requested on management body. This includes, but may not be limited to, staff costs and possibly fees for outsourced services (e.g. lawyers).</p> <p>On-going costs will be incurred to update the information in case of changes to the members of the management body and/or responsibilities.</p>

	<p>Operators of trading venues wishing to provide DRSs will not incur such compliance costs if the members of the management body of the DRSP are the same as the members of the management body of the trading venue.</p> <p>We consider those costs to be driven by the Level 1 authorisation requirement.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

## 2.5. Background information - Current market practices for authorisation

Research was conducted on current market practice, including regulatory practice, in four Member States for the authorisation of entities conducting activities that would qualify as a DRS under MiFID II.

### APAs

One Member State has put in place a specific regime for trade publication arrangements (TPAs) i.e. APAs-like entities. In this case the CA did not introduce an authorisation procedure for the service provider itself but issued guidelines to be met by investment firms intending to use such TPAs.

Firms intending to use a TPA to meet post-trade transparency requirements have to verify that the system:

- a. ensures that information to be published is reliable, monitored continuously for errors, and corrected as soon as errors are detected;
- b. facilitates the consolidation of data with similar data from other sources; and
- c. makes the information available to the public on a non-discriminatory commercial basis at a reasonable cost.

The guidelines set out the various areas where the firm must satisfy itself that the TPA has appropriate procedures /systems and controls in place. To assess whether the TPA enables the firm to meet the guidelines, the firm can seek confirmation by the CA or by an external auditor. A trade data monitor (TDM) is a TPA that has been confirmed by the CA as enabling the firm to meet the guidelines. This confirmation process can be analysed as an indirect approval procedure.

TPAs intending to seek confirmation from the CA must demonstrate that their systems and facilities can ensure that any firm who is their client will comply with the guidelines.

The areas where the investment firm must satisfy itself that the TPA meets the guidelines and where the CA will ask information for “confirmation” of the TDM are very similar to the ones set out in CESR’s Technical Advice to the European Commission in the Context of the MiFID review- Equity markets (ref: CESR/10/802).

The guidelines, and thereby indirectly the confirmation process by the CA, include a number of the items mentioned in the draft RTS but expressed in more general terms. For instance, the firm should:

- satisfy itself that the TPA has an appropriate number of staff competent to perform their duties overseeing the trade publication arrangement service;
- request that the TPA notifies its clients of the person with overall management responsibilities for the trade publication service and the person responsible for ensuring the service complies with these standards;
- satisfy itself that a TDM has appropriate arrangements for managing conflicts of interests; and
- consider requesting that the TPA prepares on a yearly basis a statement confirming the extent to which it has continued to meet the Guidelines. This statement should comment on the appropriateness and effectiveness of its services and the monitoring of its systems and controls.

There are currently five confirmed TDMs by that CA.

In the four jurisdictions surveyed, the domestic regulated markets act as a publication arrangement for OTC transactions.

### **ARMs**

As explained above, the approval process for transaction reporting systems under Article 12 of the MiFID Implementing Regulation is not very detailed. Each jurisdiction surveyed has minimum requirements in place referring to the provisions of Article 12 of the MiFID Implementing Regulation.

One jurisdiction surveyed has put in place a more substantial application form for approval to connect to its transaction reporting system, including for ARMs. The application form includes general information about the applicant firm, its business plan, and the controllers/owners of the firm. The applicant must also provide its staff organisational structure chart and demonstrate that it has an effective management structure and clear reporting lines to senior managers and explain how the firm will meet relevant requirements.

There are seven ARMs approved in this jurisdiction, one of them being approved to report only a subset of transactions.

In the four jurisdictions surveyed, the regulated markets act as transaction reporting systems.

It is worth noting that the way investment firms report their transactions to their CA varies across Member States. In most of the jurisdictions surveyed, a vast majority of firms report their OTC transactions directly to their CA and not through the service of a transaction reporting system. In one jurisdiction, transaction on reporting mainly takes place through ARMs.

## **CTPs**

Some data vendors provide consolidated post-trade information but data vendors are not authorised/approved entities in any of the jurisdiction surveyed.

In the four jurisdictions surveyed, the requirements for the management body are almost entirely new compared to existing requirements or current market practice for trade publication arrangements or transaction reporting systems requirements. In one jurisdiction however, the CA asks the applicant firm to provide information on the staff organisational structure of the transaction reporting system and to demonstrate that it has an effective management structure and clear reporting lines to senior management.

## **3. Organisational requirements for DRSPs**

In order to ensure that APAs, CTPs and ARMs are able to smoothly and efficiently fulfil their critical functions on an on-going basis and contribute to enhanced transparency and transaction reporting, the final draft RTS sets forth detailed organisational requirements for DRSPs in relation to i) conflicts of interest, ii) business continuity, testing and security, and iii) erroneous information. As required by MiFID II, the final draft RTS also provides for the additional services a CTP may provide.

### **3.1. Conflicts of Interest**

#### **3.1.1. Introduction**

Conflicts of interest can potentially arise between a DRSP and the clients using the DSRP to meet its legal and regulatory trade reporting and transaction reporting obligations or between a DRSP and the persons to which the information is made available, where applicable, in particular where the DRSP is engaged in other activities, such as operating a trading venue, a trade repository or an investment firm. A DRSP should therefore adopt a comprehensive approach to identifying, preventing and managing existing and potential conflicts of interest.

#### **3.1.2. Baseline**

Conflicts of interest were not an issue that was mentioned in relation to approved reporting mechanisms and publication arrangements under the MiFID Implementing Regulation. From a legal perspective, the legislation to consider is Article 64(3) of MiFID II for APAs, Article 65(4) for CTPs and Article 66(2) for ARMs.

The wording of those three articles is almost identical. MiFID II requires for each type of the three DRSPs “to operate and maintain effective administrative arrangements designed to

prevent conflicts of interest. In particular, a [DRSP] who is also a market operator or investment firm shall treat all information collected in a non-discriminatory fashion and shall operate and maintain appropriate arrangements to separate different business functions”.

### *Empowerment/draft RTS*

Under Article 64(8)(c), Article 65(8)(e) and 66(5)(b) of MiFID II, ESMA has to develop draft RTS specifying concrete organisational requirements respectively for APAs, CTPs and ARMs in respect of prevention of conflicts of interest.

The incremental rules are the obligations set out in the final draft RTS in respect of conflicts of interest against the status quo (including the MiFID baseline described above). However, as the Level 1 and Level 2 provisions are difficult to disentangle, any indication of costs related to the final draft RTS will have to be considered as an upper bound.

In the jurisdiction that has set up a an indirect authorisation process for APA-like service providers, a firm intending to use the services of such publication arrangement must satisfy itself that this publication arrangement “has appropriate arrangements for managing conflicts of interests”. No such formal reference to conflicts of interest policy was found in relation to ARMs or other transaction reporting systems in other jurisdictions. We have been in contact with two regulated markets, which currently provide OTC trade publication services to their members, as well as transaction reporting services. Those additional services are covered by the general professional secrecy provisions that govern the relationship between the regulated market and its members.

### **3.1.3. Stakeholders**

*Entities intending to provide DRPSs:* The stringent conflict of interest policy set out in the draft RTS will require adjustments/amendments in procedures and policies for entities currently providing similar services, including in terms of segregation of business and personnel, and will be a source of one-off and on-going compliance costs.

*CAs in charge of the authorisation and supervision of DRSPs* will incur additional one-off and on-going costs to process, and store, the information (authorisation and on-going supervision).

Investment firms using the services of APAs and/or ARMs to publish trades or report transactions, and market participants more broadly will be positively impacted as conflict of interest policies and procedures support the quality and integrity of the information published.

### **3.1.4. Cost-Benefit Analysis**

The incremental obligations arising from the final draft RTS are the policies, procedures and arrangements to be set up by DRSPs to prevent, identify and manage conflicts of interest.

<b>Policy Objective</b>	Ensuring that the quality of the service provided by a DRPS is not affected by potential conflicts of interest.
<b>Technical Proposal</b>	Policies, procedures and arrangements to be set up by DRSPs to prevent, identify and manage conflicts of interest. See Article 5 of RTS 13 for more details.
<i>Benefits</i>	<p>Proper identification and management of conflicts of interest by DRSPs will contribute to enhance quality of, and confidence in, the services provided by DRSPs to clients.</p> <p>Clients using APAs and ARMs to meet their legal and regulatory publication and reporting obligations will be confident that they are treated fairly and that the DRSP does not take advantage of the information provided one way or another.</p> <p>Enhanced quality of DRSPs through proper management of conflicts of interest will ultimately benefit market participants accessing the data published by a DRSP and assist CAs in market integrity responsibilities.</p> <p>Description of fee policy and remuneration policy for members of the management body and senior management will help CAs better assess potential sources of conflicts of interest.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>One-off cost: CAs will have more information to process (and store) for authorisation of DRSPs and may incur additional staff, training and IT costs.</p> <p>On-going costs: CAs will have more information to process for on-going supervision of DRSPs.</p> <p>We consider additional costs for CAs in respect of DRSPs to be driven by Level 1.</p>
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Based on current market practices, DRSPs will likely incur one-off staff costs to draw, or upgrade, an inventory of all existing and potential conflicts of interest, either internally and vis-à-vis their clients, as identified in the final draft RTS, together with their description and the way they are prevented, managed and disclosed.</p> <p>On-going staff costs will be incurred to periodically review, and update as needed, the related arrangements put in place.</p>
<i>Costs to other stakeholders</i>	None identified.

<i>Indirect costs</i>	None identified.
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### 3.2. On-going provision of services: Outsourcing, business continuity, testing and capacity, and connectivity

#### 3.2.1. Introduction

Considering the critical role played by DRSPs in respect of market transparency and market integrity, it is of the utmost importance that they have all the necessary policies, procedures and arrangements in place so that they can operate on an on-going basis, without disruption. To that end, the final draft RTS sets forth detailed obligations to be met by DRSPs in relation to outsourcing, business continuity, testing and capacity, and connectivity.

#### 3.2.2. Baseline

From a legal perspective, the legislation to consider is:

**for APAs**, Article 64(4) of MiFID II; **for CTPs**, Article 65(5) of MiFID II; and **for ARMs**, Article 66(3) of MiFID II.

The wording of the 3 articles is the same and requires the APA/CTP/ARM to “maintain adequate resources and have back-up facilities in place in order to offer and maintain its services at all times”.

In addition, under Article 66(1) of MiFID II, ARMs are required “to have adequate policies and arrangements in place to report the information (...) as quickly as possible and no later than the close of the working day following the day upon which the transaction took place”. This provision mirrors current Article 12(1)(d) of the MiFID Implementing Regulation. Likewise, under Article 64(1) and Article 65(1), APAs and CTPs must have adequate policies and procedures to publish information as close to real time as possible.

#### *Empowerment/draft RTS*

Under Article 64(8)(c), Article 65(8)(e) and Article 66(5)(b) of MiFID II, ESMA has to develop draft RTS specifying concrete organisational requirements in respect of Article 64(4), Article 65(5) and Article 66(3) of MiFID II.

Under Article 66(5)(a), ESMA has to develop draft regulatory technical standards to specify the means by which the ARM may comply with its information obligation (See Article 66(1) above).

The incremental rule relates to the additional obligations arising from the draft RTS in respect of outsourcing, business continuity, testing/capacity for each of the three DRSPs, and connectivity for ARMs, compared to the MiFID I/MiFID II baseline described above. However, where current market practices are above the MiFID I/ MiFID II baseline, such market practices are taken into account for the CBA. Again here, the costs associated with the Level 1 and with the implementing measures are very difficult to separate.

### 3.2.3. Stakeholders

*Entities considering operating a DRSP* will likely incur additional costs to provide the information requested to CA on outsourcing, and to adjust the underlying policies and procedures as necessary. They may need to adjust business continuity arrangements. In addition, transaction reporting systems may need to revisit connectivity arrangements and information flow with their clients. DRSPs will benefit from the legal certainty and the level playing field provided by the final draft RTS.

CAs will incur additional one-off and on-going costs to deal with the requirements set out in the final draft RTS (authorisation and on-going supervision) on the one hand and will benefit from improved quality and continuity in the transactions reports received on the other hand.

*Investment firms* using ARMs to report their transactions may have to do further connectivity testing with the ARM IT systems.

*Market participants accessing post-trade transparency information through APAs and CTPs* will be, indirectly, positively affected as the draft RTS contributes to the continuity of the information provided.

### 3.2.4. Cost-Benefit Analysis

The incremental obligations are the detailed requirements to be met by DRSPs in respect of outsourcing, business continuity, testing and capacity, and the requirements to be met by ARMs only in respect of connectivity.

In respect of outsourcing, the final draft RTS specifies the organisational measures to be put in place by a DRSP when arranging activities to be performed on its behalf by third parties, including by entities with which it has close links such as a parent or sister company. Where the DRSP outsources any critical function, the final draft RTS identifies the information to be provided to the DRSP's CA.

In the jurisdictions surveyed for DRSP like entities, outsourcing arrangements are not an item identified as such in the information requested by CAs from trade publication arrangements (TPAs) and/or transaction reporting systems, with one exception. In that jurisdiction, when an investment firm intends to use the services of a TPA, and where the TPA makes arrangements for certain functions to be performed on its behalf by third persons, the investment firm should require the TPA to demonstrate that the person who performs a function on the TPA's behalf is fit, able, and willing to perform the function.

In respect of business continuity arrangements, the final draft RTS addresses the arrangements to be set up by DRSPs to ensure continuity and regularity in the performance of the services as well as the information to be made public and provided to relevant competent authorities in case of interruption of services or connection disruption. In respect of testing and capacity, the final draft RTS requires DRSPs to have clearly delineated developments and testing methodologies to be used prior to and following the deployment of any updates of the IT systems. Stress test of IT systems should be run periodically and at



least once a year and the DRSP should have sufficient capacity and sufficient scalability to accommodate without undue delay any increase in the amount of information processed or number of access requested. Most of those requirements are expected to be current market practices. Any planned significant change to IT systems has to be notified to relevant CA(s) prior to implementation.

Connectivity obligations apply to ARMs only. In the jurisdictions surveyed, entities intending to connect to the reporting system of the CA, and therefore seeking approval by that CA, are required to have the technical capabilities to comply with the technical specifications of the CA's reporting system, as provided for under Article 12 of MiFID Implementing Regulation. The incremental obligation in the final draft RTS is therefore expected to arise more from the obligation for ARMs to provide their client with a copy of the transaction report submitted to CAs on their behalf than from the connectivity arrangements with the relevant CAs.

<b>Policy Objective</b>	Ensuring that DRSPs are able to meet their obligation and publish trade reports and or report transactions on an-going basis, without disruption.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Organisational requirements regarding outsourcing. See Article 6 of RTS 13 for more details.</li> <li>- Business continuity and back-up facilities. See Article 7 of RTS 13 for more details.</li> <li>- Testing and capacity. See Article 8 of RTS 13 for more details.</li> <li>- Connectivity of ARMs. See Article 12 of draft RTS 13 for more details.</li> </ul>
<i>Benefits</i>	<p>Ensuring that DRSPs have sufficient human and technical resources available to meet their obligations at all times, including when some functions are outsourced.</p> <p>Increased certainty/confidence in on-going availability of post-trade information for market participants. Increased certainty/confidence in on-going availability of transaction reports for CAs, including through appropriate interface between the ARM and the CA. Improved investor protection and market confidence.</p> <p>Maximum recovery time will limit potential adverse impact if interruption/disruption in the provision of services occurs nonetheless.</p>
<i>Costs to regulator:</i>	<p>One-off cost: CAs will have more information to process (and store) for authorisation of DRSPs.</p> <ul style="list-style-type: none"> <li>- One-off</li> </ul> <p>On-going costs: CAs will have more information to process for on-</p>

- On-going	going supervision of DRSPs.
<i>Compliance costs:</i>	DRSPs will incur one-off costs to provide the information requested on outsourcing arrangements to CAs, and to adjust underlying policies and procedures as needed.
- One-off	Depending on where they currently stand on this issue, and on the service(s) provided, DRSPs may incur one-off IT and other costs to enhance specific procedures and arrangements for business continuity, testing and capacity of their systems.
- On-going	
	They will incur on-going costs for periodic review of policies and procedures and the update of services and, potentially, for the provision of information to CAs and clients in case of disruption of the service, or for running stress tests at least annually.
	ARMs may incur additional costs for connectivity arrangements with clients.
	DRSPs will incur on-going data storage costs.
<i>Costs to other stakeholders</i>	CAs, in respect of ARMs, and clients of DRSPs may incur additional on-going costs for testing of DRSPs' updated systems.
<i>Indirect costs</i>	None identified.

### 3.3. Security

#### 3.3.1. Introduction

DRSPs handle sensitive information. Premature public disclosure, in the case of trade reports, or unauthorized disclosure in the case of transactions reports could provide an indication of an investment's firm trading strategy or reveal sensitive information such as the identity of the DRSP's client. Given the sensitivity of the information handled, MiFID II sets out specific obligations for DRSPs with respect to physical and electronic security.

#### 3.3.2. Baseline

From a legal perspective, the legislation to consider is:

**for APAs**, Article 64(4) of MiFID II, which provides that APAs must "have sound security mechanisms in place designed to guarantee the security of the means of transfer of information, minimise the risk of data corruption and unauthorised access and to prevent information leakage before publication. (...)".

**for CTPs**, Article 65(5) of MiFID II, which provides that the CTP must “have sound security mechanisms in place designed to guarantee the security of the means of transfer of information and to minimise the risk of data corruption and unauthorised access”;

**for ARMs**, Article 12(1) of the MiFID Implementing Regulation, which sets out that a transaction reporting system must:

- (a) “ensure the security and confidentiality of the data reported (...),
- (c) incorporate mechanisms for authenticating the source of the transaction report,

as supplemented by Article 66(3) of MiFID II. The wording of Article 66(3) slightly differs from the APA/CTP provision to accommodate the ARM specificity and requires the ARM “to have sound security mechanisms in place designed to guarantee the security and authentication of the means of transfer of information, minimise the risk of data corruption and unauthorised access and to prevent information leakage, maintaining the confidentiality of the data at all times”.

#### *Empowerment/draft RTS*

Under Article 64(8)(c), Article 65(8)(e) and Article 66(5)(b) of MiFID II, ESMA has to develop draft RTS specifying concrete organisational requirements in respect of security mechanisms.

The incremental rules are the obligations set out in the final draft RTS in respect of security mechanisms compared to the MiFID II baseline described above. However, the extent to which the draft RTS creates additional obligations compared to the Level 1 text is debatable. As the Level 1 and Level 2 provisions are difficult to disentangle, any indication of cost related to the draft RTS will have to be considered as an upper bound.

### **3.3.3. Stakeholders**

*Entities intending to provide DRSs* will benefit from the legal certainty provided by the draft RTS and may need to adjust security mechanisms and incur one-off and on-going related costs.

*Market participants accessing post-trade transparency information through APAs and CTPs* will be, indirectly, positively affected as the draft RTS contributes to the integrity of the information provided.

*Investment firms using the services of APAs and/or ARMs to publish or report their transactions* will be more confident that there is no unauthorised access to their data, which is all the more important when they include confidential information.

### **3.3.4. Cost-Benefit Analysis**

The incremental obligation relates to the set of procedures and arrangements the DRSP has to set up and maintain for physical and electronic security to protect its IT systems from misuse, unauthorised access or cyber-attacks, to prevent unauthorised disclosure of

confidential information and ensure the security and integrity of the data that passes through its systems.

The final draft RTS also provides for the notification to be sent to CAs and affected clients in case of breaches in physical or electronic security measures.

<b>Policy Objective</b>	Ensuring that the information handled by DRSPs is not vulnerable to unauthorised access and that the confidentiality and integrity of client data is maintained.
<b>Technical Proposal</b>	Procedures and arrangements for physical and electronic security. See Article 9 of RTS 13 for more details.
<i>Benefits</i>	Increased certainty/confidence in the integrity and confidentiality of the information handled by DRSPs.
<i>Costs to regulator:</i>  - One-off  - On-going	One-off and on-going costs: CAs will have more information to process (and store) for the authorisation and supervision of DRSPs.  We consider those costs to be driven by Level 1 provisions.
<i>Compliance costs:</i>  - One-off  - On-going	DRSPs may incur one-off IT and staff costs to enhance specific security procedures and arrangements.  They will incur on-going costs to notify CAs and affected clients in case of breach of physical or electronic security measures, should the case arise.  We consider those costs to be driven by Level 1 provisions.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### 3.4. Identification and correction of errors

#### 3.4.1. Introduction

MiFID II/MiFIR's objective of improved transparency and transaction reporting will only be fully met if accurate and complete trade information is made public and flawless transaction data is reported to CAs. With this aim in mind, MiFID II sets out obligations for DRSPs in terms of identification and correction of errors. The final draft RTS specifies the

responsibilities of APAs and CTPs on the one hand, and of ARMs on the other hand in those areas, and clarifies the respective role of DRSPs and clients when errors are identified.

### 3.4.2. Baseline

The legislation to consider is:

**For APAs**, Article 64(5) of MiFID II, which requires “the APA to have systems in place that can effectively check trade reports for completeness, identify omissions and obvious errors and request re-transmission of any such erroneous reports”. MiFID II builds on Article 32(a) of the MiFID Implementing Regulation under which “Any arrangement to make information public (...) must include all reasonable steps necessary to ensure that the information to be published is reliable, monitored continuously for errors and corrected as soon as errors are detected (...)”.

**For CTPs**, Article 65(1) and 65(2) of MiFID II which require the CTP to be able to “efficiently and consistently disseminate information”.

**For ARMS**, Article 66(4) of MiFID II, which require the ARM to “have systems in place that can effectively check transaction reports for completeness, identify omissions and obvious errors caused by the investment firm and where such error or omission occurs, to communicate details of the error or omission to the investment firm and request re-transmission of any such erroneous reports”. MiFID II supplements Article 12(b) of the MiFID Implementing Regulation which requires transaction reporting systems to “incorporate mechanisms for identifying and correcting errors in a transaction report”.

#### *Empowerment/ draft RTS*

Under Article 64(8)(c) of MiFID II, ESMA has to develop draft RTS specifying the concrete organisational requirements for APAs in respect of identification of errors.

Under Article 65(8)(d), ESMA has to develop draft RTS specifying other means to ensure that the data published by different CTPs is consistent and allows for comprehensive mapping and cross-referencing against similar data from other sources, and is capable of being aggregated at Union level.

Under Article 66(5)(b), ESMA has to develop draft RTS specifying the concrete organisational requirements for APAs in respect of identification of errors.

The incremental rules are the obligations set out in the final draft RTS in respect of the identification and correction of errors compared either to the MiFID I or MiFID II baseline described above. However, the extent to which the draft RTS creates additional obligations compared to Level 1 text is debatable. In addition, as the Level 1 and Level 2 provisions are difficult to disentangle, any indication of cost related to the draft RTS will have to be considered as an upper bound.

### **3.4.3. Stakeholders**

*Entities intending to provide DRPSs* will incur one-off and on-going costs to adapt to the draft RTS but will benefit from more certainty as to their actual responsibilities in respect of error correction.

CAs will incur additional one-off and on-going costs to deal with the requirements set out in the draft RTS (authorisation and on-going supervision) on the one hand and will benefit from improved quality and continuity in the transactions reports received on the other hand.

*Investment firms using the services of APAs and/or ARMs to publish or report their transactions* will benefit from more clarity and certainty as to respective responsibilities in respect of error correction as this will no longer be left to contractual arrangements.

*Market participants accessing post-trade transparency information through APAs and CTPs* will be positively affected indirectly as the draft RTS contributes to the quality of the information provided.

### **3.4.4. Cost-Benefit Analysis**

There is much common ground in the final draft RTS as regards the DRSP's responsibilities and allocation of responsibilities between the DRSP and its clients for error corrections although some differences in the RTS address the specificity of ARMs in their relation to CAs.

APAs, CTPs and ARMS must have appropriate arrangements in place to ensure that the trade or transaction report they receive are successfully published or reported and that the DRSP itself did not itself introduce any error or caused an omission. Where the DRSP identifies an error or omission caused by the DRSP itself, the DRSP is responsible for correcting the error and for publishing or submitting a correct report promptly.

APAs and ARMs have specific obligation as to the checks to be performed to identify trade reports and transaction reports that are incomplete or contains errors.

To identify such trade reports upon receipts, APAs' arrangements have to include automated price and volume alerts. The APA will not publish a trade report that it considers as incomplete or likely to be erroneous and will alert the client that submitted the report. It is up to the client to correct or cancel the initial submission. APAs and CTPs may delete and amend information upon request from the entity providing the information only where that entity is not able to do so for technical reasons.

To identify transaction reports that are incomplete or contain obvious errors, ARMs have to validate those reports against the requirement for fields, format and content of fields under draft RTS 22 on Transaction reporting. Where an error is identified, the transaction report is not submitted and the ARM may cancel or amend the transaction report at the request of the client.

APAs and CTPs have to perform periodic reconciliation between the trade report received and the trade report published and verify the correct publication of information. Likewise, periodic reconciliation must be performed by ARMs at the request of CAs between the information received from clients or sent on clients' behalf and data samples of the information provided by the CA. Some respondents to the CP expressed concerns that multiple requests for reconciliations coming from the various CAs the ARM is submitting reports to may create a substantial burden, all the more that the scope of those periodic reconciliations is not clearly defined. A recital has been added in the final draft RTS to state that the requests for reconciliation should be proportionate to the volume of data handled by the ARM and the nature of its activities.

Clients of APAs must receive confirmation of the trade report receipt and clients of ARMs a copy of the transaction reports submitted on their behalf.

<b>Policy Objective</b>	Contributing to the quality of post-trade transparency information and transaction reports.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Managements of incomplete or potentially erroneous information by APAs and CTPs. See Article 10 of RTS 13 for more details</li> <li>- Managements of incomplete or potentially erroneous information by ARMs. See Article 11 of RTS 13 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS provides clarity and legal certainty as to DRSPs' obligations and responsibilities in respect of identification and correction of errors. This will benefit both DRSPs and their clients when entering into contractual arrangements.</p> <p>Confirmation of receipt or submission will allow clients of APAs and ARMs to ensure that their legal and regulatory obligations have been met.</p> <p>The draft RTS will contribute to enhancing the quality of the trade information published to the benefit of all market participants and of the transactions reports received by CAs.</p>
<i>Costs to regulator:</i>	<p>One-off costs and on-going staff costs: CAs will have more information to process (and store) for authorisation, and supervision, of DRSPs.</p> <ul style="list-style-type: none"> <li>- One-off We consider those costs to be driven by Level 1 provisions.</li> <li>- On-going In addition, CAs may incur some IT costs related for periodic reconciliations with ARMs' data.</li> </ul>

<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>DRSP applicants will incur one-off IT and other compliance costs to set up or enhance arrangements for error detection and correction according to the parameters set out in the final draft RTS. They will incur on-going cost to maintain those arrangements and undertake periodic reconciliations between the various flows of information received and published or received /generated and provided by CAs.</p> <p>APAs will need to take into account the broader scope of financial instruments covered by transparency provisions. In that regard, the absence of a golden source for reference data may contribute to making the detection of errors more challenging.</p> <p>Compliance costs for ARMs will substantial vary depending on whether the ARM acts as an intermediary between the client and the possibly multiple CAs transaction reports have to be sent to or whether the ARM actually generates the transaction report based on the information provided by the client, not necessarily in the appropriate format.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Additional obligations on DRSPs may translate into higher fees for the clients using their services.</p> <p>Administrative burden may arise for ARMs in relation to the timing, periodicity and scale of the reconciliations relevant CAs may require an ARM to undertake.</p>

### 3.5. Additional Services for CTPs

#### 3.5.1. Introduction

MiFID II opts for a commercial solution for the establishment of a CT, while making provisions for a CT to be put in place through a public procurement process if the mechanism envisaged does not lead to the timely delivery of an effective and comprehensive CT. This commercial solution leaves open the question as to the additional services the operator of a CT may provide with a view to preserving its critical role. The final draft RTS addresses this specific issue.

#### 3.5.2. Baseline

From a legal perspective, the legislation to consider is Article 65(1) and (2) of MiFID II under which a CTP must “have adequate policies and arrangements in place to collect the information made public in accordance with Articles 6(10) and 20(21) of Regulation (EU) No 600/2014, consolidate it into a continuous electronic data stream and make the information



available to the public as close to real time as is technically possible, on a reasonable commercial basis (...). The CTP must also “be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in formats that are easily accessible and utilisable for market participants”.

### *Empowerment/draft RTS*

Under Article 65(6) of MiFID II, ESMA has to develop draft RTS to identify additional services that CTPs could perform which increase the efficiency of the market.

The potential incremental obligation is the list of additional services a CTP may provide set out in the draft RTS compared to the Level 1 text. It is however very difficult here to disentangle the effect of the Level 1 provisions and of the Level 2 measures.

### **3.5.3. Stakeholders**

*Entities considering operating a CTP:* The list of additional services set out in the final draft RTS provides more clarity and predictability as to the additional services a CTP may provide. It is unlikely that the list of additional services that a CTP may provide be a drawback for potential candidates.

*Clients/users of the CTP:* They may be positively impacted by the list of additional services that can be provided as those services contribute to greater efficiency of the market. Other impacts depend on the potential bundling/unbundling of core CTP service and additional services.

### **3.5.4. Cost-Benefit Analysis**

The final draft RTS sets out an explicit list of additional services a CTP may provide in relation with market data, research and software, hardware and networks in relation to the transmission of data and information. This list is supplemented with a more open provision allowing CTPs to offer other services provided that the quality of the data and the independence of the DRSP are not undermined.

The final draft RTS covers the main services currently provided by data vendors, who potentially appear as natural candidates to operate a CTP. Given the flexibility provided by the last paragraph in Article 13, the only incremental obligation appears to be the need for the DRSP to demonstrate that its independence or the quality of the data would not be undermined by the provision of a service other than the ones listed.

The costs that may be incurred from the conflicts of interest arrangements a CTP may have to put in place to carry those additional services are considered under the CBA on conflicts of interest.

<b>Policy Objective</b>	Combining the commercial dimension of a CTP with the need to
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	preserve the quality and independence of its CTP activity.
<b>Technical Proposal</b>	Other services provided by CTPs. See Article 13 of RTS 13 for more details.
<i>Benefits</i>	<p>The list of services set out in the final draft RTS provides more clarity and predictability as to the additional services a CTP may provide.</p> <p>The list is quite open, caters for future market development and is not, per se, likely to distract entities already active in the market data business from considering applying to become a CTP.</p> <p>The draft RTS will contribute to ensuring that the quality of the tape and the independence of CTP, which are critical, remain unaffected by the other services provided.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs will incur one-off staff costs to assess the extent to which other different services may affect the quality of the tape or the independence of the CTP and the measures taken to prevent or mitigate this risk.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	One-off compliance costs would arise if a CTP was willing to provide services other than the ones explicitly listed in the draft RTS and would need to demonstrate that potential risks to the quality of the data or independence of the CTP have been adequately prevented or managed.
<i>Costs to other stakeholders</i>	None, assuming the provision of core and non-core CTP services is unbundled.
<i>Indirect costs</i>	The additional services a CTP may provide may have an impact on competition with entities providing similar services but not running a CTP. This may depend on licensing rights.

#### 4. Publication arrangements

For market participants to be able to fully benefit from the improved transparency framework, the information made public by APAs and CTPs has to be not only accurate, but reliable and provided without disruption. It must also be easily accessible, allow for consolidation and provide all the necessary information to serve the multiple purposes of post-trade transparency, including monitoring best execution. Accordingly, the final draft RTS sets forth the requirements to be met by APAs and CTPs in that regard with respect to i) the consolidation of information, ii) the scope of the equity and equity-like CT and iii) the information to be published by APAs and CTPs.

For APAs, Article 64(1) of MiFID II, which provides that an APA must “have adequate policies and arrangements in place to make public the information required under Articles 20 and 21 of MiFIR as close to real time as is technically possible, on a reasonable commercial basis. The information shall be made available free of charge 15 minutes after the APA has published it”. (..). The APA must also “be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in a format that facilitates the consolidation of the information with similar data from other sources”.

For CTPs, Article 65(1) and (2) of MiFID II, which provide that a CTP must have adequate policies and arrangements in place to collect the information made public in accordance with Articles 6(10) and 20(21) of MiFIR, consolidate it into a continuous electronic data stream and make the information available to the public as close to real time as is technically possible, on a reasonable commercial basis.

#### **4.1. Technical Arrangements facilitating the consolidation of information**

##### **4.1.1. Baseline**

From a legal perspective, the legislation to consider is:

- i. **For APAs**, the legal baseline for any arrangement used for making the information public is Article 32(b) of the MiFID Implementing Regulation, as supplemented by the CESR Level 3 Guidelines (CESR/07-043);

Article 32(b) of the MiFID Implementing Regulation provides that “Any arrangement to make information public shall satisfy the following conditions (...) (b) it must facilitate the consolidation of the data with similar data from other sources”.

In the CESR Level 3 Guidelines and recommendations on publication and consolidation of MiFID Market Transparency Data (CESR/07-043), CESR considered information as being made public in accordance with Article 32(b), if :

- 1) it is accessible by automated electronic means in a machine readable way;
- 2) it utilises technology that facilitates consolidation of the data and permits commercially viable usage; and
- 3) it is accompanied by instructions outlining how users can access the information.

CESR considered that an arrangement fulfils the ‘machine-readable’ criteria where the data:

- 1) is in a physical form that is designed to be read by a computer;
- 2) is in a location on a computer storage device where that location is known in advance by the party wishing to access the data; and

3) is in a format that is known in advance by the party wishing to access the data.

The Implementing Regulation provision has been moved to MiFID II under Article 64(1) of MiFID II which requires APAs “(...) to be able to efficiently and consistently disseminate information (...) in a way that facilitates the consolidation of information with similar data from other sources”.

- ii. For CTPs, the legal baseline is Article 65(1) and 65(2) of MiFID II which requires CTPs “(..) to be able to efficiently and consistently disseminate information (..) in formats that are easily accessible and utilisable for market participants.

#### *Empowerment/ RTS*

Article 64(6) of MiFID II empowers ESMA to develop draft RTS for APAs to determine “(...) technical arrangements facilitating the consolidation of information”.

Article 65(6) of MiFID II empowers ESMA to develop draft RTS for CTPs to determine “(...) technical arrangements promoting an efficient and consistent dissemination of information in a way ensuring for it to be easily accessible and utilisable for market participants”.

The incremental rule relates to the obligation set out in the final draft RTS compared either to current market practices, where those market practices would go beyond the MiFID/MiFID II baseline described above, or the MiFID/MiFID II baseline.

As the costs related to the Level 1 text and the Level 2 implementing measures are very difficult to disentangle, any indication of costs is to be taken as an upper bound.

#### **4.1.2 Stakeholders**

*Entities operating publication arrangements under MiFID, including operators of trading venues, and other entities intending to apply for authorisation to operate an APA and/or a CT:* Those entities may have to reconsider the standards under which they currently publish trade information to comply with the revised machine readable criteria.

*Data vendors* may need to revise existing IT connections with APAs, including trading venues acting as APAs, should there be changes in publication standards to accommodate the requirements set forth in the final draft RTS.

CAs will have to amend authorisation requirements/procedures to include revised requirements.

*Investment firms, asset management companies, end-investors, issuers and all other market participants* wishing to access market data easily without undue latency will be positively impacted.

#### **4.1.2. Cost-Benefit Analysis**

Compared to the CESR Guidelines, the final draft RTS strengthens the criteria for data to be considered published in a “machine readable” way. While intending to remain “technology” neutral, the amendments made to the previous criteria aim at further facilitate access to, and consolidation of, data.

The incremental obligations relate to the revised definition of the “machine readable” criteria compared to the CESR Guidelines and to the notice period prior to changes in the way the data can be accessed. The final draft RTS also includes provisions regarding the robustness and continuity of the “machine readable” arrangements.

The definition of machine-readable has been made more demanding by stating that the data must be in an electronic format designed to be directly and automatically read by a computer, and “specified by free, non-proprietary and open standards”. In addition, the DRSP must ensure that the data can be accessed, read, used and copied by computer software that is free of charge and publicly available.

As of today, several trading venues provide APA-like services already via the infrastructure and data feeds they operate for on-venue trading purposes. As data protocols and feeds are a means to compete across venues, the arrangements in place are typically at the cutting edge of technology, some venues applying proprietary protocols and others applying more standard solutions. All these protocols, regardless if they are proprietary or not, provide real time data in push mode directly to data vendors that have the appropriate technology to aggregate data feeds based on proprietary and non-proprietary standards. The final draft RTS will require trading venues currently providing APA-like services to develop a separate non-proprietary standard for the publication of OTC data in order to facilitate consolidation of trade information. The other option would be to move all data feeds under non-proprietary standards, which may not be consistent with technology based competition.

The notice period prior to a change in the way the data can be accessed has been extended from 1 to 3 months to align with current market practices, although, a shorter notice period may apply when duly justified, including where it is in the interest of customers that a change in the instructions enters into force sooner rather than later.

<b>Policy Objective</b>	Facilitating the consolidation of information published by APAs and making sure that the information disseminated by CTPs is easily accessible and utilisable.
<b>Technical Proposal</b>	Machine readability. See Article 14 of the RTS 13 for more details.
<i>Benefits</i>	<p>Direct and automatic computer reading of data will reduce latency for consolidation of APA data by CTPs, and access by others users of APA and CTP data.</p> <p>The use of free, non-proprietary and open standards by APAs will contribute to facilitate consolidation of APA’s data and, in the medium</p>

	<p>term to reduce the associated costs.</p> <p>Readily accessible information on how to access and use APA and CTP data, will further facilitate access by all parties to APA and CTP data.</p> <p>A three-month prior notice will allow users to anticipate changes and amend their systems as needed to continue to access data without disruption. However, flexibility for shorter notice caters for circumstances where quicker implementation may be duly justified.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>The related cost can be considered as included in the overall costs incurred by CAs for setting up/amending DRSP authorisation requirements/procedures and supervision.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Several trading venues providing APA-like services will incur one-off and on-going staff and IT costs to set up a separate infrastructure for the publication of OTC transactions under non-proprietary standards.</p> <p>Some “stand-alone” APAs may also incur one-off and on-going IT costs to comply with the machine readable standard requirement.</p> <p>Costs related to robustness and continuity requirements are included in the costs to be considered under the draft RTS on organisational requirements for DRSPs.</p>
<p><i>Costs to other stakeholders</i></p>	<p>Data vendors will incur one-off IT costs to accommodate changes in APAs’ publication standards.</p>
<p><i>Indirect costs</i></p>	<p>The compliance costs associated with the machine readable criteria may deter some trading venues from offering or continuing to offer APA services, thereby limiting choice for investment firms.</p>

## 4.2. Scope of the consolidated tape for equity and equity-like instruments

### 4.2.1. Baseline

From a legal perspective, the legislation to consider is Article 65(1) of MiFID II, which provides that a CTP must have “adequate policies and arrangements in place to collect the information made public in accordance with Articles 6 and 20 of Regulation (EU) No 600/2014, consolidate it into a continuous electronic data stream (...)”.

### *Empowerment/RTS*

Under Article 65(8)(c) of MiFID II, ESMA has to draft RTS specifying:

“(c) the financial instruments data which must be provided in the data stream and for non-equity instruments the trading venues and APAs which need to be included.”

The European Commission’s services have indicated to ESMA that the CT for equities and equity-like instruments should encompass transactions with respect to all equities and equity-like instruments traded on a trading venue, whether the transaction takes place on-venue or OTC, i.e. covering 100% of trading in those financial instruments. The scope of the equity and equity-like instruments is therefore not discussed under this CBA.

The incremental rule arising from the final draft RTS is therefore considered to be the obligation for the CTP to consolidate data stream from new APAs and trading venues as soon as possible and no later than 6 months after the start of their operations.

However, it is debatable as to whether the 6 month maximum period given to a CTP to consolidate data streams coming from new trading venues or APAs is a source of additional costs per se. In any case, the effects of the Level 1 text and of the draft RTS are very difficult to disentangle and any indication of costs is to be taken as an upper bound.

#### **4.2.2. Stakeholders**

*CTPs:* CTPs will face one-off and on-going IT and management costs to deal with the additional data feed to be consolidated from new trading venues and APAs but these costs derive more from the requirements to publish 100% of the transactions in equity and equity-like instruments traded on trading venues than from the time-frame provided in the draft advice. At this stage, it is expected that providing a CTP a maximum 6 month period to consolidate additional data feed will be a source of flexibility rather than of additional costs.

*CAs:* CAs will have to monitor compliance with the set deadline but this is not expected to be a source of significant costs.

*Trading venues and APAs* may be indirectly impacted if they have to wait up to 6 months to see their data consolidated by the CTP. This may potentially be seen as a competitive disadvantage for new entrants.

#### **4.2.3. Cost-Benefit Analysis**

The draft RTS clarifies that a CTP for equity and equity-like instruments has to consolidate and publish the data made public by trading venues and APAs (on behalf of investment firms) under Articles 6 and 20 of MiFIR respectively. The CTP does not have to include any additional data. To accommodate the responses to the CP, the delay within which a CTP has to include the data of a new APA or trading venue in its data stream has been extended from 3 to 6 months, which is expected to be a source of lower compliance costs.

<b>Policy Objective</b>	Enhanced post-trade transparency framework.
<b>Technical Proposal</b>	Scope of the consolidated tape for equity and equity-like instruments. See Article 16 of the RTS 13 for more details.
<i>Benefits</i>	The comprehensiveness of the consolidated tape will only be affected for a limited period of time in case of new APAs and trading venues, to the benefit of those new entrants and to market participants globally.
<i>Costs to regulator:</i>  - One-off  - On-going	None identified.
<i>Compliance costs:</i>  - One-off  - On-going	None, unless the CTP has to postpone or cancel other developments to meet the six-month deadline.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	APAs, and more likely trading venues, may face a competitive disadvantage if they have to wait up to six months to have their data consolidated in the CTP's data stream.

### 4.3. Consolidation of information specific to equity-like and equity-like instruments.

#### 4.3.1. Baseline

From a legal perspective, the legislation to consider is:

- for APAs, Article 64(1) of MiFID II under which an APA must "(...) be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in a format that facilitates the consolidation of the information with similar data from other sources";
- for CTPs, Article 65(1) and 65(2) of MiFID II under which a CTP must "(...) be able to efficiently and consistently disseminate such information in a way that ensures fast



access to the information, on a non-discriminatory basis and in formats that are easily accessible and utilisable for market participants”.

### *Empowerment/RTS*

Under Article 64(6) of MiFID II, ESMA has to develop draft RTS for APAs “specifying (...) technical arrangements facilitating the consolidation of information as referred to in Article 64(1)”.

Under Article 65(8) of MiFID II, ESMA has to develop draft RTS specifying:

(a) “other means to ensure that the data published by different CTPs is consistent and allows for comprehensive mapping and cross-referencing against similar data from other sources, and is capable of being aggregated at Union level”.

The incremental obligation associated with the final draft RTS, compared to the MiFID baseline described above is the addition of a reprint field to the transaction passed on to the APA by the investment firm and published by the APA, and the additional test to be conducted by the CTP to ensure that no reprint is included in the consolidated tape. However, here again, it is very difficult to separate the impact of MiFID II and of the Level 2 measures.

#### **4.3.2. Stakeholders**

*Investment firms:* Investment firms will incur some additional IT costs to add a reprint field to flag transactions reported to an APA as original ones or as duplicates only where they would chose to report transactions to more than one APA.

*APAs:* APAs will incur some additional IT costs to adapt their systems to receive transactions reports from investment firms that would include additional fields and to publish those transactions with the appropriate flag in the additional reprint field.

*CTPs:* CTPs will have to run additional tests to identify transactions published by APAs that are a reprint so as not to include them in the consolidated tape.

*Market participants* will be positively affected by the accuracy and reliability of the information published by APAs and CTPs.

#### **4.3.3. Cost Benefit Analysis**

As opposed to the publication of OTC transactions in non-equity instruments where MiFID II explicitly states that the transactions may only be published through a single APA, MiFID II does not exclude the publication of equity-and equity-like transactions through multiple APAs. In order to avoid any misleading publication by APAs as well as any double consolidation of the same transaction by a CTP, the final draft RTS sets up a mechanism to identify potential “reprints” of a transaction.

Each APA will have to require its clients, i.e. the investment firms using its services to comply with transparency obligations, either to certify that they only publish transactions through its systems or to flag reports as the original one or as a duplicate. The APA will then have to identify duplicates in a reprint field added to the trade report published and an additional test will be conducted by the CTP to ensure that no reprint is included in the consolidated tape.

<b>Policy Objective</b>	Ensuring that CTPs consolidate and publish transactions without any duplication so that the data published is accurate and reliable.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Identification of original and duplicative trade reports in shares, depositary receipts, ETFs, certificates and other similar instruments. See Article 16 of RTS 13 for more details.</li> <li>- Publication of original reports. See Article 17 of RTS 13 for more details.</li> </ul>
<i>Benefits</i>	<p>The draft RTS contributes to ensuring that there is no multiple publication of the same transaction through the publication chain.</p> <p>It will enhance the reliability of OTC data published by APAs and consolidated by CTPs, to the benefit of all market participants.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur additional supervisory costs. Those costs are expected to be not significant for this draft RTS but cumulative costs for regulators associated with APAs and CTPs supervision may be more significant.</p>
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>APAs will incur one-off staff, and possibly legal, costs to inform investment firms of the new obligation and seek confirmation as to whether transactions are only made public through their own systems. APAs will also incur one-off IT costs to adapt their systems to the new reprint field and do some testing with the investment firms' reporting systems.</p> <p>Where they decide to send trade reports to more than one APA, investment firms will incur one-off and on-going IT costs to add a new field to transactions sent to APAs and populate it for each transaction.</p> <p>CTPs will incur on-going IT costs to run tests and exclude reprinted transactions published by APAs from the consolidated tape.</p> <p>Those costs were identified as low to medium low by respondents to the Cost Benefit questionnaire.</p>

<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	APAs may face an increment of administrative burden because of flagging both original and duplicate trade reports.

#### 4.4. Content of information to be published by APAs and CTPs.

##### 4.4.1. Baseline

From a legal perspective, the legislation to consider is:

- for APAs, Article 64(2) of MiFID II listing the details of the information to be at least published by an APA, which include “(...) (d) the time of the transaction”, (e) the time the transaction was reported (...);
- for CTPs, Article 65(1) listing the details of the information to be at least published by a CTP, which include “(...) (d) the time of the transaction”, (e) the time the transaction was reported (...).

##### *Empowerment/RTS*

Under Article 64(8)(b) and Article 65(6) and 65(8)(b) of MiFID II, ESMA is empowered to draft RTSs specifying the content of the information to be published by APAs and CTPs respectively.

The draft RTS clarifies how “the time the transaction was reported” is to be understood both for APAs and CTPs. It is not considered that the clarification provided in the final draft RTS on this specific issue is a source of additional obligations compared to the Level 1 text.

The incremental obligations coming from the final draft RTS is the additional information to be published by APAs and CTPs under the draft RTS compared to the status quo, including the MiFID/MiFID II baseline described above.

##### 4.4.2. Stakeholders

*APAs:* APAs will incur additional one-off and on-going IT costs to amend their IT systems to comply with the fields, flags, and the format of post trade transparency set out in draft RTS 1 on transparency in respect of equity and equity-like transparency and in draft RTS 2 on transparency in respect of non-equity instruments. The magnitude of the costs will depend on the nature of their activities (see below).

*Investment firms.* How investment firms publishing trades through APAs may be impacted will depend on their contractual relationship with APAs. It will depend on whether APAs will require their clients to provide trade reports under the requested format, with all necessary flags or whether APAs will be turning the information received under the correct format for publication, potentially supplementing flags with the information linked to the nature of the

instrument traded, e.g., liquid or not liquid.

*CTPs:* CTPs will incur some one-off and on-going IT costs to include the unique transaction identification code assigned by trading venues and APAs in its data stream.

*CAs:* CAs may face some costs for monitoring compliance with the obligations. The costs associated with these specific requirements are not expected to be significant, although supervisory functions may be more significantly impacted by the cumulative obligations to be met by APAs and CTPs. On the opposite, CAs will benefit from the comprehensive set of data available throughout the publication chain.

*Markets participants:* Market participants will be positively impacted by the comprehensive set of information made available to serve as reference. Granular time stamping and identification of sources will help better understand market reactions.

#### 4.4.3. Cost Benefit Analysis

Under MiFIR, investment firms have to publish the transactions executed outside a trading venue through APAs. For the purpose of this CBA, we consider that the incremental obligation for APAs arising from the final draft RTS is the information APAs are required to publish in addition to the information to be made public by investment firms under Article 20 and 21 of MiFIR. It includes the identifier that APAs have to assign to each trade published, and the time the transaction was published by the APA, using the granularity and time stamping prescribed in the final draft RTS.

Following a similar approach for CTPs, we consider the incremental obligation in the draft RTS is the identification of the trading venue or the APA that first published the transaction.

<b>Policy Objective</b>	Providing markets participants, and CAs, with an integrated and comprehensive set of data that can serve as a reference for post-trade transparency information.
<b>Technical Proposal</b>	This final draft RTS proposal covers the following areas: <ul style="list-style-type: none"> <li>- Information to be published by the APA. See Article 19 of the RTS 13 for more details.</li> <li>- Information to be published by the CTP. See Article 20 of the RTS 13 for more details.</li> </ul>
<i>Benefits</i>	Assignment of a transaction identification code by the APA will enable market participants and CAs to refer to a specific trade in the publication chain and conduct more refined market analysis. It also ensures that a transaction ID is available even if no CTP emerges.  Knowing the precise time at which a transaction was first made public provides useful information to understand to what events the market reacted and when. Accurate time stamping will ensure a reliable audit

	chain for trade information.
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs may incur additional supervisory costs. Costs are expected to be non-significant for this draft RTS but cumulative costs for CAs associated with APAs and CTPs supervision may be more significant.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	APAs and CTPs will incur one-off and on-going IT costs to add, and populate, the required fields to the data stream they publish and APAs to ensure granular and accurate time stamping. However, it should be noted that the transaction identification code required is the same one as for transaction reporting purposes. Hence, only APAs will incur additional costs, whereas trading venues will incur no additional costs.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	Disclosure of the APA source of each trade by the CTP might potentially expose some entities to new indirect costs and negative competitive effects should market participants be able to identify the investment firm behind the APA.

## 5. Compliance costs and market impact

### 5.1. Direct compliance costs

A questionnaire on the publication of transactions for data reporting services providers was circulated to gather facts from market participants and CAs on the magnitude of the compliance costs involved, the drivers for those costs, as well as any other effects that may be experienced by a particular firm or the industry overall as a direct consequence of the incremental obligations included in ESMA's draft RTS.

As regards DRSPs and publication arrangements, ESMA more specifically sought to assess the costs derived from complying with the December 2014 draft provisions on machine readability, consolidation of data of new APAs or trading venues, identification of duplicative trade reports, time stamping and the identification of reporting source and the transaction identifier.

The costs gathered by ESMA and shown below are based on the version of the draft RTS published in the CP. The costs arising from the draft final RTS are expected to be lower than those from the draft RTS published in the CP as ESMA has taken into consideration the

comments and feedback provided to the CP and to the CBA questionnaire to the extent possible.

Four trading venues provided estimation for compliance costs regarding the publication of transactions by APAs and CTPs. With respect to machine readability arrangements, respondents mentioned that costs will arise mainly from IT implementations. Two small trading venues between 1 and 50 employees anticipate compliance costs to range from less than EUR 50k to EUR 1m while a large trading venue (with more than 1000 employees) estimates to have costs between EUR 5m and EUR 10m.

Two respondents stated that they intent to identify new APAs via the database/website of ESMA. One small trading venue stated that according to their experience, the time needed to consolidate a new data source might take up to seven months, including functional and technical analysis, technical development of the correspondent handlers, concept test, and stability test and production launch. On the other hand, a large trading venue expressed that the process of consolidating and integrating a new source may take between 3 and 6 months. Two small trading venues estimated costs for consolidating data to range from less than EUR 50k to EUR 1m, mainly related to IT and staff costs.

The identification of duplicate trade reports are expected to raise compliance costs ranging from less than EUR 50k up to EUR 1m in respect of for APAs and between EUR 250k and EUR 5m in respect of CTPs. Four trading venues provided an estimate of compliance costs for time stamping, ranging from less than EUR 50k to EUR 1m for two small trading venues, between EUR 50k and EUR 250k for one medium trading venue and between EUR 1m and EUR 5m for a large trading venue. Only one small trading venue anticipate compliance costs for the identification of reporting source and trade identifier, between EUR 250k and EUR 1m. All costs described are mainly related to IT arrangements and to a lesser extent to staff and training of current staff.

The table below indicates the range of costs in EUR provided considering firm size in terms of number of employees, showing in brackets the number of responses received in each category.

Source of Costs	Type of Costs	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Machine readability	One-off	50k-1m [2]	N/A	N/A	5m-10m [1]
	On-going	<50 [1] 250k-1m [1]	N/A	N/A	5m-10m [1]
Consolidating data of new APAs or trading venues	One-off	50k-1m [2]	N/A	N/A	N/A
	On-going	<50k -1m [2]	N/A	N/A	N/A
Identifying duplicative trade reports (APAs only)	One-off	50-1 m [2]	<50 [1]	N/A	N/A
	On-going	<50-250k [2]	<50 [1]	N/A	N/A

Identifying duplicative trades reports (CTPs only)	One-off	250k-5m [1]	N/A	N/A	N/A
	On-going	250k-5m [1]	N/A	N/A	N/A
Time stamp	One-off	50k-1m [2]	50k-250k [1]	N/A	1m-5m [1]
	On-going	<50-250k [2]	50k-250k [1]	N/A	1m-5m [1]
Identification of reporting source and trade identifier	One-off	250k-1m [1]	N/A	N/A	N/A
	On-going	250k-1m [1]	N/A	N/A	N/A

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

## 5.2. Impact on business model

Investment firms that responded to the cost benefit questionnaire see a positive cumulative impact of publication arrangements on their business model. As more trading data becomes available, market analysis and best execution monitoring using a CTP will improve. However, one of them is concerned that increased costs may arise for monitoring of best execution if the firm has to consolidate the data on its own, in case no CTP is set up.

Depending on the final requirements, a medium size trading venue stresses that the higher the complexity of requirements, the more difficult it will be for small entities to act as APAs. Another one notes that increased processing costs will be passed on to end-customers. A third one anticipates a very positive impact as quality of data will improve.

## 5.3. Impact on market structure

Investment firms respondents expected the final draft RTS to have a positive impact on market structure, market efficiency and end-investors as it will allow investors to have a clearer view of trading taking place on each venue and to choose the most efficient one for the execution of their orders. A positive impact is expected on transaction costs as well

A trading venue deemed that the final draft RTS will have a very positive impact on market structure, market efficiency and end-investors as it will improve the quality of OTC information and the price formation process. One was concerned that CTPs will create additional costs to the industry but noted the benefits of APAs in improving data quality.

Another trading venue expected the final draft RTS to have a very positive impact on market structure, market efficiency and end-investor as it will improve the quality and standardisation of OTC information and the price formation process.

## 4.2. Data disaggregation

### Draft RTS under Article 12(2) of MiFIR: Determination of the level of disaggregation of data that is being made available to the public by trading venues

#### 1. Executive Summary

The purpose of this final draft RTS is to develop the level of data disaggregation to be made available to the public by trading venues.

This document has five sections: introduction, baseline, stakeholders, cost-benefit analysis and background information. The introduction sets out the context for the final draft RTS. The Baseline section explains the starting point for assessing the incremental rule related to ESMA's final draft RTS, which can be either the MiFID II requirement, or the level of disaggregation currently offered by the trading venue where it exceeds the MiFID II requirements (market practice), whichever sets a higher standard. The stakeholders identified are trading venues (TVs), data vendors, sell-side and buy-side firms as well as end-investors. The cost-benefit analysis section provides, after a summary description of the different levels of data disaggregation proposed in the final draft RTS, with possible exemptions in certain circumstances, a qualitative analysis of the benefits and costs associated with the proposals set out in the final draft RTS. The background information section provides some data to better inform the magnitude of impact of the RTS.

#### 2. Introduction

Since the wake of MiFID I implementation, competition between trading venues has indeed intensified across the EU. Fragmentation of trading between trading venues has become a reality, but also a challenge for most data users when trying to get a consolidated view of all European equity markets. The data gathering and analysis conducted in the context of the MiFID review<sup>63</sup> identified the cost of market data and the bundling of pre- and post-trade data as key obstacles to a consolidated post-trade data feed at the EU level.

To address these issues, MiFID II and MiFIR introduce a series of provisions aiming at improving the quality, and reducing the costs, of market data as well as facilitating the consolidation and dissemination of post-trade information. In this context, the unbundling of post-trade data from pre-trade data was considered as a pre-requisite to support the post-trade consolidated tape to be introduced with the implementation of MiFID II and to reduce the cost of such post-trade consolidated tape data feeds in Europe. More specifically, Recital (23) of MiFIR provides that market data should be easily and readily available to users in a format as disaggregated as possible to allow investors, and data service providers supporting their needs, to customise data solutions to the furthest possible degree.

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<sup>63</sup> PriceWaterHouseCoopers, Data Gathering and analysis in the context of the MiFID review, 13 July 2010.



Article 12 of MiFIR introduces an obligation for the unbundling of pre- and post-trade data by trading venues. The purpose of the final draft RTS is to specify the additional levels of data disaggregation to be introduced by trading venues. Further data disaggregation should further serve the transparency objectives identified in the MiFID II and MiFIR by reducing data costs for market participants and allowing for customised data solutions in the interest of data users.

### 3. Baseline

MiFID I does not include any provision regarding disaggregation of market data by trading venues.

The relevant legal text to consider is Article 12(1) of MiFIR which provides that “*trading venues shall make the information to be published (...) available to the public by offering pre-trade and post-trade transparency data separately*”.

Under Article 12(2) of MiFIR, ESMA has to develop draft RTS specifying “*the offering of pre- and post-trade transparency data, including the level of disaggregation of the data to be made available to the public (...)*.”

The incremental obligation arising from the final draft RTS is the level of market data unbundling that trading venues will be required to offer under the RTS compared either to the mere pre- and post-trade data unbundling required by MiFIR or current market practice where trading venues already unbundle market data beyond pre- and post-trade levels.

However, it may be very difficult for trading venues that currently do not unbundle pre- and post-trade data to disentangle the costs arising from the unbundling of pre- and post-trade data to meet the MiFIR requirement and the costs arising from the disaggregation level required by the final draft RTS. Any indication of costs in the CBA is therefore to be taken as an upper bound estimate.

As regards current market practice, many trading venues already disaggregate market data beyond pre- and post-trade level. However, this further level of disaggregation is not homogeneous and the challenges associated with further disaggregation may not be the same for all of them or for all asset classes. Based on desk research, we provide below examples of how market operators unbundle and disaggregate data across asset classes in the four countries surveyed so far.

- a. One market operator unbundles market data along the following asset class criteria:
  - Cash instruments (including equities, equity-like instruments, bonds),
  - Indices,
  - Equity and Index Derivatives,
  - Commodities Derivatives,
  - Currency Derivatives.
  
- b. Another market operator has four main packages:

- Equities (including indices, warrants, ETN, ETF),
  - Derivatives for Equities and Indices,
  - Fixed Income (including Fixed Income derivatives),
  - Commodities Derivatives.
- c. A third one offers the following :
- Cash instruments: includes equities, ETFs and bonds. A separate data feed is available for Indices.
  - The data feed for the derivative trading platform does not yet unbundle pre- and post-trade data and includes all the instruments traded on the platform (i.e. bond futures, index futures, options).
    - o Commodities derivatives are being moved to a separate trading platform and will be available separately as of the beginning of 2015.
    - o Certificates (derivative instruments) are traded on a separate platform and the data feed for those is provided separately.
- d. One MTF, which currently offers dark trading in equities only, makes real time post trade data available for free.

#### 4. Stakeholders

Five categories of stakeholders can be identified: trading venues, data vendors, sell-side firms, buy-side firms and end-investors.

##### *Trading Venues:*

Trading venues will incur an increased cost base to offer the level of data disaggregation required. This includes staff, programming and hardware costs at data production level to create appropriate data feeds and set up license fees and more importantly would incur costs as well for the administration of those packages.

The magnitude of the incremental costs for trading venues, including management costs, arising from the final draft RTS will depend on the range of financial instruments traded and the gap between existing data packages and the granularity of feeds for which there will be demand. As trading venues will be able to offer bundled data alongside disaggregated data, the production and license administration costs will ultimately depend on the appetite of data subscribers for more or less disaggregated data.

Some trading venues may potentially face a decrease in their market data revenues as a result of the draft final RTS. The magnitude of the revenue loss will depend on the level of data disaggregation currently offered, the number/percentage of data users that would actually subscribe to the potentially more granular packages to be offered and the pricing of those new offerings.

On the opposite, trading venues that operate trading systems based on the reference price waiver, i.e. on imported prices, will benefit from unbundling of periodic auction and continuous trading data as they typically have an interest in buying the latter only.

*Data vendors:*

Even though some market participants purchase market data directly from trading venues, most market participants typically access trading venues data through data vendors. Data vendors do not fall within the MiFID II scope and are not bound to replicate the level of data unbundling to be offered by trading venues. However, if there is a demand for more disaggregated packages, data vendors may have a commercial interest in making those packages available to market participants and will be charging for the service provided.

*Investment firms dealing on own account and/or executing client orders (“sell-side”):*

Sell-side firms have access to real time market data of the trading venue they are a member/participant of. However, they also access these data, as well as other trading venues’ data, through data vendors at a cost. These firms would benefit from being able to pay only for the data they need to have access to.

*Fund/portfolio managers (institutional buy-side):*

These firms would benefit from being able to pay only for the data they need to have access to.

The quantification of the actual impact of the final draft RTS is complex and will depend on the interplay of several factors:

- a) breadth of the financial instruments under management. Where fund managers concentrate on certain categories of asset classes or financial instruments, further disaggregation could potentially allow them to pay just for the data feed needed. Smaller investment firms may also potentially benefit from a more granular level of disaggregation, as they will not have to pay for costly aggregated data they may not have an interest in.
- b) market data pricing policies by trading venues (within the reasonable commercial basis boundaries);
- c) how those are reflected by data vendors; and
- d) institutional investors’ need for real time versus deferred market data, which may affect differently their front and back offices.

Buy-side firms will face one-off costs to adapt their applications and databases to integrate the new feeds available at different levels of granularity. However, those costs may be offset by the reduced fees for buying market data made available by trading venues “on a reasonable commercial basis”.

*End-investors:*

End-investors typically access market data through data vendors, in which case the impact would depend on data vendors' business strategy and pricing policy, or through the bank/investment firm they are clients of. In the latter case, access to real-time pre- and post-trade market data may be provided without additional costs to clients submitting orders online. It is to be expected that a reduction in the total cost of data will be passed on to investors.

**5. Cost-Benefit Analysis**

Under the final draft RTS, trading venues are required to offer pre-and post-trade data separately for ten asset classes, including six sub-classes for derivatives, per country of issue (for shares and sovereign debt) and per currency in which the instrument is traded, and for scheduled daily auctions as opposed to continuous trading, as long as at least one market participant requests one of those more granular feeds.

<b>Policy objective</b>	Reducing market data costs for market participants by allowing market participants to acquire only the very specific pre-trade or post-trade data they need.
<b>Technical Proposal</b>	Offering of pre-trade and post-trade data, including the level of disaggregation of pre- and post-trade data to be offered by trading venues. See article 1 of draft RTS 14 for more details.
<i>Benefits</i>	<p>Consolidation of market data by consolidated tape providers will be facilitated by the availability of equity- only post-trade data feed from trading venues</p> <p>Disaggregation per asset class could facilitate access by market participants to just the data needed, without having to purchase unnecessary larger packages. Wider access to opportunities to trade and to executed transactions across EU trading venues contributes to mitigate the potential drawbacks of market fragmentation.</p> <p>Granular data disaggregation may translate into lower market data costs for data users including investors, only interested in a subset of the data they currently receive.</p> <p>Conversely, trading venues may try to make current packages as attractive as possible to limit demand for more costly granular disaggregation.</p>
<i>Costs to regulator</i> - <i>One-off</i>	One-off and on-going costs from monitoring and enforcing the new requirements are estimated to be non-significant, as they should be

<ul style="list-style-type: none"> <li>- <i>On-going</i></li> </ul>	<p>absorbed by existing supervisory functions.</p>
<p><i>Compliance costs</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p><u>One-off costs:</u></p> <ul style="list-style-type: none"> <li>- Trading venues will have to adjust their production systems to disaggregate pre- and post-trade data feeds to meet the granularity of demand foreseen in the final draft RTS. IT costs include testing of new data feeds along the user chain. These costs would be included in or combined with outsourcing costs where the trading venue outsources the dissemination of its market data to another trading venue or provider.</li> </ul> <p><u>On-going costs:</u></p> <ul style="list-style-type: none"> <li>- Trading venues will incur additional operating costs to deal with a more complex range of offerings, including monitoring of proper dissemination of data and managing relationships with data vendors/ data users to check compliance with subscription terms. As disaggregation becomes more granular, the allocation of instruments to the right data feed may become a source of additional compliance costs. In case these services are provided through a vendor, trading venues may face increased third party fees from this vendor, as a result of changes needed to the data distribution policy.</li> </ul> <p>Trading venues will have to determine their licensing fees and rights pricing policy for each data feed offered and will have to adjust them depending on the effective level of demand.</p>
<p><i>Costs to other stakeholders</i></p>	<p>If data vendors were to offer the same granular packages as trading venues, the former will incur costs to adjust their IT systems and databases and will face substantially increased management costs to deal with a more complex range of offerings (if they actually offer granular packages as well).</p> <p>Costs for subscribers will depend on whether they can continue to receive the more bundled packages they have an interest in for the same fees.</p>
<p><i>Indirect costs</i></p>	<p>The complexity of data packages increases risks of errors in allocation and may affect the quality of consolidated information across trading venues per such criteria.</p> <p>If existing packages continue to be made available by trading venues, fees may nonetheless increase to reflect increase in the overall cost base to comply with the final draft RTS, with subscribers ultimately paying more for the same data package.</p>

## 6. Background information

Based on the proposal that was put out for consultation in December 2014, the Federation of European Stock Exchanges (FESE) has assessed the potential impact of pre- and post-trade disaggregation i) across six asset classes, ii) per country of issue ii) per currency and iv) per scheduled daily auction (in bonds, derivatives, shares and equity-like instruments). According to their preliminary calculations that took into account nine trading venues only, applying the level of disaggregation required in the draft RTS to the 323 data license packages currently available would potentially end up generating 471,036 data license packages, not to mention the 248 additional venues for which a similar computation has yet to be done. However, it should be noted that a limited number of trading venues offer trading in all the asset classes listed in the final draft RTS, which limits the number of potential data license packages.

## **4.3. Access in respect of central counterparties and trading venues**

### **1. Executive Summary**

The purpose of the final draft RTS on clearing access in respect of trading venues and central counterparties (CCPs) is to further specify the conditions under which trading venues and central counterparties may deny, or have to provide clearing access in a non-discriminatory way, in order to allow for open and effective competition between market infrastructures. This final draft RTS is to be read in conjunction with Regulation (EU) No 648/2012 (EMIR).

This chapter has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the final draft RTS, which aims at providing a harmonised regulatory framework for the application of the MiFIR access provisions and ensuring that CCPs and trading venues may only deny access when significant undue risk remains in line with MiFIR objectives. The Baseline section explains the starting point for assessing the incremental rule related to the final RTS, which can be either MiFIR text or current market practices. The stakeholders identified are CCPs, trading venues, members of CCPs and trading venues and CAs. The cost-benefit analysis section provides an analysis of the costs and benefits associated with the final draft RTS.

### **2. Introduction**

MiFID I had limited provisions on access by investment firms to CCPs and clearing and settlement facilities.

In the wake of EMIR, MiFIR is far more ambitious than MiFID I. MiFIR aims at removing the commercial barriers that can be used to prevent competition in the clearing of financial instruments and at avoiding discriminatory practices, both at the CCPs' and trading venues' levels. The purpose of open access is to promote greater competition among market infrastructures and ultimately reduce costs for end investors. However, MiFIR foresees that there may be circumstances under which the potential drawbacks of open access may outweigh its benefits. In addition, taking into account the challenges that full non-discriminatory access may entail, MiFIR establishes transitional arrangements for newly established CCPs in relation to transferable securities and money market instruments and for smaller trading venues in respect of exchange-traded derivatives.

ESMA is mandated to further specify the conditions governing access in respect of CCPs and trading venues.

### **3. Baseline**

Given the very limited MiFID I provisions on clearing access, MiFIR is considered as the baseline for this CBA on access in respect of CCPs and trading venues, and in particular;

In respect of non-discriminatory access to CCP

- Article 35(1) of MiFIR, which provides that, without prejudice to EMIR, a CCP must accept to clear financial instruments on a non-discriminatory and transparent basis, including as regards collateral requirements and fees relating to access, regardless of the trading venue on which a transaction is executed.
- Article 35(3) of MiFIR, which establishes that a CCP may only deny a request for access under the conditions to be further specified in an RTS;
- Article 35(4) of MiFIR, which provided the conditions under which the CA of the CCP or that of the trading venue may only grant a trading venue access to a CCP; and
- Article 35(5), which provides for the transitional arrangements, i.e. the temporary exemption from the access provisions some CCPs may benefit from, subject to their CA's permission.

In respect of non-discriminatory access to a trading venue:

- Article 36(1) of MiFIR, under which and without prejudice to EMIR, a trading venue must provide trade feeds on a non-discriminatory and transparent basis, including as regards fees related to access, upon request to any CCP authorised or recognised under EMIR that wishes to clear financial instruments that are concluded on that trading venue.
- Article 36(4), which provides the conditions under which the CA of the trading venue or that of the CCP may grant a CCP access to a trading venue; and
- Article 36(5), which provides for the transitional arrangements a trading venue may benefit from as regards exchange-traded derivatives, subject to notification to ESMA and its CA.

#### *Empowerment/RTS*

Under Articles 35(6) and 36(6) of MiFIR, ESMA has to develop draft RTSs specifying:

- i. the conditions for denying access by a CCP/trading venue;
- ii. the conditions under which access must be permitted by a CCP or granted by a trading venue;
- iii. the conditions under which granting access will threaten the smooth and orderly functioning of markets or would adversely affect systemic risk;
- iv. the notification procedure for the approval of a transitional period; and
- v. as regards CCPs, the conditions for non-discriminatory treatment with respect to collateral, netting and cross-margining agreements.

#### **4. Stakeholders**

The final draft RTS will impact the following stakeholders:



- CCPs
- Trading venues
- Members of CCPs and trading venues, and
- CAs

#### *CCPs:*

The final draft RTS will impact CCPs differently depending on their current business model. In particular, the business models of vertically integrated infrastructures, which currently do not provide open access, will be more affected by the new regulatory framework.

CCPs will incur one-off and on-going compliance costs to implement and monitor access arrangements, mainly in relation to IT and staff. However, most of those costs are embedded in Level 1. In addition to compliance costs, vertically integrated CCPs may face a loss of revenue where part of the transactions executed on the associated trading venues would be cleared through other CCPs accessing trade feeds. Potential loss of clearing business may however be limited depending on the ability of former integrated CCPs to gain new clearing market share beyond their former associated trading venue(s). Depending on business strategy, those costs may be outweighed by the new opportunities created by a more competitive environment

Clearing access requirements may also impact CCPs that are not vertically integrated by offering them more predictability and greater legal certainty around access procedures.

#### *Trading venues:*

Likewise, trading venues will incur one-off and on-going compliance costs to implement and monitor access arrangements, mainly in relation to IT and staff. Vertically integrated trading venues may be indirectly impacted by the potential shift in clearing towards other CCPs, which can then drag trading volumes to competing venues if pricing is substantially different.

Conversely, clearing access will offer additional opportunities to trading venues. Clearing access will further stimulate competition between trading venues where a participant is able to clear the transactions executed in the same financial instrument on two venues through a single CCP, with portfolio netting.

#### *Members of CCPs and trading venues:*

Members of CCPs and trading venues may be affected by potential changes in pricing and operating conditions as a result of clearing access. Clearing members may have to become members of more CCPs to respond to clients' demand, which will be a source of additional costs and, possibly, of increased and not just more fragmented clearing business. Likewise, members and participants of trading venues may need to become members/participants in more venues to ensure access to liquidity in a more competitive but fragmented environment

and set up additional clearing arrangements as financial instruments will be cleared with a larger number of CCPs.

#### *End-users*

End-users will benefit from the reduced clearing or trading fees arising from a more competitive trading and clearing environment.

#### *CAs:*

CAs will have to review access requests and arrangements in order to ensure that an access request does not threaten the smooth and orderly functioning of the market or would not adversely affect systemic risk. Currently, CAs already review such access arrangements. CAs may be faced with additional costs arising from the increased number of access requests but additional costs thereof are embedded in Level 1.

### **5. Cost-Benefit Analysis**

This section analyses the benefits and costs arising associated with the additional obligations set out in the final draft RTS grouped into the following categories:

- 1) Denial of access by a CCP or a trading venue
- 2) Denial of access by a competent authority
- 3) Conditions under which access must be permitted
- 4) Conditions for non-discriminatory treatment of contracts (CCPs)
- 5) Transitional arrangements

Most of the benefits and costs that a broad open access regime is expected to generate accrue due to the set of effects assessed in the Level I impact assessment. The costs and benefits arising from this final draft RTS are thus limited to a few areas, as highlighted in the following sections.

#### **5.1.1. Denial of access by a CCP or a trading venue**

Clearing of a substantially larger number and/or a broader range of financial instruments can be a source of increased risks for a CCP. Similarly, clearing of the transactions taking place through its systems with a new additional CCP can be a source of increased risks for a trading venue and its members and participants. While MiFIR ultimately aims at increasing competition between market infrastructures, there are some legitimate grounds for CCPs and trading venues to deny access. Article 35(6)(a) and Article 36(6)(b) of MiFIR mandates ESMA to specify those specific conditions under which an access request may be denied by a CCP or a trading venue, “including the anticipated volume of transactions, the number and

type of users, arrangements for managing operational risk and complexity or other factors creating significant undue risks”.

### Common provisions

Under the final draft RTS, after receiving a request for access, a CCP or a trading venue is required to assess whether granting access would create any of the risks further listed in the RTS and is expected to make all reasonable efforts to address and mitigate those risks. Access can only be denied where, after making all reasonable efforts to manage those risks, there remain significant undue risks that cannot be managed. The risks identified must be specified in the written response provided to the requesting party.

Taking into account the different risk profiles of CCPs and trading venues, the final draft RTS sets out common and specific risks CCPs and trading venues have to assess and that may form the ground to deny access.

### Conditions for denial of access by a CCP

CCPs may deny access based on the following exhaustive list of risks.

- Significant undue risks arising from the anticipated volume of transactions where such anticipated volume would exceed the scalable design or the planned capacity of the CCP and no remedial action can be taken.
- Significant undue operational risk and complexity resulting from incompatibility between the CCP and the trading venue IT systems or the lack of appropriate human resources to deal with the risk stemming from additional financial instruments with different risk profiles. In the responses to the CP, some CCPs stressed that under EMIR and the CPSS-IOSCO Principles for Financial Market Infrastructures, the board of a CCP is required to assume final responsibility and accountability for managing the risks to which the CCP is exposed. They were concerned that, under the draft RTS, a CCP may be exposed to operational risks beyond the level the board of the CCP considers to be acceptable, even though not significant and undue. ESMA considers that EMIR and the ensuing implementing regulations constitute the basis framework to identify what should be considered “undue risk”.
- Significant undue risks arising from other factors. In addition to the circumstances identified above, a CCP may deny access based on legal risks, incompatibility of rules, a threat to the economic viability of the CCP or inability to meet capital requirements. In addition, and taking into account the comments received, the final draft RTS has been modified and no longer requires a CCP to request an extension of its authorisation to clear the additional types of financial instruments for which an access request is made. Under the revised proposed RTS, the CCP may deny access where it would not be able, with reasonable efforts, to launch a clearing service for the new instruments that would be compliant with EMIR requirements.

Conditions for denial of access by a trading venue

Trading venues may deny access based on:

- Significant undue operational risk and complexity resulting from incompatibility of the CCP and the trading venues' IT systems preventing connectivity between the systems.
- Significant undue risks arising from other factors where granting access would threaten the economic viability of the trading venue or its ability to meet minimum capital requirements or in case of incompatibility between trading venue rules and CCP rules.

The more limited grounds on which a trading venue may deny access compared to CCPs reflect the different types of risks and business profiles of the two market infrastructures. For instance, the final draft RTS does not identify any potential significant legal undue risk or significant undue risks that may arise due to the anticipated volume of transactions in the context of an access request received by a trading venue.

For both categories of access requests, whilst MiFIR expressly mentions the number and type of users as a possible condition for denying access, ESMA has decided not to draft any legal text under this empowerment, as no additional risk arising from access to a CCP or a trading venue related to the type or number of prospective users was identified. Respondents to the CP did not identify any such risks either. The same applies to the potential risk arising from the volume of transactions in respect of access by TVs. There is therefore no additional cost arising from the final draft RTS in those areas.

<b>Policy Objective</b>	Ensuring that an access request can be denied, but can only be denied, where the CCP or TV would be faced with significant undue risks remaining after all reasonable efforts to manage risks were made.
Technical Proposal	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Conditions on the denial of access by a CCP. See Article 1 of RTS 15 for more details.</li> <li>- Denial of access by a CCP based on the anticipated volume of transactions. See Article 2 of RTS 15 for more details.</li> <li>- Denial of access by a CCP based on operational risks and complexity. See Article 3 of RTS 15 for more details.</li> <li>- Denial of access by a CCP based on other factors creating significant undue risks (CCPs). See Article 4 of RTS 15 for more details.</li> <li>- Conditions on the denial of access by a TV. See Article 5 of RTS 15 for more details</li> <li>- Denial of access by a trading venue based on operational risks</li> </ul>

	<p>and complexity (TVs). See Article 6 of RTS 15 for more details.</p> <ul style="list-style-type: none"> <li>- Denial of access by a trading venue based on other factors creating significant undue risks. See Article 7 of RTS 15 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS provides more clarity, legal certainty and predictability as to the risks that may be a cause to deny access and as to the circumstances under which access can be denied in relation to those risks. It will contribute to harmonised implementation and a level playing field across CCPs and TVs. It will also facilitate supervisory convergence.</p> <p>The final RTS strikes a fair balance between the MiFIR command to provide access and the legitimate position of an entity receiving an access request. It caters for a reality test by requiring CCPs and TVs to make “all reasonable efforts” and acknowledges that there may be significant undue risks outstanding thereafter. At the same time, the exhaustive list of risks provided in the final draft RTS limits CCPs’ and TVs’ discretion in the decision to grant/deny access.</p> <p>Differences in the type of risks based on which CCPs and trading venues may deny access reflect differences between CCPs’ and trading venues’ risk and business profiles.</p> <p>As regards access requests received by CCPs, the final draft RTS provides a full correspondence between the mandate to provide access and the necessary risk management CCPs have to perform under EMIR. It also acknowledges how critical appropriate human resources with necessary knowledge, skills and experience are in CCP risk management and the potential scarcity of such resources and takes into consideration potential conflicts of law within the EEA in areas not yet fully harmonised.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>As part of their supervisory role, CAs will incur staff costs to verify that potential denial of access on this ground is duly justified or that action was taken to ensure that the access request does not create significant undue risks. Additional costs arising from additional access requests are considered to be driven by Level 1.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<ul style="list-style-type: none"> <li>• When receiving an access request, CCPs and trading venues will incur a series of on-going significant costs: <ul style="list-style-type: none"> <li>• They will first incur staff costs to assess the risks that the access request may pose to the orderly provision of clearing or trading services, depending on the characteristics of the entity making the request and on the type of financial instruments involved.</li> </ul> </li> </ul>

	<p>CCPs and trading venues will then need to assess whether those risks can be managed, making all reasonable efforts, within the time period allocated to respond to the request. If so, they will incur possibly quite significant staff and IT costs to make the necessary arrangements and investments to accept the request. Those costs would, amongst other things, include enhancement, upgrading of, or modifications to, IT systems (capacity, connectivity), amendments to clearing or trading rules and procedures. Where additional human resources are needed, and available, to clear additional new financial instruments, the CCP will incur one-off and on-going staff costs which may be significant. See also section 5.2 below on compliance costs and market impact.</p> <p>Those costs, which are mainly driven by Level 1, may however be at least partly recovered through the access agreement, under non-discriminatory terms, which makes the net impact on the CCP and TV much smaller, or even nil.</p> <p>In case of denial of access, CCP and trading venues will have to explain the undue significant risks they remain faced with and were not able to manage with all reasonable efforts.</p>
<i>Costs to other stakeholders</i>	<p>Clearing members and members of trading venues may be impacted in case of changes in clearing or trading rules or in IT systems functionalities as a result of addressing an access request. It is not possible to anticipate the magnitude of those in generic terms without knowing which TVs and CCPs will need to adapt systems and in which dimension.</p>
<i>Indirect costs</i>	<p>The lack of provisions to allow for a denial of economically invariable access requests on an individual basis may act as an unwanted incentive for opportunistic behaviour and carries the risk of causing substantial losses to CCPs, including at the expense of the clearing members. However, ESMA considers that further consideration of cost issues would not be in accordance with the stated aim of Article 35 and 36 of MiFIR to eliminate restrictions on access other than the ones based on significant undue risks.</p> <p>The costs in terms of business dynamics (those derived from the resulting competition between venues and between CCPs) are not considered as an element related to the Technical Standards, but as one linked to the access mandate provided by MiFIR (Level 1)</p>

### 5.1.2. Denial of access by a CA

Articles 35(4)(b) and 36(4)(b) foresee that the CA of a CCP or of a trading venue may only grant a trading venue access to a CCP/grant a CCP access to a trading venue where such access “(...) would not threaten the smooth and orderly functioning of the markets, in particular due to liquidity fragmentation, or would not adversely impact systemic risk(...)”.

ESMA is mandated to further specify the conditions under which granting access will threaten the smooth and orderly functioning of markets or would adversely affect systemic risk.

Taking into account the comments received the final draft RTS has been modified to take a more risk-based approach. It identifies insufficient risk management procedures at one or both parties to the access request as a threat to the smooth and orderly functioning of the markets or as a source of systemic risk where no remedial action could sufficiently mitigate those inadequacies.

<b>Policy Objective</b>	Ensuring that access can be denied by competent authorities only where access would effectively threaten the smooth and orderly functioning of markets or adversely affect systemic risk.
Technical Proposal	Conditions under which access will threaten the smooth and orderly functioning of markets or adversely affect systemic risk. See Article 8 of RTS 15 for more details.
<i>Benefits</i>	<p>The final draft RTS provides more clarity and predictability as to CAs' assessment of access requests and will contribute to supervisory convergence.</p> <p>The risk-based approach underpinning the RTS accommodates for the variety of risk scenarios an access request may give rise to. It also caters for future market developments.</p> <p>By requiring third parties to be affected, the final draft RTS avoids the abuse of denials based on generic disorderly markets grounds, bringing greater legal certainty.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	Access arrangements requests are currently reviewed by CAs. CAs may incur additional one-off and on-going supervisory staff costs for reviewing access requests as the number of such requests is expected to increase. However, we consider those costs to be mostly driven by Level 1.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> </ul>	See above

- <i>On-going</i>	
<i>Costs to other stakeholders</i>	CCPs and trading venues may incur staff costs to provide CAs with all necessary information to assess the access request.
<i>Indirect costs</i>	None identified.

### 5.1.3. Conditions under which access must be permitted

Where access has not been denied, neither by the relevant CCP or trading venue nor by the relevant CAs, the final draft RTS sets out the detailed conditions under which access must be granted. Those conditions relate to i) the general conditions governing access, and ii) non-discriminatory fees charged by CCPs and trading venues.

#### *Conditions under which access must be permitted*

The additional obligation in the final draft RTS relates to the terms of the access agreement to be entered into by the relevant parties. The access agreement should set forth the respective rights and obligations arising from the access granted, including the cover of the one-off and on-going costs triggered by the access request. It should also ensure, among other things, that adequate policies and procedures are in place for timely communication and resolution of dispute, and that proper risk management standards are maintained.

<b>Policy Objective</b>	Ensuring that the access agreement is smoothly and successfully implemented or otherwise terminated in an orderly manner.
Technical Proposal	Conditions under which access must be permitted. See Article 9 of RTS 15 for more details.
<i>Benefits</i>	<p>The final draft RTS will contribute to a more harmonised framework for access agreements and to increased supervisory convergence.</p> <p>Sound and thorough access arrangements will contribute to the smooth implementation of access requests, or smooth winding up of access arrangements otherwise, and to the resilience of the overall market structure.</p> <p>Increased legal certainty about the content of access agreements may create more favourable conditions for such agreements across market infrastructures.</p>
Costs to regulator: - <i>One-off</i>	CAs will incur staff costs to check that access agreements include all the items identified in the RTS. This is not expected to be a source of significant additional costs for CAs that are used to reviewing access



- <i>On-going</i>	requests.
Compliance costs: - <i>One-off</i> - <i>On-going</i>	Access agreements already entered into are mostly aligned with these requirements.  Parties to an access request will incur substantial one-off and on-going, staff and IT costs to enter into an access agreement as described in the draft RTS. However, we consider those costs to be mostly driven by Level 1.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	Clearing members, members or participants of trading venues and end-users may be impacted where the costs of complying with an access request would be passed on to them.

#### *Non-discriminatory and transparent fees*

Article 35(1) of MiFIR foresees that CCPs must accept to clear financial instruments on a non-discriminatory and transparent basis, including as regards fees relating to access. Likewise, under Article 36(1), a trading venue must “provide trade feeds on a non-discriminatory and transparent basis, including as regards fees related to access (...)”.

The additional obligation arising from the final draft RTS is the clarification provided as to the scope and content of the non-discriminatory and transparency fee requirement.

The requirement applies to CCPs in relation to fees charged to clearing members (and, where relevant, clients) and to fees charged to trading venues. Fees charged to clearing members and clients must not depend on the trading venue where the transaction took place and all clearing members should be subject to the same schedule of fees and rebates. The same fees and rebates must be applied to trading venues accessing the CCP to clear the same financial instruments unless otherwise objectively justified.

Similarly, a trading venue must apply the same schedule of fees and rebates to all CCPs accessing the trading venue in relation to the same financial instrument.

Both CCPs and trading venues have to make their fee schedules easily available and sufficiently granular so that they are predictable.

<b>Policy Objective</b>	Ensuring that the benefits of access provisions are not undermined by discriminatory treatment by CCPs or trading venues.
Technical Proposal	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Non-discriminatory and transparent clearing fees charged by CCPs. See Article 10 of RTS 15 for more details.</li> <li>- Non-discriminatory and transparent fees charged by trading venues. See Article 11 of RTS 15 for more details.</li> </ul>
<i>Benefits</i>	<p>The final draft RTS provides more clarity, legal certainty and predictability as to the meaning of non-discriminatory access and will contribute to supervisory convergence.</p> <p>It will avoid, or limit, the risk that fees are used as a tool to distort competition and ultimately challenge the very purpose of the MiFIR open access provisions.</p> <p>Transparency and granularity of access fees increase predictability for business planning by CCP/trading venues when considering making an access request.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	No additional costs to current supervisory practices expected.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Requirements for transparent and non-discriminatory clearing fees already existing under EMIR.</p> <p>CCPs and TVs may incur one-off staff and IT costs to review their fee schedules and ensure that they meet the non-discriminatory requirements set forth in the RTS and their fees are made easily accessible with sufficient granularity.</p> <p>We consider any cost thereof to be mostly driven by Level 1.</p>
<i>Costs to other stakeholders</i>	None identified
<i>Indirect costs</i>	Incumbent CCPs, TVs and clearing members may be affected if current fees were to increase as a result of new access compliance costs being passed on to them under the non-discriminatory fee requirements.

#### 5.1.4. Conditions for non-discriminatory treatment of contracts (CCPs only)

If as a general rule, CCPs must accept to clear financial instruments on a non-discriminatory and transparent basis, regardless of the trading venue on which the transaction is executed; Article 35(1) of MiFIR more specifically provides that a trading venue has the right to non-discriminatory treatment of contracts traded on that trading venue in terms of collateral requirements, netting of economically equivalent contracts and cross-margining with correlated contracts.

In line with the Level 1 empowerment, the final draft RTS sets out the conditions to be applied to:

- i. Collateral and margining requirements of economically equivalent contracts;
- ii. Netting of economically equivalent contracts; and
- iii. Cross-margining of correlated contracts (portfolio margining).

As regards collateral and margin requirements as well as netting, the final draft RTS clarifies that “economically equivalent contracts” refers to contracts that belong to the same class of financial instruments that the CCP is already authorised to clear, be they traded on a trading venue or OTC, and specifies the circumstances under which a CCP may apply different risk models or parameters or netting procedures to such contracts.

With respect to cross-margining, the draft RTS just recalls the relevant provisions of EMIR and of implementing Regulation 153/2013. It does not create any additional obligation or costs.

Taking into account the comments received, the final draft RTS has been amended to provide that a CCP having granted access to a trading venue may delay the clearing of economically equivalent contracts until any necessary changes to its risk model or parameters for collateral and margining requirements or netting are adopted according to the EMIR review procedure, where the CCP considers that those changes are necessary for risk management purposes.

The final draft RTS also foresees the possibility of more granular changes to better accommodate the risk characteristics of an economically equivalent contract. It acknowledges that, for an economically equivalent contract, changes may be needed with respect to a particular netting procedure whilst the other netting procedures would continue to apply to that same contract. Those amendments reduce the potential risks arising from the clearing of economically equivalent contracts by a CCP, thereby of potential direct and indirect costs associated with the final draft RTS.

<b>Policy Objective</b>	Avoiding that economically equivalent contracts get different treatment in terms of margins and collateral requirements or netting, thereby mitigating the benefits of open clearing access.
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<p>Proposal</p>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Collateral and margining requirements of economically equivalent contracts. See Article 12 of RTS 15 for more details.</li> <li>- Netting of economically equivalent contracts. See Article 13 of RTS 15 for more details.</li> <li>- Cross-margining of correlated contracts (portfolio margining). See Article 14 of RTS 15 for more details.</li> </ul>
<p><i>Benefits</i></p>	<p>The final draft RTS provides clarity, legal certainty and predictability as to what is considered as an “economically equivalent contract”. It will facilitate supervisory convergence.</p> <p>It provides consistency with the approach in EMIR Delegated Regulation 153/2013 as regards the class of financial instruments for which a CCP is authorised.</p> <p>It accommodates the risks arising from clearing of economically equivalent contracts by deferring effective clearing until the adoption of changes to risk models and parameters, where needed.</p> <p>It allows for granular amendments to the netting procedure taking into account the specificities of the “economically equivalent contract.”</p> <p>It ensures that changes to risk models and parameters are duly justified on a risk-basis through the review procedure.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Non-significant one-off cost. CAs will have to review changes to risk models/parameters based on the information provided by the CCP Risk Committee.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CCPs will incur one-off cost to get approval of any change necessary to risk models and parameters for economically equivalent contracts.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

### 5.1.5. Transitional arrangements

Under certain conditions, CCPs clearing OTC derivatives may be temporarily exempted from the access provisions in respect of transferable securities and money market instruments. Trading venues with trading volumes in exchange-traded derivatives (ETDs) below EUR 1,000,000 million may be temporarily exempted from the access provisions in respect of ETDs<sup>64</sup>.

The final draft RTS clarifies the application/notification procedure to be followed respectively by CCPs and trading venues when applying for the exemption under Articles 35 and 36 of MiFIR. The only incremental obligation compared to Level 1 in respect of CCPs are the standardised forms to be used by CCPs when applying for permission to its CA, and by the CA for notification of the approval of the exemption to ESMA and to the CCP College.

In respect of TVs, the incremental obligations relates to the standardised form for notification and to the methodology for calculating the ETD trading volume in order to ensure consistent application and a level playing field across trading venues.

<b>Policy Objective</b>	Provide a framework to ensure legal certainty as well as smooth and fair assessment procedures of temporary exemption notifications.
Proposal	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Notification procedure from the CCP to its CA See Article 15 of RTS 15 for more details.</li> <li>- Notification procedure from the competent authority to ESMA and the CCP College. See Article 16 of RTS 15 for more details.</li> <li>- Notification procedure from the trading venue to its competent authority regarding the initial transitional period. See Article 17 of RTS 15 for more details.</li> <li>- Notification procedure from the trading venue to its competent authority regarding an extension of the transitional period. See Article 18 of RTS 15 for more details.</li> <li>- Further specifications for the calculation of notional amount for transitional purposes. See Article 19 of RTS 15 for more details.</li> <li>- Approval and verification method by ESMA. See Article 20 of RTS 15 for more details.</li> </ul>

<sup>64</sup> Articles 35 and 36 have to be read in conjunction with Article 52 (12) and 54 of MiFIR regarding the possible overall exclusion of exclusion of exchange traded derivatives from the scope of the access provisions until 3 July 2019.

<i>Benefits</i>	<p>The notification procedure set out in the final draft RTS, including harmonised forms, ensures a streamlined and predictable process for temporary exemption notifications for CCPs/trading venues, both at CAs and ESMA level.</p> <p>The further specifications provided on the methodology for calculating the ETD trading volume will contribute to ensure a consistent application and a level playing field across trading venues.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	None identified associated with this draft RTS. Any additional cost for CAs or ESMA is embedded in Level 1
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CCPs and trading venues will incur non-significant cost to fill in the notification forms.</p> <p>Trading venues will incur non-significant cost to perform the calculation of notional amount according to the specifications provided.</p> <p>We consider those costs to be driven by Level 1.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

## 5.2. Compliance costs and market impact

A questionnaire on non-discriminatory access to CCPs and trading venues was sent in March 2015. The objective was to better understand the market practice and frameworks currently in place regarding access to CCPs and trading venues and to estimate the magnitude of compliance costs that could arise from the proposed RTS, so ESMA could better calibrate the final draft RTS.

ESMA asked CCPs and TVs for additional details such as the number of requests they estimate to receive or to send per year, if they are part of an integrated model or if they are currently offering access.

Out of the eight trading venues that responded to the questionnaire, only one currently offers open access. Three out of those eight trading venues expect to receive one or two access requests per year from CCPs and two of them expect to send one or two access requests

per year to CCPs. The smaller trading venues expect neither to receive nor to make any access request.

Amongst the three trading venues for exchange traded derivatives with an annual notional amount traded of less than EUR 1,000,000 million, just one expressly stated that it intends to apply for transitional arrangements under Article 36(5). The two other trading venues either did not specify or do not intend to apply, which is consistent with their expectation not to receive any access request.

### 5.2.1. Compliance costs

ESMA also requested CCPs and trading venues to provide an estimate of compliance costs arising from access requests and setting-up and maintaining access. CCPs and TVs were requested to estimate compliance costs per access request received, considering both one-off and on-going costs, and per type of costs (staff costs, IT costs, dedicated personnel, others) and in total.

#### *Compliance costs for CCPs*

Only one medium-large size CCP (251 to 1000 employees), that is part of a vertically integrated market infrastructure and does not currently offer open access, provided an estimate of compliance costs in terms of the number of access requests that they expect to receive. This CCP expects to receive between one and two requests per year and to incur compliance costs that range from EUR 250k to 1m related to the assessment of such requests and between EUR 5m and 10m regarding establishing and maintaining access.

Source of compliance costs	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Assessment of access requests (Art. 1-4)	One-off	N/A	N/A	250k-1m [1]	N/A
	On-going	N/A	N/A	N/A	N/A
Costs related to setting-up and maintaining access (Art. 1-4)	One-off	N/A	N/A	5m-10m [1]	N/A
	On-going	N/A	N/A	1m-5m [1]	N/A

Note: Costs presented in EUR; the number of CCPs that replied to the CBA questionnaire reported in brackets

#### *Compliance costs for TVs*

Eight trading venues provided data on compliance costs, of which six were small venues (less than 50 employees), one was medium size (51 to 250 employees) and one was of medium-large size (251 to 1000 employees). Among the small venues, one said to be offering access and at the same time to be part of a vertically integrated market infrastructure and expects to receive between three and five requests per year. However it would seem that there may have been some confusion between access requests by a CCP and access requests in relation to new membership. Among the five small trading venues that are not currently offering open access, two declared they expect to receive between one and two requests per year. The medium size trading venue offers open access; it does not expect to

receive access requests but expects to send one or two requests per year. The medium-large trading venue which replied to the questionnaire stated that it is part of an integrated model and expects to receive between one and two requests per year.

As regards the assessment of access requests, the six small trading venues that replied to the questionnaire would potentially incur one-off costs ranging from less than EUR 50k to EUR 1m and on-going costs ranging from less than EUR 50k to 250k. One medium trading venue estimated less than EUR 50k one-off and on-going compliance costs while a medium-large trading venue expected higher costs, between EUR 250k and 1m one-off costs.

Regarding costs related to setting-up and maintaining access, the six small trading venues expected one-off and on-going costs ranging from EUR 50k to 1m. One medium trading venue estimated one-off and on-going costs of less than EUR 50k while a medium-large trading venue reported more than EUR 10m one-off cost and between EUR 1m-5m for on-going costs. All costs described are mainly related to the increased operational risk and complexity.

Source of compliance costs	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Assessment of access requests (Art. 1-4)	One-off	<50k-1m [6]	<50k [1]	250k-1m [1]	N/A
	On-going	<50k-250k [6]	<50k [1]	N/A	N/A
Costs related to setting-up and maintaining access (Art. 1-4)	One-off	<50k-1m [6]	<50k [1]	>10m [1]	N/A
	On-going	<50k-1m [6]	<50k [1]	1m-5m [1]	N/A

While the above figures provide a subjective estimate of overall costs by TVs and CCPs, it is not possible to separate which part of those estimates corresponds to the MiFIR requirements, and prominently to the assessment of any request and the establishment of access, irrespective of what detail or conditions are set in the RTS, and which part relates to the specific requirements proposed in the final draft RTS. Therefore, it is likely that these estimates relate to Level 1 and Level 2 costs.

### 5.2.2. Impact on business model and market structure

Additionally, CCPs and TVs were requested to report the expected impacts/effects of the RTS on the market structure, competition, members of CCPs, members of TVs, end users/clients. However, the responses provided typically referred to the MiFIR provisions rather than to the draft RTS itself.

Three medium/large respondents provided unsurprisingly diverging comments on the impact on business activity and broader market changes, although their comments related mostly to Level 1 rather than to the final draft RTS impact.

One cash trading venue that responded to the Questionnaire and currently offers open access expects the cumulative costs/benefits of the final draft RTS to positively impact its



business model as the clarification provided limits the ground for denying access which will, if properly enforced, allow the clear MiFIR objective to provide open access to be delivered. This venue anticipates very positive broader market change in all areas, noting that the development of open access in cash markets has been positive, facilitating competition and reducing costs. The availability of open access should allow users of CCPs more choice over which CCPs to use, and members of trading venues more choice over which venues and CCPs to use. The resulting increased competition will lead to improved services and reduced costs, including explicit trading costs for end-investors. Finally, the trading venue is of the view that the experience with equities has shown that interoperability works and that risk can be effectively managed across CCPs.

Two derivatives trading venues, which currently do not offer open access and are part of vertically integrated market infrastructures, consider that the new framework will negatively or very negatively impact their business model. One of them, which does not expect any increase in trading volume as a result of the new regulation, is concerned that MiFIR will lead an even more two-tiered market with large markets with large market participants on one side and smaller markets with small market participants on the other, leading to a less efficient market. The concern expressed is that large participants would be offering less attractive prices to their smaller counterparties on smaller markets compared to the prices they offer to larger counterparties on larger markets. This would be to the detriment of the end-clients clients in those smaller markets.

The other trading venue stressed that dealing with access requests will require significant commitment in terms of human resources and financial costs. Whilst CCPs and TVs will ensure that they have sufficient resources to manage the risks of their everyday business, they will likely be detracted from innovation and growth. The on-going complex obligations introduced by open access requirements will reduce innovation and efficiency in European trading venues and CCPs, and this will, in turn, make Europe significantly less competitive on a global scale.

According to that trading venue, costs of assessing and permitting access requests will be passed on to members of CCPs and trading venues. In addition, it is likely that members of CCPs and trading venues will need to become members of a number of different CCPs or trading venues in order to ensure that they are not cut off from their clients or from accessing liquidity. This would increase their costs significantly without introducing any benefit. Following the logic of that trading venue, as a result, the number of investment firms able to act as clearing members may decrease and this would concentrate risk in the remaining number of clearing members, whilst investment firms may prefer to trade more OTC. Finally, all costs from the clearing member and trading venue members will be passed on to the end clients.

Although the Cost Benefit Questionnaire on access to CCPs and trading venues was aimed at market infrastructures, a large credit institution expressed the view that the definition of standard criteria for the access to CCPs and TVs, as well non-discriminatory and transparent clearing fees by CPPs and TVs will contribute to a more accessible market structure. The positive impact on market structure, combined with increased competition will result in a

general benefit for the end-users/clients. This respondent however expressed concerns about the negative impact on risk management of the application of the same collateral management and netting procedures to “economically equivalent contracts” as defined in the draft RTS. It should be noted that the related provisions in the final draft RTS have been amended.

## **4.4. Access in respect of benchmarks**

### **1. Executive Summary**

The purpose of this final draft RTS on access in respect of benchmarks is to further specify the conditions under which information is to be made available upon request to central counterparties (CCPs) and trading venues for trading and clearing purposes, by persons with property rights to a benchmark. This should contribute to open and effective competition between market infrastructures.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the final draft RTS which supplements the MiFIR provisions on access in respect of benchmarks with a view to enhance competition for trading and clearing in financial instruments, reduce inefficiencies and foster innovation. The baseline section explains the starting point for assessing the incremental rule related to the final draft RTS, which can be either MiFIR or current market practice. The stakeholders identified are CCPs, trading venues, persons with proprietary rights to a benchmark (PPRBs) and competent authorities (CAs). The cost-benefit analysis section provides an analysis of the costs and benefits associated with the final draft RTS.

### **2. Introduction**

Open, fair and non-discriminatory access to the licenses of, and information on, benchmarks used to determine the value of financial instruments is critical to supplementing the MiFIR provisions on access to CCPs and trading venues. Should a CCP not have access to the licence of, and the information relating to, a benchmark, that CCP would actually be prevented from clearing the financial instruments based on that benchmark notwithstanding the access provisions to trading venues under Article 36 of MiFIR.

Under Article 35, not having access to all necessary information on a benchmark could be a source of significant undue risks for CCPs and a legitimate ground to deny access. Without adequate information on a benchmark, a trading venue would not be in a position to offer trading, or alternative means of trading in instruments based on that benchmark. Open access to benchmarks is hence another component of MiFIR provisions to promote greater competition for trading and clearing in financial instruments, reduce inefficiencies and foster innovation. As mandated by Article 37 of MiFIR, the final draft RTS further defines the information to be made available upon request to CCPs and trading venues by PPRBs for trading and clearing purposes.

### **3. Baseline**

MiFID I did not have any provisions governing access to benchmarks. In contrast, Article 37 of MiFIR provides that “where the value of a financial instruments is calculated by reference to a benchmark, a person with proprietary rights to the benchmark shall ensure that the CCPs and trading venues are permitted, for the purpose of trading and clearing, non-discriminatory access to (a) relevant price and data feeds and information on the

composition, methodology and pricing of that benchmark and (b) licenses [...]” The license has to be granted on a fair, reasonable and non-discriminatory basis within the three months following the request made by a CCP or a trading venue.

#### *Empowerment/RTS*

Article 37(4) of MiFIR empowers ESMA to develop draft RTSs to specify:

- a) The information to be made available through licensing;
- b) Other conditions under which access is granted including confidentiality of information; and
- c) The standards guiding how a benchmark may be proven to be new.

The additional obligations arising from the final draft RTS relates to the detailed list of information to be provided by the PPRB, to the conditions under which access must be granted and to the standards guiding how a standard can be considered to be new. These obligations have to be compared either to current market practice where PPRBs already provide access to CCPs and trading venues or to the MiFIR baseline described above where benchmark information is not yet provided. Should the latter apply, the costs associated with the incremental rule will be a combination of the effects of the Level 1 text and of the final draft RTS. As those effects are very difficult to disentangle, any indication of costs in this CBA is hence to be considered as an upper bound.

#### **4. Stakeholders**

The final draft RTS will directly impact the following stakeholders:

- PPRBs;
- Trading venues and CCPs; and
- CAs.

*PPRBs*, which can be financial or non-financial entities, will be the most affected, as they are the addressees of the draft RTS. PPRBs will have to put in place procedures to handle individual access requests, set the conditions for access to the required information and provide that information.

*CCPs and trading venues* will be offered additional clearing and trading opportunities through more legal certainty and predictability in respect of access to benchmarks.

*CAs* will have to supervise the proper implementation of the access conditions by PPRBs. It is worth recalling here that under Article 67 MiFID II, each Member State has to designate the CAs which are to carry out each of the duties provided for under the different provisions of MiFIR and MiFID II. This includes the provisions governing PPRBs.

PPRBs' and CAs' role may be further impacted by the Commission proposal for a Regulation on indices used as Benchmarks<sup>65</sup> (Benchmark Regulation) which is under consideration by the Council and the European Parliament.

## 5. Cost-Benefit Analysis

### 5.1. Summary Cost Benefit Analysis

The obligations set out in the final draft RTS rules can be clustered in three main areas:

1. Information to be made available through licensing and general conditions under which the information is to be made available;
2. Other conditions under which access is granted, including conditions for licensing agreements;
3. New benchmarks.

#### 5.1.1. Information to be made available to CCPs and trading venues and general conditions for the provision of information

The final draft RTS establishes additional obligations as regards the clarification to be provided by CCPs and trading venues making a request, the information to be provided by PPRBs upon request and the conditions under which the information is to be made available through licensing agreements

The final draft RTS introduces the obligation for a CCP or a trading venue requesting access to a benchmark to explain why the information is needed for clearing or trading purposes and to specify the relevant trading and clearing functions to be considered for that purpose.

The final draft RTS also sets out the minimum list of information to be provided by the PPRB in respect of data feeds and the composition, methodology and pricing of the benchmark, in order to allow CCPs and trading venues to understand how each benchmark value is created. The RTS abstains from providing an exhaustive list of such information; it provides room and flexibility for additional information addressing the characteristics of a specific benchmark.

This information is to be provided through licensing to CCPs and trading venues without undue delay and on the same timescales. However, and in order to avoid unnecessary burden for PPRBs and to reduce compliance costs, the final draft RTS clarifies that when a PPRB can demonstrate that certain information is available publicly or through other commercial means to CCPs and trading venues in a reliable and timely way, it does not have to supply that information through licensing.

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<sup>65</sup> Proposal for a Regulation of the European Parliament and of the Council on indices used as benchmarks in financial instruments and financial contracts /\* COM/2013/0641 final - 2013/0314 (COD).

The final draft RTS has been modified to align as far as possible the information about methodology with a similar provision in the Benchmarks Regulation. If the Benchmark Regulation comes into effect with its current drafting on that issue, much of this information will have to be published by benchmark administrators and will therefore no longer have to be provided by PPRBs to a CCP or trading venue. This would be a source of reduced compliance costs both for PPRBs on the one hand, and for CCPs and trading venues on the other hand.

Finally, the final draft RTS establishes that where different conditions apply to different categories of licensees, as permitted by Article 37(1) of MiFIR, the criteria for defining the different categories must be publicly available and the same rights and obligations must be applicable to all licensees within the same category.

<b>Policy Objective</b>	Ensuring that trading venues and CCPs are provided all necessary information on benchmarks in a timely and non-discriminatory way to fulfil their trading and clearing functions, thereby contributing to a more competitive trading and clearing environment.
Technical Proposal	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Information to be made available to CCPs and trading venues. See Article 1 of RTS 16 for more details.</li> <li>- General conditions for the information through licensing to be made available to CCPs and trading venues. See Article 2 of RTS 16 for more details.</li> <li>- Differentiation and non-discrimination. See Article 3 of RTS 16 for more details,</li> </ul>
<i>Benefits</i>	<p>The final draft RTS provides for clarity, legal certainty and predictability to PPRBs, CCPs and trading venues as to the grounds on which access to a benchmark may be requested. It also provides more clarity, legal certainty and predictability as to the information to be provided by PPRBs and the conditions for the provisions of such information, while providing some flexibility to accommodate specific characteristics of benchmarks or specific circumstances.</p> <p>Increased clarity and legal certainty may in turn further incentivise CCPs and trading venues to request access to benchmarks, to the benefit of a more competitive environment.</p> <p>The conditions under which the information is to be provided will ensure that PPRBs do not discriminate among CCPs and trading venues and will enhance the level playing field across market</p>

	<p>infrastructures.</p> <p>The final draft RTS provides for an open approach of categorisation that accommodates the different possible usages and the heterogeneity of the benchmarks. It provides discretion to PPRBs to set the criteria to form the different categories of users, based on reasonable commercial grounds such as the quantity, scope and field of use demanded.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs may have to exercise their supervisory role, most likely on an ex-post basis, based on potential concerns raised by CCPs or trading venues requesting access to a benchmark. Thus, the costs for regulators are expected to be low to very low.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>The information to be provided on price and feeds, as well as on composition, methodology and pricing are expected to be in line with current market practice and will not be a source of significant additional costs for PPRBs currently providing access.</p> <p>The costs for PPRBs providing access under MiFIR requirements are considered to be mostly driven by Level 1.</p> <p>PPRBs may incur one-off staff and IT costs to review, or establish, licensing conditions per category of licensees and make those conditions publicly available. They may incur on-going costs to update those licensing conditions.</p>
<p><i>Costs to other stakeholders</i></p>	<p>CCPs and trading venues will incur one-off staff costs to justify their access requests</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

### 5.1.2. Other conditions under which access is granted

Under the final draft RTS, a PPRB has to set the conditions for licensing agreements and make those conditions available to CCPs and trading venues upon request, free of charge. The final draft RTS further lists the items to be included in those conditions, such as the conditions for redistribution, if allowed, the technical requirements for the delivery of the service, the fees and conditions for paying them or contingency arrangements.

In addition, the final draft RTS establishes that PPRBs, CCPs and trading venues have to put in place arrangements to ensure the smooth, secure and efficient implementation of the licensing agreements and their orderly termination in identified circumstances.

<b>Policy Objective</b>	Ensuring that the framework governing licensing agreements and the arrangements put in place by the relevant parties contribute to the secure and efficient operation of those agreements
Technical Proposal	Other conditions under which access is granted. See Article 4 of RTS 16 for more details.
<i>Benefits</i>	<p>Freely available conditions for licensing agreements for the category of licensing they belong to will enable CCPs and trading venues to make a more informed judgement when considering the opportunity of making an access request in respect of a benchmark.</p> <p>The arrangements to be set up by PPRBs, CCPs and trading venues within a licensing agreement will contribute to ensure that licensing agreements are smoothly and efficiently implemented. Effective and efficient implementation of the licensing agreements will in turn support the MiFIR objective of enhanced competition in trading and clearing.</p> <p>Provides more legal certainty and predictability to PPRBs, CCPs and trading venues as to the conditions surrounding licensing agreements and contributes to reducing costs, including legal costs, for parties entering into a licensing agreement.</p> <p>Flexibility is provided to include current market practice, such as non-disclosure agreements or letter of intentions in the negotiation of a licensing agreement.</p> <p>The final draft RTS strikes a reasonable and fair balance between the interests of benchmark providers and those of CCPs and trading venues requesting access within the scope set by MiFIR.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	CAs may have to exercise their supervisory role to check that PPRBs meet the obligation to make conditions for licensing available upon request, possibly based on concerns raised by CCPs or trading venues. The costs for regulators are expected to be low to very low.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>PRBSs will incur one-off staff costs to set conditions for licensing agreements that include all the items listed in the final draft RTS.</p> <p>PRBSs, CCPs and trading venues will incur one-off and on-going staff and IT costs to set up and implement the policies, procedures and systems foreseen by the final draft RTS when entering into a licensing</p>



	agreement.
<i>Costs to other stakeholders</i>	See above.
<i>Indirect costs</i>	None identified.

### 5.1.3. New benchmarks

In order to protect innovation and legitimate intellectual property rights, Article 37(2) of MiFIR defers the obligation to licence a new benchmarks for a 30-month period, provided that the PPRB establishes that the benchmark is new following two cumulative criteria:

- i. the new benchmark is not a mere copy or adaptation of any such existing benchmark and the methodology, including the underlying data of the new benchmark, is meaningfully different from any such existing benchmarks; and
- ii. the new benchmark is not a substitute for any such existing benchmark.

The final draft RTS provides five standards to be taken into account when establishing whether a benchmark is new or not, clarifying that there might be other specific standards that should be considered in relation to particular benchmarks. As regards commodity benchmarks, some clarifications earlier provided in a recital have been moved to Article 5 of the final draft RTS for the sake of completeness and legal clarity.

<b>Policy Objective</b>	Avoiding the circumvention of legislation through misuse of temporary access exemptions for new benchmarks.
Technical Proposal	Standards guiding how a benchmark may be proved to be new. See Article 5 of RTS 16 for more details.
<i>Benefits</i>	The final draft RTS provides additional legal certainty and predictability as to what constitutes a new benchmark.  It contributes to ensuring that the provisions on access to benchmarks are not circumvented.
<i>Costs to regulator:</i> - <i>One-off</i> - <i>On-going</i>	CAs may have to devote resources to investigate the concerns raised by CCPs or trading venues to which access to a “new” benchmark may have been denied. The costs for regulators are expected to be low to very low.
<i>Compliance costs:</i> - <i>One-off</i>	PPRBs will incur one-off staff costs to establish, as needed, that a benchmark may be considered as new.

- <i>On-going</i>	
<i>Costs to other stakeholders</i>	None identified
<i>Indirect costs</i>	None identified

## 5.2. Compliance costs

A questionnaire on non-discriminatory access to benchmarks was sent to CCPs, trading venues and PPRBs. The objective was to better understand the market practice and frameworks currently in place regarding access to CCPs and trading venues and to estimate the magnitude of compliance costs that could arise from the proposed RTS, so ESMA could better calibrate the final draft RTS.

ESMA asked for additional details such as the number of requests to price and data feeds and licences they expect either to receive or to make per year as well as the expected associated compliance costs.

ESMA requested PPRBs an estimate of compliance costs arising from the following rules: establishing when a benchmark is new, disclosing information to trading venues and CCPs and conditions under which access must be granted. Additionally, ESMA requested CCPs and trading venues to estimate the costs they will incur for requesting information and licenses from PPRBs.

### *Compliance costs for PPRBs*

The compliance cost data received were based on the RTS drafting presented in the Annex to the CP and are reproduced below. However, we would caveat the data shown. When we compare the costs provided and the number of requests respondents said they expect to receive with their business model, size and presence in benchmarks, it raises questions about the representativeness of their answers and their understanding of the implications of the RTS.

Five trading venues responded to the questionnaire on compliance costs for PPRBs. One medium-large sized trading venue (251 to 1000 employees) stated that it expects between 10 and 50 requests to price, data feeds and licences per year while four small trading venues (less than 50 employees) expect to receive between 0 and 5 requests. Small institutions estimated compliance costs to be between EUR 50k and 250k to comply with the draft RTS. However, the medium-large sized trading venue reported higher costs: up to EUR 5m (one-off)/ 1m (on-going) to comply with the provisions on conditions under which access must be granted and up to EUR 1m (one-off and on-going) to comply with the requirements of Articles 20, 21 and 23 (as per the numbering of Articles in the draft RTS published in Annex of the CP). Respondents reported that the main sources of compliance costs are related to the increased legal risks and to adapt the requirements to different kinds of benchmarks.

Source of compliance costs	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Disclosing information to TVs and CCPs (Art. 20-21)	One-off	50k-250k [4]	N/A	50k-1m [1]	N/A
	On-going	50k-250k [4]	N/A	50k-1m [1]	N/A
Conditions under which access must be granted (Art. 22)	One-off	50k-250k [3]	N/A	1m-5m [1]	N/A
	On-going	50k-250k [3]	N/A	250k-1m [1]	N/A
Establishing whether a benchmark is new (Art. 23)	One-off	50k-250k [3]	N/A	50k-1m [1]	N/A
	On-going	50k-250k [3]	N/A	50k-1m [1]	N/A

Note: Costs presented in EUR; in brackets the number of institutions that replied to the CBA questionnaire. The Article numbers refer to the draft RTS published for consultation in December 2014.

### *Compliance costs for CCPs and trading venues requesting access*

Two small trading venues and one medium-large size trading venue/responded to the questionnaire. These three respondents expect to make 0 up to 5 requests to price, data feeds and licences per year. Those three institutions expect compliance costs related to requesting information and licences to PPRBs to range between EUR 50k and 250k. Compliance costs are mainly related to IT.

Source of compliance costs	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Requesting information and licences from PBs (Art. 20-21)	One-off	50k-250k [2]	N/A	50k-250k [1]	N/A
	On-going	50k-250k [2]	N/A	50k-250k [1]	N/A

Note: Costs presented in EUR; in brackets the number of institutions that replied to the CBA questionnaire. The Article numbers refer to the draft RTS published for consultation in December 2014.

## **5. REQUIREMENTS APPLYING ON AND TO TRADING VENUES**

### **5.1. Admission of financial instruments to trading on regulated markets**

#### **Obligations applying on and to trading venues regarding admission to trading (Article 51(6) of MiFID II)**

##### **1. Executive Summary**

The purpose of the final draft RTS is to establish the obligations that apply to trading venues regarding admission to trading, as described by MiFID II Article 51(6).

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, which aims at providing consistency and clarity in specifying the characteristics a financial instrument should have in order to be admitted to trading, the arrangements to provide more consistent monitoring by regulated markets of issuers' obligation to provide disclosure (initial, ongoing and ad-hoc), and those to facilitate access to information on as equal terms as possible. The baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which can be either MiFID I Level 2 or MiFID II Level 1 requirements, or the existing market practice when above MiFID II. The stakeholders identified are regulated markets, the participants of those, competent authorities (CAs) and issuers. The cost-benefit analysis section contains a cost benefit analysis of the proposals set out in the draft RTS.

##### **2. Introduction**

Financial instruments need to fulfil some basic requirements to be admitted to trading on regulated markets. These requirements include both the characteristics that financial instruments need to have for being considered eligible for trading and the arrangements regulated markets need to have related to disclosure and access to information. These requirements are in addition to those imposed by the Consolidated Listing Directive, the Transparency Directive, the Prospectus Directive and the Market Abuse Regulation.

ESMA is asked in Article 51(6) of MiFIR to establish the characteristics that financial instruments need to have for being considered eligible for admission to trading on a regulated market, to clarify the arrangements that regulated markets shall have in place regarding disclosure and to clarify as well the arrangements needed to facilitate members' access to information.

##### **3. Baseline**

The relevant legal text is a combination of MiFID II Level 1 (for the whole final draft RTS) and MiFID I Level 2 (in some areas). Article 51 of MiFID II deals with the basic requirements

which need to be fulfilled for the admission to trading of financial instruments to regulated markets. It requires that regulated markets:

- (i) have clear and transparent rules regarding admission of financial instruments to trading, ensuring those instruments are capable of being traded on a fair, orderly and efficient manner and are freely negotiable (if they are transferable securities);
- (ii) have arrangements to review regularly the compliance with the admission requirements;
- (iii) establish and maintain arrangements to verify that issuers of those securities comply with their obligations regarding initial, ongoing and ad-hoc disclosure obligations and;
- (iv) have arrangements to facilitate its members or participants having access to public information.

Article 51(6) of MiFID II requires ESMA to develop a draft RTS to address the following:

- a) specify the characteristics that financial instruments need to have for being considered eligible for admission to trading on a regulated market (those that determine when an instrument can be traded in a fair, orderly and efficient manner (same as in existing MiFID I Level 2));
- b) clarify the arrangements that regulated markets shall have in place regarding disclosure (to verify that the issuer of a security complies with the initial, ongoing and ad-hoc disclosure obligations) and,
- c) clarify the arrangements needed to facilitate members' access to information.

Both b) and c) represent a new request to ESMA. The topic was covered in ESMA's MiFID/MiFIR Discussion paper (DP) published in May 2014, section 6.1.

We expect costs of minimal significance to arise from the implementation of 51(6)(a), as the requirements considered by ESMA largely mirror the ones already in existence.

MiFID II Article 51 is virtually identical to Article 40 of MiFID I in respect of which implementing measures have been adopted in the MiFID I Level 2 Regulation (Commission Regulation (EC) No 1287/2006), Articles 35-37. MiFID I Level 2 only addresses aspects related to MiFID I Level 1 Article 40(1) and 40(2) (equivalent to MiFID II Article 51(1) and 51(2)) and establishes the criteria regulated markets should follow to admit a share to trading (distribution to public and historical financial/issuer/business information), to determine when a transferable security is capable of being traded in an orderly, fair and efficient manner (clear terms, price reliable and publicly available, sufficient information publicly available to value the security, adequate settlement and derivative procedures and that settlement arrangements reflect properly the price or value of the underlying).

For units in collective investment undertakings, it requires that the undertaking complies with the necessary conditions for its marketing, and sets the criteria for open and close ended units in collective investment undertakings to be considered capable of being traded in a fair, orderly and efficient manner (distribution, market making arrangements or appropriate arrangements to redeem the units, NAV publication).

For ETFs, the 2012 ESMA Guidelines already foresee that undertakings for collective investments in transferable securities (UCITS) ETFs offer market making arrangements and direct redemption facilities at least in cases where the regulated market value of units or shares significantly varies from the net asset value. Some regulated markets already require that for non-UCITS ETFs as well.

Regarding disclosure, there are no Level 2 rules that apply under MiFID I, and existing practice on regulated markets seems to vary significantly: some regulated markets only require that issuers are aware of their obligation under disclosure rules and transparency rules applicable to listed companies, others require issuers to adopt an appropriate management control system, others require that a sponsor (or other independent financial advisers) undertake the duty to inform the management body with regard to the responsibilities and obligations resulting under the laws in force from admission to trading.

Regarding arrangements to verify compliance with disclosure obligations, there are no Level 2 rules either. In terms of market practice, some jurisdictions require in addition to filing a prospectus to be approved by the local regulator, that there are also procedures in place to verify that disclosures of periodic information take place. Three models seem to exist:

1. Trading venue and CAs verify compliance,
2. CA verifies compliance,
3. Trading venue verifies compliance.

Some jurisdictions offer premium and standard listings. Premium listings require higher levels of disclosure than standard listings.

In terms of access to information for investors, the Prospectus, Transparency and Market Abuse Directives (in the future the Market Abuse Regulation) establish the information to be provided. The Transparency Directive and its implementing measures require regulated information for issuers on regulated markets to be disseminated through an information service provider that complies with specified minimum standards. Specifically, regulated information must be disseminated in a manner ensuring that it is capable of being disseminated to as wide a public as possible. In addition, each Member State has a repository to act as a storage mechanism for information on all issuers on the regulated markets for that Member State.

The responses to the DP showed the information is made public in a number of ways: regulated markets website or related web service developed by the regulated market itself, CA's website or special information systems operated by the CA, market operator website, officially appointed mechanism, which include the regulated market or the CA, websites of

issuers, system of central data repositories, NIS (Network information system), approved regulatory information services, printed media or media with a website accessible to investors.

#### **4. Stakeholders**

The stakeholders that are relevant for this standard are:

*Regulated markets* may be affected as they may need to implement (one-off costs) and maintain (on-going costs) ESMA's specifications of arrangements to verify issuers compliance with the required disclosures (initial, on-going and ad-hoc) and of arrangements to facilitate members or participants' access to information (i.e. website publication of key issuer's events). The extent of the costs will depend on the exact specification of the draft RTS vs. the existing market practice. We expect no incremental significant costs related to ESMA's specification of 51(6)(a), as this is expected to mirror existing regulations.

*Members/participants of regulated markets* may be impacted as some of ESMA's requirements may marginally change the way they access information made public. We expect that this group overall will likely benefit from access to public information in more equal terms, and also from issuers providing the required information disclosures in a timely manner.

CAs may be affected as their supervision units may need to set-up new systems or procedures to monitor compliance with ESMA's requirements.

*Issuers* may be affected when listing new securities, particularly ETFs. They may incur some incremental costs associated with complying with regulated markets more consistent monitoring of their disclosures and information provision. These costs need to be separated from those related to MiFID Level 1 legislation or other rules related to admission to trading (listing), transparency and market abuse, which should have been subject to CBA separately.

#### **5. Cost-Benefit Analysis**

In this section we analyse the RTS provisions in relation to Article 51(6):

1. Characteristics of financial instruments for admission to trading,
2. Arrangements to verify issuer's required disclosures,
3. Arrangements to facilitate access to information.

##### *Characteristics of financial instruments for admission to trading*

Regarding *characteristics of financial instruments* to be admitted to trading, ESMA is keeping the existing Level 2 regulations with minor adjustments on requirements to be imposed on ETFs, UCITS and non-UCITS;

##### *1a: Transferable Securities, freely negotiable fair, orderly and efficient trading and official listing*

<b>Policy Objective</b>	Provide consistency and clarity in specifying the characteristics a financial instrument should have for admission to trading.
<b>Technical Proposal</b>	Keeping existing MiFID I Level 2 requirements in Article 35. See Articles 1-3 of RTS 17 for more details.

1b: Units in collective investment undertakings

<b>Policy Objective</b>	Provide consistency and clarity in specifying the characteristics that units of collective investment undertakings should have for admission to trading.
<b>Technical Proposal</b>	Keeping existing MiFID I Level 2 requirements in Article 36, with some minor amendments in the case of ETFs which are required to have alternative arrangements for investors to redeem units. See Article 2 of RTS 17 for more details.

1c: Derivatives

<b>Policy Objective</b>	Provide consistency and clarity in specifying the characteristics that derivatives should have for admission to trading.
<b>Technical Proposal</b>	Keeping existing MiFID I Level 2 requirements in Article 37. See Article 5 of RTS 17 for more details.

Transferable Securities: freely negotiable, fair orderly and efficient trading and official listing; units in collective investment undertakings; derivatives

<b>Benefits</b>	Keeps requirements of MiFID I Level 2 that have worked well in practice.  Aligns requirements for UCITS and non-UCITS ETFs and provides more investor protection in case of unit redemption for non-UCITS ETFs, particularly in periods of market turmoil.
<b>Costs to regulator:</b>  - One-off  - On-going	It could imply additional on-going staff supervision costs for ETFs depending on the jurisdiction.
<b>Compliance</b>	Proposals 1.a and 1.c. no incremental costs as no changes to existing



<p><i>costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>requirements.</p> <p>Proposal 1.b. may imply incremental compliance costs for ETFs currently not complying with this requirement, both one-off (to set the arrangement missing) and ongoing to keep operating it.</p> <p>It may also imply incremental costs for regulated markets currently requiring just one way of liquidity provision, as alternative arrangements for investors such as the continuous support of the ETF through a designated sponsor would need to be in place. However, this requirement reflects current practice existing in some regulated markets, and for those there should be no incremental costs.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Potential increased costs for ETFs currently not providing alternative liquidity facilities may be passed on to investors in those funds through higher costs.</p> <p>Some of the compliance costs from alternative market making schemes may be passed on to issuers; however, those ETFs may attract more interest from investors.</p>

Arrangements to verify issuer's required disclosures

<p><b>Policy Objective</b></p>	<p>More consistent monitoring by regulated markets of issuers obligation to provide disclosure (initial, on-going and ad-hoc).</p>
<p><b>Technical Proposal</b></p>	<p>To establish requirements for regulated markets regarding verification of compliance by issuers (see Article 6 of RTS 17 for more details).</p>
<p><i>Benefits</i></p>	<p>Requirement may ensure more clarity and enhance the consistency of monitoring the obligations to provide disclosure, allowing investors to timely receive relevant disclosures from issuers. However, these requirements do not place on regulated markets the duty of regulatory supervision, and the powers of CAs are in no way altered.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>High level requirements should impose minimal costs, if any, on CAs. The costs related to supervision and monitoring of the compliance verification policy to be implemented by exchanges should be attributed to MiFIR and not to ESMA's requirements.</p>

<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Regulated markets may have costs arising from drafting and implementation (one-off), as well as subsequent monitoring (on-going) of a policy to verify compliance in their website, if not existing already. Based on the responses to the CP, except in a few jurisdictions, most regulated markets have similar arrangements in place and therefore the resulting compliance costs are estimated to be of minimal significance.</p> <p>Issuers should incur no additional costs to those arising from implementation of MiFIR and other legislation mandating when disclosure should be made.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Any wider market costs arising from closer supervision of compliance should be attributed to MiFIR.</p>

Arrangements to facilitate access to information

<p><b>Policy Objective</b></p>	<p>Provide access to publicly available information on an as equal basis as possible.</p>
<p><b>Technical Proposal</b></p>	<p>To keep existing requirements related to disclosures required by the Prospectus, and Transparency Directives and the Market Abuse Regulation.</p> <p>Regulated markets should provide easily accessible and free of charge description of how they facilitate access to this information, and should publish that on their website.</p>
<p><i>Benefits</i></p>	<p>The requirement may ensure a clearer and more consistent description of where to find information that has been made public by users, which may benefit investors, users and CAs to some extent.</p> <p>The proposal should reflect existing market practice to some extent as it refers only to the obligation of regulated markets to facilitate access to information already made public. It also allows regulated markets to facilitate access to information to provide a link to where information is available. These two points address some of the concerns expressed by respondents, and should reduce the costs of implementation considered by the industry.</p>
<p><i>Costs to regulator:</i></p>	<p>High level requirements should impose minimal costs, if any, on CAs. The costs related to supervision and monitoring of the incremental</p>

<ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>obligation should be minimal.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Regulated markets may incur some IT development costs related to update their website to make the public information displayed clearer and more accessible. Some regulated markets that currently do not provide issuer information on their websites may also incur the cost of linking to the national repository on issuer information, in addition to adding the information to their websites. We anticipate this cost to be minimal as most regulated markets already disseminate publicly available information about the issuers through their platforms.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>Any wider market costs arising from closer supervision of compliance should be attributed to MiFIR.</p>

## **5.2. Suspension and removal of Financial Instruments from trading – connection between a derivative and the underlying financial instrument**

**Obligation to specify the cases in which a derivative is also suspended or removed from trading (regulated markets, MTFs and OTFs) (eighth subparagraphs of Articles 52(2) and 32(2) of MiFID II)**

### **1. Executive Summary**

The purpose of the draft RTS is to establish the cases in which a derivative relating or referenced to a financial instrument suspended or removed from trading should also be suspended or removed from trading by regulated markets, MTFs and OTFs.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the draft RTS, which aims at limiting market abuse in cases of suspension or removal from trading of a financial instrument. The objective is that the behaviour that the suspension is designed to prevent cannot simply transfer to a related market while at the same time supporting fair and orderly trading markets. The baseline section explains the starting point for assessing the incremental rule related to ESMA draft RTS, which can be either the MiFID requirements or the existing practices of trading venues when they are above MiFID. The stakeholders identified are investment firms, ESMA/National Competent Authorities (CAs) and market operators (MOs) including investment firms operating an MTF, OTF or a RM. The cost-benefit analysis section covers the benefits and costs associated with the proposals set out in the final draft RTS.

### **2. Introduction**

Articles 32(1) and 52(1), both of MiFID II empower respectively an investment firm or an MO to suspend or remove from trading financial instruments which no longer comply with the rules of the trading venue, unless such a step would be likely to cause significant damage to investors' interests or the orderly functioning of the market. Articles 32(2) and 52(2) also require that an investment firm or a market operator that suspends or removes from trading a financial instrument also suspends or removes from trading the derivatives that relate or are referenced to that financial instrument where necessary to support the objectives of the suspension or removal of the underlying financial instrument".

According to Articles 32(2) and 52(2) of MiFID II the CA in whose jurisdiction the suspension or removal originated has to decide whether it is necessary to expand the suspension or removal if one of the three reasons for doing so exists: suspected market abuse, a take-over bid or the non-disclosure of inside information about the issuer or financial instrument in breach of Articles 7 and 17 of MAR.

ESMA is asked in the eight subparagraphs of Articles 32(2) and 52(2) of MiFID II to specify the situations where an investment firm or a MO operating a MTF, OTF or regulated market

should remove or suspend a derivative when their underlying is suspended or removed from trading.

### 3. **Baseline**

The relevant legal text is MiFID II (Articles 32 and 52) which covers suspension and removal of financial instruments from trading on an MTF, OTF or regulated market. This regime is without prejudice to the power of CAs to initiate a suspension or removal from trading at their own initiative under Article 69(2)(m) and (n) of MiFID II. The impact assessment of such policy decisions covering the general aspects of the Directive has been already performed and published by the Commission as part of their impact assessment of MiFID II.

In order to ensure that the obligation to suspend or remove from trading such derivatives is applied proportionately, ESMA has been empowered to implement this Level 1 rule by developing draft RTS (Level 2 measures). The mandates are to specify the cases in which the connection between a derivative relating or referenced to a financial instrument suspended or removed from trading and the original financial instrument implies that the derivative is also to be suspended or removed from trading in order to achieve the objective of the suspension or removal of the underlying financial instrument.

No current Level 2 rules are set at European level to specify the cases in which derivatives should also be suspended from trading, therefore the baseline for this CBA are MiFID Articles 32 and 52.

### 4. **Stakeholders**

Three types of stakeholders are to be impacted by the provisions in the draft RTS. Investment firms, CAs and MOs.

*Investment firms* may be affected where (i) trading in derivatives being suspended or removed from trading, (ii) acting as systematic internalisers and (iii) operating an MTF or an OTF.

CAs may be affected regarding the request and monitoring of the suspension or removal obligation, and their related notification obligations.

MOs will be impacted as they will need to implement and comply with the obligation of trading suspension or removal. This provision also falls within the fair and orderly trading obligations of trading venues which apply even in cases where a trading venue is not required to suspend a derivative since the trading venue is subject to an overarching responsibility to consider whether it is offering particular contracts that can continue to trade in an orderly way.

### 5. **Cost-Benefit Analysis**

ESMA considered in its DP/CP two main aspects: the connection between the derivative and the relevant financial instrument and the objective for which the financial instrument is

suspended or removed (suspected market abuse, a take-over bid or non-disclosure of inside information), and concluded that the reason for suspension should not be taken into consideration.

Another issue was to consider whether the extension of the suspension obligation should apply just to derivatives with one single underlying or also those relating to baskets or indexes. In the case of the latter, there was also a question of whether that was feasible and how that extension could or should be applied. The inability to correctly price related derivatives, leading to a disorderly market, would be strongest for the cases where a derivative has as its sole underlying a financial instrument that is suspended or removed from trading and where the price or value of the related derivative is therefore completely dependent on the prevailing price or value of that financial instrument. When the underlying is a basket of financial instruments or an index of which the suspended financial instrument is only one part, the ability of market participants to determine the correct price would be diminished, at least to some extent.

After reviewing the responses received to the DP and CP as well as views from CAs and other stakeholders, ESMA is proposing to limit the extension of the trading suspension to derivatives with only one underlying.

*Suspension of derivatives when related to only one financial instrument*

<b>Policy Objective</b>	To support fairly and orderly trading markets, ensuring that the behaviour that a suspension is designed to prevent cannot simply transfer to a related market of financial instrument.
<b>Technical Proposal</b>	To suspend or remove from trading derivatives that are related or referenced to only one financial instrument that is suspended or removed from trading. See Article 1 of RTS 18 for more details.
<i>Benefits</i>	<p>Ensure that the behaviour that a suspension is designed to prevent cannot simply transfer to a related market or financial instrument as all derivatives related to the underlying are affected by the suspension and captured by the draft RTS, including warrants, dividend futures or CDS.</p> <p>Support fairly and orderly trading markets, limit market abuse or use of insider information through derivatives.</p> <p>Ease of implementation, as derivatives which have more than one underlying (baskets or indexes) are excluded from the suspension or removal obligation. Those derivatives present significant challenges to feasibly determine the best way to extend the suspension of the trading obligation to them.</p> <p>Limited potential indirect unintended effects.</p>

<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs and ESMA will have to have systems in place to determine which derivatives are connected to which financial instruments to request and monitor suspension or removal from trading for those derivatives affected. This information may need to be communicated to other CAs as well. However, we do not expect significant incremental costs as it should be already regular practice and SARIS (the ESMA managed Suspension and Removal information System) allows the identification of the related derivatives. Furthermore, it should be noted that this obligation arises from Level 1 legislation and not from the provisions of this draft RTS.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Compliance costs would arise for trading venues to establish systems and controls to be able to suspend those derivatives linked to financial instruments removed or suspended from trading, and to shift to trading again if necessary, in case those systems and controls do not already exist. They would need as well as to notify their CA, however, we do not expect significant incremental compliance costs as it should already be market practice.</p>
<p><i>Costs to other stakeholders</i></p>	
<p><i>Indirect costs</i></p>	<p>Access to trading in a derivative instrument related to only one underlying will not be available when the underlying is suspended or removed from trading.</p> <p>Any indirect effects that could be identified would be already caused by MiFID II (Level 1 legislation) as opposed to ESMA's specifications of the cases in which suspension has to occur for derivatives contracts.</p> <p>Market abuse could still be possible in some cases. Some derivative contracts in which one underlying has a significant weight will not be suspended when that underlying is suspended from trading.</p> <p>Therefore, it would still be possible to buy or sell the derivative, and to profit from abnormal market conditions. However, this effect should be mitigated by CAs still being able to suspend a particular derivative from trading in their own jurisdictions if they think it is appropriate to do so, even though that derivative may be connected to more than one underlying.</p>

## 5.3. Description of the functioning of MTFs and OTFs

### 1. Executive Summary

The purpose of the draft ITS is to determine the content and format of the detailed description of the functioning of an MTF or OTF that market operators of those venues have to provide to their competent authorities (CAs).

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the final draft ITS, which aims at establishing the specific information to provide by MTFs and OTFs to CAs and ESMA. The baseline section explains the starting point for assessing the incremental rule related to final draft ITS, which can be either the MiFID II authorisation requirements for MTF and OTFs, the existing authorisation practices of CAs when are above what is required by MiFID II, or any other requirements for MTFs and OTFs established by Level 1 provisions. The stakeholders identified are market operators and investment firms operating MTFs or OTFs and ESMA/CAs. The cost-benefit analysis section presents an analysis of the benefits and costs associated with the proposals made in the draft ITS.

### 2. Introduction

Article 18(10) of MiFID II requires investment firms and market operators running an MTF or an OTF to provide a detailed description of the functioning of the trading venue to their CA, including any links to or participation by a regulated market, an MTF, an OTF or a systematic internaliser owned by the same investment firm or market operator, and a list of their members and users.

This information should build upon the information an investment firm or market operator is required to provide as part of the general authorisation requirements under MiFID II.

### 3. Baseline

The relevant legal texts to consider are the authorisation requirements for investment firms established both in MiFID I and MiFID II. Article 5 of MiFID II establishes the requirements for authorisation and also that Member States should authorise any market operator to operate an MTF or an OTF subject to the prior verification of their compliance with MiFID II Chapter I: Conditions and procedures for authorisation. Article 5 also establishes that Member States should register all investment firms and that ESMA has to establish a list of all investment firms in the Union. There are also other provisions throughout MiFID II and MiFIR that make reference to the information that MTFs and OTFs have to collect, store and publish. The draft ITS establishes the content and format of the detailed description of the functioning of an MTF or OTF that market operators of those venues have to provide to their competent authorities (CAs), which in most cases should already exist within the MTF.



In terms of incremental obligations arising from the draft ITS, MiFID II has been considered as the baseline for OTFs. For MTFs, MiFID II is considered as baseline as well, unless CAs have in place stricter authorisation requirements for MTFs in their local jurisdictions.

The incremental costs arising for MTFs, SME growth markets and OTFs should be similar. In the case of MTFs, both new and already in existence, CAs can make use of their supervisory powers to request the information needed to assess compliance with MiFID II and MiFIR rules, therefore the expected incremental costs should be driven by Level 1 provisions and not by the draft ITS. Those venues that would like to become SME growth markets are expected to provide some additional information, however the incremental costs from that additional information should be driven by Level 1 provisions and not by the draft ITS. OTFs will have to provide the information requested on the draft ITS for their initial authorisation, which should already be contained in their business plan. Therefore no significant incremental costs overall arising from the provisions contained in the final draft ITS are anticipated.

#### 4. Stakeholders

Two types of stakeholders are relevant for this standard: market operators and investment firms operating an MTF or OTF and ESMA/ CAs.

Market operators/investment firms may incur costs related to putting a package together that compiles all relevant information of the MTF or OTF in one place (similar to a business plan). As the information requested should either exist already in the firm or be requested by MiFIR or MiFID II, we estimate the costs arising from the final draft ITS to be non-significant.

CAs may be affected regarding authorisation and registration of new MTFs and OTFs, as well as their supervision activities to verify compliance of existing venues with MiFID II and MiFIR obligations. They may need to upgrade as well the information requested to MTFs in their authorisation process. The extent of the incremental obligations, and related costs, will be driven by what CAs currently request and the market practice of existing MTFs and OTFs in relation to the requirements of the final draft ITS.

#### 5. Cost-Benefit Analysis

We summarise below a description of the costs and benefits arising from the final draft ITS.

##### 5.1. Information to be provided on MTFs and OTFs

<b>Policy Objective</b>	Contribute to efficient and orderly markets by making sure CAs have access to key information on MTFs and OTFs, and that ESMA has access to the information needed to publish the list of MTFs and OTFs in the Union.
<b>Technical proposal</b>	A relevant operator of MTFs or OTF should provide its CA with the information contained in Article 2(1) of ITS 19, as well as a detailed

	<p>description of the functioning of its trading system (see Article 2(2) of ITS 19 for more details). Article 3 establishes the additional information to be provided by MTFs related to the requirements of Article 19(3) of MiFID II. Article 4 covers the information to be provided by MTFs already in operation. Article 5 covers the additional information for registration as an SME growth market. Article 6 covers the additional information to be provided on OTFs. Article 7 establishes that when an operator applies different rules to different asset classes, it has to provide the information required for each of the asset classes separately. Article 8 covers what information to provide in case of material changes. Article 9 contains the format for providing the description required by this draft RTS. Article 10 refers to the notification that CAs should make to ESMA regarding the authorisation of an MTF or OTF.</p>
<p><i>Benefits</i></p>	<p>The exhaustive list of information established in the final draft ITS provide further clarity and certainty regarding the obligations that MTFs and OTFs are subject to.</p> <p>Facilitates the collection of information by ESMA to publish the list of MTFs and OTFs in the Union.</p> <p>Certain requirements only apply to a particular business which reduces the costs initially mentioned by the industry. For instance, as the information to be provided should be differentiated only when the functionalities or arrangements of an MTF or OTF are differentiated by asset class, it should reduce some of the cost and complexity concerns identified by some respondents.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>The costs for different CAs may differ based on their current authorisation requirements for MTFs and OTFs. For some CAs already requiring all the information mandated by the final draft ITS and in a similar format, incremental costs should be non-significant. For some others, it may imply adapting their systems and procedures to receive electronic information. Finally, it could be that for some CAs the final draft ITS requires a complete change of their authorisation procedures for MTFs and OTFs, and their registration procedures. However, since the responses received from CAs to ESMA's Cost Benefit survey did not indicate any significant costs arising from this draft ITS, the notification to ESMA should therefore entail minimal costs.</p> <p>The costs incurred by ESMA to publish the list of MTFs and OTFs should be attributed to Level 1 legislation and not to the final draft ITS.</p>

<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Most of the information requested in the final draft ITS is already required in MiFID/MiFIR provisions, therefore most of the costs should be attributed to Level 1 provisions.</p> <p>Compliance costs for MTFs and OTFs arising specifically from the final draft ITS should be minimal, as the information should be available across the organisation or already provided to regulators. There could be some marginal staff costs related to pulling all the required information together and submitting it to regulators.</p> <p>There may be marginal increased staff costs for those submitting new applications of OTFs and MTFs. The extent of the incremental costs will depend on how the new requirements compare to what CAs currently require in their authorisation and registration process. However, most of the costs should be attributed to Level 1.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

## **6. COMMODITY DERIVATIVES**

### **6.1. Criteria for establishing when an activity is considered to be ancillary to the main business**

#### **Ancillary activity (Article 2(1)(j) of MiFID II)**

##### **1. Executive Summary**

Compared to MiFID I, MiFID II establishes a more narrow exemption from authorisation as investment firms for persons dealing on own account in commodity derivatives or emission allowances or derivatives thereof, or providing investment services other than dealing on own account, in commodity derivatives or emission allowances or derivatives thereof to the customers of their main business. Amongst other things, this activity has to be ancillary to the main business. The purpose of the final draft RTS is to further specify the tests to be conducted for establishing when an activity is to be considered as ancillary to the main business at group level.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The stakeholders identified are firms not currently authorised under MiFID or the Banking Directive (non-financial firms) which trade in commodity derivatives, emission allowances and derivatives on emission allowances (“commodity derivatives” thereafter) , and competent authorities (CAs). Given the complexity of this CBA, the cost benefit analysis section contains subsections on compliance costs, market effects and data analysis.

##### **2. Introduction**

The exemptions provided for by MiFID (Directive 2004/39/EC) in respect of commodity derivative trading led some significant market participants to operate in commodity derivatives markets without being authorised as investment firms. In line with the statement of the G20 finance ministers and central bank governors of 15 April 2011 that participants on commodity derivatives markets should be subject to appropriate regulation and supervision, MiFID II restricts the scope of the MiFID exemptions. The aim is to achieve a more level playing field across market participants, to ensure that clients of persons active in commodity derivatives markets are adequately protected and that those persons are not a source of systemic risk. As opposed to MiFID, MiFID II also sets out criteria for assessing when commodity derivative trading is to be considered as ancillary to the main business of a person. To ensure an even more harmonised implementation and enforcement of the exemption from authorisation, the final draft RTS further specifies the tests to be conducted for defining what is considered an ancillary activity.

##### **3. Baseline**

Article 2(1)(i) of MiFID exempts persons dealing on own account in financial instruments, or providing investment services, in commodity derivatives to clients, provided this is an

ancillary activity to their main business on a group basis and the main business is not the provision of investment services within the meaning of MiFID or banking services under Directive 2000/12/EC. However, MiFID does not provide any further clarification regarding how “ancillary activity” should be defined, measured and monitored.

Some significant changes are made to this exemption in Article 2(1)(j) of MiFID II. MiFID II both narrows the scope of the existing exemptions available to commodity firms and sets a more prescriptive approach to defining, measuring and monitoring what is considered to be “ancillary”.

Under Article 2(1)(j) of MiFID II, the Directive does not apply to “persons:

- i. dealing on own account, including market makers, in commodity derivatives or emission allowances or derivatives thereof, excluding persons who deal on own account when executing client orders; or
- ii. providing investment services, other than dealing on own account, in commodity derivatives or emission allowances or derivatives thereof to the customers or suppliers of their main business;

provided that:

- for each of those cases individually and on an aggregate basis this is ancillary to their main business, when considered on a group basis, and that main business is not the provision of investment services (...) or banking activities (...), or acting as a market maker in relation to commodity derivatives,
- those persons do not apply a high frequency algorithmic trading technique; and
- those persons notify annually the relevant competent authority that they make use of this exemption and upon request report to the competent authority the basis on which they consider that their activity (...) is ancillary to their main business.”

### *Empowerment/RTS*

Under Article 2(4) of MiFID II, ESMA is empowered to develop draft RTS to specify the criteria for establishing when an activity is to be considered ancillary to the main business at group level. Those criteria have to at least take into consideration the following elements:

- (a) the need for ancillary activities to constitute a minority of activities at a group level;
- (b) the size of the trading activity compared to the overall market trading activity in that asset class.

In determining the extent to which ancillary activities constitute a minority of activities at a group level ESMA may determine that the capital employed for carrying out the ancillary

activity relative to the capital employed for carrying out the main business is to be considered. However, that factor shall in no case be sufficient to demonstrate that the activity is ancillary to the main business of the group.

The activities have to be considered at group level and exclude intragroup transactions, risk reducing transactions and transaction entered into to fulfil obligations to provide liquidity on a trading venue.

Currently, market participants do not typically notify competent authorities of their use of this exemption or calculate the scale of their activities in specific instruments with regard to determining how much MiFID business they undertake compared to their main business. Therefore, as MiFID II Level 1 sets for the first time a detailed regime for this exemption, the baseline for this CBA is the Level 1 text which imposes criteria for the minimum two tests (Article 2(4) of MiFID II).

The additional obligation arising from the final draft RTS are the two tests, and their associated thresholds, to be performed by commodity firms on an annual basis for assessing whether they may continue to rely on the MiFID II exemption. However, the obligation to be authorised as an investment firm when failing the tests set out in the final draft RTS is established in Level 1. The costs associated with the incremental obligation will therefore be a combination of the effects of Level 1 and Level 2 provisions. As the Level 1 and the Level 2 effects will be very difficult to disentangle, indications of costs are to be considered as an upper bound.

#### 4. Stakeholders

Two categories of stakeholders will be mainly impacted by the final draft RTS:

*Firms currently not authorised under MiFID or the Banking Directive (non-financial firms) trading in commodity derivatives. Commodities firms currently exempted from MiFID authorisation*

Firms that currently benefit from the MiFID Articles 2(1)(i) or 2(1)(k) exemptions do not have to notify their CA. It is therefore not possible to assess the number of non-financial firms that may potentially be affected by the final draft RTS.

As a consequence of the draft RTS, those non-financial firms will need to put in place arrangements and procedures to gather, process and monitor data on their trading activity, as well as on overall market trading activity on a periodic basis, to perform the two tests at least once. The costs associated with the incremental obligation will therefore be a combination of the effects of Level 1 and Level 2 provisions.

Those stakeholders may also be indirectly affected should they amend their business model or their trading strategies to avoid being captured by the thresholds set out in the final draft RTS and ensure they can continue to operate under the MiFID II exemption. It is likely that

most of these indirect costs could be attributed to Level 1 legislation. See also Section 5.1.3 on market impact.

## CAs

CAs' supervisory practices on how to identify that an activity is "ancillary" to the main business of a person under Article 2(1)(i) of MiFID are currently not harmonised. CAs typically make a case-by-case assessment on whether the activity is related to the main business activity in a subordinated position, taking into account different factors for key areas of business (such as revenues, profits, employees, etc.). CAs may need to add to their supervisory role the assessment of the accuracy of the data and calculations supporting the notifications provided by non-financial firms in their jurisdiction. Conversely, some CAs may see additional firms seeking authorisation as investment firms for failing to pass one of the two tests. CAs may also consider ways to ensure that all non-financial firms active in commodity derivatives have either notified their reliance on the MiFID exemption or sought authorisation as an investment firm.

## 5. Cost-Benefit Analysis

### 5.1. Summary Cost-Benefit Analysis

The final draft RTS sets out two tests, and thresholds, for establishing when an activity is to be considered as ancillary to the main business;

- The market share test (and trading activity thresholds) that compares the level of a person's trading activity against the overall trading activity in the EU on an asset class basis; and
- A main business test (and thresholds), to determine the extent to which the persons within the group trade on own account or provide investments services in commodity derivatives to assess whether the ancillary activities constitute a minority of activities at group level.

The final draft RTS also clarifies that when a participant exceeds one of the two thresholds, it would be subject to MiFID II. This clarification is consistent with Article 2(4) of MiFIR under which the specification of when an activity is to be considered ancillary to the main business has necessarily to rely on two pillars, i.e., a) the relationship between the activities in question and the group's activities and b) the relationship between that trading activity and the overall market trading activity in that asset class. Being subject to MiFID II for exceeding just one threshold is in line with the intent of the Directive.

The final draft RTS also specifies the characteristics of the transactions that qualify as reducing risks, and do not count towards the trading activity as measured in the numerator in both tests. Finally, it clarifies the reference period for computing the two tests on an annual basis.

### 5.1.1. Trading activity thresholds.

The market share test compares the size of the firm’s trading activity to the size of the overall market trading activity in the EU on an asset class basis to determine the firm’s market share. The size of the trading activity undertaken by the person wishing to benefit from the ancillary activity exemption is determined on the basis of the trading activity undertaken in the Union at group level.

So that the size of the firm’s trading activity can be compared to the overall market trading activity, the final draft RTS defines each of the following elements:

- the commodity asset classes for which the test has to be performed;
- the calculation methodology, including the reference market,
- the threshold below which the trading activity is to be considered as ancillary to the main business at group level; and the calculation method.

#### i. Commodity asset classes

The market test has to be performed for eight asset classes: i) metals, ii) oil and oil products, iii) coal, iv) emission allowances, v) gas, vi) power, vii) agricultural products and viii) derivatives on other commodities including freight and commodities referred to in Section C10 of Annex I of MiFID II (“C10 asset class”).

<b>Policy Objective</b>	Ensuring that the market activity thresholds are calculated for relevant commodity asset classes.
Technical Proposal	The market share test is to be conducted separately for eight asset classes. See Article 2(1) of final draft RTS 20 for more details
<i>Benefits</i>	<p>The final draft RTS strikes a reasonable balance between fewer and larger asset classes that may not allow capturing firms with a significant market impact in one of the sub-classes and more granular asset classes that would raise supervisory and compliance costs for limited additional benefits.</p> <p>It takes into account the overall size of the different asset classes and therefore aims to ensure that only market participants of a reasonably significant size exceed the thresholds. It aids supervision by CAs by limiting the number of commodity markets for which CAs will need to supervise the trading activity in a more granular way.</p>
<i>Costs to regulator:</i>	None identified.



<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Costs will be incurred to gather and aggregate data on own trading across a group of entities and of overall trading volume for each of the eight asset classes, where the non-financial firm would not rely on the overall market data that ESMA intends to make available on a best effort basis.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified</p>
<p><i>Indirect costs</i></p>	<p>The size of an asset class, and concentration of trading in that asset class, may have an impact on the likelihood for commodity firms in that asset class to pass or fail the market share test. This concern is however addressed through specific thresholds for each asset class (see below).</p>

ii. Calculation methodology and reference market

The final draft RTS provides that, for each asset class, the size of the trading activity undertaken by a person should be calculated by aggregating at group level the gross notional value of all contracts in the relevant commodity asset class in the EU, excluding privileged transactions and excluding trading activity conducted by a MiFID authorised firm within the group. This trading activity is then to be compared to the overall EU trading in that same asset class (OTC and on-venue trading).

Recital (15) refers to Article 2(11) of the Accounting Directive 2013/34/EU for the definition and scope of a group, which comprises the parent undertaking and all its subsidiary undertakings and includes entities domiciled in the Union and in third countries regardless of whether the group is headquartered inside or outside the Union. This prevents putting groups that conduct a substantial part of their trading in EU commodity derivatives through entities located in the EU at a disadvantage, compared to groups where such trading would be for the most part conducted from third countries.

As regards the transactions excluded from the trading activity undertaken by the firm or the group in the EU, the list of privileged transactions is enshrined in Level 1. The final draft RTS just clarifies the scope of transactions reducing commercial risks and of treasury financing activity (See section 5.1.3 below for the CBA on risk reducing transactions)

The exclusion of trading activities conducted by a MiFID authorised firm within the group ensures that the test is neutral as to the structure of the group, i.e. whether or not it includes a MiFID authorised firm. As the purpose of the ancillary activity test is to assess the extent to

which a firm undertakes non-authorised MiFID activities compared to its overall business, it sounds logic and reasonable to exclude MiFID licensed activities from the scope of ancillary activity in the first place. Such exclusion is also a means of ensuring that the ancillary exemption achieves its full effect. If the MiFID authorised firms' activities were not excluded from the calculation, this entails that a group with a MiFID licensed firm would fail the test, and keep failing the test every year. The only way of breaking that circle would then be to require all trading on own account or the provision of investment services in respect of commodity derivatives to be conducted through that MiFID authorised firm. This would mean that no other entities within the group would be able to trade on own account or provide investment services in respect of commodity derivatives, even for a minimal amount, in an ancillary way. Such outcome would question the very purpose of the ancillary activity exemption and could prove costly in terms of reorganisation within groups.

<b>Policy Objective</b>	Ensuring a harmonised and meaningful calculation of the trading activity thresholds across all firms in the EU.
Technical Proposal	Calculation of the size of the trading activity undertaken by a person. See Article 2 of final draft RTS 20 for more details.
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability to firms on how to calculate their market share thresholds.</p> <p>It ensures a consistent implementation and level playing field across non-financial firms, irrespective of the Member State the person is based in.</p> <p>The limitation of the reference market to the EU will make the test easier and less costly to implement as data for global market trading activity may be either unreliable or missing.</p> <p>The exclusion of trading activity conducted by MiFID authorised firms ensures the test is neutral as to the structure of a group and that the MiFID exemption achieves its full effect.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs will incur on-going staff supervisory costs when checking compliance with the calculation methodology and when checking the data supporting the firm's notification of reliance on the exemption. We consider those supervisory costs to be driven by Level 1.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	Commodity firms will incur one-off staff and IT costs to compute their market share according to the test. On-going compliance costs may be incurred to perform those calculations on a periodic basis throughout the year to monitor where the firm's market share stands, rather than just once a year for notification purposes, as formally requested by Level 1.

	Those costs will vary according to the diversification of the business, i.e. the number of asset classes the firm is dealing in.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

### iii. Trading size thresholds

For each commodity asset class, the draft RTS sets out the maximum size of the firm's trading activity compared to the overall market trading activity, as defined above.

Taking into account the concerns expressed by respondents to the CP regarding the 0,5% trading size threshold initially suggested across asset classes, those thresholds have been substantially revised in the final draft RTS.

The threshold for each asset class is based on a combination of elements and considerations.

ESMA took into consideration that firms having a significant market share in a particular class of derivatives should not be allowed to benefit from the exemption as they should compete with other market participants on a level playing field. For each commodity class, consideration has also been given to the overall market size, which was assessed through the data provided by trading venues for ETDs and the data retrieved from Trade repositories for OTC data. The larger the asset class, the smaller the activity threshold has to be to capture market participants with already significant trading volume. However the asset class size criteria has been combined with a tentative assessment of trading characteristics in that asset class, including number of participants, trading activity level and concentration of trading. Fewer participants in a market supports higher trading size thresholds to ensure that trading in that asset class does not automatically entail mandatory trading of commodity derivatives and emission allowances through an authorised MiFID firm. In this way, the test that is primarily designed to look into the relative size of a particular firm also takes into consideration elements of its absolute size.

The thresholds included in the final draft RTS also take into account the responses received to the CBA questionnaire (See section 5.2.3 below). However, respondents provided limited information or no trading activity data at all for some asset classes. Given existing uncertainties about current market trading volumes of a vast number of non-financial firms, a cautious approach has prevailed.

More specifically, the high threshold (20%) set for emission allowances takes into consideration the currently low trading activity in the secondary market for emission allowances and their derivatives and the absence of a specific exemption in Level 1 for compliance buyers of emission allowances.

Similarly, the 15% threshold for the C10 asset class takes into consideration the small size of that asset class compared to the others. This rather high threshold also takes into account as well the fact that freight is by far the largest component in this asset class and that the freight rate market is deemed to have a limited number of participants (estimated range from 60 to 200) meaning that many market participants could by default have a significant market share.

<b>Policy Objective</b>	Ensuring that market participants trading in significant volume that can have a potential market impact at EU level cannot avail themselves of the commodity derivatives ancillary activity exemption.
Technical Proposal	Market test thresholds per commodity asset class. See Article 2 of final draft RTS 20 for more details.
<i>Benefits</i>	<p>Provides clarity, legal certainty and predictability to non-financial firms.</p> <p>Contributes to ensuring a level playing field across firms trading in the same asset class, wherever they are based in the EU.</p> <p>The trading activity thresholds take into account the characteristics of each asset class (size, number of participants, etc.).</p> <p>The thresholds combine elements of relative market share, which are of relevance to assess the potential impact of the firm on the market, and elements of its absolute trading size, which are of relevance in respect of level playing field considerations.</p> <p>Based on the limited available data, the final draft RTS takes a cautious approach to the thresholds set.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs will incur on-going staff and IT costs where they decide to check the data used by firms to perform the market share test. We consider those supervisory costs to be driven by Level 1.</p> <p>ESMA will incur on-going staff costs when trying to determine the EU market sizes per asset class.</p>
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>None identified in addition to the ones already identified above under calculation methodology.</p> <p>We consider that the costs arising from being authorised as a MiFID investment firm is a Level 1 cost.</p>

<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	The use of a fixed threshold may have an impact on market structure. Some firms, whose trading size is close to the thresholds, may decide to scale down or relocate their activities outside the EU to avoid the costs associated with being authorised as an investment firm. See also Section 5.2.2 on Market impact.

### 5.1.2. Main business thresholds.

MiFID II states that ancillary activities must constitute a minority of activities at group level. ESMA consulted in the CP on a proposal that was based on considering the ratio of the capital employed for carrying out the ancillary activity to the capital employed for carrying out the main business.

A CBA questionnaire was circulated to non-financial firms engaged in trading in commodity derivatives, emission allowances and derivatives to try to assess the number and characteristics of firms that might potentially be captured by the test “capital employed test”. As there is no set definition of capital, firms were invited to use accounting capital or other proxies such as initial collateral posted or value at risk. The responses received demonstrated that no more than a couple of firms were able to provide the data needed to perform the test in a consistent way, i.e. using either accounting capital or the same proxy for all the components. Comments indicated that the mandatory use of accounting capital or even the allocation of capital at this level of business would be a source of very significant costs whilst other proxies would not be of relevance either. See section 5.2.1 for more details on compliance costs and section 5.2.3 on data analysis on capital test.

In order to avoid the minority test being a source of very significant costs, including for firms that would ultimately continue to be eligible for the exemption, the final draft RTS develops an alternative approach. In order to assess whether the ancillary activity constitutes a minority of activities at group level, the main business test measures the size of “speculative” trading over total trading activity of the group, re-using for the most part parameters which have to be collected for the market share test already. The size of the total trading activity as used in this second test includes privileged transactions and transactions executed by authorised entities and is taken as a proxy for the commercial activity that the person or group conducts as its main business. This alternative test should therefore be a source of reduced compliance costs, whilst delivering more reliable and consistent outcomes than the former capital test.

The main business test could however inadvertently capture firms with a high proportion of trading which is neither privileged nor executed in an authorised entity of the group but nevertheless have a low level of trading activity in total compared to their physical business and other investments in fixed assets unrelated to derivative markets. A corrective has therefore been introduced to assess whether this trading activity undertaken by the group

exceeds a certain percentage of any of the thresholds set under the first test for the relevant asset class. This may slightly increase the complexity of the test but will reduce overall compliance cost as a smaller number of non-financial entities are expected to be captured by that single test.

A ratio of below 10% is considered to be truly ancillary and any entity will be deemed to have passed the test without any further assessment. Those entities arriving at a ratio of 10 to 50%, i.e. where the speculative trading is significant but still in the minority, will be assessed under the second limb described above but they will benefit from a higher threshold than the one applied to entities where the speculative part of trading exceeds 50%.

<b>Policy Objective</b>	Capturing non-financial firms dealing in commodity derivatives for non-hedging purposes in a disproportionate manner compared with the level of investment in the main business.
Technical Proposal	Methodology and thresholds for the main business test. See Article 3 of draft RTS 20 for more details.
<i>Benefits</i>	<p>The final draft RTS provides clarity, legal certainty and predictability to non-financial firms as to how the main business test is to be performed. It contributes to ensure a level playing field across firms trading in the same asset classes, wherever they are based in the EU.</p> <p>The calculation of the main business threshold will be easy and will entail limited compliance costs as firms will be using the same data for the numerator as for the market share test. Overall trading activity at group level in the EU, without any deduction, is a data that is expected to be readily available.</p> <p>The size of the trading activity, including privileged transactions and transactions executed by authorised firms appears as a cost efficient proxy for the commercial activity that a person or a group conducts as its main business.</p> <p>The two limbs of the test (“speculative” activity combined with market share) contribute to ensuring that the test does not capture very small firms with significant non hedging activities but limited market share for which the costs associated with the authorisation as a MiFID investment firm would not be justified by benefits in respect of market integrity or level playing field.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs will incur on-going staff and IT costs where they decide to check the data used by firms to perform the market share test. We consider those supervisory costs to be driven by Level 1.

<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>None identified in addition to the ones already identified above under calculation methodology for the Market share test.</p> <p>We consider that the costs arising from being authorised as a MiFID investment firm is a Level 1 cost.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>The use of a fixed threshold may have an impact on market structure. Some firms, whose trading size is close to the thresholds, may decide to scale down or relocate their activities outside the EU to avoid the costs associated with being authorised as an investment firm. See also Section 5.2.2 on market impact.</p>

### 5.1.3. Transactions qualifying as reducing risks

Under Article 2(1) of MiFID II, intra- group transactions, transactions in derivatives that are objectively measurable as reducing risk directly related to the commercial activity or treasury financing activity (“risk reducing transactions”) and transactions entered into to fulfil liquidity provision obligations on a trading venue are not to be taken into account.

The final draft RTS specifies the scope of transactions qualifying as reducing risks. It refers to Article 10 of Regulation EU No 149/2013 on criteria for establishing which OTC derivative contracts are objectively reducing risks, whilst extending the scope to exchange traded derivatives (ETD). The final draft RTS however also further clarifies the conditions to be met for a transaction to qualify as a “risk reducing transaction” where the non-financial firm uses proxy hedging through closely correlated instruments or macro or portfolio hedging that may not enable entities to establish a one-to-one link between a specific transaction in a commodity derivative and a specific risk directly related to the commercial and treasury financing activities entered into to hedge it. The conditions set out are designed to replicate the criteria provided in ESMA Q&A on that same Article 10.

Non-financial firms which currently make use of the EMIR clearing threshold exemption will have to compute risk reducing transactions again and include ETD transactions to perform the ancillary activity tests but those costs are driven by Level 1.

<p><b>Policy Objective</b></p>	<p>Avoid an increase in costs for transactions that are necessary to ensure a proper hedging of commercial and treasury financing activities for non-financial firms.</p>
<p>Technical Proposal</p>	<p>The draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Transactions qualifying as reducing risks directly related to commercial activities. See Article 5 of draft RTS 20 for more details.</li> </ul>

<p><i>Benefits</i></p>	<p>The final draft RTS provides more clarity, legal certainty and predictability as to the scope of transactions objectively mitigating risks relating to commercial or treasury financing activity, to be excluded from the two ancillary activity tests.</p> <p>It ensures a broad coverage of risk-reducing transactions, including when the financial entity uses proxy, portfolio or macro-hedging, reflecting the wide range and variety of risks directly related to commercial and treasury financing activities across different economic sectors.</p> <p>It contributes to limiting a potential cost increase for transactions that are necessary to ensure a proper hedging of commercial and treasury financing activities.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs will need to put in place procedures to evaluate whether the data provided together with the annual notification of the exemption is in line with the criteria set out in the draft RTS.</p> <p>ESMA considers those costs to be Level 1 costs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Firms will incur one-off staff and IT costs for setting up calculation, and validation procedures of privileged transactions, including risk-reducing transactions, and on-going costs to run those calculations on a periodic basis.</p> <p>For non-financial firms that are using the EMIR exemption, costs may be substantially lower as they already have to identify risk-reducing transactions in respect of their OTC contracts. They would nonetheless still need to amend existing procedures to capture on ETDs.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

#### 5.1.4. Reference period

MiFID II requires non-financial firms to notify annually the relevant CA that they make use of the ancillary activity exemption. The final draft RTS focuses on the reference period for the calculations that firms must undertake to determine whether they can use the exemption or not and provides that the annual calculations of the market test and of the main business test are to be based on the simple average of three years considered on a rolling-basis.



<b>Policy Objective</b>	Define a suitable reference period for the calculations firms must undertake to determine whether they can use the exemption or not on an ongoing basis.
Technical Proposal	Reference period for annual calculations. See Article 4 of draft RTS 20 for more details.
<i>Benefits</i>	The draft RTS smoothens the impact of exceptional events on a standard annual seasonal cycle.  It will avoid non-financial firms being captured due to short term fluctuations in trading patterns and activity.
<i>Costs to regulator:</i>  - One-off  - On-going	Marginal supervision costs for CAs to verify that the firm has used a 3 year rolling average of data.
<i>Compliance costs:</i>  - One-off  - On-going	There will be low on-going IT costs for non-financial firms to store data on three year rolling basis.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

## 5.2. Compliance costs and market effects

ESMA has tried to identify the benefits and costs associated with the different RTS proposals to the extent possible within the available timeframe.

Two different questionnaires regarding the tests to be performed for determining whether a non-financial firm under the ancillary activity exemption were sent in March 2015: one targeted to trading venues and one targeted to investment firms.

The questionnaire sent to trading venues aimed at collecting data in order to allow ESMA to estimate the overall EU trading activity, on-venue and OTC, for each commodity derivative class outlined in the draft RTS and to help in calibrating thresholds for the market share test.

The questionnaire sent to investment firms (persons or groups) aimed at gathering information on the compliance costs involved, the drivers for those costs, as well as any other effects that may be experienced by a particular firm or the industry overall as a direct

consequence of ESMA's RTS, or ESMA's incremental obligation. Additionally, ESMA asked those stakeholders to provide data on their trading activity as well data related to the calculation of the capital test, which has since then been replaced with the main business test in the final draft RTS.

### **5.2.1. Compliance costs**

#### *Compliance costs*

This section analyses the costs arising from complying with the draft RTS published in December 2014. The costs gathered were based on the version of the draft RTS published in the CP, according to which investments firms had to compute a capital and market share tests, in order to determine whether the activity is ancillary to the main business. The compliance costs arising from the final draft RTS will be lower than those indicated by firms as the calculation of the main business test will be far less costly for the relevant stakeholders than the capital test.

Respondents to the Questionnaire are firms active in commodity trading. Most of the respondents are active in the oil sector, followed by the energy sector (both gas and power), emission allowances, coal and agricultural sectors. The sample is composed of 13 large firms (more than 1000 employees), 1 medium-large firm (number of employees ranging from 251-1000) and 5 medium firms (from 50 to 250 employees).

Similar compliance costs were provided for the Capital test and the Market share test. It is unclear whether those costs are to be added or whether respondents actually filled in the two tables with the same figures based on their estimate of compliance costs for computing the two tests. Given the very wide spectrum of compliance costs provided, respondents may have gone either way. The range of costs provided varies significantly according to the size of the firm. Medium size firms expected compliance costs to range from less than EUR 50k to 1m, mainly related to IT and recruitment of new staff. Large firms reported total one-off and recurring costs up to EUR 5m.

Respondents reported that an important source of costs would be related to adapting their IT systems, in particular for the capital test. Respondents claimed that they would have had difficulties to compute the capital test, since their accounting systems do not allow to allocate ordinary share capital to individual trading strategies and to individual transactions. Large firms stressed they would need expert legal counsel and expert consulting assistance to verify that all calculations and submissions were done according to an independent assessment of the draft RTS; these legal costs have been estimated between EUR 50k and 250k.

Both sources of costs will be lower under the final draft RTS as, in the main business test, the data to be used in the numerator is identical to the one used for the market share test. Overall commodity trading at group level should be readily available as well for the denominator.

<b>CAPITAL EMPLOYED TEST</b>		<b>Number of employees</b>			
<b>Source of Costs</b>	<b>Type of cost</b>	<b>[1-50]</b>	<b>[51-250]</b>	<b>[251-1000]</b>	<b>&gt;1000</b>
IT	One-off	N/A	<50k-250k [3] 1m-5m [1]	>10m [1]	50k-5m [10]
	On-going	N/A	<50k-250k [4]	1m-5m [1]	<50k-1m [10]
Staff	One-off	N/A	<50k-250k [3]	5m-10m [1]	<50k-1m [9]
	On-going	N/A	<50k-250k [4]	1m-5m [1]	<50k-1m [9]
Training	One-off	N/A	<50 [3]	N/A	<50k-1m [4]
	On-going	N/A	<50 [3]	N/A	<50k-1m [4]
Legal*	One-off	N/A	N/A	N/A	50k-250k [3]
	On-going	N/A	N/A	N/A	<50k-250k [3]
Other Costs**	One-off	N/A	<50	N/A	<50k-250k [4] >10m [1]**
	On-going	N/A	<50	N/A	<50k-250k [4] >10m [1]**

\* Other costs include: Finance function, auditing, operation, accounting, change in business model

\*\* This cost relates to a change in business model

<b>MARKET SHARE TEST</b>		<b>Number of employees</b>			
<b>Source of Costs</b>	<b>Type of cost</b>	<b>[1-50]</b>	<b>[51-250]</b>	<b>[251-1000]</b>	<b>&gt;1000</b>
IT	One-off	N/A	<50k-250k [3] 1m-5m [1]	>10m [1]	<50k-5m [11]
	On-going	N/A	<50k [3] 250k-1m [1]	1m-5m [1]	<50k-1m [11]
Staff	One-off	N/A	<50k-250k [3]	5m-10m [1]	<50k-1m [9]
	On-going	N/A	<50k-250k [4]	1m-5m [1]	<50k-1m [10]
Training	One-off	N/A	<50k [2]	N/A	<50k-1m [5]

	On-going	N/A	<50k [2]	N/A	<50k-1m [5]
Legal	One-off	N/A	N/A	N/A	<50-250k [3]
	On-going	N/A	N/A	N/A	<50-250k [3]
Other Costs**	One-off	N/A	<50k [1]	N/A	<50k-250k [3] >10m [1]**
	On-going	N/A	<50k [1]	N/A	<50k-250k [3] >10m [1]**

Note: Costs presented in EUR; the number of firms that replied to the CBA questionnaire reported in brackets.

\* Other costs include: Finance function, auditing, operation, accounting, change in business model.

\*\* This cost relates to a change in business model

### 5.2.2. Market impact

Respondents to the Questionnaire were asked to provide input on the potential impact of the draft RTS on criteria for establishing when an activity is to be considered to be ancillary to the main business on market structure, market quality and end-users. However, the 23 responses<sup>66</sup> provided generally discussed the impact of entities active in commodity markets becoming an investment firm, which can be seen as a combined effect of the Level 1 provisions and of the Level 2 measures. Unsurprisingly, respondents saw little benefits in the new regulatory framework.

According to the responses received, the higher compliance costs associated with being authorised as an investment firm would result in firms shifting trading whenever possible outside of the EU or reorganising their business to avoid being captured by MiFID II. Small and medium sized firms may be forced to exit the market or will have to rely on larger firms for trading, which will increase the pricing power of the latter. If the new framework were to lead to lower overall EU trading volume, hence a lower denominator, an increasing number of market participants would then automatically be captured by the market share test. For fear of being captured by MiFID II, some firms may reduce trading volumes to just hedging, and shift to hedging using physical non-financial instruments, with less flexibility and higher counterparty risks.

Changes in market behaviour and trading patterns would in turn affect the variety of products offered and the ability of market participants to provide hedging of non-standard risks. Less participation in some of these markets may impact liquidity. Some respondents active in the oil market considered that the unclear definition of risk reducing/hedging transactions will lead to reduce delta hedging and proxy hedging as well as impact the level of supply contract customisation. The positive side of it is that the simplification of existing business models and

<sup>66</sup> 17 large firms, 1 medium large firm, 5 medium firms

the move towards spot markets will reduce costs of futures trading systems and of front/middle office staff.

According to respondents, the overall impact is expected to be negative both for producers and end users, faced with higher costs and less choice or opportunities.

### **5.2.3. Data analysis**

#### *Market share test*

In order to calculate the value of the denominator for this test, ESMA had to aggregate volumes on on-exchange and OTC commodity derivatives. This was achieved by collecting data from trading venues (on-venue) and retrieving data from trade repositories (OTC).

12 trading venues responded to the questionnaire circulated and provided data on on-venue trading volumes in the commodity asset classes identified in the draft RTS, except for metals, from 01/06/2013 to 31/05/2014. To assess OTC trading in the relevant commodity asset classes, ESMA used TR data. Since there were improvements in data quality from the beginning of the reporting system in 2014 to the beginning of 2015, instead of using the same timeframe requested to trading venues to collect on-venue data, ESMA used TR data for the period January-February 2015. However, data required cleaning and the exclusion of outliers. This cleaned two months sample was multiplied by six to obtain an estimate of annual volumes of OTC trading. The OTC trading volume estimated as such has then been added to the on-venue data provided by trading venues to form the basis of overall EU trading in each of the relevant commodity asset class.

18 persons active in commodity markets responded to the questionnaire in relation to their trading activity and provided the gross notional value of contracts traded and/or the number of contracts traded over the same period (01/06/2013 to 31/05/2014), excluding privileged transactions .

The data was gathered from a sample of non-financial firms active in metals, oil and oil products, coal, gas, power, agricultural products, emission allowances and derivatives on emission allowances and other commodities (freight). A number of firms were active across all energy asset classes. It should be noted that those respondents did not include some of the largest players in some asset classes.

The information gathered enabled ESMA to calculate the market share test ratios for the respondents to the questionnaire, and was used to inform the market share thresholds set out in the final draft RTS:

The range of market share ratios provided based on gross notional value of contracts, per asset class, was the following:

	Metals	Oil and oil products	Coal	Gas	Power	Agricultural products	Other commodities	Emission allowances and their derivatives
Min	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Max Range	<1%	3%-5%	13%-15%	3%-5%	13%-15%	3%-5%	3%-5%	7%-9%

The data gathered helped inform the market share thresholds set out in the final draft RTS.

### Capital test

In order to better calibrate the former Capital test, the questionnaire circulated asked stakeholders to provide quantitative information on:

- Total capital employed by group for investment services/activities in relation to commodity derivatives, emission allowances and derivatives thereof in the EU;
- Total capital employed in respect of intra-group transactions in the EU - Art.2(4)(a) of MiFID II;
- Total capital employed for transactions in derivatives which are objectively measurable as reducing risks directly relating to the commercial activity or treasury financing activity in the EU - Art.2(4)(b) of MiFID II;
- Total capital employed for transactions in commodity derivatives and emission allowances to fulfil liquidity obligations in the EU as required by regulatory authorities, EU law, national law or trading venues - Art.2(4)(c) MiFID II;
- Total capital employed for the main business of the group world-wide.

Where respondents would be unable to provide the above requested information, they were asked to use proxies such as:

- The fair value considering the net position of all financial deals;
- The amount of collateral posted with CCPs and other counterparties as initial margin when trading commodity derivatives;
- Other proxy chosen by the respondent.

17 respondents provided at least some data but only a few provided consistent data that would have allowed for an estimate of the capital test ratios. A large number of respondents stressed that they had difficulties in calculating the capital employed as the Accounting Directive was not always applicable to them; they also mentioned that the Accounting Directive did not allow for disaggregation according to MiFID II classification of financial instruments or to differentiate between risk-reducing transactions versus non risk reducing

activities. They also noted that intra-group transactions are not identified as such in consolidated IFRS reporting.

When referring to proxies, respondents used fair value, collateral posted, nominal amount of MiFID II activities and Value at Risk (VaR) data. No proxy prevailed and none of the proxies was however used in a consistent way throughout the data provided by individual respondents.

In light of the above, and taking into account the major difficulties faced by respondents for the computation of the capital test as initially suggested, ESMA has moved to a more straightforward approach for the second test in the final draft RTS and has requested the main business test instead.

## **6.2. Methodology for the calculation and the application of position limits for commodity derivatives trading on trading venues and economically equivalent OTC contracts**

### **Position limits and position management controls (Article 57 of MiFID II)**

#### **1. Executive Summary**

The purpose of the proposed draft RTS is to determine a standard methodology for the calculation and application of position limits in order to establish a harmonised position limits regime across commodity derivatives traded on trading venues and economically equivalent OTC contracts (EEOTC). The aim is to prevent market abuse, support orderly pricing and ensure the convergence between prices of derivatives in the delivery month and spot prices for the underlying commodity.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the draft RTS, which defines the factors needed to calculate the position limits for commodity derivatives. The baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which can be either the MiFID requirement, or current market practice where it exceeds the MiFID requirements. The stakeholders identified are trading venues (Regulated Markets, MTFs and OTFs), investment firms, national competent authorities (CAs) and non-financial entities. The cost-benefit analysis presents the benefits and costs associated with the proposals set out in the draft RTS. This section contains sub-sections on data analysis, including the existing position limits regimes in the EU and changes to those, benefits, compliance costs and market effects and comparison with other international regimes. Annex A and B contain more details on existing position limits regimes.

#### **2. Introduction**

MiFID II introduces position limits on commodity derivatives with the aim of improving the stability and integrity of European financial markets. In order to establish a harmonised position limits regime across commodity derivatives traded on trading venues and their economically equivalent OTC ('EEOTC') contracts, ESMA must develop a final draft RTS providing the basis of the methodology for the calculation and application of position limits.

This final draft RTS provides the methodology that CAs will adopt in setting position limits on commodity derivatives, in order to prevent regulatory arbitrage and support consistency and orderly prices. Article 57(3) requires ESMA to specify how CAs should take into account seven factors (see below) when establishing the spot month position limits and other months' position limits for physically settled and cash settled commodity derivatives. Article 57(12) requires ESMA to determine how the position limits methodology should be applied, for example, in the aggregation of positions within a group, when a position may be qualified as reducing risk or when a firm may use a hedging exemption.



The final draft RTS takes into consideration the feedback received both to the CP and to the CBA questionnaire sent by ESMA, and tries to minimise the costs incurred by market participants as much as possible while respecting the ESMA empowerment established by the Level 1 legislation.

### 3. **Baseline**

There are no provisions requiring determining the methodology of the position limit calculation on commodity derivatives under MiFID I.

Article 57(1) of Directive 2014/65/EU states that Member States shall ensure that CAs, in line with ESMA's methodology, establish and apply position limits on the size of a net position which a person can hold at all times in commodity derivatives traded on trading venues and EEOCT contracts.

Therefore, for implementation purposes, Article 57(3) of MiFID II requires ESMA to specify how CAs should take into account the following seven factors when setting position limits:

1. The maturity of the commodity derivative contracts,
2. The deliverable supply in the underlying commodity,
3. The overall open interest in that contract and in other financial instruments with the same underlying commodity,
4. The volatility of the relevant markets, including substitute derivatives and the underlying commodity markets,
5. The number, and the size of the market participants,
6. The characteristics of the underlying commodity markets including patterns of production consumption and transportation to market,
7. The development of new contracts.

ESMA must also take into account experience regarding position limits of investment firms or market operators operating a trading venue and also the experience of other jurisdictions.

Article 57(1) states that position limits shall be set on the basis of all positions held by a person and those held on its behalf at an aggregate group level and that position limits shall not apply to positions held by or on behalf of non-financial entities which are objectively measurable as reducing risks directly relating to their commercial activity. Under Article 57(6), for those commodity derivative contracts classified as same contracts traded in significant volume on trading venues in more than one jurisdiction, the relevant CA of the trading venue where the largest volume takes place, shall set the single position limit to be applied on all trading in that contract. Hence, Article 57(12) of MiFID II requires ESMA to determine:

1. The criteria and methods to determine if a position qualifies as reducing risks relating to commercial activities.
2. The methods to determine when positions of a person are to be aggregated within a group.
3. The criteria for determining whether a contract is an EEOTC contract to that traded on a trading venue. The term “economically equivalent” has already been used in other parts of MiFID II, however ESMA is using a different definition for its draft RTS.
4. The definition of what constitutes the same commodity derivative and significant volumes under Article 57(6) of Directive 2014/65/EU.
5. The methodology for aggregating and netting EEOTC and on-venue commodity derivatives positions to establish the net position for purposes of assessing compliance with the limits. Such methodologies shall establish criteria to determine which positions may be netted against one another and shall not facilitate the build-up of positions in a manner inconsistent with the objectives set out in the Article 57(1) of Directive 2014/65/EU.
6. The procedure setting out how persons may apply for the exemption under the second subparagraph of 57(1) of Directive 2014/65/EU and how the relevant authority will approve such applications.
7. The method to determine the venue where the largest volume of trading in commodity derivatives takes place and to specify a definition of significant volumes used in the Article 57(6) of Directive 2014/65/EU.

While MiFID II establishes the position limits regime, and would be the natural baseline, in order to evaluate the implications of the RTS in practical terms, we have collected information on the current market practice of exchanges already having position limit regimes in place to use it as the baseline scenario for this RTS.

#### **4. Stakeholders**

The stakeholders identified are:

- Competent Authorities (CAs)
- Trading Venues (RMs, MTFs and OTFs)
- Investment firms
- Market participants who trade in commodity derivatives
- Non-financial entities

*Competent Authorities (CAs):* CAs must establish adequate position limits for each commodity derivative traded on an EU RM, MTF and OTF and the EEOTC contracts. Article 57(5) specifies that CAs will have to notify ESMA of the exact position limits they intend to set according to the methodology proposed in ESMA's final draft RTS in order for ESMA to provide its opinion. CAs shall modify the position limits depending on ESMA's opinion, or provide ESMA with a justification on why it is unnecessary to make the change.

MiFID II requires relevant CAs to apply, and supervise compliance with, the position limits regime for commodity derivatives and EEOTC contracts.

The relevant CA will determine when an OTC commodity derivative is economically equivalent to a derivative traded on a trading venue. The relevant CA and ESMA will publish a list of commodity derivatives contracts and the OTC commodity contracts that are economically equivalent to them for the purposes of position limits. CAs also will determine when a commodity derivative on a trading venue is the "same" as another commodity derivative contract traded on another trading venue in the European Union. In cases where it is the "same" commodity derivative, the relevant CA of the trading venue where the largest volume of trading takes place, shall set the single position limit to be applied on all trading in that contract.

CAs may need to provide adequate policy resources to set and revise the limits in the form of additional staff to help set the limits (although some of the resources may come from staff supervising trading venues). Resources will be required to review position limits and to supervise against the regime. Therefore they are likely to incur one-off and on-going costs for staff and IT related to the execution of calculations (baseline position limit, spot month position limit and other months' position limits), on-going staff costs for periodic review of the methodology used for the baseline position limit calculation and staff training costs.

*Trading Venues:* trading venues on which commodity derivatives are traded must implement position limits and will also play a role in providing information to the CAs in order for position limits to be calculated. This information may include: calculation of deliverable supply for the relevant commodity derivative and, sometimes, in the case they have information for EEOTC contracts, calculation of the volume of open interest of the relevant commodity derivative and the underlying derivative, etc.

Market operators operating a trading venue on which commodity derivatives are traded shall be subject to the positions limits regime. They will need to apply position limits and controls to make sure those limits are complied with. These controls may include the power for the trading venue to: monitor open interest positions; access information from persons about the size and purpose of a position or exposure entered into, the beneficial or underlying owners, any concert arrangements and any related assets or liabilities in the underlying market; require a person to terminate or reduce a position, on a temporary or permanent basis; and, where appropriate, require a person to provide liquidity back into the market. However, costs related to this should be attributable to MiFID II and not to this final draft RTS.

According to Articles 57(9) and 57(10), market operators will also have to inform the CA of the details of position management controls, which shall be transparent and non-discriminatory, specifying how they apply to persons and taking account of the nature and composition of market participants and of the use they make of the contracts submitting to trading. This will have an impact on the internal procedures of market operators dealing in commodity derivatives. These management controls will entail costs for the market operators in cases where they have to set up new procedures to monitor information. However, these potential costs should be a direct consequence of Level 1 provisions and not of this technical standard.

*Investment firms:* Investment firms that trade commodities derivatives on their own or for their clients are obligated to report on a daily basis to the relevant CA their positions and those of their clients. However, any costs that could arise for investment firms in producing these reports are attributable to the ITS on position reporting and not to this technical standard.

Those investment firms that operate a trading venue offering commodity derivatives will have to apply limits on the positions of their participants. These management controls shall include monitoring open interest positions; accessing information from persons about the size and purpose of a position or exposure entered into, the beneficial or underlying owners, any concert arrangements and any related assets or liabilities in the underlying market; requiring a person to terminate or reduce a position on a temporary or permanent basis; and, where appropriate, requiring a person to provide liquidity back into the market.

According to Articles 57(9) and 57(10), investment firms operating a trading venue will also have to inform the CA of the details of the position management controls in place, which shall be transparent and non-discriminatory, specifying how they apply to persons and taking account of the nature and composition of market participants and of the use they make of the contracts submitted to trading. Any compliance costs that may arise from management controls should be a direct consequence of Level 1 provisions and not of this technical standard.

*Non-financial entities:* Non-financial entities trading in on-venue commodity derivatives, emission allowances and emission derivatives or EEOTC contracts which are objectively measurable as reducing risk directly relating to their commercial activity should provide the relevant CA with sufficient information to prove that such activity is related to the commercial activity and how those positions reduce risks directly relating to that commercial activity. This will entail costs in cases where this information does not currently exist or is not provided for other requirements or purposes.

## **5. Cost benefit analysis**

### **5.1. Summary cost benefit analysis**

We provide below an analysis of the costs and benefits that could arise from the final draft RTS:

Aggregation and netting of positions, method of calculating positions for legal entities within a group

<b>Policy Objective</b>	Provide a common methodology across the EU to calculate the final net position of a person in commodity derivatives and to determine when a position should be aggregated within a group.
<b>Technical proposal</b>	A person's net position in a commodity derivative shall be the sum of its positions held in that commodity derivative traded on a venue, same commodity derivatives and EEOCT contracts. See Article 3 of RTS 21 for more details. Article 3 also covers netting and separation of spot and other months' contracts. How to aggregate positions for legal entities within a group is captured in Article 4 of RTS 21, including the treatment of collective investment undertakings.
<i>Benefits</i>	<p>Creates legal certainty by providing a standardised methodology to aggregate commodity derivatives positions and to further aggregate those within a group across the EU. Provides predictability and a way of aggregation that is manageable from an operational perspective.</p> <p>Addresses the particularities of collective investment undertakings which usually have different funds investing in commodities with no relationship with each other.</p> <p>Excludes hedging activity from position limits for the purposes of aggregation allowing the use of financial derivatives to cover risks directly related to commercial activity</p>
<i>Costs to regulator:</i>	CAs may incur minor on-going compliance costs for supervision and enforcement procedures related to verifying compliance with this draft RTS. Part of these costs may be shared with the Position Reporting ITS, which will indicate CAs which entities trade in commodity derivatives.
<i>Compliance costs:</i>	<p>Trading venues may incur compliance costs related to the supervision or refinement of the aggregation/netting rules they have in place to meet the draft RTS requirements.</p> <p>Entities trading in commodity derivatives may incur staff and IT compliance costs to aggregate positions the way determined by the draft RTS if different than current practice.</p> <p>In the case of groups, there will be IT and staffing costs from aggregating the positions of the different persons that constitute the group and also from ensuring compliance with the position limits</p>

	regime for the group overall and amongst its subsidiaries.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

*Positions qualifying as reducing risks directly related to commercial activities, economically equivalent OTC contracts (EEOTC), same commodity derivatives and significant volumes*

<b>Policy Objective</b>	<p>Provide clarity and certainty to determine when a commodity derivative contract may be considered as reducing risks directly relating to the commercial activity of a non-financial entity.</p> <p>Provide clarity and certainty to determine when a contract is considered EEOTC, the 'same' commodity derivative and when trading volumes are considered significant for this purpose</p>
<b>Technical proposal</b>	<p>A non-financial entity's position in commodity derivatives may be exempt from position limits where the position is objectively measurable as reducing risks directly relating to commercial activity when the position meets certain criteria. See Article 7 of RTS 21 for more details.</p> <p>EEOTC contracts are those meeting the specifications in Article 6 of RTS 21.</p> <p>Same commodity derivatives are those that meet the criteria established in Article 5(1) of RTS 21. Volume is considered significant if meets the criteria specified in Article 5(2). Article 5(3) establishes which trading venue is the one with the largest volume of trading in the same commodity derivative.</p>
<i>Benefits</i>	<p>Provides clarity and certainty on the criteria needed to determine when a position reduces risks directly related to commercial activities. Including this into internal policies avoids ad-hoc decisions on which types of derivatives are used to reduce risks directly related to commercial activity.</p> <p>It aligns with EMIR Q&amp;A.</p> <p>Includes cases in which macro and/or portfolio hedging can be considered as reducing risks, taking into account the feedback received.</p> <p>Provides clarity and certainty on when a contract is considered</p>

	<p>EEOTC, aligning that with market practice, which is expected to reduce costs of implementation. The narrow definition of EEOTC avoids potential circumvention of the RTS.</p> <p>Provides clarity and certainty on when volumes are considered significant for the purposes of the draft RTS and when a trading venue has the largest volume of trading on a particular commodity derivative.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur staff compliance costs as CAs will have to verify the information provided by non-financial entities to determine whether the position qualifies as reducing risks related to their commercial activity.</p> <p>There may be staff and IT compliance costs to determine which contracts are EEOTC and which venues have significant volumes or are the largest in trading volume in a commodity derivative.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Non-financial entities may incur one-off and on-going IT and staff costs related to flagging those transactions/positions in their trading operating systems and/or justifying that the measures adopted serve no other purpose than covering risks directly related to the commercial activities of the non-financial entity. They may incur as well staff costs related to re-assessing their activities periodically to ensure that the continued application of the exemption is justified.</p> <p>Trading venues may incur marginal costs to indicate whether a commodity contract traded on their venue is the same as another one traded on another venue, or which contracts are considered EEOTC.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>

Application for the exemption from position limits

<p><b>Policy Objective</b></p>	<p>Provide clarity and certainty on the procedure to apply for a position limits exemption.</p>
<p><b>Technical proposal</b></p>	<p>The draft RTS sets out the procedure for non-financial entities to apply for an exemption in cases where their positions qualify as reducing risks directly related to its commercial activities. See Article 8 of RTS 21 for more details.</p>

<p><i>Benefits</i></p>	<p>Provides clarity and certainty to non-financial entities on which information to submit to apply for an exemption.</p> <p>Non-financial entities can apply for confirmation of the exemption in advance or after entering into a position. Non-financial entities get a decision on the application in a specific timeframe specified by the draft RTS.</p> <p>Legal certainty provided to non-financial entities as the exemption is granted for positions that have the same underlying commodity, simplifying the operational procedures of non-financials as these entities are not subject to financial regulators continued oversight.</p> <p>Provides clarity and certainty to CAs about how to verify such applications.</p> <p>The information requested provides a concise overview to CAs of the commercial activities of the non-financial entity for a particular commodity, the associated risk and how commodity derivatives are utilised to mitigate those risks.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur one-off costs to set up IT systems and transmission mechanisms to receive notifications electronically and send the confirmation. They may incur as well on-going staff costs to assess the applications received and notify of its approval or rejection.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Non-financial entities that apply for an exemption may incur one-off IT costs to implement an IT system to send the application electronically and on-going staff costs to put the application together and notify the CA of significant changes when needed.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None identified.</p>
<p><i>Indirect costs</i></p>	<p>None identified.</p>



Methodology for CAs to calculate position limits, deliverable supply and open interest

<p><b>Policy Objective</b></p>	<p>Determine a harmonised methodology to calculate position limits that ensures a level playing field across the EU.</p>
<p><b>Technical proposal</b></p>	<p>This technical proposal sets out the methodology for CAs to compute the baseline figure for spot and other months' position limits for cash and physically settled contracts. See Articles 9-13 of draft RTS 21 for more details.</p>
<p><i>Benefits</i></p>	<p>Contributes to the prevention of market abuse and market distortion and prevention of regulatory arbitrage.</p> <p>Supports orderly pricing and settlement conditions and tries to ensure the convergence between prices of derivatives in the delivery month and spot prices for the underlying commodity.</p> <p>Creates arrangements that deal with circumstances where liquidity is split between venues within a jurisdiction or venues in other EEA countries. This should help to ensure that competition between trading venues does not adversely impact on fair and orderly trading.</p> <p>Legal certainty, consistency and clarity from using a standardised methodology for calculating limits for all CAs across the EU, while at the same time providing flexibility to CAs to accommodate the particular characteristics of different commodity derivatives.</p> <p>Enables the development of new commodity derivatives.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>According to the responses received to the ESMA CBA questionnaire, there may be very low to low on-going compliance costs related to the calculation of position limits for each commodity derivative. There will be in addition supervision staff costs to verify that position limits are complied with.</p> <p>In the case of ESMA, it creates on-going compliance costs related to providing opinions on the positions set by CAs (IT and staff costs for processing the information received).</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Firms trading in commodity derivatives will have to calculate the positions held in each commodity derivative after applying the allowable exemptions, and compare those with the limits imposed by trading venues and CAs. Additionally, firms will need to set up management controls and supervision systems on their positions and in some cases those of their clients. This will imply one-off set-up IT costs and on-going compliance costs related mainly to IT and staff</p>

	<p>costs.</p> <p>Trading venues will also incur costs in adapting their IT systems and procedures to either update their position limits regime to comply with the draft RTS, or put a position limits in place and to inform the relevant CA of the details of position management controls. These costs should be mainly IT and staff costs, both one-off and on-going (implementation of changes to limits). Some of these costs may be attributed to Level 1, particularly in the latter case.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	The application of a position limits regime may have an effect on business models of companies dealing in commodity derivatives. However, these effects should be attributed to Level 1 legislation rather than this RTS.

#### Assessment of factors

<b>Policy Objective</b>	Ensure CAs can adjust effectively the baseline figure for the position limits in relation to the relevant factors of a particular contract, taking into account the variations among different commodity derivatives, and commodity markets.
<b>Technical proposal</b>	CAs to set the spot month and other month's position limits by taking the baseline percentage and increasing or decreasing according to the potential impact of the factors considered. See Articles 14 and 16-20 of RTS 21 for more details.
<i>Benefits</i>	It enables CAs to consider different factors to adapt the limits and to take into account the characteristics of the specific commodity derivatives, their markets and the underlying commodities.
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs will need to set up IT systems and procedures to analyse the specific characteristics of relevant commodity derivatives, markets and their underlying commodities and to calculate the appropriate position limits. CAs will also need to review the methodology selected to confirm it is appropriate for that commodity derivative.</p> <p>According to the responses received to the CBA questionnaire, this will entail low one-off and on-going costs for staff and IT costs to request and process information from trading venues on the relevant factors for each commodity derivative and perform the relevant calculations. It will also give rise to staff costs for periodic reviews of</p>

	the methodology used for setting up the limits.
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	The RTS will create on-going costs for trading venues to obtain the information required by CAs to undertake the assessment of factors in case they do not currently have it.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	There may be unintended impacts on some contracts in those cases where not all relevant information is considered to set up the limit, or in cases where the initial application of the regime may create some market disruption as the new regime may be very different from current market practice.

*Development of new contracts and treatment of illiquid contracts*

<b>Policy Objective</b>	Ensure CAs can adjust effectively the baseline figure of position limits to avoid creating barriers in relation to the development of new commodity derivatives or the functioning of illiquid contracts.
<b>Technical proposal</b>	The draft RTS sets out the criteria to determine when a particular commodity derivative may require a different position limit and the obligation on TVs to report to the relevant CAs an increase of the total open interest in such contracts once a set threshold is exceeded. It sets also the obligation for CAs to review the position limit once the threshold is exceeded. See Article 15 of RTS 21 for more details.
<i>Benefits</i>	<p>Supports the creation of new commodity derivative contracts, taking into account the time needed for new contracts to become established and attract liquidity.</p> <p>Ensures adequate functioning of illiquid contracts.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> </ul>	CAs may incur one-off and on-going staff compliance costs from implementing procedures to set a limit for those contracts, review the notifications made by trading venues when the threshold established in the draft RTS is exceeded and set a new position limit for those contracts.

- On-going	
<i>Compliance costs:</i> - One-off - On-going	Trading venues might incur low costs related to the notification to the relevant CA of when a commodity derivative contract reaches the set thresholds.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	None identified.

## 5.2. Data analysis

### 5.2.1. Data request

In March 2015 ESMA distributed questionnaires on position limits to trading venues and firms (financial and non-financial) active in commodity derivatives. The objective was to better understand the market practice and the frameworks currently used by trading venues that either have a position limits or position management in place, in order to better estimate the impact of the RTS proposals and better calibrate the final draft RTS.

ESMA requested qualitative and quantitative information on the following in order to support further calibration of the draft RTS:

Qualitative information:

- a) Trading venues were asked to report:
  - Their capacity to provide accurate estimates of deliverable supply and open interest for spot months and other months and the assumptions made for their estimates;
  - The existing rules for netting and aggregation of positions and methodology used;
  - The definition of spot month and other months;
  - The existence of metrics to assess the liquidity of contracts;
  - The existence of special liquidity provisions for new contracts;
  - The existence of position limits regimes and relevant exemptions;

- The frequency used to adjust the limits and the notice period given to the members before an adjustment;

b) Non-financial/investment firms were asked to report:

- If they are trading EOTC contracts to contracts traded on trading venues;
- For how long they consider a contract to be new;
- The definition of spot month and other months;
- The contracts traded in trading venues which have position limits regimes in place;
- The procedure to comply with when a position qualifies for an exemption.

Quantitative information:

a) Trading venues were asked to report positions in commodity derivative contracts traded on their venues, differentiating between spot month and other months contracts (separately for cash and physically settled), specifically:

- Ten largest position values and total open interest for each contract in 2014;
- Commodity class of the contracts (according to the categories set in the draft RTS in the CP, such as metals, agriculture, etc.);
- Assessment of the liquidity of a contract (based on their criteria);
- Details of position limits/management regimes in place in 2014 if applicable;
- The number of participants with positions above the following percentages in function of the basis provided (deliverable supply or open interest): 10%, 15%, 20%, 25% and 40%;
- Exclusivity of the trading venue to trade that contract;
- Number of participants per contract;
- EOTC contracts to contracts traded in the venue;

b) Non-financial/investment firms were asked to report positions held in commodity derivative contracts, differentiating between spot-month and other months-contract, (separately for cash and physically settled), specifically:

- Ten largest gross / net position values for each contract in 2014;
- Ten largest position values in percentage of open interest or deliverable supply for each contract in 2014;

- Commodity class of the contracts (according to the categories set in the draft RTS in the CP, such as metals, agriculture, etc.);
- Assessment of liquidity of a contract (based on their criteria).

### 5.2.2. Sample of data received

21 market participants replied to the questionnaire: eight trading venues and 13 firms. Of the 13 firms there were five MiFID investment firms, five non-financial corporate institutions and three commodity firms dealing in financial derivatives. In terms of number of employees, seven respondents had less than 50 employees and six had more than 1000 employees. The rest did not disclose their number of employees.

Most of the firms that responded were active in the energy sector, and some of them were active in multiple commodity sectors. 11 firms belong to the power energy sector, followed by nine firms in gas, seven firms in oil, seven in emission allowances, six firms in coal, five firms in non-precious metals and four in agricultural products and other (dry and wet freight). Five firms were classified as traders, four as producers, three as market makers, three as distributors, three as investors and the rest of respondents were in other business areas.

Eight respondents provided data on position limits using open interest. Three firms provided data on deliverable supply and two of them (one trading venue and one investment firm) provided information on both open interest and deliverable supply. Among the eight respondents who provided position estimates based on open interest, five were trading venues and three were investment firms. One trading venue provided data on deliverable supply. Another venue provided the information on open interest and deliverable supply. A third trading venue provided data based only on daily stock figures. One investment firm provided information for one metals contract based on open interest and deliverable supply.

The level of completion of the questionnaires and the quantity of data provided varied greatly depending on the respondent. In some cases there were also differences in the way the information was provided which did not allow for aggregation of some metrics.

Below are the units most commonly used by type of commodity contract:

Name of the contract/commodity class	Metrics used
Oil	BBLs or Metric Tonnes
Agricultural Commodities (Coffee, Cocoa, Sugar, Feed Wheat)	Metric Tonnes
UK Natgas	Therms
Gas	Billions of cubic meters (bcm)
UK Power	MWh
Coal (US)	US Tonnes

Coal (non US)	Metric Tonnes
Emission allowances	Metric Tonnes

The information was collected on a confidential basis and only aggregates are displayed, unless the information is already publicly available. In some cases, while the information was available and has been taken into consideration by ESMA, the data is not disclosed in this CBA due to confidential reasons.

We will focus in this CBA on the quantitative information collected, unless the qualitative information becomes relevant to describe the costs and benefits of the different draft RTS provisions. In total, we received information for 289 contracts, with position data for 113 contracts, of which 99 were spot month and 190 other months, 136 were cash settled and 153 physically settled. For 13 of these contracts the trading venue applied position limits (delivery limits, expiry limits or a combination of both). Ten of those limits were applied to physically settled contracts (five in spot month, five in other months) and the remaining three to cash settled contracts (two in spot month, one in other months). The table below describes the sample of contracts received:

	Type	Contracts	Reporting data on gross positions	Currently with Position limits
<b>Spot Month</b>	Cash Settled	39	14	2
	Physically settled	60	33	5
	<b>Total</b>	<b>99</b>	<b>47</b>	<b>7</b>
<b>Other Months</b>	Cash Settled	97	15	1
	Physically settled	93	51	5
	<b>Total</b>	<b>190</b>	<b>66</b>	<b>6</b>

Most of the relative maximum positions were provided in terms of open interest, one exchange used deliverable supply and open interest, one exchange used only deliverable supply and another exchange used only daily stock figures.

Type	Spot Month		Other Months		Total
	Cash Settled	Physically settled	Cash Settled	Physically settled	
Deliverable Supply	3	5	3	6	<b>13</b>
Open Interest	11	17	12	34	<b>74</b>
Other <sup>67</sup>	N/A	11	N/A	11	<b>22</b>
<b>Total</b>	<b>13</b>	<b>32</b>	<b>14</b>	<b>50</b>	<b>109</b>

<sup>67</sup> Denominator is the daily stock figure calculated adding all the exchange warrants for that metal in the exchange warehouses worldwide.

In terms of commodity classes represented, the largest class is power followed by gas, non-precious metals, oil, coal, agricultural products, emissions allowances and derivatives, and other classes (composed mainly of freight). The table below shows the distribution of contracts in the sample received.

Class	Spot Month		Total	Other Months		Total
	Cash Settled	Physically settled		Cash Settled	Physically settled	
Non-precious metals	3	12	15	3	20	23
Oil and oil products	8	1	9	18	4	22
Coal	4	N/A	4	12	N/A	12
Derivative emission allowances	N/A	3	3	N/A	7	7
Emission allowances	N/A	3	3	N/A	7	7
Gas	4	10	14	8	17	25
Power	18	27	45	54	27	81
Agricultural products	1	4	5	1	11	12
Other (Freight)	1	N/A	1	1	N/A	1
<b>Total</b>	<b>39</b>	<b>60</b>	<b>99</b>	<b>97</b>	<b>93</b>	<b>190</b>

Note: contracts for which we have received no data are shown as N/A

In terms of liquidity levels, given that liquidity impacts the number of participants in a contract as well as the maximum positions held on it, respondents were asked to classify each contract into low, medium and high liquidity. Based on the data received, contracts classified by respondents as highly liquid present on average a higher number of participants per contract, regardless of the contract type (spot/other months, cash/physically settled). There are also significant differences with respect to the number of participants in a contract considered liquid depending on the commodity asset class.

With regards to cash settled spot month contracts, contracts in power with low, medium, and high liquidity have on average 44, 69 and 109 participants respectively, while contracts in oil with high liquidity have on average 193 participants. For physically settled spot contracts, oil contracts classified as having high liquidity also have on average 193 participants. For low liquidity contracts in physically settled spot contracts, derivative emission allowances have 27 participants, gas contracts have 51 participants and power contracts 8 participants. With regard to other months cash settled contracts, those contracts in oil and power classified as highly liquid present respectively on average 466 and 115 participants. Low and medium liquidity contracts in power have respectively 20 and 59 participants. Regarding physically settled other months' contracts, those contracts in oil and derivative emission allowances with high liquidity have on average 466 and 30 participants respectively. Medium liquidity contracts in derivative emission allowances have on average 15 participants and low liquidity contracts in derivative emission allowances, gas and power have three, 33 and eight participants respectively.



### 5.2.3. Detailed quantitative analysis

For the 109 contracts ESMA received data on, we computed summary statistics (minimum, maximum, average, median) of the top ten positions held over 2014 (4Q 2014 for some agricultural commodity contracts due to the lack of available data for the full 2014 year) on the gross position as a percentage of open interest/deliverable supply/daily stock figures, by type of contract (spot/other months, cash/physically settled), by asset classes, and by the liquidity level of the contracts.

The range of positions varies significantly depending on the liquidity of that contract and in some cases there are positions of 100% of open interest for illiquid contracts. Maximum positions observed depend on the commodity asset class, type of contract, whether it is physically or cash settled, the number of participants on that particular type of contract and its level of liquidity.

#### *Maximum positions in terms of open interest*

In terms of open interest, the maximum position observed in the sample received for cash settled spot and other months contracts is 50% for low liquidity contracts, while the maximum position held for medium liquidity contracts is 16% and for high liquidity contracts is 15%. For cash settled other months contracts, maximum positions are 50%, 17%, and 16% for low, medium and high liquidity, respectively. However, the maximum position observed in physically settled contracts with low liquidity is 100% for both spot and other months. In some cases the top ten positions are the same throughout the year and maintained by the same participant/-s.

The table below reflects the maximum levels of positions as percentage of open interest held by any market participant by commodity class, based on the sample received. Those commodity asset classes for which no data on either positions or open interest was received are not shown. Highlighted are the three largest positions seen both in cash and physically settled contracts.

	Class	Cash Settled				Physically Settled			
		Min	Max	Average	Median	Min	Max	Average	Median
Spot Month	Non-precious metals	N/A	N/A	N/A	N/A	7%	10%	8%	8%
	Derivative emission allowances	N/A	N/A	N/A	N/A	25%	25%	25%	25%
	Gas	N/A	N/A	N/A	N/A	1%	21%	7%	6%
	Power	10%	50%	15%	14%	43%	100%	43%	43%
	<b>Total Spot Month</b>	<b>10%</b>	<b>50%</b>	<b>15%</b>	<b>14%</b>	<b>1%</b>	<b>100%</b>	<b>31%</b>	<b>43%</b>

Other Months	Non-precious metals	N/A	N/A	N/A	N/A	0.2%	18%	6%	5%
	Oil and oil products	13%	18%	15%	15%	0.3%	20%	6%	1%
	Derivative	N/A	N/A	N/A	N/A	25%	50%	36%	31%

	emission allowances								
	Gas	N/A	N/A	N/A	N/A	0.2%	19%	4%	4%
	Power	10%	50%	15%	14%	0.44%	100%	43%	43%
	Agricultural products	N/A	N/A	N/A	N/A	6%	8%	7%	7%
	<b>Total Other Months</b>	<b>10%</b>	<b>50%</b>	<b>15%</b>	<b>15%</b>	<b>0.2%</b>	<b>100%</b>	<b>22%</b>	<b>16%</b>

The maximum positions observed on a relative basis vary depending on the type of commodity, the level of liquidity of the contract and whether it is cash or physically settled. For power commodity derivatives, the maximum position in cash settled spot month contracts with low liquidity is 50%, followed by 16% for those contracts with medium liquidity and 15% for those with high liquidity. The maximum position in physically settled contracts is 100% for power contracts classified as low liquidity, 25% in derivative emission allowances and 21% in gas contracts. We have received no data for the other commodity classes.

Regarding cash settled other months contracts, the maximum position observed is 50% in power contracts with low liquidity, 17% for those with medium liquidity and 16% for those with high liquidity; maximum positions in the sample for physically settled other months contracts classified as low liquidity are 100%, 50% and 19% in power, gas and emission derivatives allowances respectively. The maximum position observed in derivative emission allowances contracts with medium liquidity is 32% and 26% for those with high liquidity. We have received no data for the other commodity classes.

#### *Maximum positions in terms of deliverable supply*

Two trading venues provided data in terms of deliverable supply. Only one of the trading venues is currently applying positions limits on commodity derivative contracts. Limits operate differently depending on the commodity class and contract and on whether the contract is cash or physically settled. For example, in spot months, Brent has an expiry limit during the last five days prior to expiration, WTI has a position limit over the last three days, and for low sulphur gasoil a delivery limit applies on expiry day.

In certain contracts, maximum positions observed ahead of the enforcement of delivery/expiry/position limits as a percentage of deliverable supply in 2014 are above 100%. This is particularly visible in certain benchmark contracts used extensively to hedge in related markets.

For the soft agricultural contracts deliverable supply is based on what the exchange has in its warehouses or silos network. If harvest is very good in a particular year limits are not raised, but calculated on the harvest of the prior year, in order to be conservative and not change limits frequently.

Positions can be above limits as well due to exemptions. The exchange has exemptions available for:

Oil related products:

- Bona Fide Hedge Positions;
- Risk management positions;
- Arbitrage and Spread positions.

Soft Commodity products:

- Cash and Carry transactions;
- Physical off-take transactions;
- Short positions held against finance transactions;
- Stock holders.

If after applying the exemptions a position is still above the specified limit for that particular contract, the exchange works with the market participant to bring the position down to the limit established.

Other months do not always have limits but a position accountability regime that targets a multiple of the deliverable supply as maximum. In this case, the exchange inquires the rationale for the positions above the targeted limit.

#### *Maximum positions in terms of daily stock figures*

In terms of daily stock figures, we have received data from one exchange indicating the top positions observed during 2014 using daily stock figures as the denominator.

This particular exchange operates differently to the other exchanges that reported information to us. This exchange does not apply position limits, as their contracts have daily expirations, but a bespoke position management tool (the regime) unique to its market, which restricts how much can be charged when lending a particular commodity once a dominant position has been established.

The regime calculates when a position is considered dominant by aggregating the net position by adding warrants to be delivered today + TOM (to be delivered tomorrow) + CASH (delivered day after tomorrow) and dividing that by the daily stock figure (warrants in the exchange warehouses around the world for that particular commodity or the exchange commodity inventory). The daily stock figure is the exchange deliverable supply for its exchange contracts. To calculate deliverable supply overall we would need to consider the global production in a particular commodity.

According to the regime, a position is considered dominant when the net position/daily stock figure is 50% or above. Higher positions up to 90% are permitted but the position holder needs to lend the commodity at specified rates, if required, when its position surpasses 50%

of the daily stock figure. The rates that the position holder can charge are lower the larger the size of the position held.

Some of the large positions are driven by expectations of higher prices of commodities in the future, others by the particular dynamics of this exchange, where the buyer does not know which warrant it buys or where it is located, as the seller chooses which warrant to put back into the system and this is usually their worst warrant. If a participant is short, it can deliver any of the exchange's warrants anywhere. While about 1-2% of transactions result in delivery, and most use this exchange to hedge when physical delivery is sought, warrants are 'sifted' in a particular location/brand. A market participant may buy a large number of today, tomorrow and day after tomorrow warrants to obtain the whole stock of exchange warrants, expecting to receive a warrant in a particular location, take delivery in that location and put the warrants back into the market the next day, as this may be cheaper than the OTC market.

#### 5.2.4. Existing position limits regimes

From the sample data received, only one trading venue out of eight applies position limits, and out of the 289 contracts received<sup>68</sup> by ESMA, only 13 have position limits in place distributed through oil, gasoil and agricultural contracts at ICE<sup>69</sup>.

ICE provided data on the position limits regime they have in place for a limited number of contracts<sup>70</sup> in energy and agriculture. With respect to the delivery limit in the ICE Futures Europe Brent Contract, the current size of the limit takes into consideration a number of factors, and is established by taking the deliverable supply the exchange estimates for that particular contract as the reference basis<sup>71</sup>. See table below for more details on some of the contracts for which ICE operates a limit regime and the relevant position limits and accountability levels.

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<sup>68</sup> We have data for a sample of contracts including non-precious metals, emission allowances, power, gas, oil and agricultural commodities received from 8 exchanges and 13 investment firms. Energy is the asset class most represented (Power the largest category followed by Gas and Oil).

<sup>69</sup> Euronext has a position management regime for agricultural contracts and so does LME for non-precious metals contracts, but no position limits per se. For details of position management please see [http://lme.com/~media/Files/Notices/2011/2011\\_10/11\\_293\\_A286\\_R008\\_Explanation\\_of\\_Metal\\_Lending\\_Guidance.pdf](http://lme.com/~media/Files/Notices/2011/2011_10/11_293_A286_R008_Explanation_of_Metal_Lending_Guidance.pdf). None of the other venues submitting data to ESMA has indicated to have a position limit or position management regime.

<sup>70</sup> For details of all the contracts subject to a position limits regime please see: [https://www.theice.com/publicdocs/futures/Position\\_and\\_Expiry\\_Limit\\_and\\_Accountability\\_Levels.pdf](https://www.theice.com/publicdocs/futures/Position_and_Expiry_Limit_and_Accountability_Levels.pdf), [https://www.theice.com/publicdocs/futures/ICE\\_Position\\_Management\\_Regime\\_Soft\\_Commodities.pdf](https://www.theice.com/publicdocs/futures/ICE_Position_Management_Regime_Soft_Commodities.pdf).

<sup>71</sup> i.e. current limit is 6000 lots, total deliverable supply 24000 lots,  $\frac{6000 \text{ lots}}{24000 \text{ lots}} = 25\%$  of deliverable supply

	Type	Class	Name of the contract	Existing Limit Size (in number of lots)
Spot Month	Cash settled	Oil and oil products	ICE Brent Futures	6000 Expiry Limit
		Oil and oil products	ICE WTI Crude Futures	3000 Position Limit
	Physically settled	Oil and oil products	ICE Low Sulphur Gasoil	2500 Delivery Limit
		Agricultural products	London Cocoa and Euro Cocoa	7500 Delivery Limit
		Agricultural products	Robusta Coffee	7500 Delivery Limit
		Agricultural products	White Sugar	10000 Delivery Limit
Agricultural products	UK Feed Wheat	2000 Delivery Limit		
Other Months	Cash settled	Oil and oil products	ICE Brent Futures	
		Oil and oil products	ICE WTI Crude Futures	10000 (Single Month Accountability Level) 20000 (All Months Accountability Level)
	Physically settled	Oil and oil products	ICE Low Sulphur Gasoil	

		Agricultural products	London Cocoa and Euro Cocoa	7500 (Front Month Accountability Level) 15000 (Deferred Month Accountability Level)
		Agricultural products	Robusta Coffee	7500 (Front Month Accountability Level) 15000 (Deferred Month Accountability Level)
		Agricultural products	White Sugar	10000 (Front Month Accountability Level) 20000 (Deferred Month Accountability Level)
		Agricultural products	UK Feed Wheat	2000 (Front Month Accountability Level) 4000 (Deferred Month Accountability Level)

The appropriateness of limits is monitored on a periodic basis taking into account a number of factors as relevant depending on the nature of the contract and its underlying including:

1. quantity available to be imported,
2. quantity available to be exported,
3. quantity locally produced,
4. quantity locally stored,
5. quantity locally storable,
6. quantity locally liftable,
7. quantity locally blendable,

as well as other aspects such as operational delivery constraints .

While the sample we have received is not statistically representative of the overall market, the table below illustrates how many contracts would have positions above a specific limit (in terms of open interest), based on the sample received by ESMA. The largest positions, as percentage of open interest, are in physically settled contracts with low liquidity.

Liquidity	Type		Number of contracts reported with positions above the % below				
			10%	15%	25%	35%	40%
Low	Spot Month	Cash Settled	4	4	1	1	1
		Physically Settled	14	14	12	11	11
	Other Month	Cash Settled	4	4	1	1	1
		Physically Settled	15	14	13	13	13
Medium	Spot Month	Cash Settled	3	1	0	0	0
		Physically Settled	0	0	0	0	0
	Other Month	Cash Settled	3	1	0	0	0
		Physically Settled	2	2	2	0	0
High	Spot Month	Cash Settled	4	0	0	0	0
		Physically Settled	1	0	0	0	0
	Other Month	Cash Settled	4	1	0	0	0
		Physically Settled	1	1	1	0	0

### 5.2.5. Updates to position limit regimes

The only exchange that provided data on position limits adjusts those limits infrequently. The procedure is different for each commodity or contract.

For Brent and Gasoil making an adjustment would involve reviewing the deliverable supply. The operational capabilities of market participants are also taken into account, including the availability of barges to take delivery and the performance of market participants in previous exchange deliveries. The limit seeks to ensure that firms do not exceed what they can manage in one delivery.

In the case of contracts which are linked to those regulated by the CFTC, the CFTC has not made a limit change since the products were launched. In the event that the CFTC did make a change to their limits, the same change would be announced to the members of the exchange. For agricultural contracts the exchange monitors coffee and cocoa inventory (at the exchange approved warehouses) on a periodic basis. If supply were to reduce such that the delivery limits went above 25% of deliverable supply, the delivery limits would be adjusted. Similarly, the exchange monitors white sugar production and the wheat harvest.

Changes made to position limits would be applicable from the next delivery cycle (i.e. the first non-spot month), therefore participants would receive notice of at least one delivery cycle in advance.

## 5.2.6. Benefits, compliance costs and market impact

### 5.2.6.1. Benefits

The rationale for position limits in commodity markets at Level 1 relates to market integrity and orderly markets, as undue influence and control over deliverable supply, coupled with holding a significant futures position, can trigger a disorderly market. In addition, it addresses concerns of market abuse and prevents a participant from holding a dominant position and using it to squeeze the market.

The purpose of the regulation is to ensure that commodity markets effectively serve their important economic functions for the benefit of all market participants, and to maintain confidence in the futures and options markets, which could be undermined by market perception related to the orderly functioning of those markets.

### 5.2.6.2. Compliance costs

#### *Direct compliance costs*

ESMA has received a limited number of responses regarding compliance costs in the CBA questionnaire. Some firms also included costs that would be attributable to Level 1 and some others seem to have included as well indirect costs in their compliance cost estimates. We segment the analysis by firm size, which we proxy using number of employees.

One small-medium firm (51 to 250 employees) mentioned they probably will need to use external services to comply with the new requirements given their small size, as they cannot have staff working exclusively on MiFID areas. One medium-small trading venue (51 to 250 employees), mentioned they also will need the support of external services providers, mainly for IT services.

For small firms, costs are less than EUR 50k both one-off and on-going, for firms with 251-1000 employees the biggest cost is one-off IT expense which ranges from less than EUR 50k to 1m, followed by on-going staff costs from less than EUR 50k to 250k. For firms with more than 1000 employees, the biggest one-off cost is IT followed by staff. The range of costs provided varies significantly which may indicate either a different understanding of the RTS obligations, or in the case of the upper bound, include some quantification of indirect effects as a result of the RTS.

The table below indicates the range of costs provided in Euros, considering firm size in terms of number of employees. The number of responses received in each category and used to create the cost estimates ranges shown on the table are presented in brackets.



Source of Cost	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
IT	One-off	< 50k [3]	N/A	< 50k-1m[3]	50k-5m [6]
	On-going	< 50k [3]	N/A	< 50k [3]	< 50k-250K [5]
Staff	One-off	< 50k [3]	N/A	< 50k [2]	<50k-250k [3] 1m-5m [1]
	On-going	< 50k [3]	N/A	< 50k-250k [2]	<50k-1m [4]
Training	One-off	< 50k [1]	N/A	N/A	<50k-1m [4]
	On-going	< 50k [1]	N/A	N/A	< 50k-250K [5]
Legal fees	One-off	N/A	N/A	N/A	50k-250k [1]
	On-going	N/A	N/A	N/A	< 50k [1]
Auditing	One-off	N/A	N/A	N/A	50k-250k [1]
	On-going	N/A	N/A	N/A	50k-250k [1]
Data sources	One-off	N/A	N/A	< 50k [1]	N/A
	On-going	N/A	N/A	< 50k [1]	N/A

#### *Indirect costs/market impacts*

Respondents to the ESMA CBA questionnaire mentioned impacts on market structure, liquidity, changes in hedging patterns and counterparty risk from the draft RTS proposed in the CP. However, most of the impacts mentioned should be attributed to Level 1 legislation and not specifically to the draft RTS.

Several respondents indicated that as a result of position limits energy firms will increase the use of instruments falling within the C6 carve out with a move to OTF and physical futures (out of MiFID scope) as a result, with the following effects:

- Increased compliance costs to trading venues may be passed to participants on those venues, making on-venue trading more expensive. As a result, trading may move outside of trading venues. Liquidity may decline as a result, increasing bid-ask spreads;
- Increased cost of managing risk and hedging associated with the sourcing and production of commodities may be eventually passed through the supply chain, and result in an increase in prices for end users. It may also drive firms to reposition their hedging and change their hedging patterns and strategies; and
- Increased market compliance costs and complexity may drive counterparties away from commodity markets. This may cause a reduction of risk-acceptable counterparties and lead to new counterparties with a higher risk profile entering into the market.

The final version of the draft RTS has been amended to take into consideration these potential effects to the extent possible, within the boundaries of Level 1 legislation.

## 5.2.7. Comparison with other international regimes

### 5.2.7.1. Comparison with the US

This section provides an overview of the main differences of ESMA proposed rules and those of the US position limits regime.

The US position limits regime is not new. Speculative position limits have been used in the US as a means to prevent unwarranted price fluctuations and manipulation for over seventy years. The US Commodity Futures Trading Commission (CFTC) imposes speculative position limits on 28 physical commodity futures and option contracts traded predominantly on exchanges (Core Referenced Futures Contracts<sup>72</sup>) and swaps that are economically equivalent to such contracts<sup>73</sup>. These contracts were selected due to having high levels of open interest and significant notional value or serving as a reference price for a significant number of cash market transactions.

#### *Position limits levels*

CFTC Regulation 150.2 sets the maximum number of core referenced contracts that a person may hold and establishes different position limits for spot months<sup>74</sup>, single months and all months combined. In accordance with Level 1, ESMA is proposing limits for spot month and other months.

Under CFR 150.1 *Spot month* means the futures contract next to expire during that period of time beginning at the close of trading on the trading day preceding the first day on which delivery notices can be issued to the clearing organisation of a contract market. *Single month* means each separate futures trading month, other than the spot month future and *All-months* means the sum of all futures trading months including the spot month future.

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<sup>72</sup> The contracts covered are: nine "legacy" agricultural contracts: (1) CBOT Corn (C); (2) CBOT Oats (O); (3) CBOT Soybeans (S); (4) CBOT Soybean Meal (SM); (5) CBOT Soybean Oil (BO); (6) CBOT Wheat (W); (7) ICE Futures U.S. Cotton No.2 (CT); (8) KCBT Hard Winter Wheat (KW); and (9) MGEX Hard Red Spring Wheat (MWE), ten non-"legacy" agricultural contracts: (1) CME Class III Milk (DA); (2) CME Feeder Cattle (FC); (3) CME Lean Hog (LH); (4) CME Live Cattle (LC); (5) CBOT Rough Rice (RR); (6) ICE Futures U.S. Cocoa (CC); (7) ICE Futures U.S. Coffee C (KC); (8) ICE Futures U.S. FCOJ-A(OJ); (9) ICE Futures U.S. Sugar No. 11 (SB); and (10) ICE Futures U.S. Sugar No. 16 (SF), four energy contracts: (1) NYMEX Henry Hub Natural Gas (NG); (2) NYMEX Light Sweet Crude Oil (CL); (3) NYMEX New York Harbor Gasoline Blendstock (RB); and (4) NYMEX New York Harbor Heating Oil (HO) and five metal contracts: (1) COMEX Copper (HG); (2) COMEX Gold (GC); (3) COMEX Silver (SI), (4) NYMEX Palladium (PA); and (5) NYMEX Platinum (PL).

<sup>73</sup> According to the CFTC, a swap contract may be economically equivalent to a futures contract when: (1) it is a "look-alike" contract (i.e., it settles off of the Core Referenced Futures Contract or contracts that are based on the same commodity for the same delivery location as the Core Referenced Futures Contract); (2) it is a contract with a reference price based on only the combination of at least one Referenced Contract price and one or more prices in the same or substantially the same commodity as that underlying the relevant Core Referenced Futures Contract, provided that such a contract is not a locational basis swap; (3) it is an intercommodity spread contract with two reference price components, one or both of which are based on Referenced Contracts; or (4) it is priced at a fixed differential to a Core Referenced Futures Contract.

<sup>74</sup> For the different contracts in different asset classes there are specific provisions that determine when the spot month starts and ends.

Spot-month limits are based on estimates of deliverable supply, a measure of the size of the physical market underlying the futures and swap markets for a commodity. Limits outside of the spot-month are based on the overall size of the physical commodity futures and swap markets, as measured by open interest.

The baseline figure for the spot month limit is 25% of the estimated spot-month deliverable supply<sup>75</sup> in the relevant core referenced futures contract, for both cash settled and physically delivered contracts, with the exception of cash-settled natural gas. This baseline figure will be updated at least every two years for each of the 28 referenced contracts and it is not flexible to adjustment in function of the specific characteristics of the commodity derivatives contracts, their markets and their underlying commodities.

Spot month limits are applied separately to physically-settled contracts and cash-settled contracts, but calculated the same way. The rationale for using the same methodology for both types of contracts is that parity should exist in all position limits between physical-delivery and cash-settled referenced contracts (other than in natural gas); otherwise, these limits would permit larger positions in look-alike cash-settled contracts that may provide an incentive to manipulate and undermine price discovery in the underlying physical-delivery futures contract. In some of the commodities (oil) the size of the cash and physical contracts is similar; in some others (other energy, agricultural, metals contracts) the size of swaps/cash settled markets are small relative to the relevant Core Referenced Futures Contracts. In both cases the CFTC concluded that applying the same limits for cash and for physically settled contracts should ensure sufficient liquidity for bona fide hedgers in the cash-settled contracts and protect price discovery, while deterring excessive speculation and the potential for market manipulation, squeezes, and corners.

However, the CFTC believes that the cash-settled market in natural gas, which is very active, is sufficiently different from the cash-settled markets in other physical commodities to warrant a different spot-month limit methodology. As such, cash-settled NYMEX Henry Hub Natural Gas contracts are subject to a spot-month position limit, of five times the spot-month position limit for the physically-settled New York Mercantile Exchange Henry Hub Natural Gas referenced contract<sup>76</sup>. This contract is also subject to an aggregate spot-month position limit for physical-delivery and cash-settled contracts equal to five times the spot-month position limit.

According to the CFTC, the purpose of using the 25% level of estimated deliverable supply is that this formula narrowly targets the trading that may be most susceptible to price disruptions.

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<sup>75</sup> Deliverable supply is defined as the quantity of the commodity meeting a derivative contract's delivery specifications that can reasonably be expected to be readily available to short traders and saleable by long traders at its market value in normal cash marketing channels at the derivative contract's delivery points during the specified delivery period, barring abnormal movement in interstate commerce.

<sup>76</sup> Both NYMEX and ICE used to apply conditional spot-month limits in natural gas where the cash-settled limit was five times the limit for the physical-delivery futures contract. The CFTC removed the conditional limit and set an aggregate limit of five times the limit for the cash-settled referenced contract. The aggregate limit is less restrictive than the conditional limit with a trader able to hold positions in both physical-delivery and cash-settled contracts, subject to the aggregate limit.

The formula of the non-spot-position limit is based on the total open interest<sup>77</sup> for all core reference contracts, excluding legacy contracts. This formula is calculated as follows: 10% of the open interest for the first 25000 contracts and 2.5% of the open interest for the following contracts. Limit levels are fixed no less frequently than every two calendar years<sup>78</sup> but not flexible to adjustment in function of the specific characteristics of the commodity derivatives contracts, their markets and their underlying commodities. According to the CFTC this non-spot position limit may restrict the market power of a speculator which might cause unwarranted price movements.

Agricultural legacy contracts have different limits to those above, and are fixed by the CFTC based on the open interest of those contracts.

Netting can be performed between futures, options and swaps. Market participants can net their physical delivery and cash-settled futures contracts with their swaps transactions for purposes of complying with the non-spot-month limit

#### *Hedging transactions and exemptions*

A fundamental difference with the US regime is the absence of limitations on the type of market participants being able to claim a hedging exemption. Moreover, the exemption can also be used by a person entering swaps with a counterparty that claims the bona fide hedge exemption even though the swap would not qualify for the person.

According to the CFTC, a trader must meet the general requirements for a bona fide hedging transaction or an enumerated hedging transaction. The general requirements call for the bona fide hedging transaction or position to represent a substitute for transactions in a physical marketing channel (i.e. the cash market for a physical commodity), to be economically equivalent to the reduction of risks in the conduct and management of a commercial enterprise, and to arise from the potential change in the value of certain assets, liabilities, or services.

The proposed rules allow for exemptions in several cases and for larger limits in at least one case. In the EU the exemptions are determined by the Level 1 legislation.

In the US, exemptions are listed in Section CFR 17 150, which determines in which cases the limits imposed may be exceeded.

- i. Positions that qualify as "bona fide hedges" are exempted from position limits. Any position is qualified as a bona fide hedge position when its objective is to offset price risks incidental to commercial cash or spot operations and it is established and liquidated in an orderly manner in accordance with sound commercial practices. A position is classified as hedging if:

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<sup>77</sup> Aggregated open interest is derived from month-end open interest values for a 12-month time period.

<sup>78</sup> Subsequent position limits would be based on the higher of the most recent 12 months average all-months-combined aggregate open interest or 24 months average all-months-combined aggregate open interest.

- (i) it is a substitute for a position to be taken at a later time in a physical market ('temporary substitute test');
- (ii) it is economically appropriate for the reduction of risk in the conduct of a commercial enterprise ('economically appropriate test');
- (iii) it arises from the potential change in value of assets, liabilities or services ('change in value requirement');
- (iv) it offsets price risks incidental to commercial cash operations ('incidental test'), and
- (v) it is established and liquidated in an orderly manner. Enumerated hedging positions passing these tests are automatically excluded from the calculation of a person's position provided that the regulator is notified.

The US proposed rule provides eight types of enumerated hedging positions that are exempted by the regulator. These hedging positions are divided between 'anticipatory hedges' and 'non-anticipatory hedges'. In the case of an anticipatory hedge a specific form can be filed with the regulator prior to exceeding the relevant position limit, while in the case of a non-anticipatory hedge a form can be filed after breaching the limit. Another significant difference is the explicit possibility of undertaking cross-commodity hedges, used in cases where a liquid derivatives market for the physical commodity held does not exist.

Persons applying for a hedging exemption from speculative position limits must satisfy the reporting requirements by providing the following information:

- (a) information relating to the positions owned or controlled by that person;
- (b) trading done pursuant to the claimed exemption;
- (c) the futures, options or cash market positions which support the claim of exemption;
- (d) and the relevant business relationships supporting a claim of exemption.

Bona fide hedging transactions exemption is applicable to all futures, options on futures and swaps that are under position limits application.

- ii. Pre-existing positions (i.e. positions entered into in good faith prior to the entry into force of the final position limit rules) are subject only to spot month position limits and exempted from other months' limit; this exemption includes any swap positions entered into in good faith prior to the effective date of such initial limits.
- iii. Options are exempted if both counterparties are a producer, processor, commercial user or merchant handling the commodity that is subject to the option and the option is intended to be physically settled.
- iv. Financial distress exemption; upon request, regulators can exempt positions in case of situations involving the potential default or bankruptcy of a customer or a potential acquisition. This exemption shall be granted by a Commission order.

- v. A higher limit for the spot month is allowed provided that no physical contracts for delivery in the next five days is held ('five-day rule').
- vi. Conditional spot limit for cash-settled contracts; a person without hedge exemption can acquire a position up to five times the spot-month limit if all of the person's spot-month positions are exclusively in cash-settled contracts. This exemption would be available for traders that do not hold or control positions in the spot month physical-delivery contracts.

There is a one year limitation on anticipatory hedging that applies only to agricultural markets.

#### *Position aggregation*

Aggregation provisions are designed to prevent a trader from attaining market power through ownership or control over multiple accounts. The CFTC rules mandate aggregation of the positions held and the trading undertaken by any persons directly or indirectly controlled by such person, which has been historically interpreted as requiring aggregation based upon ownership or control.

The criteria are similar to the approach adopted by ESMA on aggregating positions on a group basis. CFTC Regulation 150.4 states that those markets participants with a 10% or greater interest in a partnership account must aggregate all the positions of that partnership subject to position limits, however, an ownership interest below 10% is exempted from aggregation requirement. Limits should be applied to all positions in accounts for which any person by power of attorney or otherwise directly or indirectly holds positions or controls trading and to positions held by two or more persons acting pursuant to an expressed or implied agreement or understanding the same as if the positions were held by, or the trading of the position were done by, a single individual.

Aggregation rules include certain exemptions available for specific market participants. Section 151.7 provides exemptions for an ownership of 10% or more, where such ownership represents a passive investment and does not implicate control or decision of the trading operations of the owned entity. These exemptions from aggregation based on ownership are restricted to futures commission merchants, limited partner investors in commodity pools and independent account controllers operating customer funds for an eligible entity<sup>79</sup>. Section 151.7 also adds further exemptions for underwriters of securities and for cases where the sharing of information could cause the violation of federal law or regulation.

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<sup>79</sup> Eligible entity means a commodity pool operator, the operator of a trading vehicle which is excluded or who itself has qualified for exclusion from the definition of the term pool or commodity pool operator; the limited partner or shareholder in a commodity pool the operator of which is exempt from registration; a commodity trading advisor ; a bank or trust company ; a savings association; an insurance company; or the separately organized affiliates of any of the entities listed in Section CDR 17 150.1 (d).

Comparison of the EU vs. US regime				
	US Regime		EU Regime	
	Spot-Month	Single-Month and All-Months-Combined Limits	Spot-Month	Non-Spot-Months
<b>Baseline Figure Limit</b>	25 % estimated spot-month deliverable supply	10% total open interest first 25000 contracts, 2.5% thereafter	25% of deliverable supply <sup>80</sup>	25% of total open interest, unless open interest <10,000 then 2,500 lots
<b>Scope</b>	28 physical commodity futures and option contracts (agriculture, energy and metals markets) and swaps economically equivalent		All commodity derivatives on TVs and EEOTC in the EU	
<b>Limit Adjustment</b>	Not flexible	Not flexible	Flexibility to be adjusted within interval 5%-35%	
	Separate application for physically- and cash-settled contracts		Adjustment in function of specific factors	Adjustment in function of specific factors
<b>Exemptions<sup>81</sup></b>	Bona fide exemption (hedging exemption)		Reducing risk positions exemption  Art 7-8 of RTS 21	
		Pre-existing positions		
	Financial distress			
	Conditional spot limit for cash-settled contracts			
	Additional Exemptions			
<b>Positions aggregation</b>	Aggregation of positions or accounts when ownership 10% or greater of such accounts		Aggregation and netting of positions in a derivative and aggregation at a group level	

<sup>80</sup> There are a few exceptions. If there is no physical underlying (e.g. weather derivatives) the spot month limit is 25% of open interest instead of deliverable supply. For commodity derivatives with a total number of securities in issue not exceeding 10 million over three months, the limit is 2.5 million securities.

<sup>81</sup> Exemptions listed in Section CFR 17 150.3 and 151.5.

		Arts 3-4 of RTS 21
	Specific exemptions <sup>82</sup>	Exemption for collective investment undertakings Art 4.2 of RTS 21

### 5.2.7.2. Position limits regimes in the world

There are no common global standards for position limits on commodity derivatives. Countries use different forms of position limits/position management regimes based on their legislation, classes of commodity derivatives and markets. Some market authorities do not have currently a mechanism to control market concentration of positions in certain financial products, due to not having a commodity derivatives market or not to having specific regulation. However, most of the countries surveyed by IOSCO have powers that permit establishing and supervising positions limits on specific financial products, at the market level or at the exchanges and clearing houses level.

The table below provides a summary of relevant markets authorities that use position limits on markets in their respective jurisdictions.

Position limits regimes			
Jurisdiction	Responsible Authority	Relevant Regulation-Legislation	Positions Limits methodology
<b>Brazil: CVM</b>	BM&FBOVESPA sets position limits under CVM supervision	BM&FBOVESPA Rules	Limit in function of open interest of customers. <i>Two limits</i> are defined for each instrument, taken from the <i>maximum between a determined percentage of the total quantity of open interest on the market and a fixed quantity of contracts</i> Limit 1 = maximum [P(1) <sub>i</sub> x Q <sub>i</sub> ; L(1) <sub>i</sub> ]Limit 2 = maximum [P(2) <sub>i</sub> x Q <sub>i</sub> ; L(2) <sub>i</sub> ]  P1 is 25% and P2 is 50%, except in physical delivery ten working days or less from the start of the delivery period where P1 is 20% <sup>83</sup> .
<b>China: CSRC</b>	Exchanges sets positions limits, supervised by CSRC	Measures for Risk Management of Dalian Commodity	Position limits, or maximum amount of speculative futures contracts, are established depending on their level of trading interest. Before the open interest of a contract reaches a specific level, the position limit is

<sup>82</sup> Exemptions listed in Section CFR 17 150.4 and 151.7.

<sup>83</sup> <http://www.bmfbovespa.com.br/en-us/markets/commodities-and-futures/derivatives/risk-management/position-limits.aspx?idioma=en-us#4>



		Exchange, Chapter 4	determined by an absolute volume. After it reaches this level the limit will be established by a certain ratio of total open interest for the months preceding the delivery month and the month immediately before it. Position limits of a contract shall be determined by an absolute volume during the month immediately preceding the delivery month and the delivery month. (Except for Metallurgical Coke). Limits are differentiated by type of participant: brokerage member (25%), non-brokerage (20%) and member customer (10%). Hedging positions are exempted if applied for and granted by the exchange.
<b>Dubai: DFSA</b>	Exchanges may set the limits revised by DFSA	AMI Rulebook Rule 6.7.1	Limits established under exchange market place regulations. Markets may set position limits in any class of markets contracts
<b>Hong Kong: SFC</b>	SFC sets positions limits	Securities and Futures Ordinance (Chapter 571)	Prescribed limits in Securities and Futures Rules. Index futures and index options limits are calculated on a net basis for all contract months combined. Authorisation for excess positions available in case of “special circumstances” or “relevant business need”.
<b>India: FMC</b>	FMC sets positions limits	Revised Policy for Open Position Limits-regulation FMC/3/2014/C/128 <sup>84</sup>	Overall exchange wide gross position limits for agricultural commodities: 50% of the estimated production and imports. Member level position limit: 10 times the client level position limit or 20% of the market wide open interest whichever is higher. Client position limit: numerical position limits or 5% of the market wide open interest whichever is higher (1% of the total production and import for agricultural products). Near month limits for agricultural products is restricted to 50% of the overall position limits. The position shall be netted out at the client level and grossed up at the member level for the purpose of computation of position limits. Exemptions for hedging and arbitrage activities.
<b>Korea: FSC/FSS</b>	Relevant Authority sets the limits	Regulatory measures of FSC and FSS	Speculative positions in options and futures for institutional investors are limited to a maximum of 10,000 per day and limit on positions of Retail

<sup>84</sup> [http://fmc.gov.in/show\\_file.aspx?linkid=Open%20Position%20Limits%2022\\_10-785559859.pdf](http://fmc.gov.in/show_file.aspx?linkid=Open%20Position%20Limits%2022_10-785559859.pdf)

			Investors to a maximum of 5000 contracts per day. No limits on hedging and arbitrage positions in options and futures
<b>Malaysia: SC</b>	SC and markets may set position limits. Limits revised by SC	Capital markets and securities Act	Positions limits established for each commodity derivative contract under exchange market place regulation. For example in MDEX (Bursa Malaysia), for gold futures: maximum number of net long or net short positions for all month combined: 25000 contracts.
<b>Singapore: MAS</b>	Market proposes position limits with the approval of the MAS	Securities and Futures Act (SFA) and Future Trading Rules SGX	Limits may be established under exchange market place regulations for each class of commodity derivative contract. Requirements to seek MAS' approval on position limits (sections 16A and 59 of the SFA)
<b>South Africa: Financial Services Board (FSB)</b>	Johannesburg Stock Exchange (JSE) sets the position limits, revised by FSB	Section 10.10 and 10.40 in JSE Rules and Derivative Directives	The clearing house may apply position limits defined in rule 10.40 and Derivatives Directives. Differentiation of spot-month limit, single-month limit and all-month-combined limit for commodity derivatives. Bona fide hedging positions may exceed the limits.

## Annex A

### ICE Position limits regime for agricultural commodities

The key components of this regime for agricultural contracts (ICE Futures Europe Robusta Coffee Futures and Options, ICE Futures Europe London Cocoa and Euro Cocoa Futures and Options, ICE Futures Europe White Sugar Futures and Options, ICE Feed Wheat Futures and Options) are:

#### i. Accountability Levels

Accountability Levels apply to all positions in both soft commodity futures and options contracts and are applied to each delivery month individually rather than to an aggregate of positions in all delivery months. The current Accountability Levels for any Soft Commodity position (including aggregate positions) are set out as follows (different limits for front and deferred delivery month):

<b>Contract</b>	<b>Front Delivery Month</b>	<b>Deferred Delivery Month</b>
London Cocoa and Euro Cocoa (in aggregate)	7,500 contracts	15,000 contracts
Robusta Coffee	7,500 contracts	15,000 contracts
White Sugar	10,000 contracts	20,000 contracts
UK Feed Wheat	2,000 contracts	4,000 contracts

If the limit is exceeded, the exchange will require information of any positions held above the limits; this information may include, but is not limited to: the rationale for the position, including intentions in the run up to, and at, expiry; and the existence of any related OTC or physical contracts. The exchange will keep confidential from the relevant Members the existence of the aggregated position, unless positions are held by a non-Member customer who fails to provide the required information.

#### ii. Delivery Limits

A maximum delivery position that may be taken to delivery in any individual delivery month in normal circumstances. Soft Commodity Contracts shall be subject to Delivery Limits; current Delivery Limits are as follows:

Contract	Delivery Limit
London Cocoa and Euro Cocoa (in aggregate)	7,500 contracts
Robusta Coffee	7,500 contracts
White Sugar	10,000 contracts
UK Feed Wheat	2,000 contracts

Any member exceeding the limits without the Delivery Limits exemptions will be subject to investigation and potential disciplinary action.

iii. Delivery Limit Exemptions.

A Member may apply for a Delivery Limit Exemption for a position in excess of the Delivery Limit in certain circumstances. Deliverable Limits are considered adequate for the normal activity, so according to the guidelines, Delivery Limit Exemptions are likely to be needed infrequently and should be regarded as non-routine. There are four types of exemptions:

- (i) Cash and Carry Exemption, designed for cash and carry transactions, where there is a long near position in the spot month offset in a deferred month (i.e. at a discount to the price of the deferred short position, which enables taking delivery in the near month and subsequently redelivering against the short position in transactions that are likely to result in a net profit).
- (ii) Short Financing Exemption, short positions held against finance transactions. There may be some situations where the institution financing a physical position might require a short position in the futures contract in excess of the Delivery Limit (i.e. where there is a number of financing arrangements each smaller than the Delivery Limit but in aggregate greater, or where there is a single financing arrangement in excess of the Delivery Limit). The Exchange will consider a Delivery Limit Exemption application, where sufficient evidence of the existence of the financing transaction can be provided
- (iii) Physical Off-Take Exemption, where there is a clear commitment to deliver the commodity to an end user or for it to be used by the end user itself, where it is the position holder.
- (iv) Stock Holder Exemption, allows for short position holders to deliver an amount up to the relevant Delivery Limit Exemption where there is proven ownership of the relevant commodity.

A Member may apply for more than one Delivery Limit Exemption for a position, providing that the commercial activities are consistent with the criteria used in the exemptions and that the position in total does not exceed the Delivery Limit Exemption amount. The current maximum Delivery Limit Exemption levels are as follows:

<b>Contract</b>	<b>Maximum Delivery Limit Exemption Level</b>
London Cocoa and Euro Cocoa (in aggregate)	15,000 contracts
Robusta Coffee	15,000 contracts
White Sugar	15,000 contracts
UK Feed Wheat	4,000 contracts

### Procedure and Documentation required for the exemptions

The application for exemptions must be submitted by the exchange member holding the positions or position in question. A member is responsible to the exchange for the application or any action under the exemption if the application is on behalf of a non-Member customer.

The application may be made from the day that is two calendar months before the First Notice Day (for the Robusta Coffee and Wheat Futures Contracts) or the Expiry Day (for the Cocoa and White Sugar Futures Contracts) up to the close of business on the day that is 7 clear business days prior to the First Notice Day/Expiry Day. An application will only be considered within 7 full business days of the First Notice Day/Expiry Day if the Exchange determines it is in the interests of maintaining an orderly market to do so, at the Exchange's absolute discretion.

The Member must provide specific supporting documentation to the Exchange depending on the type of the exemption. For all types of exemptions, the exchange requires details such as the name of the member making the application, the name of the beneficial owner of the position, and the specific information/documentation for each exemption.

### Aggregation

The exchange will aggregate positions where it considers that there is commonality of ownership or control of those positions. When providing evidence to demonstrate that positions are controlled and operated independently, the party/parties will be expected to provide information including, but not limited to: the ownership of the entities holding the positions; the ultimate controller(s) of the positions, the Chinese walls in place within an organisation, and the identity of the persons responsible for making individual trading decisions. If the evidence can provide that positions that have been aggregated are controlled and operated independently, the positions will be treated as separate.

### Changes in the limits

Changes made in the current regime come into effect three delivery months forward.

## Annex B

### ICE Position limits regime for Energy commodities.

#### Position limits and Accountability limits on linked contracts

There are mandatory Position Limits on certain oil and refined products contracts (“the Linked Contracts”). Contracts under position limits and periods of the position limits are as follows:

Source Contract	Position Limit Period
ICE WTI Futures	Last three trading days before expiry of ICE WTI Futures Contract (T)
ICE WTI 1 <sup>st</sup> Line Future	Last three trading days before expiry of ICE WTI Futures Contract (T)
ICE WTI Bullet Future	Last three trading days before expiry of ICE WTI Futures Contract (T)
ICE Heating Oil Futures	Last three trading days before expiry of ICE Heating Oil Futures Contract (O)
ICE Heating Oil 1 <sup>st</sup> Line Future	Last three trading days before expiry of ICE Heating Oil Futures Contract (O)
ICE RBOB Gasoline Futures	Last three trading days before expiry of ICE RBOB Gasoline Futures Contract (N)
ICE RBOB Gasoline 1 <sup>st</sup> line Future	Last three trading days before expiry of ICE RBOB Gasoline Futures Contract (N)
ICE Soybean Penultimate Day 1 <sup>st</sup> Line Future	The Spot Month Limit shall apply as of the close of trading on Last Trading Day. The Single and All Month Limits shall apply to any one single month and in all months combined.

Position limits cannot be exceeded unless an exemption is obtained from the Exchange, failure to observe position limits will be a breach of exchange rules and may lead to disciplinary action. If positions are held by several members, position limits will apply to the aggregated net position.

If a position exceeds the Single Month Accountability Level or All Month Accountability Level then the exchange may require further information as to the nature and purpose of the position of that account and may imply that members cannot accept further orders that increase the position, or direct that the position be reduced to a level below the accountability level.

#### Expiry Limits

The exchange may impose mandatory limits on certain contracts for the last five trading days prior to expiry, or for such other period prior to expiry. Expiry limits cannot be exceeded unless an exemption is obtained from the Exchange, failure to observe position limits will be a breach of exchange rules and may lead to disciplinary action. If positions are held by several members, position limits will apply to the aggregated net position. Accountability levels are not imposed by the exchange on those contracts which have expiry limits.

## Delivery Limits

There is a mandatory delivery limit imposed on the ICE Futures Europe Low Sulphur Gasoil Contract on the day of expiry. Delivery limits cannot be exceeded unless an exemption is obtained from the Exchange, failure to observe position limits will be a breach of exchange rules and may lead to disciplinary action. If positions are held by several members, the delivery limit will apply to the aggregated net Long or net Short position. Accountability Levels are not imposed by the Exchange on the ICE Futures Europe Low Sulphur Gasoil Contract.

## Application of Limits

This section is divided in the following subsections:

### i. Aggregation of Linked Contracts

Linked contracts will aggregate into one or more source contracts and will contribute to the overall position limit for that source contract. Example mentioned in the guideline: the ICE Futures Europe WTI Contract and ICE Futures Europe WTI Option Contract will both aggregate into the ICE Futures Europe WTI Contract; positions in certain Contracts will aggregate into the Combined Contracts as indicated in the Position Limit table. Columns 'Aggregate 1 (positive correlation)' and 'Aggregate 2 (negative correlation)' indicate which source Contract each specific Future and Option Contract will aggregate into for reporting purposes; positive correlation will add to the source Contract position, and negative correlation will subtract from the source Contract position.

	<u>Quantity</u>	<u>Aggregate 1 (Positive Correlation)</u>	<u>Aggregate 2 (Negative Correlation)</u>
<b>Initial Position</b>			
Heating Oil Crack – Heating Oil 1 <sup>st</sup> Line vs WTI 1 <sup>st</sup> Line Future (Bbls)	1000	HOF	R
Heating Oil 1 <sup>st</sup> Line Future	5000	(+1000)	
WTI 1 <sup>st</sup> Line Futures	1500		(-1000)
<b>Position after aggregation (ing purposes)</b>			
Heating Oil 1 <sup>st</sup> Line Future	6000		
WTI 1 <sup>st</sup> Line Futures	500		

### ii. Option positions

Options positions will be converted to Futures equivalents in the Exchange Market Surveillance Application (“MSA”) by applying Exchange-generated delta values to the position. The Futures equivalents will be applied to the Futures position to produce the net positions.

If the resulting Futures position exceeds Position Limits or the allowable limits for approved exemptions due to the exercise of options, an additional business day shall be granted to enable such excess position to be reduced below the limit.

iii. Aggregation of positions across multiple clearers

The Exchange will monitor positions held by Members or their clients across multiple Members. Where positions are held across multiple Members, the aggregated net position across those Members will count for the purposes of all Position and Expiry Limits and Accountability Levels.

iv. Linked and independent accounts

In addition to aggregating positions held by the same account across multiple Members, the Exchange will also aggregate separate accounts or sub accounts under common ownership or control. positions held by different business units within a client or Member, or positions held by affiliate companies of a client or Member, shall be aggregated and be subject to the normal Position, Expiry or Delivery Limits and Accountability levels. However, if such positions are independently controlled, then the positions will not be aggregated. Members may request to treat accounts as independently controlled, providing essential information to prove the case.

Exemptions from limits and positions reporting

In order to ask for the exemptions, members will have to include a description of the size and nature of the exemption, an explanation of the nature and extent of the applicant's business, and an undertaking that the applicant will comply with any limitations imposed by the exchange in regard to the positions. The exchange may require additional information.

The exchange may grant exemptions from the position limits for positions qualifying as *bona fide hedge positions*, this may include arbitrage, risk management or spread positions. The exchange may grant exemptions, at its sole discretion, for participants who provide and document a commercial rationale for their requirement or for participants who can demonstrate a commercial need and an ability to execute deliveries that are greater than the limit.

Positions above the required thresholds or subject to enhanced reporting requirements triggered by the Single Month or All Month Accountability levels must be reported on a daily basis.



## 7. MARKET DATA REPORTING

### 7.1. Transaction reporting

#### Obligations to reports transactions (Article 26 of MiFIR)

##### 1. Executive Summary

The purpose of the proposed final draft RTS is to establish the obligations that apply to investment firms and trading venues regarding transaction reporting as described by MiFIR Article 26.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, which aims at providing all the information necessary to CAs to enable them to detect and investigate potential instances of market abuse, and to monitor the fair and orderly functioning of markets and investment firms' activities. The baseline section explains the starting point for assessing the incremental rule related to the final draft RTS, which can be either MiFID I Level 2 or MiFID II Level 1 requirements. The stakeholders identified are investment firms, trading venues, ARMs and CAs. The cost-benefit analysis section contains a cost-benefit analysis of the proposals set out in the final draft RTS, and a subsection on compliance costs.

##### 2. Introduction

Competent Authorities (CAs) are entrusted with responsibilities related to market integrity, market monitoring and market abuse surveillance. In order to meet these responsibilities, and effectively be able to detect potential market abuse or illegal practices, it is critical that they receive accurate and comprehensive information, in a consistent and useful manner for regulatory purpose, on transactions in relevant financial instruments traded in the EU. Whereas MiFID left quite some discretion to CAs as to the scope of the information they wanted to receive in transaction reports as well as to the format of transaction reports, MiFIR takes a different approach and aims at harmonising format and content of transaction reports at the reporting firm level. In addition, and so that competent authorities (CAs) have all necessary tools to fulfil their market integrity and market abuse surveillance regulatory responsibilities, MiFIR substantially extends the scope of information to be included in transaction reports, including the identification of all the parties involved in the transaction in a unique and consistent way.

For a transaction regime to be effective and useful for CAs, it is critical that reporting firms have a clear and harmonised understanding of their transaction reporting obligations. The purpose of the final draft RTS on reporting obligations under Article 26 of MiFIR is to provide a comprehensive and detailed framework for transaction reporting across the EU that supports the integrity of the market, without imposing unnecessary burden on investment firms.

### 3. Baseline

The legislation to consider is

1. Article 25(1) of MiFID that requires investment firms to report details of transactions in financial instruments no later than the close of the following working day.

The MiFID I Implementing Regulation, that already included some requirements resumed in the final draft RTS. For instance, Article 9 of the Implementing Regulation sets out the rules to determine the most relevant market in terms of liquidity. These rules are supplemented to cover additional financial instruments but are not substantially changed in the final draft RTS. Article 13 prescribes the minimum content of transaction reports but it also empowers the CAs to require additional information when deemed necessary, which is however no longer the case under MiFIR.

The Level 3 Guidelines published by ESMA on MiFID Transaction Reporting<sup>85</sup> further elaborated on Transaction Reporting by branches and on what constitutes the execution of transaction.

2. More substantially, MiFiR , and in particular:
  - a. Article 26(1) of MiFIR that requires investment firms to report complete and accurate details of transactions in financial instruments no later than the close of the following working day.
  - b. Article 26(3) that lists the minimum details to be included in transactions reports:
    - details of the names and numbers of the financial instruments bought or sold,
    - the quantity,
    - the dates and times of execution,
    - the transaction prices,
    - a designation to identify the clients on whose behalf the investment firm has executed that transaction,
    - a designation to identify the persons and the computer algorithms within the investment firm responsible for the investment decision and the execution of the transaction,
    - a designation to identify the applicable waiver under which the trade has taken place, means of identifying the investment firms concerned,

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<sup>85</sup> CESR/07-301

- a designation to identify a short sale
- a designation identifying the types of transactions for transactions not carried out on a trading venue
- for commodity derivatives, indication of whether the transaction reduces risk.
- c. Article 26.4 that sets out requirements regarding transmission of orders.
- d. Article 26.6 that places obligation on the investment firms to identify clients that are legal persons with a legal entity identifier.

### Empowerment/RTS

Under Article 26(9) of MiFIR, ESMA has to develop draft RTSs to specify:

- i. data standards and formats for the information contained in transaction reports, including the methods and arrangements for reporting and the form and content of such reports,
- ii. the criteria for defining the most relevant market in terms of liquidity,
- iii. the references of the financial instruments bought or sold, the quantity, the dates and times of execution, the transaction prices, the information and details of the identity of the client, a designation to identify the clients on whose behalf the investment firm has executed that transaction, a designation to identify the persons and the computer algorithms within the investment firm responsible for the investment decision and the execution of the transaction, a designation to identify the applicable waiver under which the trade has taken place, the means of identifying the investment firms concerned, the way in which the transaction was executed, data fields necessary for the processing and analysis of the transaction reports,
- iv. the designation to identify short sales of shares and sovereign debt,
- v. the relevant categories of financial instruments to be reported,
- vi. the conditions upon which legal entity identifiers are developed, attributed and maintained by Member States and the conditions under which those legal entity identifiers are used by investment firms for the designation to identify the clients in the transaction reports.
- vii. the application of transaction reporting obligations to branches of investment firms,
- viii. what constitutes a transaction and execution of a transaction for the purpose of transaction reporting
- ix. when an investment firm is deemed to have transmitted an order.

The incremental obligations arising from the final draft RTS are to be assessed against the MiFID I Level 2 (implementing Regulation)/MiFIR legal baseline described above or existing market practices where they are above the requirements introduced by MiFID I/MiFIR. In most cases, it is however extremely difficult to disentangle the impact and costs associated with the final draft RTS and the impact and costs associated with the Level 1 text. Any indication of costs, including in the compliance cost tables below, is therefore to be taken as an upper bound.

#### 4. Stakeholders

We identified four categories of stakeholders:

- Investment firms
- Trading venues
- Approved Reporting Mechanisms (ARMs)
- CAs

*Investment firms:* investment Firms that execute transactions and have an obligation to provide transaction reports under Article 26(1) of MiFIR will be impacted by the final draft RTS. This group of stakeholders includes investment firms that pass on details of order received from their clients to other investment firms and firms acting on a discretionary basis that place orders with other investment firms, as those activities will fall under the concept of execution of transaction.

*Trading venues:* under Article 26(5) of MiFIR, operators of trading venues will have to report transactions on behalf of their members/participants that are not subject to MiFIR. In that context, operators of trading venues will be affected in the same way as the investment firms that report transactions.

*ARMs:* when an investment firm chooses to report transactions through an ARM, the latter is responsible for the transmission of the report to the CA. The final draft RTS may affect ARMs in case they would need to adapt their IT systems and/or operational arrangements, including their transaction reporting format. However, the impact is expected to be less significant than for the investment firms and trading venues that have an obligation to transaction report, although it may ultimately depend on the effective content of services provided by ARMs. For instance, ARMs may consider offering transaction report “formatting” services.

*CAs:* CAs use transaction data to fulfil their regulatory obligations related to market integrity and market abuse surveillance. In that regard, they will be positively impacted by the final draft RTS as more comprehensive transaction reporting will improve their ability to carry out these functions, as well as provide extensive data to do an in-depth forensic analysis when there is a suspicion of abuse. On the other hand, the changes implied by the final draft RTS will require CAs to modify existing processes and amend/upgrade their IT systems.

## 5. Cost-Benefit Analysis

This section provides an analysis of the costs and benefits arising from the final draft RTS in each of the following areas:

1. Data standards and formats
2. Definition of a transaction and execution of a transaction
3. Transmission of an order
4. Identification of the investment firm, of natural persons and additional details of identity
5. Identification of persons and the computer algorithm within the investment firm
6. Identification of applicable waiver
7. Identification of short sales
8. Legal Entity Identifiers (LEIs)
9. Reporting of transactions executed by branches
10. Methods and arrangements to report financial transactions
11. Determination of the most relevant market in terms of liquidity

### 5.1. Data standards and formats

#### 5.1.1. Summary cost-benefit analysis

In order for CAs to make the most effective and efficient use of the transaction reports received and fulfil their market integrity responsibilities, it is critical for the information to be reported in a complete and harmonised way not only as regards the details of the transactions but also with respect to standards and formats.

#### Details to be reported in transaction reports

The details to be provided in transaction reports significantly expand on current market practices, including regulatory practices, to reflect, amongst other things, the wider scope of financial instruments covered, the expanded meaning of execution of a transaction and the transmission of an order scenario, the newly introduced identifier of clients, of persons or algorithms responsible for the investment decision and execution, and the identification of waivers and short sales.

The final draft RTS is a source of substantial incremental obligations and costs for investment firms, arising from two main sources.

Firstly, investment firms will incur costs to gather the information that is not currently available in their existing infrastructure, such as the components for natural persons' identifiers.

Second, and possibly more importantly, even where many of the additional elements would be already available in existing infrastructures and only minor adjustments required, they are currently not sourced or provided for transaction reporting purposes and complying with the final draft RTS will require significant additional technology developments. One of the major challenges will be to merge data from many different systems, up to 15 as identified by one respondent to the Questionnaire, used for largely independent business processes to form a single transaction report.

The draft RTS also introduces a significant change to current market practices by replacing the existing reporting framework (buy/sell indicator, counterparty and client fields) with buyer and seller fields. This will require substantial system changes to IT systems, and entail significant costs.

#### Format for transaction reporting

In order to facilitate an efficient use and analysis of the data reported by CAs, as well as the exchange of the data, the final draft RTS sets out that the transaction reporting data is to be made available to CAs in an electronic and machine-readable format and common XML template in accordance with ISO 20022 methodology.

The incremental obligations arising from the draft RTS is therefore to be assessed against current market practices, including regulatory practices.

First, the final draft RTS introduces the obligation for the data to be made available in a machine readable format, as in the context of for trade publication report. The objective is that the data can be easily read by CAs, including when they are exchanged among CAs.

The second newly introduced obligation is to require transaction reports to be made available in common XML template in accordance with ISO 20022 methodology.

The structure and the syntax of the various formats currently accepted by CAs widely differ. So do the current formats in use by market participants, which include;

- a. XML (often very similar to that used for the exchange of transactions reports amongst CAs;
- b. Fixed length;
- c. CSV;
- d. Excel .



ISO20022 is used in payments and the T2S EU initiative. CAs currently use a TREM/RDS format to support transaction reporting.

According to the research conducted and the work of consultants used by ESMA, there is no uniformity of formats in terms of level of adoption or a dominant format used across all products and jurisdictions.

FIX is a delimited format used in trading implementations. FIXML is an XML syntax for FIX messages. FIXML is quite compact given its use in securities pre-trade areas. Extensibility is ensured by the types of application message and message fields. From a regulatory perspective it supports Dodd-Frank and CFTC reporting requirements and other initiatives in Australia and Canada.

The implementation of the FIXML standard would have the least impact on market participants' operating models, information systems and processes. However, according to the work done by the consultants used by ESMA, the delimited syntax of FIX is used in the majority of application whereas FIXML is not widely deployed. Thus, if ESMA were to choose FIXML as the MiFIR reporting standard, it would impact the majority of market participants, including those currently using FIX.

FpML is an XML based messaging standard for processing OTC derivatives. According to ISDA, its use is very high for trade capture and confirmation services for both financial and non-financial firms. This standard supports several regulatory initiatives such as Dodd Frank and CFTC reporting requirements in the US and to a limited extent EMIR in Europe (on a voluntary basis). Its syntax is quite verbose, which can impact performance of processing large volumes of data. It is a more complex format than the other formats and there is more effort to train, manage, implement and support when compared to the simpler formats.

ISO 20022 is an international standard for the development of financial messages. Its scope includes international (cross-border) and domestic financial communication between financial institutions, their clients and 'market infrastructures'. In the securities industry, this standard supports T2S EU initiative and other regulatory initiatives in the US and Asia. It is mainly used for post trade but not in pre-trade or trade operations. Therefore its implementation would require training of staff when extended to processes and reporting where staff currently does not have that knowledge.

ISO 20022 differentiates between three layers: business, logical and physical. Such structure allows easier linking between legal and technical requirements, better ensuring the reuse of financial concepts (business layer) and building blocks (logical layer) across different regulatory frameworks as well as extensibility and flexibility (e.g. at the physical level it can support multiple syntaxes).

<b>Policy Objective</b>	Enabling CAs to detect and investigate potential instances of market abuse, and to monitor the fair and orderly functioning of markets and investment firms' activities.
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<b>Technical Proposal</b>	Data standards and formats for transaction reporting. See Article 1 and Annex I of RTS 22 for more details.
<i>Benefits</i>	<p>The final draft RTS provides predictability regarding the content and format of transaction reporting for investment firms across the EU.</p> <p>The details set out in transaction reports will provide additional elements and data to CAs to fulfil their market abuse and market monitoring regulatory responsibilities.</p> <p>The use of harmonised formats and the machine readability requirement will facilitate the processing and analysis of transaction data by CAs</p> <p>The ISO 20022 methodology has flexibility to accommodate future developments.</p>
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	CAs will incur one-off staff, including staff training costs, and IT costs to modify existing processes and operational arrangements. They will also incur one-off and on-going IT costs to adjust/upgrade their IT systems to be able to receive, analyse and exchange transaction reporting data.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Reporting firms, as well as trading venues, will incur substantial one-off staff and IT costs to ensure that their infrastructure is able to source all the required transaction report data, either internally or externally. They will incur one-off IT costs to connect the various systems to the transaction reporting infrastructure and to provide the post-trade multiple enrichments of each report to ensure all required data are attached.</p> <p>This may require not only enhancements to existing IT infrastructure but a complete rebuilt of IT systems. Compliance costs may be further increased by the complexity or outstanding uncertainties attached to some fields.</p> <p>In terms of formats, ISO 20022 may be a source of non-insignificant cost for investment firms, including for firms that are not active in the business areas where ISO 20022 are most commonly used, such as payment or settlement or where they have to report in other formats to third-country CAs.</p>
<i>Costs to other stakeholders</i>	ARMs may incur one-off and on-going IT cost to accommodate the ISO 20022 and the machine readable format. The magnitude of costs will ultimately depend on the breadth of the services offered to investment firms transaction reporting through their systems, such as



	format translation services.
<i>Indirect costs</i>	<p>The significant costs entailed by the new transaction reporting regime may be passed on by investment firms to clients. They may also act as a deterrent for potential new entrants.</p> <p>The complexity of some of the new fields will likely be a source of errors in transaction reports, at least in the short term.</p> <p>As they receive more thorough data, CAs may face additional costs to investigate an increased number of potential cases of market abuse.</p>

### 5.1.2. Compliance costs

A questionnaire to gather the main costs regarding the on transaction reporting regime was sent in March 2015. Costs were provided based on the RTS annexed to the CP.

Five MIFID investment firms, four credit institutions, two MIFID investment firms engaged in algorithmic trading, one credit institution engaged in algorithmic trading and one bank provided data on the costs arising from complying with the RTS on transaction reporting.

In order to report the required data according to the standards and formats established, large firms (more than 1000 employees) estimated costs ranging from less than EUR 50k to 5m (one-off and on-going) for compliance costs; arguing that these costs are due to the fact that their systems have to be substantially re-configured and updated to meet the new requirements. Small and medium firms would incur costs up to EUR 250k.

Ensuring timely availability of all data required for the transaction reporting would require small and medium firms to incur one-off and on-going costs up to EUR 250k. Large firms reported a very large range of compliance costs, from EUR 50k to 10m for one-off costs and to EUR 5m for on-going costs. Particularly, a large MiFID investment firm reported that the main driver for these costs are the changes to the systems required to ensure that all the data is captured, validated, enriched and messaged to regulators accurately.

Proposed legal obligation	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Reporting of the required data according to the standards and formats established	One-off	50k-250k [1]	<50k [1]	50k-250k [2]	50k-5m [6]
	On-going	<50k [1]	<50k [1]	50k-250k [1]	<50k-5m [5]

Ensuring timely availability of all the data required for the transaction reporting	One-off	50k-250k [1]	<50k [1]	50k-250k [2]	50k->10m [8]
	On-going	<50k [1]	<50k [1]	50k-250k [1]	<50k-250k [6] 1m-5m [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

## 5.2. Transaction and execution of transaction

### 5.2.1. Summary cost-benefit analysis

The concepts of “transactions” and “execution of a transaction” are critical in the definition of a harmonised transaction reporting regime.

Under the MiFID framework, the MiFID Implementing Regulation referred to a transaction by reference to the purchase and sale of a financial instrument. This definition is used both for transaction reporting and transparency purposes. As regards the execution of a transaction, the CESR Guidelines just provided a minimum list of circumstances under which CAs agreed to collect information and require investment firms to submit transaction reports.

The final draft RTS provides consistent definitions of transaction and execution of transaction which aim to ensure that CAs receive accurate information on changes in investment firms’ or their clients’ positions without placing unnecessary administrative burden on market participants.

The incremental obligation arising from the final draft RTS is twofold.

First, taking into account market practices, supervisory experience and market developments, the final draft RTS extends the meaning of a transaction for reporting purposes beyond the purchase and sale of reportable financial instruments. The objective is to collect information on every acquisition or disposal of reportable instruments by an investment firm or its clients where the investment firm or its client makes a real and active investment decision at the time of acquisition or disposal and where that acquisition or disposal may therefore potentially constitute a market abuse.

Conversely, and not to unnecessary burden investment firms, the final draft RTS excludes from the scope of transactions for reporting purposes acquisitions or disposals of financial instruments that take place purely as a result of external events or pre-determined contractual arrangements or administrative activities. With that same aim in mind, the final draft RTS also excludes post-trade events from the meaning of transaction as there is a limited risk of market abuse occurring at the clearing and settlement stage.

Second, compared to market/regulatory practices, the final draft RTS extends the definition of what constitutes the execution of a transaction to include not only the situation where the investment firm concludes a transaction itself but also where the investment firms receives and order and passes it on for execution to another investment firm, unless all the order details are being passed to the receiving firm, or where the investment firm makes an

investment decision on behalf of its clients under a discretionary mandate. The aim is to enable CAs to identify both the persons making the investment decision and the persons executing the transaction for potential market abuse detection purposes.

Those two sets of incremental obligations, combined with the increase in reportable instruments, will substantially increase the number of transaction reports by investment firms. More specifically, reception/transmission of orders, increases and decreases in notional, primary and grey market activity, indices and basket transactions, bespoke equity derivatives and STIR operations (both the underlying leg and the swap leg) were among the sources of the expected increase in the number of transaction reports most frequently identified by respondents to the Questionnaire. The expected increase in transaction reports varies with the size of investment firm, as reflected in the Compliance cost table.

The revised concepts of “transaction” and “execution of a transaction” will also require many investment firms to re-engineer their transaction reporting infrastructure to be compliant. A large proportion of existing code base will have to be re-written. All this is expected to be a source of significant costs.

<b>Policy Objective</b>	Enabling CAs to fulfil their market integrity responsibilities.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Meaning of a transaction. See Article 2 of RTS 22 for more details.</li> <li>- Meaning of execution of a transaction. See Article 3 of RTS 22 for more details.</li> </ul>
<b>Benefits</b>	<p>The final draft RTS provides clarity and legal certainty as to the meaning of a transaction and execution of a transaction and sets the ground for a harmonised framework across CAs.</p> <p>CAs will receive transaction reports on all acquisitions and disposals of reportable financial instruments that may be a source of market abuse. They will also be able to identify both the investment firm responsible for the investment decision and the investment firm concluding the transaction.</p> <p>The extended concepts of transaction and execution of a transaction will provide additional elements to CAs to detect potential cases of market abuse or other investment firms’ potential misbehaviour.</p>
<b>Cost to regulator:</b>	CAs may incur one-off IT costs to enhance market surveillance/ monitoring tools to address the increased number of transaction reports received and analyse the broader scope of information

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>received.</p> <p>They may also incur one-off staff training costs and on-going staff costs , should they have to increase staff in market surveillance.</p>
<p>Compliance cost:</p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Investment firms will incur one-off, as well as on-going staff and IT costs to accommodate the increase in the number of transaction reports and to re-engineer, if not rebuild, their transaction reporting infrastructure to address the extended definition of a transaction and of execution of a transaction.</p> <p>The magnitude of the associated costs will likely increase with the size of the investment firm.</p> <p>It is worth noting that asset management companies will be particularly affected by the extension of execution of a transaction to investment decisions based on discretionary mandate. As anecdotal evidence, an asset management company expects to move from less than 1000 transaction reports to a few hundred thousand per day.</p>
Cost to other stakeholders	ARMs may need to ensure that they have sufficient capacity to accommodate the increased number of transaction reports.
Indirect costs	Compliance cost will likely be passed on to clients.

### 5.2.2. Compliance costs

Regarding transaction reporting in accordance with the amended definitions of transaction and execution of transaction, large firms estimated costs from less than EUR 50k to more than 10m, arising mainly from IT implementation in different areas, involving trade processing infrastructure, policies, reference data and documentation. This range of costs is very broad among large firms, and they are not correlated with actual number of employees. Compliance costs estimates for medium sizes firms range between less than EUR 50k to 250k.

Proposed legal obligation	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Transaction reporting in accordance with the amended definitions of transaction and execution of	One-off	50k-250k [1]	<50k [1]	50k-250k [2]	<50k-1m [5] 5m->10m [5]
	On-going	<50k [1]	<50k [1]	50k-250k [1]	<50k-250k [6] 1m->10m

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

### 5.3. Transmission of an order

#### 5.3.1. Summary cost-benefit analysis

Where an investment firm receives an order from a client and transmits it to another investment firm for execution, the transmitting firm remains responsible of the transaction report unless all the orders details have been transmitted to the receiving firm. Clarification of the circumstances where an investment firm is deemed to have executed a transaction or transmitted an order is critical to avoid under and over-reporting.

The incremental obligation arising from the final draft RTS is the conditions to be met for a transmitting firm to be deemed to have transmitted an order and, accordingly, to be exempted from transaction reporting obligations. Taking into account the comments received, the final draft RTS has been simplified. It now focusses on the list of order details to be transmitted and on the agreement to be entered into by the transmitting firm and the receiving firm. The purpose of the agreement is to specify the timing for the provision of those order details and to confirm the obligation on the receiving firm to validate the information report for obvious errors and omissions before submitting a transaction report.

<b>Policy Objective</b>	Ensuring clear delineation of transaction reporting obligations between transmitting firms and receiving firms so as to avoid, or limit, over-reporting in case of doubts.
<b>Technical Proposal</b>	Transmission of an order. See Article 4 of RTS 22 for more details.
Benefits	<p>The final draft RTS provides clarity, legal certainty and predictability as to the circumstances where an order has been transmitted for transaction reporting purposes.</p> <p>It limit risks of over-reporting, i.e. of reporting by both the transmitting and the receiving firms where they would be uncertain as to final responsibility.</p>
Cost to regulator:	None identified.
<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	
Compliance cost:	Both transmitting and receiving firms will incur one-off staff costs to enter into the agreement foreseen in the RTS, or amend existing

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>agreements.</p> <p>Transmitting firms will incur on-going IT costs to transmit all necessary order details, in due time.</p> <p>Receiving firms will incur one-off and on-going IT costs to validate the information received for obvious errors.t</p>
<p>Cost to other stakeholders</p>	<p>None identified.</p>
<p>Indirect costs</p>	<p>Increased compliance costs for transmitting firms may be passed on to their clients.</p>

#### **5.4. Identification of the investment firm executing the transaction, of natural persons, clients and decision maker.**

##### **5.4.1. Summary cost-benefit analysis**

Current market practices in respect of identification of investment firms and clients vary across Member States.

Investment firms are identified by a unique code chosen by the firm; there is no harmonised methodology to set this code.

As regards clients, some Members States already require some form of client identification to be included in transaction reports but the identifiers used are quite diverse. They may include a unique tax or permanent personal national identification number, a passport/identity card number or just a proprietary client identifier designed by the investment firm, with the same person being designated by two or more identifiers depending on the number of investment firms it is a client of.

For the purpose of monitoring of market integrity, it is essential that all the parties involved in the transaction can be identified in a unique and consistent manner. Including those unique identifiers in transaction reports will enable CAs to conduct more efficient market surveillance and market monitoring activities. It will also reduce the burden on investment firms that may currently be faced with ad-hoc requests from CAs seeking to identify client(s) based on a first and preliminary analysis of the transaction reports received.

##### **Identification of the investment firm executing a transaction**

The incremental obligation arising from the final draft RTS is the obligation for an investment firm that executes a transaction is to be identified with a validated, issued and duly renewed ISO 17442 Legal Entity Identifier (LEI) code. The investment firm must ensure that the reference data related to its LEI is renewed according to the terms of an accredited Local

Operating Unit of the Global LEI System. When the investment firm is not eligible to an LEI, it has to be identified in the same way as a natural person.

Identification of natural persons, identity of clients and details for decision makers

Under Article 26(9)(c ) of MiFIR, ESMA is mandated to draft RTS to specify “(...) the information and details of the identity of the client, a designation to identify the clients on whose behalf the investment firm has executed that transaction (...)”

The incremental obligation arising from the draft RTS here is twofold again.

First, natural persons have to be identified using a concatenation of the two letter country code of the nationality of the person followed by the identifier listed in Annex II of the RTS, which depends on the nationality of the person. This identifier can either reflect national practices for identifying a natural person, such as passport number, or can be an artificially created identifier (“CONCAT”) based on date of birth and five first characters of the first name and of the surname. The final draft RTS further clarifies the identifier to be used in specific circumstances such as dual citizenship.

Second, and in addition to the above, when the transaction is executed on behalf of a client who is a natural person, the transaction report has to include the full name and date of birth the client. The final draft RTS further clarifies the details to be included in the transaction report where the investment decision is made by person other than the client.

<b>Policy Objective</b>	Ensuring that the parties involved in the transaction can be identified in a unique and consistent manner
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Identification of the investment firms executing a transaction. See Article 5 of RTS 22 for more details.</li> <li>- Designation to identify natural persons. See Article 6 and Annex II of RTS 22 for more details.</li> <li>- Details of the identity of the client and identifier and details for the decision maker. See Article 7 and Annex I of RTS 22 for more details.</li> </ul>
<b>Benefits</b>	<p>CAs will be able to conduct more efficient market surveillance and market abuse investigations based on transaction reports.</p> <p>They will be able to focus on transaction reports that do indeed raise potential market abuse concerns rather than starting to inquire for further information on a broader set of transactions in the first place.</p>

	Market participants will be faced with less ad-hoc requests from CAs.
<p>Cost to regulator:</p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CAs may incur one-off IT and staff training costs to enhance market surveillance tools to make the most of the additional identity details provided in transaction reports.</p>
<p>Compliance cost:</p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Investment firms that do not have yet have an LEI under EMIR will incur one-off and going costs to get an LEI and renew it on an annual basis. This will impact investment firms with business lines that are currently not affected by EMIR, i.e. that only trade in cash equities and bonds and fund management companies.</p> <p>The magnitude of costs associated with the natural person identifier will depend on current market practices and on the option picked up by the CA.</p> <p>One-off staff and IT costs, as well as on-going staff costs, will be all the more substantial where they would combine an outreach exercise to every single natural person client of the investment firm, boarding of data and updating, as clients' nationality and identification documents may or will change overtime.</p> <p>All investment firms executing transactions on behalf of clients will face one-off staff and IT costs to enter, in their systems, the full name and date of birth of clients as well as details of other decision makers.</p>
Cost to other stakeholders	Non identified
Indirect costs	Feasibility of data gathering in some third countries due to local laws, including privacy law, may have implications on the ability of investment firms to trade with clients. In addition, concerns about the use of proprietary data may impact client demand.

#### 5.4.2. Compliance costs

Complying with the rule of the identification of the natural persons would require small and medium size investment firms to incur costs (one-off and on-going) ranging from EUR 50k to 250k. Compliance costs among large firms are very broad, from EUR 50k to 5m (one-off) and 1m (on-going). Potential drivers for these costs are the resources needed to source data for a high volume of clients. One firm reported that the actual costs can be much higher considering the costs incurred in relation to retail networks.



Proposed legal obligation	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Identification of the natural persons in line with the approach defined in the RTS	One-off	50K-250K [1]	<50k [1]	50-250K [2]	50k-5m [5]
	On-going	<50k [1]	N/A	50K-250k [1]	50k-1m [5]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

## 5.5. Identification of persons or computer algorithms responsible for investment decisions and for the execution of a transaction

### 5.5.1. Summary cost-benefit analysis

Article 26(9)(c) of MiFIR empowers ESMA to draft RTSs to specify “(...) a designation to identify the persons and the computer algorithms within the investment firm responsible for the investment decision and the execution of a transaction (...)”.

As regards persons, the additional obligations arising from the final draft RTS first relate to the identification of the persons responsible for investment decision or execution of a transaction in the same way as natural persons (see above). Although there is no industry standard model for identifying traders, traders are typically identified based on internal trader id. However, the use of internal codes would prevent CAs from analysing the information reported in respect of clients and traders using the same methodology. In addition, traders are not required to be registered with the CAs in all Member States and identification based on internal proprietary id code would not have proved a viable harmonised solution

The final draft RTS also requires investment firm to determine, on a consistent basis, the person taking the primary responsibility for a decision where more than one person within the investment firm makes the investment decision. Taking into account the comments received, the final draft RTS has been simplified and no longer requires a specific identification of committees where decisions are made by formal committees. This will lead to reduced compliance costs.

As regards algorithms, the additional obligation arising from the final RTS is the conditions to be met for the designation of the algorithms, including the consistency and uniqueness of the code used. According to one trade association that responded to the Questionnaire, most firms identify each algorithm separately. However, individual responses provided a somewhat different flavor. Some respondents have implanted processes to identify algorithms to comply with the obligations set by Deutsche Boerse Group under German law but this applies to a sub- set of algorithms. Many respondents to the Questionnaire use algorithms for execution only. When they use algorithms, the situation is again quite diverse. Some respondents are able to distinguish the two sets of algorithms in the algorithm

monitoring tool which is connected to the order book and transaction log but the distinction is not recorded for transaction reporting purposes. At another large firm, algorithms systematically execute the investment decisions they take and the distinction between the two is not considered relevant. Another one uses both sets of algorithms but is not able to distinguish amongst them.

<b>Policy Objective</b>	Ensuring that computer algorithms and persons within investment firms responsible for investment decisions or execution of transactions are identified in a consistent manner.
<b>Technical Proposal</b>	<p>The final draft RTS covers the following areas:</p> <ul style="list-style-type: none"> <li>- Identification of persons or computer algorithms responsible for investment decisions. See Article 8 of RTS 22 for more details.</li> <li>- Identification of persons or computer algorithms responsible for the execution of a transaction. See Article 7 of RTS 22 for more details identify natural persons.</li> </ul>
Benefits	CAs
Cost to regulator:	None identified.
<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	
Compliance cost:	<p>All investment firms will likely incur one-off and on-going staff and IT costs to identify persons within their firms that are responsible for investment decision or execution of transactions with the natural person identifier and ensure the data is captured in transaction reports. They will also incur one-off and on-going staff costs to set up procedures to designate the person (or algorithm) with primary responsibility in case of “joint” decision/execution</p> <p>Investment firms will also incur one-off and on-going staff and IT costs to enhance internal systems and arrangements to ensure that each algorithm responsible for an investment decision or execution of a transaction is identified separately. For the largest firms, the main challenge will be the creation of a centrally administered algorithm identification system with standardised processes across different product lines and divisions. This will increase the operational burden and costs of maintenance, recording and storage of information for firms.</p> <p>For many firms, the main challenge lays with third-party tools, as opposed to in-house tools, as they will be reliant on a third party</p>
<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	

	constructing the algorithm to provide an identifier.
Cost to other stakeholders	
Indirect costs	None identified

### 5.5.2. Compliance costs

Compliance costs for the identification of the algorithm in line with the approach defined in the RTS (item 5) range from EUR 50k to 5m. Potential drivers for these costs are related to the changes in the requirements of execution management systems and subsequent transport of algorithm identifiers through to transaction reporting and to creating an algorithm identification system and standardising all processes across the different products and departments.

Proposed legal obligation	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Identification of the algorithm in line with the approach defined in the RTS	One-off	<50k-250k [1]	<50k [1]	50k-250k [2]	50k-250k [3] 1m-5m [2]
	Recurring	<50k [1]	N/A	50k-250k [1]	<50k-1m [5]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

## 5.6. Identification of applicable waiver

### 5.6.1. Summary Cost Benefit Analysis

Article 26(9)(c) of MiFIR empowers ESMA to draft RTSs to specify “(...) a designation to identify the applicable waiver under which the trade has taken place(...)”.

The final draft RTS simply refers to the applicable pre-trade transparency waivers foreseen in Article 4 of MiFIR in respect of equity and equity-like instruments and in Article 9 of MiFIR in respect of non-equity instruments.

Taking into account the comments received, the relevant fields in Annex I have been amended to clarify that the designation to identify an applicable waiver applies only to market-facing transactions executed on EEA trading venues and that, as only member/participants of trading venues may benefit from a pre-trade transparency waiver, the applicable waiver field should only be populated by those direct members and participants, and not by transmitting firms.

As regards applicable waivers in respect of equity and equity-like instruments, trading venues are required under final draft RTS 1 to publish post trade flags that cater for the different type of pre- trade waivers under which a transaction may have taken place. Trading venues may also decide to include the relevant flag in the confirmation of the execution sent to the investment firm, which will reduce compliance costs.

As regards non-equity instruments, ESMA had no mandate to design transparency flags for transactions undertaken under a pre-trade transparency waiver. It will be either for trading venues to make the relevant IT investment on a voluntary basis to make the relevant reporting flag available to members/participants or for the investment firm to source the information separately.

<b>Policy Objective</b>	Ensuring that CAs have all relevant information to fulfil their market integrity and market monitoring responsibilities.
<b>Technical Proposal</b>	Designation to identify an applicable waiver. See Article 10 of RTS 22 for more details.
Benefits	The clarification provided in the final draft RTS as to the scope of the requirement and consistency with transparency flags for equity and equity-like instruments will reduce compliance costs.
Cost to regulator: - One-off - On-going	None identified
Compliance cost: - One-off - On-going	Investment firms may incur one-off and going costs to populate the waiver indicator field when the indicator is not provided by the trading venue upon confirmation of the transaction, including in respect of non-equity instruments.  We consider those costs to be mainly driven by Level 1.i
Cost to other stakeholders	Trading venues may incur IT costs to include relevant flags in confirmations.
Indirect costs	None identified

## 5.7. Identification of short sales in shares and sovereign debt

### 5.7.1. Summary cost benefit analysis

Article 26(3) of MiFIR calls for the transaction report to include a designation to identify a short sale as defined in Article 2(1)(b) of the Short Selling Regulation (EU) 236/2012 ("SSR") in respect of any shares or sovereign debt within the scope of Articles 12, 13 and 17 of that Regulation.

The incremental obligation arising from the final draft RTS is the requirement to mark the activity of the investment firms and its clients with the specific flags prescribed in the RTS. The final draft RTS also requires investment firms, when aggregating orders, to identify short sales in each transaction executed for each client. The RTS also clarifies that short sales have to be identified at the time of the execution.

Conversely, the absence of distinction between partial and full short sales, and the ability for investment firm to rely on the information provided by its clients to identify short sales transactions in which the client is a seller will reduce compliance costs. Firms are currently reliant on clients notifying them of short sales as they do not have visibility of clients positions at multiple firms or over any locate agreements they may have in place to borrow securities that they are selling short.

According to the responses to the Questionnaire, investment firms have systems and procedures in place to distinguish short sale transactions in accordance with the Short Sale Regulation from other activities. However, firms do not calculate on a per transaction basis at legal entity level whether an individual transaction has taken the firm short. Individual desks do not monitor the overall position of the firm when trading due to information barriers. Respondents stressed that the current proposal would require significant infrastructure build and operational arrangements to calculate the firm's positions in relevant instruments in real-time across the legal entity, taking into account any local arrangements. However, we consider that identifying a short sale at the level of the investment firm is a Level 1 cost, as Article 26(3) of MiFIR expressly refers to SSR, which requires short sales to be identified at the level of the investment firm.

<b>Policy Objective</b>	Ensuring that CAs have all relevant information to fulfil their supervisory responsibilities, including in respect of the notifications to be made by legal and natural persons under SSR.
<b>Technical Proposal</b>	Designation to identify short sales. See Article 11 of RTS 22 for more details.
<b>Benefits</b>	The final draft RTS provides clarity and legal certainty on how to identify short sales in transaction reports under Article 26(3) of MiFIR and will contribute to more consistent transaction reports across investment firms.

	<p>Indication of short sales in transaction reports will enable CAs to more effectively check compliance with notifications under SSR and will provide useful additional information for the detection of potential market abuse.</p> <p>Reliance on the information provided by clients and the absence of distinction between full and partial short sales will reduce compliance costs.</p>
<p>Cost to regulator:</p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	None identified.
<p>Compliance cost:</p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Investment firms will be faced with significant infrastructure build and operational arrangements to calculate the firm's positions in relevant instruments in real-time across the legal entity, taking into account any locate arrangements. They will also incur additional on-going costs to collect the short sale status of each sell transaction undertaken by each client. However we consider those costs to be mostly driven by Level 1.</p> <p>The costs more specifically driven by the RTS, e.g. for the identification of short sales in each transaction in case of aggregated orders, based on the information provided by clients, are not expected to be significant.</p>
Cost to other stakeholders	Some clients may incur costs to identify whether a transaction is a short sale. Here again, we consider the costs to be driven by Level 1.
Indirect costs	None identified

Compliance costs regarding the flagging of the short sale transactions by the client, range from EUR 50k to 5m, due also to the required modification and adaptation of the client order capture mechanisms.

In relation to the flagging of the short sale transaction compliance costs are estimated at EUR 50k to 250k for medium size firms and up to 10m for large firms. Drivers for such costs are IT infrastructure and daily operational resources needed on a trade basis at an entity level in real-time across all products in scope. However, most of these costs are attributed to Level 1 Regulation.

Proposed legal obligation	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Flagging of the short sale transactions by the client	One-off	N/A	<50k [1]	50k-250k [2]	<50k-250k [3] 1m-5m [2]
	Recurring	N/A	N/A	50k-250k [1]	<50k-5m [6]
Flagging of the short sale transactions by the firm itself	One-off	50k-250k [1]	N/A	50k-250k [2]	<50k-250k [5] 1m-5m [3]
	Recurring	50k-250k [1]	N/A	50k-250k [1]	<50k-250k [5] 1m->10m [2]
Flagging of the transactions that are short sale and the firm itself is a seller	One-off	N/A	N/A	50k-250k [2]	<50k-1m [6] 5m-10m [2]
	Recurring	N/A	N/A	50k-250k [1]	<50k-250k [5] 5m-10m [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

## 5.8. Legal Entity Identifiers (LEIs)

### 5.8.1. Summary cost-benefit analysis

The principles set forth in the final draft RTS under which Member States have to ensure that the LEIs are developed, attributed and maintained are not considered to be a source of additional obligations. Those principles build on the one set out in EMIR and are consistent with current market practices, as reflected by the governance framework of the LEI Regulatory Oversight Committee. The ISO 17442 standards under which the LEI are developed meets all the principles set out in the final draft RTS.

ISO LEI is currently used for EMIR reporting purposes and, occasionally for other regulatory purposes, such as Dodd-Frank in the United States.

While article 26(6) of MiFIR establishes the obligation for investment firms to identify clients that are legal entities with an LEI, the incremental obligation for investment firms associated with the final draft RTS is the requirement for the firm to check that the LEI provided by its client, is included in the Global LEI database maintained by the Central Operating Unit (COU) and pertains to the client concerned. The final draft RTS also makes clear that the investment firm may not provide an investment service that would trigger a transaction report to an LEI eligible client before the client has provided its LEI.

Various procedures are currently in place to validate LEIs but these processes are in various states of maturity across the industry. Based on the responses to the Questionnaire,

validation is done mainly using third party vendors: Avox, Local Operating Units (LOU) GMEI Utility and Open LEI portal. According to a professional association, it may be another year or two before the quality of these processes reaches a level that is acceptable to the regulators. A couple of respondents are concerned that there are currently no automated systems in place to verify the correctness of LEIs, which is done manually. A couple of smaller respondents currently have no procedure in place to validate LEIs.

<b>Policy Objective</b>	Ensuring that CAs have all relevant information to fulfil their supervisory responsibilities, including through the identification of clients that are legal persons in a unique, consistent and reliable way in transaction reports.
<b>Technical Proposal</b>	Conditions upon which legal entity identifiers are to be developed, attributed and maintained. See Article 13 of RTS 22 for more details.
Benefits	Clients that are legal persons will be identified in a unique, accurate, consistent and reliable way in transaction reports across EU investment firms. This will enable CAs to more accurately detect potential cases of market abuse, while avoiding to burden investment firms with ad-hoc requests to identify clients in potentially suspicious transactions. Those ad-hoc requests have proven to be time and resource intensive when those potentially suspicious transactions involve different firms and different CAs or third country regulators.
Cost to regulator: - One-off - On-going	<p>CAs may incur on-going supervisory costs to ensure that investment firms do not provide investment services to legal person clients that did not provide an LEI.</p> <p>We consider those costs to be driven by Level 1.</p>
Compliance cost: - One-off - On-going	<p>Investment firms will incur one-off costs to check that the LEI provided by each client that is a legal person is included in the data base maintained by the COU and pertains to its client. The second challenge, and source of costs, will be to include, capture and transport LEIs to the transaction reporting infrastructure.</p> <p>In addition, firms will have to make arrangements to collect LEIs within clients whose business lines are currently not impacted by EMIR, e.g. counterparties who only trade Cash Equities and Bond trading, including large volumes of individual underlying funds which are unique legal entities for reporting purposes. However, we consider that the costs associated with this outreach exercise are driven by Level 1.</p>
Cost to other stakeholders	Clients of investment firms that are legal persons and currently do not have an LEI will incur one-off and on-going costs to obtain and



	<p>maintain an LEI. This may be of particular relevance for corporates that are currently not counterparties to OTC derivative transactions under EMIR or under a similar LEI requirement in third countries.</p> <p>We consider those costs to be driven by Level 1.</p>
Indirect costs	<p>Obtaining and maintaining an LEI may be considered as too costly by some clients trading unfrequently, which, as a consequence, may be prevented from trading.</p> <p>EU firms will be faced with very significant challenges in collecting LEIs from non EEA/non EEA clients and may be obliged to overturn business to the benefit on non EU competitors.</p> <p>Here again, we consider those costs to be driven by Level 1.</p>

### 5.8.2. Compliance costs

Compliance costs related to the validation of LEI are estimated to be (both one-off and on-going) between EUR 50k to 250k for medium size firms. Large firms will incur one-off and recurring costs up to EUR 1m. One large investment firm reported it will incur recurring costs more than EUR 10m, driven by the third party costs to extend the client scope for provision of LEIs.

		Number of employees			
Proposed legal obligation	Type of cost	[1-50]	[51-250]	[251-1000]	>1000
Validation of LEI	One-off	N/A	<50k [1]	50k-250k [2]	<50k-1m [6]
	On-going	N/A	N/A	50k-250k [1]	<50k-1m [5] >10m [1]

Note: Costs presented in EUR; the number of institutions that replied to the CBA questionnaire reported in brackets

## 5.9. Reporting of transactions executed by branches

### 5.9.1. Summary cost-benefit analysis

The uncertainties surrounding the reporting of transactions executed by branches under MiFID I have resulted in the same transaction reports being submitted to both the home and the host CAs and, in some instances, transactions not being reported at all.

The final draft RTS provides a much clearer and simpler regime for the reporting of transactions executed by branches while enabling each relevant CA to receive the information it needs to discharge its responsibilities.

The RTS establishes an obligation for investment firms to report the transactions executed by their branches to the CA of the home Member State of the investment firm, unless otherwise agreed by the CAs of the home and host Member States. Specific circumstances, where the CA of the host Member State may have some supervisory responsibilities, are to be identified by the investment firms in the transaction report with the relevant ISO country code. This includes for instance the circumstance where the branch has supervisory responsibility for the person responsible for the investment decision or the execution of the transaction. It will be then for the CA of the home Member State receiving the transaction report to route the information to the relevant CA(s).

The final RTS also clarifies that the branch of a third country firm has to submit the transaction report to the CAs that authorised the branch. Where a third country firm has established branches in more than one Member State, the branches will jointly decide on the CA to whom the transaction reports will be sent.

<b>Policy Objective</b>	Ensuring that CAs have all relevant information to fulfil their supervisory responsibilities when transactions are executed by branches and providing a harmonised, simple framework for the reporting of such transactions.
<b>Technical Proposal</b>	Reporting transactions executed by branches. See Article 14 of RTS 22 for more details.
Benefits	<p>CAs will have visibility of all transactions by an investment firm, including of any transactions conducted through its branches, regardless of whether the branches are located inside or outside of the Union.</p> <p>Where the host CA is in charge of supervising a specific activity of a branch under MiFIR II/MiFIR, it will receive the transaction reports relating to this activity.</p> <p>The final draft RTS simplifies the reporting requirements for investment firms that establish branches in other Member States by requiring a single connection point between the head office and the home NCA. The simplification provided will avoid over and under reporting of transactions arising from previous uncertainties.</p>
Cost to regulator: - One-off - On-going	The CA of the head office may have to route the transaction report received to more CAs.
Compliance cost:	Investment firms will incur one-off and on-going costs to include, capture and transport the additional fields associated with the single

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>reporting point to the transaction reporting infrastructure.</p> <p>Depending on their current organisation, investment firms may have to go through more substantial IT systems to more fully harmonise systems,</p>
Cost to other stakeholders	None identified.
Indirect costs	None identified.

## 5.10. Methods and arrangements to report financial transactions

### 5.10.1. Summary cost-benefit analysis

Complete and accurate transaction reporting data is of the utmost importance for the monitoring for market abuse and market integrity.

The key additional obligations arising from the final RTS are the methods and arrangements to be put in place by investment firms and trading venues reporting transactions to ensure the security and the confidentiality of the data and to identify and correct inaccurate data or omission in transaction reports.

Investment firms have to conduct periodic reconciliation of their front office trading records against data samples provided to them by their CAs or against the information contained in the transaction reports they submitted or that were submitted on their behalf.

Investment firms are also required to put in place mechanisms to avoid the reporting of any transaction where there is no obligation to report, either because there is no transaction within the meaning of Article 2 of the final draft RTS or because the instrument is not a reportable instrument.

Finally, investment firms are required to have arrangements in place to ensure that their transaction reports, when viewed collectively, reflect all changes in their positions and in the position of their clients at the time transactions in financial instruments are executed.

<b>Policy Objective</b>	Ensuring that the transaction reports received by CAs are complete, consistent and accurate.
<b>Technical Proposal</b>	Methods and arrangements to report financial transactions. See Article 17 of RTS 22 for more details.
Benefits	The final draft RTS will contribute to ensure that transaction reports are complete, consistent and accurate, that they are securely transmitted to CAs without damages to integrity of the data and that

	over and under reporting are both avoided.
Cost to regulator: - One-off - On-going	CAs will incur minor on-going costs to provide data samples for testing.
Compliance cost: - One-off - On-going	<p>As already stated, investment firms will incur significant costs to comply with transaction reporting requirement</p> <p>The substantial number of fields in transaction reports, as well as the lack of clarity on how some fields should be populated or fields that may be insufficient to address complex derivatives pending further guidelines, will increase compliance costs for providing complete, accurate and consistent data.</p> <p>The lack of a golden source for reference data will be a source of uncertainties as to whether an instrument is reportable or not and will increase compliance costs.</p>
Cost to other stakeholders	ARMs will face similar compliance costs for the identification of reportable instruments.
Indirect costs	Increased costs for transaction reporting may be passed on to investors.

## 5.11. Determination of the most relevant market in terms of liquidity

### 5.11.1. Summary cost-benefit analysis

Clarity regarding the determination of the most relevant market in terms of liquidity, hence of the relevant CA, is essential in order to enable CAs to route transaction reports to that CA so that the CA of the most relevant market in terms of liquidity receive all transaction reports in a specific instrument. A complete overview by one CA of all the transactions in a given reportable instrument undertaken by EU investment firms or branches of third country firms is critical for an effective monitoring of potential market abuse.

The rules set forth in the final draft RTS for determining the most relevant market in terms of liquidity replicate for the most part the criteria provided in the MiFID I Implementing Regulation and will therefore not be a source of additional obligations or costs. A slight change is to be noted for shares where the most relevant market is the regulated market with the highest turnover as a rule, and no longer just in case where the determination based on first admission to trading has been contested by another CA based on turnover.

In addition, new rules have been introduced for the instruments not covered by MiFID I, namely for debt instruments issued by a non EEA entity and for derivatives for which the underlying has no global identifier, is a basket, or a non-EEA index.

<b>Policy Objective</b>	Ensuring that all transaction reports (and short sales notifications) are centralised with one CA for an efficient and effective monitoring for market abuse and market integrity.
<b>Technical Proposal</b>	Criteria for determining the most relevant market in terms of liquidity, See Article 18 of RTS 22 for more details.
Benefits	<p>The final RTS provides clarity and legal certainty as to the determination of the most relevant market in terms of liquidity.</p> <p>It substantially builds on the existing approach for current reportable financial instruments under current MiFID Implementing Regulation, which will reduce compliance costs for CAs and investment firms.</p> <p>The calculations for the determination of the most relevant market in equity and equity-like mirrors the calculations to be made for the determination of the most relevant market in terms of liquidity in respect of the reference price pre-trade transparency waiver (see RTS 1 CBA). This will streamline implementation by CAs.</p>
Cost to regulator: - One-off - On-going	<p>CAs will have to set up arrangements to route transaction reports in newly reportable instruments to the relevant CA.</p> <p>We consider any cost thereof to be driven by Level 1.</p>
Compliance cost: - One-off - On-going	No additional costs for legal and natural persons subject to the SSR notification procedure.
Cost to other stakeholders	None identified.
Indirect costs	None identified.

## **7.2. Obligation to supply financial instrument reference data**

### **Obligation to supply financial instrument reference data (Article 27 of MiFIR)**

#### **1. Executive Summary**

The purpose of the final draft RTS is to specify technical standards in relation to the obligation to supply reference data, including standards and formats of data to be submitted by trading venues and systematic internalisers (SIs), as well as methods and arrangements for submission of these data and its use by the competent authorities (CAs).

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS. The baseline section explains the starting point for assessing the incremental rule related to ESMA's RTS. The stakeholders are: TVs, SIs, ESMA and CAs. The cost-benefit analysis section presents an analysis of the benefits and costs associated with the provisions set out in the RTS.

#### **2. Introduction**

ESMA received the legal empowerment under Article 27(3) of MiFIR to draft RTS to specify data standards and formats for the financial instrument reference data, including the methods and arrangements for supplying the data to CAs and transmitting it to ESMA, and the technical measures that are necessary in relation to the arrangements to be made by ESMA and the CAs.

#### **3. Baseline**

Article 11 of the Commission Regulation (EC) No 1287/2006 already requires regulated markets to submit to their home CA, in an electronic and standardised format, the identifying reference data on each financial instrument they admit to trading. This information is required to be submitted before trading commences in that particular financial instrument. ESMA is currently managing the Instruments Reference Data System (RDS), an IT system which stores reference data for all instruments admitted to trading on EEA regulated markets. CAs have access to this database for the purpose of exchanging the relevant transaction reports further to the requirements of Article 25(3) of MiFID I.

Consideration of the future landscape of markets in financial instruments is particularly important. Under MiFIR, the scope of financial instruments subject to identifying reference data requirements defined has been substantially broadened and diversified. Under Article 27 of MiFIR, the submission of identifying reference data extends to financial instruments traded on a MTF or an OTF. Comparable requirements apply to SIs for financial instruments covered by Article 26(2) of MiFIR other than those admitted to trading on regulated markets or traded on MTFs or OTFs. The MiFIR requirements also envisage publication of the instrument reference data on ESMA's website.

In terms of market practice, ISINs, MICs, CFI and All codes are used by different segments of the industry, with the use of ISIN or All codes being specific to Europe. Many firms do not use these codes internally within their derivative business but have adopted instead other identifiers such as RIC (Reuters Identification Code). In addition, not all instruments are currently coded, particularly in the OTC market. According to the Association of National Number Agencies (ANNA), 26 million investment instruments issued in 120 national markets and traded around the world have an ISIN assigned, out of a total pool of 220+ million, pool which is growing every month. However, ISINs could be allocated in bulk, creating no constrain to assign missing ISINs to the instruments already existing. In addition ISINs are an efficient low cost solution as are provided using low/marginal cost. ANNA serves as the Registration Authority for ISIN and CFI numbering standards, under appointment by the International Organization for Standardization (ISO).

ISINs were once considered only a secondary form of security identification, used exclusively for clearing and settlement. In recent years, some European countries have adopted ISINs as their primary security identifier. In the US and Canada, ISINs are implicitly used as they are built upon CUSIP numbers. ISINs are not always a unique security identifier, as provide no indication of the venue used to trade a security. However, this has not been identified as an important issue by the majority of the respondents to the CP.

Another identifier, typically a Market Identification Code (MIC), is coupled to an ISIN in order to specify the trading/clearing location. While a MIC code does not contain a verification code, there is way of addressing this issue by validating the MIC against the ISO Web Site of the Market Identifier Code (MIC)<sup>86</sup>.

ISINs are issued by National Numbering Agencies (NNA) and used to identify specific securities such as bonds, stocks (common and preferred), futures, warrant, rights, trusts, commercial paper and options. They are used especially on cash markets but have been also assigned for exchange-traded derivatives and some OTC derivatives, such as cleared only and flexible contracts. ISINs are also assigned for indices, but it is the responsibility of the index owner/calculating agent to provide the relevant reference data, such as constituency and weighting information. The relevant NNA based on the jurisdiction of the index owner/calculating agent assigns an ISIN.

ISINs comprise 12 characters: two-letter country code, assigned according to the location of a company's head office, nine-digit numeric identifier, assigned by each country or region and a single check or verification digit. These agencies are paid by issuers to generate ISINs for new issues and either give the data away for free or on a minimal cost-recovery basis. There have been some competition issues related to S&P's issuance of CUSIPs in the US linked to US ISINs, which are still in the process of being addressed.

ANNA announced in November 2014 new enhanced ISIN files which provide more information on the security itself and its issuer. The structure of the enhanced ISIN file links all the information back to the financial instrument.

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<sup>86</sup> <http://www.iso15022.org/MIC/>

The CFI, or Classification of Financial Instruments code, consists of six alphabetical characters and tries to reflect characteristics that are defined when a financial instrument is issued and remain unchanged during its entire lifetime. The first character indicates the highest level of classification: Equities (E), Debt instruments (D), Entitlements (Rights) (R), Options (O), Futures (F), Others/Miscellaneous (M). The second character indicates specific groups within each category (e.g. for equities: Shares, Preferred shares, Convertible preferred shares, Units, i.e. unit trusts/mutual funds etc.). The third to sixth character indicate the most important attributes to each group: (e.g. for equities: Voting right, Ownership / transfer restrictions, Payment status, Form).

ANNA is working to bring CFI in-line with the types of instruments now traded, given the proliferation of innovative and novel products since the introduction of the CFI. This is expected to be completed in 2016.

The Alternative Instrument Identifier code (All Code) has been developed by CESR (now ESMA) and FESE in order to identify instruments traded on derivative markets. It consists of six separate mandatory elements that describe various characteristics of a financial instrument. Those include MIC, exchange product code, derivative type, put/call identifier, expiry date and strike price. It can be issued free of charge but it is not an ISO standard per se. They are not generally used by the industry other than for compliance purposes within the EEA. For example, The Financial Conduct Authority in the UK requires All reporting for derivatives. According to the ESMA website, 15 trading venues use All for derivatives products traded on their system. However, those may be also covered by ISINs.

Market participants started in 2009 an international initiative to develop a standard to identify uniquely and persistently all financial instruments across all asset classes and by trading venue, resulting on the Financial Instrument Global Identifiers (FIGI) standard. FIGIs have already been allocated to over 200 million instruments across most asset classes, with currently around 5 million additional instruments per month being allocated new FIGIs. A FIGI is a 12-character code unique to an instrument and a specific trading venue, which includes a check-digit, to ensure integrity. FIGIs are used by FINRA in the USA. The FIGI standard is non-proprietary, open and free, and all FIGIs created by applying this standard are also non-proprietary, open and free with no material restriction on their use or re-use. However, they have been sponsored by a commercial organization (while now endorsed by the Object Management Group) and it seems that users must still pay licensing fees for data feeds if they wanted to see any underlying reference data. FIGIs must also be deconstructed to use in place of ISINs requiring additional integration work for those not using terminals from a particular provider.

The EMIR interim taxonomy is also used, however it has some shortcomings such as the identification of spreadbets and bonds and the differentiation between options and swaptions.

There is an UPI (Unique Product Identifier) initiative to achieve a global UPI for derivatives reported to trade repositories, i.e. the ongoing work of the CPMI-IOSCO harmonisation working group on the global guidance on the UPI. ESMA strongly supports the global efforts



to achieve an international standard for the identification of derivative instruments. However, given that this work has not yet been finalised and the scope of the work would be limited to derivative instruments, ESMA considered that it would be premature to assess whether such guidance would have sufficient specificity to be used for reporting under MiFIR.

After reviewing all the existing initiatives for reference data, ESMA has agreed to use ISINs to identify reference data, given the low cost of the solution as well as the flexibility and speed with which could be allocated to existing/new financial instruments.

In terms of formats and market practice, the formats already being used by TVs and TVs' customer bases on the pre-trade and trade areas are CSV, FpML, FIX and FIXML. ISO 20022 is used in payments and the T2S EU initiative. CAs currently use a TREM/RDS format to support transaction reporting.

According to the research conducted and the work of consultants used by ESMA, there is no uniformity of formats in terms of level of adoption or a dominant format used across all products and jurisdictions.

FIX is a delimited format used in trading implementations. FIXML is an XML syntax for FIX messages. FIXML is quite compact given its use in securities pre-trade areas. Extensibility is ensured by the types of application message and message fields. From a regulatory perspective it supports Dodd-Frank and CFTC reporting requirements and other initiatives in Australia and Canada.

The implementation of the FIXML standard would have the least impact on market participants' operating models, information systems and processes. However, according to the work done by the consultants used by ESMA, the delimited syntax of FIX is used in the majority of application whereas FIXML is not widely deployed. Thus, if ESMA were to choose FIXML as the MiFIR reporting standard, it would impact the majority of market participants, including those currently using FIX.

FpML is an XML based messaging standard for processing OTC derivatives. According to ISDA, its use is very high for trade capture and confirmation services for both financial and non-financial firms. This standard supports several regulatory initiatives such as Dodd Frank and CFTC reporting requirements in the US and to a limited extent EMIR in Europe (on a voluntary basis). Its syntax is quite verbose, which can impact performance of processing large volumes of data. It is a more complex format than the other formats and there is more effort to train, manage, implement and support when compared to the simpler formats.

ISO20022 is an international standard for the development of financial messages. Its scope includes international (cross-border) and domestic financial communication between financial institutions, their clients and 'market infrastructures'. In the securities industry, this standard supports T2S EU initiative and other regulatory initiatives in the US and Asia. It is mainly used for post trade but not in pre-trade or trade operations. Therefore its implementation would require training of staff when extended to processes and reporting where staff currently does not have that knowledge.

ISO 20022 differentiates between three layers: business, logical and physical. Such structure allows easier linking between legal and technical requirements, better ensuring the reuse of financial concepts (business layer) and building blocks (logical layer) across different regulatory frameworks as well as extensibility and flexibility (e.g. at the physical level it can support multiple syntaxes).

#### 4. Stakeholders

##### *ESMA and CAs*

ESMA and CAs must have in place robust systems, arrangements and procedures to ensure correct, complete and timely delivery of the financial instrument reference data by trading venues and SIs. Of particular importance is the coordination between the CAs and ESMA. The CAs will be forwarding to ESMA the files submitted by the TVs and SIs. ESMA will be responsible for managing an extended Instruments Reference Data System (RDS).

##### *Trading venues (TVs)*

According to ESMA DP (p. 484), certain trading venues transmit to their CAs a file which contains information about the financial instruments traded on their platforms. Several TVs already generate from their own centralised instrument database different types of files containing up-to-date reference information about the financial instruments. These files may also be part of a service package commercialized by trading venues, e.g. master file or daily data feeds. According to the feedback received, it could be that not all fields required by the RTS are available to trading venues, except for when they are also a primary listing venue. In some other instances (e.g. fixed income products or indices), the trading venues are not the source of the reference data and are very much reliant on third party data providers.

##### *Systematic internalisers (SIs)*

SIs may be affected from having to build a solution for reporting reference data for instruments not admitted to trading on regulated exchanges or traded on MTFs and OTFs. However, this obligation comes from Level 1 legislation and not from this RTS.

#### 5. Cost-Benefit Analysis

We cover below the incremental costs and benefits that arise from the RTS provisions.

##### *Content, standards, form and format of reference data; timing for provision of reference data to CAs*

In the case of formats, the following XML-based formats were preselected and analysed by ESMA as being the most relevant candidates for the purposes of MiFIR: ISO 20022, FIXML, FpML, and a new bespoke XML format (e.g. similar to the TREM format that is currently used by CAs in some MiFID reporting applications).

In the end, ISO 20022 was selected based on the analysis performed by the consultants used by ESMA, as the standard that provides the highest benefits to regulators without giving rise to undue costs to the industry.

<b>Policy Objective</b>	Enrich the information in transaction reports submitted by investment firms, facilitate the exchange of the transaction reports between the CAs and enhance the monitoring activity conducted by CAs.
<b>Technical Proposal</b>	<p>TVs and SIs to submit to CAs all the details of financial instruments with the standards and formats specified in Table 3 of the Annex to RTS 23. This data should be provided in an electronic and machine readable form and in a common XML template in accordance with the ISO 20022 methodology, as prescribed by Article 1.2 of RTS 23.</p> <p>This information needs to be sent no later than 21:00 CET on each day the TV or SI is open for trading, including where orders or quotes were placed before 18:00 CET that day, unless those are placed for the first time after 18:00 CET, case in which that data is provided by 21:00 CET on the next day open for trading, according to Article 2 of RTS 23.</p>
<i>Benefits</i>	<p>It provides CAs and ESMA with detailed, granular information about the financial instruments traded in the different markets, which enhances market monitoring and contributes to market integrity.</p> <p>It provides clarity and certainty by determining what the TVs and SIs have to include in their financial instrument reference data submissions.</p> <p>The proposed frequency would ensure greater consistency, a more operationally sound system and better informational quality.</p> <p>It would also ensure that no data is missed and the recipient has a complete set of data available.</p> <p>Receiving complete reference data for each trading day enables CAs and ESMA to ensure data quality and effective market monitoring, to the benefit of market integrity.</p> <p>Requiring the information to be submitted to CAs/ESMA using a common XML template in accordance with the ISO 20022 methodology enables CAs to collect the necessary information required by MiFIR/MiFID and to have enough flexibility to accommodate future developments. ESMA can keep the intellectual property rights on all messages defined for MiFIR, which gives ESMA greater control over ESMA messages.</p>

	<p>The use of a common XML format allows CAs to implement a common set of syntax validation rules and aligns how data should be represented, taking into account data also submitted for other reporting requirements.</p> <p>Having one standard for formats allows for data sent to regulators to be compared minimizing data quality issues.</p> <p>ESMA acknowledges the industry works on increasing the interoperability of different standards used by the financial industry. The ISO 20022 business model simplifies data mapping from other standards to ISO 20022 for reporting purposes and the use of different syntaxes. This will facilitate the implementation by companies already using other messaging standards.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs and ESMA will incur one-off costs related to the upgrade of the current IT infrastructure, network connectivity, secure communication channels and on-going costs related to the staff responsible for processing, checking and consolidating the reference data files submitted by TVs and SIs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>The coverage of type of instruments and the suggested list of data fields is significantly broader than what TVs and SIs currently provide. This will require a database expansion, changes in internal procedures, hardware, software and communication solutions (one-off costs). It will also require staff to be involved on daily basis in the effective submission of files to the CAs and in the monitoring of these processes (on-going costs).</p> <p>TVs that currently do not supply the instrument reference data and SIs will incur one-off costs related to the development of their IT systems and on-going cost associated with the preparation of the full files, i.e. populating the fields, and transmitting them to the CAs within the given timeframe.</p> <p>There may be some incremental IT compliance costs for TVs and SIs to provide this information in a machine readable format, in case not currently presented that way.</p> <p>In the case of formats, ESMA considers that the production of data in a specific technical format is usually the last step of the data reporting process and the cost of using a specific format, although not negligible, is expected to be relatively low when compared to the cost of the whole process that includes collection and integration of all</p>

	required data from different systems, ensuring consistent semantics and the required level of data quality. Therefore the key cost driver for the whole data reporting process is the increasing scope of information to be reported as required by Level 1 legislation. Some of the costs arising from the new required format may be shared with the costs imposed by other RTS such as transaction reporting and providing information for transparency purposes as required by Article 22.4 of MiFIR.
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	TVs and SIs may not have access to all the specified reference data without obtaining it from issuers (or the banks acting on their behalf) and third party vendors. If the suppliers do not deliver the data to the trading venue in a timely fashion, the trading venue will not have up to date information in the files submitted to the CA.  Higher costs for those providing the data may be passed to users.

Identification of financial instruments and legal entities

<b>Policy Objective</b>	Designating identifiers for all instruments under the scope of MiFIR, so to facilitate the collection and retrieval of data on individual transactions.
<b>Technical Proposal</b>	Article 3 of RTS 23 requires that a trading venue obtains the ISO 6166 ISIN prior to commencement of trading (Article 3.1) and also that TVs and SIs ensure that a legal entity identifier (LEI) code included in the reference data complies with the requirements established by Article 3.2 of RTS 23.
<i>Benefits</i>	Provides clarity to Investment Firms who will know which instrument code type they will have to use in their transaction reporting (ESMA will publish the information on its website). A product code is both uniquely identifying the instrument and enabling participants to understand the attributes of that instrument through the associated reference data  Provides consistency and certainty regarding the LEI code to use
<i>Costs to regulator:</i>  - One-off	For the CAs that already use ISINs in analysis and processing of instrument reference data, hence no additional costs should arise in relation to the usage of these identifiers. There will be costs for those CAs that use other identifiers such as for example in the case of

<ul style="list-style-type: none"> <li>- On-going</li> </ul>	<p>derivatives.</p> <p>On-going costs may arise to keep up to date and process the complete list of instruments using ISIN codes, both for CAs and ESMA.</p> <p>There may be one-off and on-going costs to use the legal entity identifier (LEI) data to identify issuers of financial instruments and trading venues' operators. However, it should be noted that the costs of identifying issuers derives from the Level 1 legislation, in particular from the transparency directive (Directive 2004/109/EC<sup>87</sup>) and the disclosure requirements for issuers of structured finance instruments (Commission Delegated Regulation (EU) 2015/3). The directive includes an obligation for issuers whose securities are admitted to trading on a regulated market to obtain an LEI. Therefore, the incremental costs of the RTS are limited to the obligation to identify operators of trading venues with an LEI. Some of the costs arising from this requirement may be shared with the costs imposed by other RTSs such as the MiFIR RTS 24 on the obligation to maintain records of orders and the EMIR ITS (Commission Regulation (EU) No 1247/2012).</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>There are currently trading venues that do not use ISINs. For those venues there will likely arise incremental one-off compliance costs in the form of IT and staffing costs to switch their coding to the new one requested by ESMA, and a small cost also to request ISINs for those instruments that do not currently have an ISIN. Small on-going costs may arise as well to request ISINs for new instruments traded.</p> <p>In the case of ISINs, if the venue lists US instruments, there are also compliance costs related to the fees charged by S&amp;P regarding US ISINs.</p>
<p><i>Costs to other stakeholders</i></p>	<p>None indentified.</p>
<p><i>Indirect costs</i></p>	<p>The license and fee free use of US ISINs may have to be agreed with S&amp;P. S&amp;P has allowed the license and fee free use of CUSIP (USISINS) identifier in SEC reporting.</p>

<sup>87</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:390:0038:0057:EN:PDF>

Arrangements to ensure effective receipt of reference data

<b>Policy Objective</b>	Ensure a systematic provision of reference data, in order to ensure completeness and timely submission of the instrument reference data at all times.
<b>Technical Proposal</b>	CAs to monitor completeness of data received and compliance with the standards and formats specified in Table 3 of the Annex (ESMA to do the same at the Union level) and to notify of any incompleteness or failure to deliver (see Article 4 of RTS 23 for more details).
Benefits	Receiving complete reference data for each trading venue and SI enables CAs and ESMA to ensure data quality. This would ultimately improve the quality and effectiveness of CAs monitoring activities to the benefit of market integrity.
Costs to regulator: - One-off - On-going	CAs and ESMA will incur one-off and on-going IT and staff costs related to monitoring the files submitted by the TVs and SIs, as well to make notifications to TVs and SIs regarding data issues.
Compliance costs: - One-off - On-going	TVs and SIs may incur on-going compliance costs from processing and acting on the notifications made by CAs related to data completeness and accuracy.
Costs to other stakeholders	None identified.
Indirect costs	None identified.

Methods and arrangements for supplying reference data

<b>Policy Objective</b>	Ensure that CAs and ESMA receive correct, complete and timely instrument reference data from trading venues and systematic internalisers.
<b>Technical Proposal</b>	TVs and SIs to send complete and accurate reference data, and to put in place arrangements to identify incomplete or inaccurate data and to notify the relevant CA and correct and complete the data in case of errors (see Article 6 of RTS 23 for more details).
<i>Benefits</i>	It prevents non-validated reference data from being submitted by TVs and SIs to the CAs and ensures CAs and ESMA have accurate reference data information at all times, or that the data is corrected

	quickly in case of errors. This is relevant to perform better market monitoring and contributes to market integrity.
<b>Costs to regulator:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	CAs may incur staff compliance costs from monitoring that TVs and SIs comply with their obligations on submission of reference data (on-going costs). CAs and ESMA may also incur on-going costs from processing the new data submitted by TVs or SIs in case of errors.
<b>Compliance costs:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	TVs and SIs may incur one-off IT and staff costs from putting in place arrangements to check reference data submissions, detect errors, notify their CA, correct the data and resend it. These one-off costs may arise from establishing new policies, arrangements and technical capabilities to ensure the quality of the data submitted to the CAs. They may incur on-going staff costs to perform these functions on a daily basis and in particular to obtain and validate ISO 6166 ISIN codes (identifier of the financial instruments) from the Numbering Agency provider and LEI (identifier of the issuer of the financial instrument) against the Global Legal Entity Identifier database maintained by the Central Operating Unit.
<b>Costs to other stakeholders</b>	None identified.
<b>Indirect costs</b>	None identified.

Arrangements for efficient exchange and publication of reference data

<b>Policy Objective</b>	Ensure that ESMA receives the relevant instrument reference data and is able to distribute it for CAs to validate transaction reports.
<b>Technical Proposal</b>	Article 7 of RTS 23 establishes the timeframes for CAs to send reference data, for ESMA to consolidate the data and make it available to CAs, for CAs to validate and exchange the data, and also how ESMA should publish that data.
<b>Benefits</b>	<p>Provides clarity and certainty to ESMA and CAs on when to submit data and which data to use to validate and exchange transaction reports.</p> <p>Publishing reference data in electronic, downloadable and machine readable format by ESMA enables process automation and reduces operational costs for users of reference data.</p>



<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>ESMA will incur one-off IT and staffing costs to create the systems necessary to distribute reference data to CAs and to publish it in the format established by the RTS. There will be on-going staffing costs to perform these functions in a regular basis.</p> <p>CAs may incur IT and staffing costs to set up a process to validate transaction reports with the reference data provided by ESMA and to exchange them with other CAs, or to upgrade it in case it already exists. They will incur as well on-going costs related to the staff needed to perform this process on a regular basis. In some cases there may be no incremental costs if the process is the same or similar to the existing one and can be run with existing resources.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>None identified.</p>
<p><i>Costs to other stakeholders</i></p>	<p>The publication of the broad set of instrument reference data on the ESMA website may decrease benefits for the TVs that act as data vendors. This may also be transferred to the users of the TV in the form of higher prices.</p>

## **7.3. Maintenance of relevant data relating to orders in financial instruments**

### **Determination of relevant order data that constitutes the characteristics of the order (Article 25 of MiFIR)**

#### **1. Executive Summary**

The purpose of the final draft RTS is to define the details and format of order records to be maintained by trading venues.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, which aims at facilitating processing of order data made available by trading venues to Competent Authorities (CAs) upon request from the latter. The baseline section explains the starting point for assessing the incremental rules related to ESMA's draft RTS, which can be either the MiFID II requirement, or existing order data stored by the trading venue where it exceeds the MiFID II requirement. The stakeholders identified are CAs, trading venues, market members and participants, portfolio managers and investment firms executing transactions on behalf of clients. The cost-benefit analysis section contains a summary of the benefits and costs associated with the final draft RTS.

#### **2. Introduction**

CAs need data on transactions and/or orders in financial instruments in order to fulfill their market integrity responsibility and to ensure that investment firms act "in a manner which promotes the integrity of the market" (Article 24 of MiFIR). The demonstration that non publicly available information has been used (insider dealing) or that the price-setting mechanism of financial instruments has intentionally been distorted (price manipulation) generally stems from the precise time stamp and characteristics of orders transmitted to trading venues by market members or participants or received by the latter from their clients. Moreover, in an environment with high levels of High Frequency Trading (HFT), the precise time of transmission/cancellation/modification of orders might be more significant than the date of the actual transactions to detect potential market abuse which may happen even though no transaction has been executed.

CAs currently face two main limitations on the data available to them on orders: relevant and harmonised information is not readily available and there is a lack of format standardization. The market monitoring of CAs is made difficult as some of the key details of an order such as trader or algorithm identification, sequence numbers, etc. cannot be always obtained from trading venues. In addition, the lack of format standardization in some key areas also makes CAs' market surveillance difficult, especially in the case of cross-venue operations.

The capacity for CAs to obtain records of orders in a standardized format from trading venues will facilitate their monitoring of markets in financial instruments and the detection and prosecution of market abuse. Harmonized identification of clients in the records of

trading venues will also help CAs to monitor activities on several markets and to detect potential fraudulent activities conducted through several market members.

Article 26 of MiFIR sets the obligation for investment firms to report transactions in financial instruments to their CA no later than the close of the following working day. While the corresponding information on orders does not have to be reported, Article 25 of MiFIR requires both investment firms and operators of a trading venue to keep records of orders available upon request from CAs for five years.

### 3. **Baseline**

Article 43 of MiFID I foresees that regulated markets “should establish and maintain effective arrangements and procedures for the regular monitoring of the compliance by their members or participants with their rules. Regulated markets shall monitor the transactions undertaken by their members or participants under their systems in order to identify breaches of those rules, disorderly trading conditions or conduct that may involve market abuse”. Article 43 of MiFID I also foresees that regulated markets should supply the relevant information without delay to the authority competent for the investigation and prosecution of market abuse on the regulated market.

Such requirements necessarily imply that trading venue operators keep record of all events happening at the trading venue, including orders received from their members and transactions.

Articles 7 and 8 of the MiFID I implementing regulation establish the items that investment firms should record when receiving orders from clients, which are transferred to Article 16(6) of MiFID II.

Before MiFIR, there was no specific requirement defining the content, format and duration of order records to be kept by trading venue operators in the EU legal environment of financial markets and services.

In terms of legal baseline, the legislation to consider is Article 25(3) of MiFIR that requires ESMA to develop draft RTS specifying the details of the items of order record keeping by trading venues:

- Identification code of the member or participant which transmitted the order,
- Identification code of the order,
- Date and time the order was transmitted,
- Characteristics of the order, including:
  - type of order,
  - limit price,

- if applicable, the validity period,
- any specific order instructions,
- details of any modification, cancellation, partial or full execution of the order,
- the agency or principal capacity.

“Details of orders” is understood as the precise content of the records including the format. Moreover, a sub-set of items is grouped under the headline “Characteristics of the order, including...”. The word “including” implies that characteristics are not limited to the list that follows.

Since there was no specific requirement for trading venues to keep records of orders before MiFIR, incremental rules consist of all provisions of the draft RTS that are not yet met in current practices of trading venues. This will be an upper bound estimate as some of the incremental costs assessed this way may be related to Level 1 legislation.

As compared to the Level 1 rule (article 25(3) of MiFIR), incremental rules envisaged by ESMA are the following:

- Definition of the elements to be kept by trading venues: trader identification, algorithm identification, client identification code, technical intermediaries, sequence numbers, priority of orders, liquidity provision, and data on functioning of order books that determine how such orders interact within the order book (i.e. trading phases and indicative auction price and volume).
- Standardized format in which the above should be converted upon request by the CA. Trading venues may maintain a raw order database under their own specific format, but some specified order data elements shall be converted by the trading venues in a specified format as mandated in the RTS, upon request by the CA.

In terms of market practice, some CAs currently receive transaction reports only and ask for information on orders when needed in conducting their market monitoring and market abuse functions. Some other CAs receive both transaction reports and venues’ order books.

In the case of trading venues, in terms of collecting and storing information on Client ID on orders, only one trading venue that responded to our CP mentioned they currently have a client ID field in their order messages. Some venues mentioned they do not have contractual relationships with end clients and are not able to gather the data requested in the draft RTS published in the CP.

Some trading venues seem to collect and store order data separately from the order itself, which can subsequently be mapped to the information required by using a common ID.

In terms of implied orders, trading venues typically store data in their respective order books and are able to replay actual markets. The matching engine principles and/or the market models provide with information on how to use and combine different order books and reconstruct the actual order flow and information for the market participants. It is common practice that trading venues disseminate implied orders as an aggregate quantity and price per instrument and maintain only a restricted number of price levels pre-trade. The disseminations advertise the minimum available quantity. The draft final RTS has been modified to differentiate between strategy linked orders with implied functionality (SOIF) that are executed from those that are not. Identification codes are not required to be maintained for SOIFs that are not executed.

In some jurisdictions such as Spain, investment firms collect details in the case of legal persons but only for derivatives and not for securities. There are also markets that do not identify the counterparty at the time of execution. In these cases, Client IDs are not always available at the time of order entry, as orders are allocated to individual clients after the submission of the order, which can be much later in the day. This issue has been addressed in Article 2(2) of the final draft of RTS 24, which provides for the possibility to flag these orders as 'pending allocations', where the relevant national legislation do not oblige firms to allocate orders to clients immediately at the time of the submission of the order to the trading venue.

In terms of LEI, according to the BBA, firms use LEI only for EMIR purposes. Counterparties who only trade cash equities or bonds, including a large volume of individual underlying funds, which are legal entities for reporting purposes, or small, retail companies, do not use LEIs. It is unclear whether the majority of them will have LEIs in place by 2017, as they may not want to or be able to get them (if they are located in non EEA countries where they are not required to have an LEI or are totally unaware of them).

According to the feedback received, investment firms collect identifiers currently in accordance with MiFID 1, FRNs (Firm reference number) or BICs (Swift bank identifier codes). Where the counterparty has no FRN or BIC, then the firm uses an internal code. There are no plans to move to the use of LEIs for MiFID 1 reporting, or to use the ISO beyond what is mandated by existing regulation. In cases where LEI is used, for example EMIR reporting, firms have processes in place to validate them, however, the quality of these processes varies. The challenge is to deploy mechanisms to collect LEIs and get them to the point of reporting and to do this consistently across all in scope product classes. However, the LEI requirement is created by Level 1 legislation, and the costs associated with the provision of LEI arise as a result of those Level 1 measures.

With respect to the person responsible for the investment and/or execution decision, there is no industry standard model for identifying traders or sales people. Across the BBA's members, firms usually identify traders and sales people based on internal system user IDs. This information is generally recorded on each client order where the sales individual has entered the order into an order management/record keeping system. The trader ID is usually generated in the same way often in relation to recording transactions into a trading book. In

cases where the order is received and executed electronically, the trader ID may be a generic ID that identifies the trading desk supervisor responsible for the trading desk.

Creating a unique record for every trader may pose challenges as many firms will have multiple trading/order management systems that are designed to support a specific asset class or trading purpose. There could be issues where clients request multiple investment strategies within the same order. Firms will incur compliance costs from changing the existing identification methods of traders to their national ID number or equivalent, however, it should be noted that most of the costs arising from this requirement will be shared with the costs imposed by the level 1 obligation under Article 26 MiFIR(3), which obliges investment firms to identify the person responsible for the investment decision in their transaction reports. In conclusion, the benefits to CAs of knowing the identity of the person placing the order should outweigh the costs of providing that information.

#### 4. Stakeholders

We identified five categories of stakeholders:

- CAs
- Trading venue operators
- Market members or participants
- Portfolio managers and investment firms executing transactions on behalf of clients

##### CAs

CAs use transaction and/or order data to conduct their regular functions of market monitoring and detection of market abuse. When suspicious transactions are identified based on the alerts triggered by their systems, CAs currently require market participants involved in those transaction to provide all necessary information, including identification of clients on behalf of which they transmitted orders to the trading venues (or the fact that they were trading in a principal capacity), and the details of orders they received from such clients.

For example, one authority contacted explained that they receive order and transaction data by a real time data feed originating from the venues for which they are the CA, to perform real time surveillance. Overnight, the authority receives a data feed with more details for post-trade surveillance. For financial instruments traded on multiple venues, for which this authority is the relevant CA, the authority occasionally asks for order and transaction data via the CA of such trading venues for investigation of potential (cross-market) market manipulation.

Another authority explained that they receive a daily data feed, including orders from the venues for which it is the CA, while a third authority requires trading venues for which it is the CA to convert and transmit data in a determined format upon request.

CAs may conduct further investigation by requiring the client who transmitted the suspicious order to identify its own final client (e.g. in the case of a portfolio manager acting in the framework of a management mandate). If the client of the investment firm is a foreign financial intermediary, the CA may have to exchange information with foreign authorities to identify the final beneficiary, in the framework of EU legislation if the foreign intermediary is based in the EEA or of a “Memorandum of Understanding” if it is based outside the EEA.

This sequence of steps may take a long time. Some authorities have developed sophisticated algorithms to detect price manipulation and face the challenge that data provided by trading venues other than the ones of which they are the competent authority need to be converted into a format that enables running those algorithms. A competent authority explained that such conversion needs to be processed on a case by case basis in the absence of harmonization of formats across Member States. Moreover, order types vary across trading venues and change over time but national authorities often receive raw files without any documentation.

The final draft RTS under article 25(3) of MiFIR should help overcoming these difficulties.

ESMA is aware that trading venues may be currently limited in requesting information from investment firms that is not strictly necessary for completing the trade, which may imply some blank fields in the order data provided to regulators. Some of the respondents to the CP confirmed they do not currently collect or store some of that information. The new regulatory landscape may change that situation.

On the other hand, the degree of standardization of contents and formats of orders will have significant benefits for regulators arising from better efficiency and lower costs of the surveillance tools developed by CAs, and will lower the cost for CAs of implementing better surveillance tools. The more standardized the data received by CAs, the lower the cost for CAs in processing the data made available to them by trading venues. Five CAs provided estimates of one-off and four of on-going compliance costs. The figures for both range from less than 50K to 250K.

*Trading venue operators:*

Trading venues will be required to store the data required by MiFIR and this RTS for five years after the order has been received, a requirement imposed by Article 25(2) of MiFIR.

Contrary to what ESMA stated in the preliminary CBA, respondents to the CP and/or the ESMA CBA questionnaires have indicated that the additional requirements proposed by ESMA to gather and store all the required information would entail significant costs, as venues do not collect all of these fields on orders. To collect that information, venues will have to build a system so that the information can be provided on each order or at least captured post-submission. In addition, it will be costly as will require encryption of the order messages themselves, potentially impacting overhead, performance and stability of trading systems.

The areas that have raised bigger concerns are the inclusion of Client IDs and other personal data, having to use LEI as an identifier, flagging liquidity provision and maintaining prices of implied orders. Some trading venues have mentioned they do not have some of the elements covered in the original Article 10 of the RTS proposed in the CP (data elements on the functioning of the order book), and that to do so would breach confidentiality agreements. Others mentioned issues related to the original Article 3(1) (Relevant parties, trading capacities and liquidity provider).

In terms of Client IDs, trading venues have indicated that they do not always know the client at the time of the order submission or have the information/tools to obtain client level information or the details of all individuals that access trading venues. To obtain the required information, trading venues would have to follow up with the member that granted them access, would also need to address the sensitivity of maintaining confidential data, ensure these data is kept up to date and that all orders include this information. To take that into consideration, the draft RTS has been modified to require to store the client identifier of the client of their member or participant on whose behalf an order is submitted, without having to collect client identifiers for every client in the entire client trading chain, except in the case where client of their member or participant is the end client since this would not involve a chain of investment firms.

The identification of market making or liquidity provision activities, while identified as costly in the responses to the CP, is important for the purpose of a more efficient detection of market manipulation as it allows the CAs to distinguish the order flow coming from an investment firm acting on the basis of public trading conditions which are pre-determined by the issuer or the trading venue from the order flow coming from an investment firm acting at its own or at its client discretion. The latter activity is more prone to market manipulation, and the liquidity provision flag will allow CAs to better and more efficiently screen the information received.

The inclusion of the number of orders on the 'Aggregated' orders was also identified as costly and difficult to implement. One respondent mentioned that at the time of order or trade entry, even when aggregating orders, the broker/trader does not have knowledge of the number of clients and their respective end client identifiers that are responsible for the order. They also do not have information in cases of business conducted by fund managers and in-house execution desks, as the trading venue is receiving an order to execute but not given the details of who the beneficial owner or client is at that time. The new draft RTS has been modified to take that into consideration and to minimize the cost to the extent possible.

In terms of indirect effects, clients' identification may have an impact on confidentiality arrangements between trading venues and market participants

*Market members and participants:*

Some respondents have mentioned that in 2017 firms may still transact with other firms that do not have an LEI if only to close out existing positions/reduce exposure to a counterparty. By January 2017 LEI may not be fully rolled out and put firms in a difficult situation when facing a non EEA counterparty in a jurisdiction where LEI is not yet mandatory. The



requirement to use LEI is a Level 1 obligation, consequence of Article 26, without any additional impact of Article 25 and the related ESMA RTS.

ESMA initial view was that as the draft RTS proposed in the CP would require the same format of orders as the RTS on transaction reporting and, where relevant, it would also require the same content, the impact on market members and participants submitting orders would be minor. The feedback from respondents is that cost in some cases may be significant due to the need to amend their processes or systems to capture/store/transmit information to be included in the order. In addition, confidentiality agreements between market members or participants and trading venues may be needed to protect the confidentiality of client identification, with the compliance costs attached to them, and the potential associated indirect effects on volume of trading and type of venue used for trading.

*Portfolio managers and investment firms executing transactions on behalf of clients:*

The final draft RTS may impose indirect costs on other stakeholders. Portfolio managers and brokers may be impacted as they will be required to send the identification codes of their clients to the trading venue that receives the order. This obligation will have an impact on confidentiality arrangements between portfolio managers and market participants, since client identification codes will be stored by trading venues.

Respondents highlighted that there are countries in which asset managers routinely allocate the execution of their orders among the funds under their management after the execution has taken place. In those jurisdictions IDs are not always transferred to trading venues. The new requirement to include client IDs in orders under the formats specified by ESMA would mean that such investment firms will need to modify upstream all their market connectors, which is something investment firms typically do with the technical releases of the various EEA trading venues. The complexity and costs for the corresponding IT projects for investment firms may be significant

There are markets that do not identify the counterparty at the time of execution (no existence of LEI in investment firm's systems). When investment firms deal with clearing houses they do not always know who the final client is (registered in clearing houses systems. Another respondent mentioned that providing client IDs to the trading venues would require amending the format of the reporting, which would increase the risk of incorrect reports.

One association mentioned that the additional information overcomplicates the reports leaving more room for errors and increases the risk of personal data fraud and identity theft.

Recording the identification of the client, the computer algorithm and the trader are essential to fulfil the objectives of Regulation (EU) No 596/2014 as well as of Article 24 of Regulation (EU) No 600/2014. Monitoring and investigation experience shows that the majority of market manipulation cases relate to orders. The relevance of order data will also be expected to increase as a result of the broadening of the scope of Regulation (EU) No 596/2014 to cover attempted market abuse.

However, in order to address some of the concerns raised by respondents to the CP and ESMA's CBA questionnaires, and mitigate some of the costs to industry, while at the same time achieve the requirements necessary to CAs, the draft RTS has been slightly modified regarding aggregated orders and orders pending allocation. For aggregated orders, ESMA is requiring only to have an 'AGGR' flag that should simplify the initial draft RTS requirements. Another flag has been created to indicate whether there is pending allocation of order details to be populated after order submission, in cases where national legislation allows this to take place.

## 5. Cost-Benefit Analysis

We evaluate below the incremental cost of the different provisions in the draft RTS. We mention as well the cases in which the costs of the final RTS provisions are lower than those arising from the RTS proposed in the CP.

### Scope, standards and format of relevant order data

<b>Policy objective</b>	Providing CAs with relevant information to effectively conduct market monitoring and investigate market abuse by looking at order information provided in a standardized way.
<b>Technical Proposal</b>	Operators of trading venues need to maintain the details of each order advertised through their systems established in Article 1 and the Annex of RTS 24, providing those details to the CA upon request using the standards and formats prescribed in the Annex to RTS 24.
<i>Benefits</i>	Data received will be able to be compared to better conduct market monitoring. It will allow CAs to better detect and assess potential market manipulation and front running behaviours.  Allowing trading venues to keep the information in their own formats and convert it to the one prescribed by ESMA at the CA's request reduces costs to firms.
<i>Cost to regulator:</i> - <i>One-off</i> - <i>On-going</i>	CAs may have to amend their systems and processes to receive the information with the new standards and formats requested. This may imply incremental IT and staff compliance costs both one-off and ongoing.
<i>Compliance costs:</i> - <i>One-off</i>	Trading venues may have to implement one-off IT processes to create new fields in orders submitted to matching engines and to keep records of those data, in case they do not already exist, and/or to provide them in the format requested. According to the feedback received by respondents to the CP and CBA questionnaires, the

<p>- <i>On-going</i></p>	<p>changes required to a firm's order infrastructure are substantial, so we expect this cost to be significant. However, it is not always possible to differentiate what cost will originate from Level 1 and Level 2 measures.</p> <p>There may be ongoing IT storage costs from maintaining any portal for capturing the required data and on-going compliance costs to ensure completion and accuracy of the data, and to convert the data to send to the CA upon request in case the data is not stored in the same format as prescribed by the draft RTS. However, the cost arising from the latter should be lower than the cost of maintaining all the details of the order in the format prescribed by ESMA in RTS 24</p>
<p><i>Cost to other stakeholders</i></p>	<p>Members or participants may incur one-off costs to implement the new elements to be included in any order submission.</p> <p>Investment firms may have to develop systems to provide trading venues the information required by ESMA and will have on-going compliance costs to ensure compliance.</p>
<p><i>Indirect costs</i></p>	<p>Potential higher costs for trading venues may be passed on to clients.</p>

*Relevant parties, trading capacity and liquidity provision flag*

Trading venue operators are required to keep records of the identification code of the member or participant who transmitted the order, and some elements on the relevant parties, trading capacity and liquidity providers.

<p><b>Policy objective</b></p>	<p>Providing all necessary information on relevant parties to an order, as well as trading capacity and liquidity provision in order for CAs to be able to effectively run inquiries on operations of market members or participants.</p>
<p><b>Technical Proposal</b></p>	<p>Identification of the relevant parties:</p> <ul style="list-style-type: none"> <li>It requires trading venues to maintain information to identify the relevant parties: entity who submitted the order, DEA, client identification code, trader/algorithm code (investment and execution) and non-executing broker. Unallocated and Aggregated orders should be flagged as indicated on Field 3 of Table 2 in the Annex (see Article 2(2) and (3) of RTS 24 and Table 2 in the Annex of RTS 24 for more details).</li> </ul> <p>Trading capacity and liquidity provision:</p>

	<ul style="list-style-type: none"> <li>• It requires trading venues to maintain information on the trading capacity of the submitter of the order (matched principal, own account or other), as well as to provide an indication of whether the order is submitted as part of market making strategy (See Article 3 and Table 2 Section B in the Annex of RTS 24 for more details).</li> </ul>
<p><i>Benefits</i></p>	<p>The use of the LEI to identify members or participants will enable CAs to more effectively measure counterparty exposure while also resolving issues on entity identification across the globe. It will also facilitate cross-market use of information by CAs, e.g. for cross venue activities and where a client transmits orders to several market members or participants. Standardized identifiers for market members or participants will enable an easy consolidation of data across multiple markets.</p> <p>Standardization of other parameters will lower the entry cost for those CAs that have not yet implemented such automatic monitoring of orders.</p> <p>Record keeping of trader IDs will contribute to a better identification of potential market abuse.</p> <p>Algorithm identification will contribute to monitoring algorithm trading and high frequency trading in an efficient way. In particular, transaction reporting available to CAs is not sufficient to monitor high frequency traders' activity, which may consist of a large number of orders that are not executed. It is also necessary to know which specific algorithm may have generated an order to understand trading patterns and potential market abuses.</p> <p>Trading capacity, liquidity provision flag and non-executing broker code will aid CAs in their detection and investigation of market manipulation and insider trading practices as well as attempted market abuse practices.</p>
<p><i>Cost to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>There may be IT one-off costs in the case of CAs currently using internal codes of trading venues to identify market members or participants.</p>
<p><i>Compliance costs:</i></p>	<p>Trading venues may have to implement one-off IT processes to create new fields in orders submitted to matching engines and to keep records of those data, in case they do not already exist, and/or to</p>

<ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>provide them in the format requested. According to the feedback received by respondents to the CP and CBA questionnaires, the changes required to a firm's order infrastructure are substantial, so we expect this cost to be significant. However, it is not always possible to differentiate what cost will originate from Level 1 and Level 2 measures. While the new draft RTS has addressed some of the areas of significant costs, there are still requirements that will give rise to one-off costs, particularly related to the inclusion of Client IDs, with the major drivers being:</p> <ul style="list-style-type: none"> <li>• <i>New software</i> as firms will need to build a system to provide the required information on each order (change to allow storage and transmission of this data into the execution systems) or at least capture it post-submission.</li> <li>• <i>Adjustments to data transmission systems</i> as not all orders from all clients are transmitted electronically currently.</li> <li>• <i>Merging data from different systems used for largely independent business processes.</i></li> </ul> <p>There may be ongoing IT storage costs from maintaining any portal for capturing the required data and on-going compliance costs to ensure completion and accuracy of the data, and to convert the data to send to the CA upon request in case not stored in the same format prescribed by the draft RTS.</p> <p>Flagging liquidity provision activities as requested may also give rise to one-off and ongoing costs, as some firms may need retooling of a number of systems to create that flag and separate such activity from other order flows.</p>
<p><i>Cost to other stakeholders</i></p>	<p>Members or participants of trading venues may incur one-off costs to implement the new elements to be included in any order submission. Many of them already have an LEI, so they will not incur incremental costs. For those who do not have yet an LEI, they will need to register at a Local Operating Unit (LOU) to get it. The one-off and annual costs of registration are very low (less than 200 € for the initial registration and about 100 € for the annual maintenance).</p> <p>Investment firms will have to develop systems to provide trading venues the information required by ESMA and will have on-going compliance costs to ensure compliance.</p>

Client identification (general case)

<p><i>Benefits</i></p>	<p>Enables CAs to conduct far-reaching inquiries to detect market abuse by final beneficiaries running suspicious activities that do not necessarily translate into actual transactions (e.g. market manipulation; attempt of market abuse).</p> <p>Harmonized information on client orders will facilitate and accelerate inquiries run by CAs on multiple markets.</p>
<p><i>Cost to regulator</i></p>	<p>CAs may incur one-off IT costs to process the new data to be received on orders and incorporate it into their market monitoring and market abuse detection tools.</p>
<p><i>Compliance cost:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Most existing trading venues currently do not include this information in the parameters of orders transmitted to the matching engine. There will be one-off costs for trading venues to include the new field in order reception and recording and one-off and on-going costs related to entering into and maintaining confidentiality agreements between trading venues and market members or participants.</p>
<p><i>Cost to other stakeholders:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>There may be one-off and on-going costs related to entering into and maintaining confidentiality agreements between trading venues and market members and between market members and their clients.</p>
<p><i>Indirect costs</i></p>	<p>Effects on market participants related to confidentiality provisions, which may affect overall market trading activity and/or type of venue used for trading.</p> <p>Potential higher costs for trading venues may be passed on to their clients.</p> <p>Impact on doing business with firms that have no LEI. There are concerns around the use of LEI for clients that currently trade with firms based in the EEA yet who are based in non EEA jurisdictions and for whom LEI is not a local requirement and the use of LEI for small, retail counterparties. This may mean that firms will not be able to do business in various jurisdictions outside of the EEA or it may affect closing out existing positions / reducing exposure to a counterparty for clients that decide not to get an LEI. In addition, LEI might not yet be fully rolled out and this could put firms in a difficult</p>

	situation with potential negative impact on investment activity. However, this is an effect of Level 1 legislation, and not a cost arising from this draft RTS. In addition, other European legislation will require the usage of LEI between 2015 and 2017.
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Client identification (case of aggregated orders)

<i>Benefits</i>	Contribution to CAs investigation of market abuse.  The simplest and least costly solution for identifying aggregated orders, avoiding the costs associated with identifying how many orders are aggregated, based on feedback received.
<i>Cost to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	CAs may incur one-off costs to incorporate the information received into their market abuse detection tools, and on-going costs to review this information on a regular basis.
<i>Compliance cost:</i>  - <i>One-off</i>  - <i>On-going</i>	There may be low costs arising from creating a new field in case it does not already exist at the trading venue.
<i>Cost to other stakeholders</i>	Members of trading venues may incur low IT costs arising from creating a new field, in case it does not already exist, or an alternative means of communicating that information to the trading venue.
<i>Indirect costs</i>	None identified.

Date and time recording, validity period and order restrictions

<b>Policy objective</b>	Enabling CAs to better detect market abuse by processing time parameters adequately when assessing the information received on orders.
<b>Technical Proposal</b>	It prescribes to trading venues to record the date and time for each event affecting the order's current state, validity period and order restrictions developed in Article 4 and 5 of RTS 24 and according to the content and format provided in Table 2 Sections C and D of the

	Annex to RTS 24, using the level of accuracy prescribed on RTS 25.
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Level of accuracy (linked to Clock Synchronization RTS)

<i>Benefits</i>	Tracking of high frequency trading and other market practices of members able to react immediately to market events, and therefore enabling CAs to better monitor HFT, which is considered a potential source of concern in relation to market disruption.  Avoiding unnecessary changes in order time stamps where the finest granularity is not relevant for a trading venue.
<i>Cost to regulator:</i>  - <i>One-off</i>  - <i>On-going</i>	CAs might have to dedicate IT resources to differentiate the processing of data provided by trading venues whose matching engine supports different granularities for their business clocks.
<i>Compliance cost:</i>  - <i>One-off</i>  - <i>On-going</i>	There may be incremental IT compliance costs for trading venues where outcries have time codes corresponding to time intervals instead of time stamps.  The costs arising from this requirement are considered in the CBA of Clock Synchronization.
<i>Cost to other stakeholders</i>	Members or market participants may incur compliance costs from accommodating to the requirements imposed by the draft final RTS.
<i>Indirect costs</i>	See CBA of Clock Synchronization for more details.

Format of time stamps

<i>Benefits</i>	Harmonization of time stamps will allow for an efficient cross-venue monitoring by CAs, especially in the context of arbitrage strategies.
<i>Cost to regulator</i>	Some CAs might have to dedicate IT resources and incur associated one-off IT compliance costs to be able to process data according to the harmonized format.
<i>Compliance cost</i>	Trading venues may incur one-off IT compliance costs where the required granularity of time stamps is finer than the one used in their existing order databases. See more details on the CBA of Clock



	Synchronization.
<i>Indirect costs</i>	None identified.

Validity period/order restrictions

<i>Benefits</i>	<p>Enables CAs to conduct cross-venue investigations, especially in the case of non-executed orders. Clarification and standardization of maximum validity periods will be particularly useful where CAs will process data from multiple trading venues, including those for which the concerned CA is not the competent authority.</p> <p>Lowers the cost of entry for CAs to start automatic detection processes</p>
<p><i>Cost to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs that have already implemented automatic procedures to process validity periods and to detect market abuse will encounter minor one-off IT cost to take into account the new formats of order types and maximum order date and time.</p> <p>For other CAs, the entry cost of such automatic processes will be lowered by the proposed standardization.</p>
<p><i>Compliance cost:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>Trading venues may incur one-off IT costs to be able to convert upon request proprietary formats of types of validity periods and of maximum date and time of validity into types and formats defined by the RTS.</p>
<i>Indirect costs</i>	None identified.

Priority and sequence numbers

<b>Policy objective</b>	Enabling CAs to better conduct market monitoring and detect market abuse, by being able to assess time priorities when running an inquiry.
<b>Technical Proposal</b>	Trading venues are to maintain their order priority under the methods developed in Article 6 of RTS 24, which refers to the RTS on Clock Synchronization for the number of digits to maintain. Trading venues shall also maintain a sequence number to identify the correct

	sequence of events where multiple events have exactly the same time stamp.
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### Priority of time stamps

<i>Benefits</i>	<p>Will enable CAs to “replay” the market on the basis of the order databases when the replication of the matching algorithm is not sufficient for that purpose. For example, the time priority of a Peg order depends on the technical latency after the event (a change in the order book) that triggers a change of the price limit of the Peg order. The latency may depend on the volume of operations on the trading venue at the time of the event.</p> <p>The required information could be provided by trading venues without changing their current raw databases, reducing compliance costs.</p>
<i>Cost to regulator:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>There may be some incremental costs arising for regulators from processing or adapting the new data received to their existing market abuse detection tools. Some CAs already use custom tools to “replay” the market. They may encounter one-off costs to convert existing processes using the definitions and formats defined by the draft RTS. For those that have not yet implemented such a tool, they may incur one-off costs from putting in place IT systems to “replay” the market.</p>
<i>Compliance cost:</i> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>We assume compliance costs for trading venues to be of minimal significance, as they will not be required to maintain raw data in a specified format. The cost related to the number of digits to maintain in the time stamp is linked to the RTS on Clock Synchronization and covered on the CBA of that RTS.</p>
<i>Indirect costs</i>	None identified.

### Sequence number

<i>Benefits</i>	Will enable CAs to “replay” the market on the basis of the order databases when two events have exactly the same time stamp.
<i>Cost to regulator</i>	None identified.
<i>Compliance cost</i>	There may be one-off and ongoing IT and staffing costs for trading venues to create a sequence number that is unique, consistent and

	persistent in case it does not currently exists.
<i>Indirect costs</i>	None identified.

Identification of the order, events affecting the order

<b>Policy objective</b>	Harmonizing the processing of order data by CAs in case of an inquiry
<b>Technical Proposal</b>	Trading venues are required to maintain a unique identification code for each order they receive and the events affecting that order (new orders, modifications, cancellations, rejections or executions). Articles 7 and 8 of RTS 24 and Table 2 Sections F and G of the Annex to RTS 24 provide a description of the content and format of the identification code.
<i>Benefits</i>	Enables CAs to make a search of suspicious orders using a unique IT process across different trading venues.
<i>Cost to regulator:</i> - One-off - On-going	There may be one-off IT systems and staffing costs where CAs have already implemented an IT process using different fields or codes from those required by ESMA, or to create a new one in order to process the new information received.
<i>Compliance cost:</i> - One-off - On-going	Trading venues may experience one-off IT costs in cases where the order databases they currently maintain are different from those required by ESMA.
<i>Cost to other stakeholders</i>	Investment firms may incur one-off IT and staffing costs from having to build connectivity to the trading venues and perhaps provide information in different formats for each trading venue.
<i>Indirect costs</i>	None identified.

Type of order, prices and order instructions

<b>Policy objective</b>	Enabling CAs to easily process the different types of orders existing
<b>Technical</b>	Trading venues shall keep records of the type of orders that were received as prescribed by Article 9 of RTS 24, each price relating to

<b>proposal</b>	<p>each order according to Article 10 and all order instructions received as prescribed by Article 11 of RTS 24 and Table 2 Sections H, I and J of the Annex to RTS 24.</p>
<b>Benefits</b>	<p>Using only two states of order is sufficient to describe the order within the order book at any given time, independently from the specificities, potentially complex, of the order type.</p> <p>CAs will be able to reconstruct with certainty an order book, whilst the more granular information contained within the specific order instructions can be used to conduct more detailed analysis.</p> <p>CAs would not need to maintain a detailed knowledge of how trading venue's internal systems work (e.g. very specific technicalities, for instance the interaction between orders and priority specificities).</p> <p>Trading venues would not be restrained from creating new order types as any order's state can fall into one of the two categories of fundamental orders.</p> <p>CAs would only have to develop a single processing system to handle the order data details received, irrespective of the EU trading venue transmitting them, unifying the processing of order data from multiple trading venues.</p> <p>Limited risk of improper classification compared to the classification being done by the CAs themselves.</p> <p>The fields to be provided on orders as requested by the RTS such as order type, prices, buy/sell indicator, ID codes, order status, quantity or routing strategy makes the order information meaningful to CAs market monitoring and market abuse detection efforts.</p> <p>Standardization of formats will enable CAs to process cross-venue analysis of order flows.</p>
<b>Cost to regulator:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>For CAs that have already set up an order data processing, there may be one-off compliance costs arising from IT system changes to convert existing programs and adapt them to harmonized definitions and conventions and associated staffing costs. For those CAs that do not have one there may be one-off IT and staffing costs to put one in place to process the new information received.</p>
<b>Compliance cost:</b> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> </ul>	<p>Trading venues may incur one-off and ongoing IT compliance costs from developing and maintaining software that systematically tracks each order's state from submission to removal from the order book</p>

- <i>On-going</i>	(modification, execution, etc.).  The ongoing costs should mainly consist of the costs relating to the upgrading of the software in case the trading venue releases a new type of order.  Trading venues will have to maintain lists of correspondences between their own proprietary list of price types and order types and the classification defined by the RTS.
<i>Indirect costs</i>	None identified.

Trading venue transaction identification code, trading phases and indicative auction price and volume

<b>Policy objective</b>	Enabling CAs to detect potential market abuse
<b>Technical Proposal</b>	Article 12 and field 48 of the Annex of RTS 24 require trading venues to keep an individual transaction identification code for each transaction resulting from execution of an order and prescribes that the transaction identification code is unique, consistent and persistent per segment MIC and trading day. The components of the code should not disclose the identity of the counterparties  It should also maintain the trading phases, including trading halts, circuit breakers and suspensions and the indicative auction price and auction volume as prescribed by Article 13 of RTS 24 and Table 2 Section K of Annex to RTS 24.
<b>Benefits</b>	These data will enable CAs to better detect potential market abuse.  Preserves confidentiality of counterparties as not disclosed in the transaction identification code
<b>Cost to regulator:</b> - <i>One-off</i> - <i>On-going</i>	CAs may incur one-off IT costs to implement data processing tools to link transaction data with order data and to incorporate the new data that will be provided, in case they do not already have those capabilities in place.
<b>Compliance cost:</b> - <i>One-off</i>	In the case of identification codes, no compliance costs are expected as order identification codes are general market practice. There could be potential IT and personnel costs in cases the trading venue does not currently maintain the information prescribed on, auction price and volume or it does not maintain it in the format requested by the RTS.

- <i>On-going</i>	Additionally, one-off set up IT cost and ongoing staffing costs may be incurred to process the information received on a regular basis.
Indirect costs	None identified.

## 7.4. Clock synchronisation

### Level of accuracy to which clocks are to be synchronised in accordance with international standards (Article 50(2) of MiFID II)

#### 1. Executive Summary

The purpose of the proposed draft RTS is to specify the level of accuracy to be used for clock synchronization across all trading venues and their members or participants in the EEA, according to international standards.

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the draft RTS, which aims at establishing which level of accuracy should be implemented to synchronize clocks within the EU. The baseline section explains the starting point for assessing the incremental rule related to ESMA's RTS, which can be either the MIFIR/MIFID II requirements, or the existing practices of regulated markets when are above MiFIR/MiFID II. The stakeholders identified are trading venues, members or participants of trading venues, ESMA and Competent Authorities (CAs). The cost-benefit analysis section contains a cost benefit analysis of the proposals set out in the draft final RTS, and a subsection on compliance costs.

#### 2. Introduction

Clocks usually show differences compared to the reference time used (CET, GMT, etc.). The reason for the divergence is known as 'clock drift', or 'offset' and is in practice the steady accumulation of inaccuracy over time. This is due to the fact that normal clocks are not very accurate so the frequency with which time increases in them is never exactly right. For example, an error of 0,001% would make a clock be off by almost one second per day. The drift of a clock depends on their quality, the exact power they get from the battery, the surrounding temperature and other environmental variables. Thus the same clock can have different clock drift rates in different situations. Even if the systematic error of a clock model is known, the clock will never be perfect because the frequency varies over time, or there is a random phenomenon or 'jitter'.

Accuracy of a clock determines how close the clock is to an official time reference such as Coordinated Universal Time (UTC). Atomic clocks are very precise and have nearly no clock drift, with modern atomic clocks having less clock drift than the rotation of the Earth itself. Unfortunately none of the more common clock hardware is very accurate, so the time recorded by different computers may differ after some time, even when initially set accurately. To continuously keep a computer clock sufficiently accurate, a structural form of error correction is needed, known as offset correction or synchronization, which involves setting the most inaccurate clock to the most accurate one (usually an official time reference, such as UTC).

Time on a computer is stored in a number of bits, and adding to these bits makes time go on. The usage of more bits widens the range of the time value, or it can increase the resolution

of the stored time. For example, with 64 bits we achieve a nanosecond. Due to speed requirements, the storing of transaction and order data is done in a linear time scale like seconds instead of dealing with seconds, minutes, hours, days, etc. Only if a human is in need of the current time, the time stamp is read and converted to the time format we use.

Clock synchronisation is required by MiFID II in Article 50 and has a direct impact in many areas within trading in financial markets. For example, it is critical for accurate and reliable time-stamping (recording of date and time). Time-stamping is needed to define the exact moment when an event occurs (e.g. execution, pre- or post-trade publication, etc.). The role of a time-stamp is to establish evidence indicating that data existed or an event took place at a particular time. This is highly important to have a clear audit trail of which market events took place when, particularly in jurisdictions where trading is fragmented amongst multiple trading venues or in cases where markets trade different but related instruments (e.g., a derivative and the associated underlying asset). As such, it is an essential component of any surveillance system, especially for ensuring compliance with time sensitive regulatory requirements such as trade-through obligations or front running.

We will distinguish the concepts of “accuracy” and “granularity” when evaluating this RTS and other related provisions. “Accuracy” refers to the clock’s allowed divergence from UTC, while “granularity” refers to the “resolution” of the clock. While both accuracy and granularity are interconnected, this RTS strictly speaking is only addressing accuracy requirements, which will depend on the granularity that the trading venue is using.

While the implementation of clock synchronization in practice presents some challenges<sup>88</sup>, it will have significant benefits. It is essential for conducting cross-venue monitoring and detecting instances of market abuse, to ensure that post-trade transparency data can readily be part of a reliable consolidated tape and to effectively assess best execution.

Under MiFID II Article 50(2) ESMA is required to develop draft RTS to specify the level of accuracy to be used for clock synchronization in the EEA, according to international standards

The analysis that follows takes into account the responses received to the Discussion Paper (DP) published in May 2014, the Consultation Paper (CP) published in December 2014 as well as the ESMA Cost Benefit analysis questionnaire circulated by ESMA to relevant associations and a representative sample of firms from the industry in March 2015.

### 3. Baseline

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<sup>88</sup> IOSCO’s report on Technological Challenges to Effective Market Surveillance Issues and Regulatory Tools describes not only the increasing need for clock synchronisation in highly fragmented and automated markets but also the practical challenges that such synchronisation would entail. <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD412.pdf>



The relevant legal text is MiFID II Article 50 which establishes the clock synchronization obligation. MiFIR Article 26 and MiFID II Article 65 have related provisions that may have an effect on clock synchronization.

Article 50 of MiFID II introduces accuracy requirements, as it refers to the obligation of trading venues and their members/participants to record the date and time of any “reportable event using an accurate time source”. In particular, Article 50(1) of MiFID II requires Member States to oblige all trading venues and those accessing the venues to trade to synchronise the business clocks they use to record the date and time of any reportable event. No MiFID Level 2 regulations exist on clock synchronization.

The legislation that follows relates to granularity requirements and it may indirectly affect the accuracy provisions contained in MiFID Article 50. MiFIR Article 26 introduces specific requirements to harmonise the format and standard of timestamps in transaction reports. MiFIR Article 25 introduces specific requirements to harmonise the format and standards of timestamps to be record kept by trading venues. MiFID II Article 17(2) introduces specific requirements to harmonise the format and standards of timestamps to be record kept by firms engaging in high frequency trading.

In terms of market practice, different trading venues in different jurisdictions offer some sort of internal and/or external clock synchronization. Generally, trading venues' trading or surveillance systems automatically assign time-stamps, with all jurisdictions having time-stamps attached to their audit trail data. However, there are differences in precision and accuracy, with time-stamps ranging from one nanosecond to one-second accuracy, although most are accurate to one millisecond.

To ensure the maintenance of accurate time-stamps, CAs have integrated time synchronization into their system architecture. The mechanisms and sources for clock synchronization, however, vary between jurisdictions, in accordance with local needs, market structures and how surveillance is organized. According to IOSCO's Report on Technological Challenges of Effective Market Surveillance, Issues and Regulatory tools, there are differences in business clock synchronization within a jurisdiction and amongst different jurisdictions within the EU. We provide below further details on the U.K., Netherlands and Germany.

#### U.K.

- LSE: The trading system is synchronized with the atomic clock.
- BATS Europe: Utilizes a precision time protocol (PTP) and synchronizes its systems to this to ensure the accuracy of timestamps across multiple systems.
- LIFFE: There is a system clock maintained within the overall trading architecture, which is synchronized with an atomic clock.
- PLUS: Timestamps are synchronized across servers using NTP “daemons” pointed at [www.uk.pool.ntp.org](http://www.uk.pool.ntp.org).

### Netherlands

- Overall trading architecture is synchronized with an atomic clock.

### Germany

- The TSOs of the Eurex and the FSX: Timestamps are originated within the trading engines of Deutsche Börse Group, which use a cluster of three Meinberg clocks (one per data centre location) and are synchronized by GPS and DCF77 as backup; these serve the time via NTP protocol to all backend servers resulting in an overall time precision of better than one millisecond.

According to the DP and CP feedback, at present, investment firms' business clocks are usually accurate to one hundredth of a second, or 10 milliseconds. Synchronisation of clocks for investment firms would affect numerous systems or interfaces (up to several thousand) within every investment firm or group.

One respondent to the CP mentioned that a 10GB network installed within the last four years with application servers using standard NICs can be tuned to provide precision to circa 100 microseconds at the 95<sup>th</sup> percentile. A cutting edge network with the latest top of rack switches, separate PTP timing distribution networks and hardware assisted PTP NICs can achieve 10 microseconds at the 95<sup>th</sup> percentile. From 2017 it is expected to have networks and hardware that would enable 10 microseconds at the 95<sup>th</sup> percentile.

It was also mentioned that investment firms typically synchronise their gateways with each corresponding trading venue to ensure the time difference with each venue does not exceed the accuracy of that venue. As not all trading venues are synchronised, for investment firms to be able to synchronise their clocks with UTC with an accuracy of one millisecond, it would require that all trading venues would first synchronise their clocks with accuracy beyond one millisecond.

Respondents also indicated that some exchanges and investment firms use either Solaris or Windows operating systems. These systems do not support precision timing properly and their users may need to migrate their applications to another operating system.

It was also mentioned that the level of precision required in the RTS attached to the CP was not commercially possible as UTC today is not distributed to that level of precision.

Based on all those comments and feedback provided to ESMA, the final draft RTS has been amended to reduce the costs to industry while at the same time allowing CAs to have a level of accuracy and granularity that would be fit for their purposes.

The purpose of this document is to CBA the incremental obligation of ESMA's TS against the MiFID II baseline described above, and the existing market practices when those are already above MiFID II.

#### 4. Stakeholders

Two types of stakeholders are relevant for this standard: trading venues and their members or participants and ESMA/CAs.

*Trading venues (TVs)/ Members or participants of trading venues* may incur IT hardware and software, systems and controls related to how to synchronize their clocks based on the internal and external synchronization and the level of accuracy prescribed by ESMA.

*CAs/ESMA* may be affected regarding their supervision responsibilities related to what is mandated on this standard. There could be also indirect effects arising from the adaptation of their systems to accommodate the higher accuracy of the timestamps reported. However, the bulk of the costs should be driven by MiFID II.

Costs from this RTS will arise from ensuring that the time recorded by within a given trading venue or participant's system is synchronised to the common external time reference and does not diverge more than a specified unit of time. Compliance costs will arise mostly from the need of synchronization to the common external time reference within the divergence allowed, as technologies and protocols needed to achieve the standard of accuracy required will be different and will have different costs. It could be the case that some firms achieve slightly different levels of accuracy and synchronization with the protocols used across different points of their networks. Then the challenge would be to synchronize together the systems and applications needed within the tolerance permitted by the standard.

The incremental costs arising from this standard may be different depending on the size of the system, number of clocks and how they are synchronized, the applications to be changed, the existing network topology, switches, routers, software and hardware currently used, and the IT technology (hardware and software) that would need to be used to achieve what the draft RTS requires, as well as the IT staffing and management time needed to implement the change, and to monitor on-going compliance once implemented.

**Table 1: Higher accuracy may require different protocols**

Protocol	Typical synchronization accuracy
NTP	1-100 milliseconds
IRIG-B	1-10 microseconds
PTP	20-100nanoseconds, (few examples of accuracy in the order of nanoseconds)

Most currently available network and server hardware does not support precision timing. Given levels of security and resilience required, the products needed to achieve this are still in their infancy.

The global standard for time synchronization between servers is NTP, which only guarantees a millisecond synchronisation. Some firms use PTP currently. In this case, there are two approaches: 1) using the existing server network sharing it with business data and 2) having a dedicated timing network, with dedicated switches and network interface cards (NICs). Both require specialist NICs that have on board hardware that synchronises to PTP.

In addition, according to the feedback received, the networks most of the exchanges run today do not offer any meaningful hardware precision timing support, and the equipment to adequately monitor precision at the network edge at scale is not commercially available today.

**Table 2: A brief description of reference time scales**

Scale	Description
TAI	International Atomic Time. It is based on a particular resonance frequency using a Caesium atom.
UTC	Coordinated Universal Time, presently slower than TAI by a fraction of a second per year.
GPS	Global Positioning System. It is the atomic time scale implemented by the atomic clocks in the GPS ground control stations and satellites.

Respondents also indicated that if investment firms were to have to convert from hundredths of a second to milliseconds it would imply the replacement or expansion of existing IT hardware and software facilities, with costs in the hundreds of millions of euros.

## 5. Cost-Benefit Analysis

### 5.1. Summary cost-benefit analysis

After the feedback received to the CP, ESMA is modifying the initial options presented, reducing significantly the level of accuracy required. ESMA is also introducing how to demonstrate compliance with those requirements.

#### Reference time, level of accuracy

<b>Policy Objective</b>	To allow that all events affecting an order are time stamped according to the same internal reference and to enable cross-venue monitoring by time stamping events using the same reference clock for orders
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	submitted by the participants on different trading venues.
<b>Technical proposal</b>	This technical proposal establishes the granularity with which trading venues and their members or participants have to synchronise the business clocks they use to record the time of any reportable event against a common reference time (UTC). See Articles 1, 2 AND 3, and Tables 1 and 2 in the Annex of RTS 25 for more details.

Compliance with maximum divergence requirements

<b>Policy Objective</b>	Indicate to industry how they can demonstrate compliance with RTS 25.
<b>Technical proposal</b>	Article 4 of RTS 25 indicates how operators of trading venues and their members can demonstrate traceability to UTC, and also that they need to identify the exact point at which a timestamp is applied and demonstrate it remains consistent and to review compliance at least once a year.

Some estimates of compliance costs were provided in the responses to the DP and CP. It was mentioned that it will be challenging and costly to implement what is required by MiFID II Article 50. However, the cost of compliance with Article 50 should be attributable to MiFID II and has been already covered in the Impact Assessment of MiFID II Level 1.

ESMA has taken the comments made regarding difficulty of implementation and costs involved to revise the initial proposals considered in the CP. We summarize below a description of the costs and benefits arising from the technical options considered on the final draft RTS.

Reference time, level of accuracy and compliance with maximum divergence requirements

<b>Benefits</b>	<p>Allows CAs to conduct better market surveillance by time stamping the events affecting an order according to the same internal reference.</p> <p>Allows CAs to better compare the transaction to the prevailing market conditions at the time of execution and to distinguish amongst different reportable events that may appear to have taken place at the same time.</p> <p>Ensures that post-trade data can be part of a reliable consolidated tape.</p> <p>Achieves the policy objective limiting unintended effects. Avoids creating monopolistic positions and barriers to entry that would arise</p>
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	<p>by mandating a specific reference.</p> <p>Allows for better technologies/innovation to be adopted as they emerge (as it establishes the expected precision and accuracy (deviation) to a reference time (and not a particular technology). It also makes latency linked to gateway-to-gateway latency of orders advertised through the TVs' systems, to accommodate potential further changes in speed of trading.</p> <p>Takes account of the technological difficulties of implementation, as well as the cost associated with the initial draft RTS proposed in the CP, and reduces the estimated costs from compliance with this standard significantly.</p> <p>The final draft RTS also reduces costs of the initial draft RTS proposed in the CP by allowing UTC disseminated via satellite systems (i.e. GPS receiver or the use of other satellite systems when available).</p> <p>The final draft RTS also takes into consideration the manual trading element of some trading models and aligns those with voice systems, by requiring for both 1 second of maximum divergence from UTC and granularity of the timestamp, reducing the costs for those trading systems.</p> <p>The final draft RTS also reduces costs to investment firms by removing the connection between the requirements for members or participants and trading venues.</p> <p>It increases legal certainty by indicating how and how often compliance should be reviewed, and what can be considered an acceptable level of compliance.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>CAs may incur some staffing costs from regular supervision of compliance of the RTS provisions. There could be also indirect IT compliance costs related to longer fields needed to accommodate the higher precision of timestamps as mandated by the RTS, and related changes to their market surveillance systems and activities.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- <i>One-off</i></li> <li>- <i>On-going</i></li> </ul>	<p>The compliance costs that would arise will depend on the type and size of TV or market participant based on what kind of system they use and will consist of one-off IT hardware and systems costs (could include specialised hardware and network cards, and rewriting of existing systems in some cases) as well as IT maintenance costs, in addition to staff costs necessary to implement all these changes.</p> <p>While ESMA has tried to minimize the costs involved by establishing</p>

	<p>different requirements based on their business model and type of traded conducted, requiring a maximum divergence from UTC of 100 microseconds and requiring the time-stamping of events affecting orders at a granularity of 1 microsecond or better may still result in cost implications for some TVs serving HFT firms as well as for HFT firms that are members or participants of TVs. These costs may be related to an upgrade of the existing infrastructure of the live trading and position systems, potential reconfiguration of network topology including dedicated hardware, specific enhancements and some alterations to the protocols, new routers and switches. In addition, some of the TVs do not provide timestamp fields across all trade events that are large enough to accommodate this level of precision, so an upgrade of the infrastructure may be needed as well.</p> <p>For TVs operating at the millisecond/second level, there could be also additional one-off and maintenance IT compliance costs of similar type to the ones described above in order for firms to maintain their synchronization within the maximum divergence allowed.</p> <p>We detail in the section below ‘Compliance Costs’ the cost estimates received by ESMA for the draft RTS attached to the CP. The final draft RTS reflects the changes made to reduce the costs of compliance while achieving comparable benefits, and therefore would have lower costs for the industry than the ones shown below.</p> <p>There will be also one-off IT costs arising for venues that do not currently use UTC to synchronize their clocks and relevant internal systems.</p> <p>There will be costs to investment firms that are members or participants of trading venues to synchronize their clocks based on Table 2 in the Annex. While synchronizing below milliseconds will be expensive for these firms on average, the requirement to synchronize with trading venues has been removed in the final RTS.</p> <p>There will be on-going costs to verify compliance with the final draft RTS.</p>
<i>Costs to other stakeholders</i>	None identified.
<i>Indirect costs</i>	<p>Compliance costs incurred by trading venues and investment firms subject to this RTS may be passed on to end users as an increase in the cost of trading and/or market data services.</p> <p>Synchronization below milliseconds may be prone to errors. As it can</p>

	<p>take multiples of microseconds to read the clock, microsecond timestamps would still be subject to inaccuracy.</p> <p>According to one respondent, the FIX protocol does not support timestamps below 1 millisecond, implying that FIX implementations may need to be revised and updated to implement the level of precision of 100 microseconds (for those trading venues with gateway-to-gateway latency of 1 millisecond or less, or for members or participants of a trading venue which use HFT).</p> <p>The EU requirement deviates from that proposed by FINRA (50 milliseconds)<sup>89</sup>, however, according to a fact finding exercise carried out by ESMA within the EU, firms involved in HFT can provide time stamping already at the granularity required by the final RTS or even lower.</p>
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## 5.2. Compliance costs

The costs gathered by ESMA through the ESMA cost benefit questionnaire distributed in March 2015, and shown on this section, were based on the version of the draft RTS published in the CP. The costs arising from the final draft RTS should be much lower than those from the draft RTS in the CP, as ESMA has taken into consideration the comments and feedback provided by respondents to the CP and the CBA questionnaire on clock synchronization.

Regarding the synchronization to an UTC reference time (item 1), five out of the eight small firms that replied to the questionnaire are currently using UTC as reference time. Only two small institutions between 1 and 50 employees (one MiFID investment firm engaged in algorithm trading and one trading venue) provided an estimation of their compliance costs arising from this RTS, of less than EUR 50k. Two medium investment firms reported that they are using currently UTC as reference time and one trading venue estimated costs to range from EUR 50k to 250k from replacement of their existing GPS reference time. Three medium-large firms, between 251 and 1000 employees, estimated costs to range from EUR 50k to 1m. One respondent stated that costs arise as they would need to implement several system enhancements (including network, physical and virtualised infrastructure).

Three large firms provided compliance costs related to UTC synchronization. Two credit institutions estimated costs of EUR 50k and 250k while another large credit institution

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<sup>89</sup> The current clock synchronization requirements in the U.S. allow for a tolerance of one second from the National Institute of Standards and Technology (NIST) atomic clock. Under the FINRA proposal, the tolerance for computer clocks would be reduced to 50 milliseconds, and FINRA requests comments on that vs. a standard of 100-200 milliseconds for computer system clocks. The rationale is that the NIST currently uses a 50 millisecond advance to account for network delays. The tolerance for mechanical time stamping devices would remain at one second.



expected much higher costs ranging from EUR 5m to 10m related to additional equipment, testing and re-configuration of systems.

Estimations of compliance costs for Item 2, divergence of business clocks from reference time of no more than one millisecond (one second for voice trading systems), varied significantly and depended on the size of the trading venues that responded to this item. In the case of small trading venues (less than 50 employees) costs are estimated to be below EUR 250k, related mainly to the acquisition of redundant clock synchronization hardware and significant investments in consulting and training of existing staff. For medium size trading venues (number of employees between 51 and 250), one estimated higher costs, between EUR 250k to 1m from staff and new hardware required to build a separate timing network, while another trading venue expected lower total costs as they can implement the proposal with the NTP software they already have in place. One medium-large trading venue estimated EUR 1m to 5m one-off costs and EUR 50k to 250k on-going costs from significant capital and operational expenditures required for relevant IT system and applications as they do not currently measure the time accuracy. In the case of large trading venues, one respondent expected costs ranging between EUR 1m and 5m.

In relation to Item 3, divergence of business clocks of electronic systems operating at a gateway latency time of less than one millisecond, compliance costs provided by respondents to ESMA questionnaire vary from EUR 50k to more than 10m. Respondents stated that they will incur costs for implementation of IT systems to be able to support the hardware to achieve the desired accuracy.

Compliance costs for members or participants of trading venues to synchronize their business clocks with the business clock of the trading venue (item 4) are generally low for medium firms (based on responses of two credit institutions and one credit institution engaged in algorithmic trading) and higher for large firms (one credit institution engaged in algorithmic trading and one credit institution). One medium credit institution mentioned they estimated costs to conduct an analysis to clarify the reference time used by their partners.

With respect to recording the date and time of any reportable event (item 5), compliance costs vary from less than EUR 50k to 5m for some medium-large (between 251 to 1000 employees) and large (more than 1000 employees) firms. Ten firms in total (one MIFID investment firm engaged in algorithmic trading, three trading venues, five credit institutions, one credit institution dealing with algorithmic trading) provided compliance costs for this section. For small institutions, main costs will arise from software systems and internal software implementation. For medium firms, one trading venue estimated total costs ranging from EUR 50k to 250k because they already have the correct time accuracy, while a credit institution expected moderate-low (EUR 250k to 1m) one-off costs and lower on-going costs to change the internal source of time accuracy. Regarding medium-large firms, there are three institutions estimating costs ranging from EUR 50k to 5m while among large firms, there is a wide dispersion. There are three credit institutions that provided compliance costs ranging from less than EUR 50k to 1m.

The table below indicates the range of costs in Euros provided and classified by firm size in terms of number of employees. The responses received have been used to create the ranges shown below. The number of responses received with quantitative cost estimates in each category is shown in brackets.

Proposed legal obligation	Type of cost	Number of employees			
		[1-50]	[51-250]	[251-1000]	>1000
Item 1	One-off	<50k [2]	50k-250k [1]	50k-1m [3]	<50-250k [3] 5m-10m [1]
	On-going	<50k [2]	50k-250k [1]	50k-250k [2]	<50 [1] 1m-5m [1]
Item 2	One-off	50k-250k [1]	<50k [1] 250k-1m [1]	1m-5m [1]	1m-5m [1]
	On-going	50k-250k [1]	<50k [1]	<50k [1]	N/A
Item 3	One-off	N/A	N/A	1m-5m [1]	>10m [1]
	On-going	N/A	N/A	250k-1m [1]	N/A
Item 4	One-off	N/A	50k-250k [1]	50k-250k [2]	<50 [1] 5m-10m [1]
	On-going	N/A	N/A	50k-250k [1]	250k-1m [1]
Item 5	One-off	50k-250k [2]	50k-1m [2]	50k-1m [3]	50k-1m [3]
	On-going	<50k-250k [2]	50k-250k [1]	50k-250k [1] 1m-5m [1]	<50k-250k [3]

Note: Costs presented in EUR; the number of institutions that provided quantitative estimates to ESMA CBA questionnaire is reported in brackets.

*Item 1:* Synchronization to an UTC reference time issued and maintained by one of the timing centres listed in the latest Bureau International des Poids and Mesures (BIPM) Annual Report on Time Activities (*All stakeholders*);

*Item 2:* Divergence of business clocks of electronic systems no more than one millisecond from the reference time, unless their gateway latency time is less than one millisecond (the reference here becomes the gateway-to-gateway latency time measured at the ninety ninth percentile of all orders advertised through their system), and no more than one second for voice trading systems that do not fall under the definition of 'electronic system' according to Article 1(b) of the draft RTS. (*Trading venues*);

*Item 3:* Divergence of business clocks of electronic systems operating at a gateway latency time of less than one millisecond (the reference here becomes the gateway-to-gateway latency time measured at the ninety ninth percentile of all orders advertised through their system) in accordance with the table provided in the RTS published with the CP. (*Trading venues*);

*Item 4:* Business clocks synchronised by members or participants of a trading venue to the same time accuracy applied by the trading venue. When connected to multiple trading venues, to use the same or higher granularity than the most accurate venue and to match trading venue's increases in accuracy in a timely manner (*Members or participants of trading venues*);

*Item 5:* Recording the date and time of any reportable event to the level of granularity required in the table shown in the RTS published with the CP(*All stakeholders*).

## **8. POST-TRADING ISSUES**

### **8.1. Obligation to clear derivatives traded on regulated markets and timing of acceptance for clearing (STP)**

#### **1. Executive Summary**

The purpose of the proposed draft RTS is to specify the requirements to ensure that cleared derivatives are submitted and accepted for clearing as quickly as technologically practicable, also referred to as straight-through processing (STP).

This document has four sections: introduction, baseline, stakeholders and cost-benefit analysis. The introduction sets out the background for the RTS, the baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which is MiFIR as these are new requirements not covered in MiFID or in prior European Regulations. The stakeholders identified are trading venues, CCPs and clearing members as well as any market participants involved in clearing flows. The cost-benefit analysis section provides an overview of the benefits and costs associated with the proposals set out in the RTS.

In practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment covering the general aspects of the Regulation has been already performed and published by the European Commission, and the effects of the Level 2 provisions. For instance, Level 1 already requires that trading venues, CCPs and clearing members have in place systems, procedures and arrangements to ensure the quick submission and acceptance of cleared derivatives. These Level 1 requirements can already represent new costs for trading venues, CCPs and clearing members to put in place new systems, procedures and arrangements or amend existing ones (if they didn't have these systems, procedures and arrangements in place before the Level 1 requirements start to apply), to maintain them and to monitor their compliance with the Level 1 requirements.

The costs associated to the minimum requirements that ESMA is tasked to set in the draft RTS can thus be already covered for some part in the costs required in order to comply with the Level 1 requirement, or be marginal cost increases if they correspond to small additions or changes to existing processes complying with Level 1, or be important costs if they require achieving the same goal of Level 1 requirements in a different manner than currently done. As a result, providing a level of flexibility in the text of the draft RTS about the means to achieve the objective of Level 1 and the RTS, to the extent possible, has been an important component in the way the standards have been drafted.

#### **2. Introduction**

Under Articles 29(2) of MiFIR, trading venues, CCPs and clearing members shall have in place systems, procedures and arrangements to ensure that cleared derivatives are submitted and accepted for clearing as quickly as technologically practicable. Article 29(2) also specifies the scope in terms of types of derivative transactions with a definition of

‘cleared derivatives’, which encompasses both OTC derivatives and Exchange-traded derivatives subject to the clearing obligation or that are otherwise agreed by the relevant parties to be cleared.

Under the same Article 29, ESMA is required to develop draft regulatory technical standards to further specify the requirements to ensure STP, taking into account the need to ensure proper management of operational or other risks.

The analysis that follows takes into account the responses received to the Discussion Paper (DP), Consultation Paper (CP) and the Cost Benefit Analysis questionnaire distributed by ESMA.

### 3. Baseline

MiFID I did not explicitly establish any provision regarding STP. Therefore the baseline is Article 29 of MiFIR, which establishes that trading venues, CCPs and clearing members shall have in place systems, procedures and arrangements to ensure that cleared derivatives are submitted and accepted for clearing as quickly as technologically practicable.

The purpose of this document is to assess the incremental obligation of ESMA’s Regulatory Technical Standards in Article 29(2) against the MiFIR baseline described above.

### 4. Stakeholders

Article 29 refers to CCPs, trading venues and investment firms which act as clearing members. Stakeholders thus include CCPs, trading venues and clearing members that are involved in the processing of cleared derivatives but more broadly all market participants that are involved in clearing flows.

Most of the costs should arise from the Level 1 provisions. CCPs, trading venues and clearing members may face some one-off as well as on-going costs arising from the implementation of MiFIR Level 1 provisions and the monitoring of the processing of cleared derivative transactions to ensure that these transactions are submitted and accepted for clearing as quickly as technologically practicable using automated systems. As per Article 29, this includes systems, procedures and arrangements.

Other market participants that are involved in clearing flows will also face some one-off and on-going costs to adapt to the systems, procedures and arrangements that CCPs, trading venues and clearing members put in place to ensure that these transactions are submitted and accepted for clearing as quickly as technologically practicable using automated systems.

### 5. Cost-Benefit Analysis

*STP requirements for cleared derivative transactions executed on a trading venue*

<b>Policy Objective</b>	Setting the minimum requirements ensuring that cleared derivative transactions executed on a trading venue are submitted and accepted
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	<p>for clearing as quickly as technologically practicable using automated systems</p>
<p><b>Technical proposal</b></p>	<p>In order to ensure clearing certainty at the time of execution, trading venues need to facilitate pre-trade checks against limits set by clearing members for their clients, when they do not already ensure clearing certainty via the trading venue and the CCP rulebooks. These pre-trade checks need to be conducted as quickly as technologically practicable and taking into account the way the cleared derivative transaction was executed, i.e. electronically or non-electronically, with specific maximum timeframes for each case.</p> <p>They should have discretion on the methods and systems used to achieve clearing certainty as long as they target the same objective and comply with the requirements set in the Regulation.</p> <p>Trading venues also need to submit the cleared derivative transactions resulting from the execution of the orders to CCPs as quickly as technologically practicable and taking into account the way the cleared derivative transaction was executed, i.e. electronically or non-electronically, with specific maximum timeframes for each case as well.</p> <p>Lastly, CCPs need to assess the cleared derivative transactions that have been submitted to them as quickly as practicable with a maximum timeframe that takes into account that the transaction was submitted electronically to the CCP in a pre-agreed format, in order to ensure that cleared derivative transactions are accepted for clearing as quickly as practicable.</p> <p>See Articles 1, 2, 3 and 5 of RTS 26 for more details.</p>
<p><i>Benefits</i></p>	<p>Ensuring that cleared derivative transactions executed on a trading venue are processed, submitted and accepted for clearing quickly, thus facilitating clearing certainty and trading certainty.</p> <p>The draft RTS provides flexibility in how clearing certainty is achieved. In particular, when trading venues and CCPs have rules and contracts that already ensure clearing certainty and meet certain criteria, they do not need to implement a different approach. In addition, the relevant parties that need to implement credit checks have the flexibility to consider a wide range of available approaches such as what is referred to as credit hubs, push model, pull model, etc.</p> <p>Trading venues and clearing members that use third party providers are subject to the same standards than those that do not outsource</p>

	<p>their services.</p> <p>The proposed timeframes and the flexibility in the means to achieve clearing certainty facilitate further international consistency with STP requirements from other jurisdictions.</p>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Incremental costs for regulators with regards to these standards in comparison to the Level 1 requirements should be minimal, regulators should be able to absorb any costs arising from monitoring compliance with these standards into their regular supervisory functions.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CCPs, trading venues and clearing members that were leveraging one or more of the flows already in existence and permitted under the new standards should not incur one-off costs and only marginal ongoing costs to monitor they are compliant with the new requirements.</p> <p>CCPs, trading venues and clearing members may incur one-off and ongoing costs related to IT, legal, training and staff costs where this is not the case. One-off costs will arise from updates to systems, procedures and arrangements in relation to the processing flows of cleared derivatives in order to meet the new standards, whereas the on-going costs will arise from the continuous supervision/update/monitoring of the execution and clearing of their cleared derivative transactions against the new standards.</p>
<p><i>Costs to other stakeholders</i></p>	<p>Other market participants that are involved in clearing flows for cleared derivative transactions may also incur similar costs to CCPs, trading venues and clearing members to adapt to the new systems, procedures and arrangements of CCPs, trading venues and clearing members, but of a relatively smaller order of magnitude as the requirements apply to CCPs, trading venues and clearing members.</p>
<p><i>Indirect costs</i></p>	<p>If some CCPs, trading venues and clearing members have to modify significantly their systems, procedures and arrangements to meet the new standards, then there is a risk that some will stop providing services to certain parts of the derivative market or that they will need to pass the costs to their clients in respect to these parts of the derivative market.</p> <p>For small firms, some of these costs may constitute a barrier of entry.</p>

*STP requirements for cleared derivative transactions executed on a bilateral basis*

<b>Policy Objective</b>	Setting the minimum requirements ensuring that cleared derivative transactions executed on a bilateral basis are submitted and accepted for clearing as quickly as technologically practicable using automated systems
<b>Technical proposal</b>	<p>In order to ensure that cleared derivative transactions executed on a bilateral basis are submitted to clearing quickly, the clearing member should receive evidence of the amount of time it took for the transaction to be submitted from the time of execution. As they are not executed on a trading venue, their submission may require more time than the time provided in the case of cleared derivative transactions executed on trading venues.</p> <p>Clearing members and CCPs need to assess the cleared derivative transactions that have been submitted to them as quickly as practicable with a maximum timeframe that takes into account that the transaction was submitted electronically in a pre-agreed format, in order to ensure that cleared derivative transactions are accepted for clearing as quickly as practicable.</p> <p>They should have discretion on the methods and systems used to achieve the quick assessment of the incoming cleared derivative transaction as long as they target the same objective and comply with the requirements set in the Regulation.</p> <p>See Articles 1, 4 and 5 of RTS 26 for more details.</p>
<i>Benefits</i>	<p>Ensuring that cleared derivative transactions executed on a bilateral basis are processed, submitted and accepted for clearing quickly, thus facilitating clearing certainty and trading certainty.</p> <p>The draft RTS provides flexibility in how the assessment of the incoming cleared derivative is conducted by the CCP and the clearing member in order to ensure it is accepted for clearing quickly, including the communication of approval requests and trade acceptance or the management of limits at the level of the CCP.</p> <p>The proposed timeframes and the flexibility in the means to achieve the quick acceptance of cleared derivatives executed on a bilateral basis facilitate further international consistency with STP requirements from other jurisdictions.</p>
<i>Costs to regulator:</i>	Incremental costs for regulators with regards to these standards in comparison to the Level 1 requirements should be minimal, regulators

<ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>should be able to absorb any costs arising from monitoring compliance with these standards into their regular supervisory functions.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>CCPs and clearing members that were leveraging one or more of the flows already in existence and permitted under the new standards should not incur one-off costs and only marginal ongoing costs to monitor they are compliant with the new requirements.</p> <p>CCPs and clearing members may incur one-off and ongoing costs related to IT, legal, training and staff costs where this is not the case. One-off costs will arise from updates to systems, procedures and arrangements in relation to the processing flows of cleared derivatives executed on a bilateral basis in order to meet the new standards, whereas the on-going costs will arise from the continuous supervision/update/monitoring of the execution and clearing of their cleared derivative transactions against the new standards.</p>
<p><i>Costs to other stakeholders</i></p>	<p>Other market participants that are involved in clearing flows for cleared derivative transactions executed on a bilateral basis may also incur similar costs to CCPs and clearing members to adapt to the new systems, procedures and arrangements of CCPs and clearing members, but of a relatively smaller order of magnitude as the requirements apply to CCPs and clearing members.</p>
<p><i>Indirect costs</i></p>	<p>If some CCPs and clearing members have to modify significantly their systems, procedures and arrangements to meet the new standards, then there is a risk that some will stop providing services to certain parts of the derivative market or that they will need to pass the costs to their clients in respect to these parts of the derivative market.</p> <p>For small firms, some of these costs may constitute a barrier of entry.</p>

### 5.1. Compliance costs

16 institutions (ten investment firms/banks/clearing members and six trading venues/CCPs) provided data or comments on the costs arising from complying with RTS 27 regarding STP requirements. However the data and comments gathered were based on the version of the draft RTS published in the CP, whereas the final draft RTS has since been amended to take into account the responses to the consultation with some important changes made. In fact, in general, the amendments were draft changes that kept the initial objectives but that brought more flexibility in how these objectives are achieved. As a result, this increased flexibility provided through the draft changes has in general addressed the largest concerns related to costs that have been raised in this survey.



In particular, some of these draft changes have been amendments related to the pre-trade check requirements for Exchange-traded derivatives. The set of comments and cost information provided through this survey on this topic reflect the important feedback received on this question in the responses to the consultation paper. This topic is addressed in the section of the final report related to STP where the changes made are explained. As a result, sufficient flexibility has been introduced so the trading venues, CCPs and clearing members that ensure clearing certainty through their rules and arrangements, as detailed in the draft RTS and as described in the above mentioned section, can do so, including give-ups. This should mitigate the concerns raised in the survey of the need to re-engineer these flows with the associated costs and challenges.

There was a wide range of cost estimates by respondents. In fact, 8 of the respondents estimated the costs to be low or moderate while the other 8 estimated them as substantial or high. There were investment firms/banks/clearing members and trading venues/CCPs in both groups of respondents, so the type of respondents was not a distinguishing factor in the cost estimates. However, in line with the explanation of the above paragraph, for the most part the costs respondents indicated were related to the situation of an entire re-engineering of the ETD flows, which after the changes introduced is no longer the case. For the respondents that provided not only qualitative but quantitative estimates of the costs associated with the draft RTS as it was in the consultation paper, the below table indicates the range of estimates per level (low, moderate, substantial) of required resources as indicated by respondents.

Indicated level of resource required to implement and comply with the requirements as proposed in the consultation paper	IT costs (range of responses in Euros)		Training costs (range of responses in Euros)		Staff costs (range of responses in Euros)		Total costs (which can include other costs, eg. legal costs) (range of responses in Euros)	
	One-off	Recurring	One-off	Recurring	One-off	Recurring	One-off	Recurring
	<b>Low</b>	00	0	00	00	00	00	0-250,000-250,000
<b>Moderate</b>	100,000-200,000	20,000-30,000 20,000-30,000	0-10,000-10,000	0	0-250,000-250,000	25,000-50,000 25,000-50,000	100,000-450,000 100,000-450,000	55,000-70,000

<b>Substantial</b>	500,000- 10,000,0005 00,000- 10,000,000	100,000- 5,000,0001 00,000- 5,000,000	50,000- 1,000,000 50,000- 1,000,000	10,000- 50,0001 0,000- 50,000	1,000,000- 5,000,0001, 000,000- 5,000,000	50,000- 200,0005 0,000- 200,000	3,050,000- 10,000,0003, 050,000- 10,000,000	310,000- 5,000,0003 10,000- 5,000,000
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## 9. BEST EXECUTION

### 9.1. Best execution (Article 27(10) of MiFID II)

#### 1. Introduction

The fiduciary obligation of a firm to provide its clients with the best possible results when executing client orders has become increasingly complex with the multiplication of execution venues, market mechanisms, trading protocols and financial instruments' diversity. While the concept is straightforward, the process of providing best execution is now based on increased use of quantitative data, greater transparency of order flow behaviour and measurement of benchmarks to verify the execution selection process taken. Best execution is also an important commercial consideration for firms receiving assets from end investors as well as a focus for regulators<sup>90</sup>. The data required to assess best execution are essential metrics for investment firms to monitor performance from venues, for the buy side to monitor sell side, and ultimately for the end investor to ensure they are receiving the execution quality required.

Pursuant to Article 10(1) of the Regulation establishing ESMA, ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. As mentioned, the same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate.

Under Article 27(10) of MiFID II, ESMA is required to develop draft regulatory technical standards to: i) determine the specific content, the format and periodicity of data relating to the quality of execution to be published, taking into account the type of execution venue and the type of financial instrument; ii) determine the content and the format of information to be published by investment firms. The purpose of the proposed RTS is to improve the application of the best execution obligations by requiring data on the quality of execution to be published by execution venues. The publication of this data will allow the public and investment firms to assess standard statistics on execution quality and will facilitate their ability to determine the best way to execute client orders as well as challenge venues on obtained results irrespective of the nature and the location of such venues. Similarly, the information to be published by investment firms in relation to the top five venues for each class of financial instrument and the quality of information obtained for all venues should enable clients to assess the execution quality obtained and challenge the results obtained.

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<sup>90</sup> See instance the EC Impact Assessment on this matter at:

[http://ec.europa.eu/internal\\_market/consultations/docs/2010/mifid/consultation\\_paper\\_en.pdf](http://ec.europa.eu/internal_market/consultations/docs/2010/mifid/consultation_paper_en.pdf)

and

ESMA's Peer Review on Best Execution Peer Review

<http://www.esma.europa.eu/news/Press-Release-ESMA-publishes-peer-review-best-execution-under-MiFID>

This document provides a cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID II baseline.

This document has five sections. The introduction sets out the background for the RTS, which aims at further facilitating and enhancing best execution. The baseline section explains the starting point for assessing the incremental rule related to the RTS. For the purpose of these RTS, increased transparency of the execution process will affect investment firms as well as end investors. The stakeholders identified in section 3 also include trading venues, market makers, systematic internalisers or other liquidity providers, collectively described as execution venues. After a summary description of the different levels of data disaggregation proposed in the RTS, with possible exemptions in certain circumstances (section 4), in the last section the analysis provides an overview of the benefits and costs associated with the proposals set out in the RTS.

No current Level 2 rules are set at European level to define the specific content and format of the data to be published regarding the quality of execution.

In this CBA we review the technical proposals by ESMA and their objectives defined in the following areas: the specific content, format and periodicity of data relating to the quality of execution to be published for financial instruments subject to the trading obligation in Articles 23 and 28 of MiFIR by each trading venue and systematic internalisers and for other financial instruments by each execution venue taking into account the type of financial instrument concerned and the type of execution venue. The envisaged requirements also include the publication of an investment firm's top five execution venues and information relating to the quality of execution.

The Best Execution requirement in MiFID aimed at providing market participants with greater awareness and ability to challenge that their orders have been executed in line with the relevant execution policies. While competition between execution venues has indeed intensified across Europe after the implementation of MiFID, recent supervisory experience by Member States indicates that the level of monitoring execution quality is not consistently good.

MiFID required that firms take account of factors such as price, cost, speed and likelihood of execution for individual financial instruments. In practice information on best execution was often found to be generic and inadequate and it is often limited to equity like instruments<sup>91</sup>. The level of awareness regarding best execution is not high and, as a result, there is little challenge by participants as to how firms ensure best execution, particularly when considering non-equity instruments and OTC activity<sup>92</sup>.

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<sup>91</sup> See for instance the EC Impact Assessment on this matter at:  
[http://ec.europa.eu/internal\\_market/consultations/docs/2010/mifid/consultation\\_paper\\_en.pdf](http://ec.europa.eu/internal_market/consultations/docs/2010/mifid/consultation_paper_en.pdf)

and  
ESMA's Peer Review on Best Execution Peer Review  
<http://www.esma.europa.eu/news/Press-Release-ESMA-publishes-peer-review-best-execution-under-MiFID>

<sup>92</sup> The 2014 FCA Review "Best execution and payment for order flow" identifies "a significant risk that best execution is not being delivered to all clients on a consistent basis. Most firms are not doing enough to deliver best execution through adequate

To address these issues, MiFID II introduces a series of provisions aiming at improving the best execution quality for all clients. Increasing transparency in this crucial area is fully consistent with the overall objectives of MiFID II. However it is necessary to strike a balance between granularity of data and a level of aggregation that will facilitate meaningful comparisons to be made given the range of different client needs and intentions. Therefore the implementation costs of these obligations ensure that they are proportionate to the potential benefit for all clients from investment firms to asset managers and end-investors.

Costs in setting up the technology required to provide and receive the data necessary to deliver best execution are not insignificant, however while there are standard hardware costs and data pricing feeds requirements, the cost to industry will clearly depend on a firm's individual starting point. The increased role of third party vendors has facilitated more cost effective out of the box solutions to provide technology to a wider range of market participants at differing price points independently. The introduction of overall standardisations will also lower implementation costs.

The measures set forth in the following will of course impose moderate compliance costs to some venues and firms, which are in part mitigated by some overlapping requirement under MiFIR. However the benefits in providing best execution are significant to all end investors.

## 2. Baseline

The concept of best execution was introduced in MiFID Level 1 and detailed in MiFID Implementing Directive. However the obligation remained on investment firms taking “all reasonable steps” to achieve the best result for their clients. Although the availability, comparability and consolidation of data related to execution provided by execution venues was considered as crucial in enabling investment firms to identify venues that provided best execution, the provision of data was not mandated<sup>93</sup>.

MiFID II provides additional clarification regarding the data to be provided in order to increase efficiency of best execution assessment.

Under Article 27(3) Member States require each trading venue and systematic internalisers or execution venue to make available to the public data relating to the quality of execution on at least an annual basis without any charge. Member States shall also require investment firms who execute client orders to summarise and make public on an annual basis the top five execution venues in terms of trading volumes where they executed client orders in the preceding year and information on the quality of execution obtained.

As such ESMA is required to develop technical standards on the “specific content, the format and the periodicity of data relating to the quality of execution to be published” by execution

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management focus, front-office business practices or supporting controls. Firms need to improve their understanding of the scope of their best execution obligations, the capability of their monitoring and the degree of management engagement in execution strategy, if they are to meet our current requirements. All firms also need to prepare for the challenges of MiFID II implementation in this area.”

<sup>93</sup> Official Journal of the European Union L241/33 (2006).

venues and the “content and the format of information to be published by investment firms”. Increased efficiency of best execution assessment through the provision of harmonised data will not only improve investor protection through greater transparency on the quality of executions and order flow, but will also enable the relevant competent authorities to provide more effective supervision via additional tools to verify compliance with the regulatory requirements.

The legal baseline for the purposes of this CBA is MiFID II Level 1. In practice it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment<sup>94</sup> covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

Current market practices may also be taken into consideration to assess costs and benefits. In general market participants who are operating in multiple regulated markets are already providing data on aspects of execution quality. However, this is not provided in a homogeneous and standardised format making it hard, if not impossible, for users of execution venues or firms’ clients to distinguish between the providers and the quality of execution provided by them. In addition, the quality and depth of available information sometimes may differ unnecessarily according to both the instrument traded as well as the method of execution used.

#### *Example of current market practices on Best Execution<sup>95</sup>*

*Developments in the provision of data from automated equity trading venues have already illustrated the benefits of providing readily available data at more granular level: homogeneous data helps analyse effectiveness of trading strategies and influences how investment firms select execution venues to execute client orders. One example would be the recent move to the industry use of specified Fix protocol “tags” which provide clearer transparency on the venue and method of order execution used (Tag 29, Tag 30 and Tag 851). The increased granularity of the data provided has enabled the buy side to establish where their orders were sent to be executed, where the order was executed and more importantly whether the transaction either provided or took liquidity. This increase in monitoring of post trade transparency is now being used in specific circumstances for buy side firms to specify the destination venue ahead of trading as well as the execution method required<sup>96</sup>. The increased ownership of execution by the buy side and greater transparency by the sell side has increased education on the importance of execution within the investment process as well as improve the quality of execution for end investors.*

*Previous MiFID Best Execution policies were often merely a replication of the text citing the requirement for price, costs, speed, likelihood of execution and settlement, size. However as the underlying equity market structure has evolved, the demand for demonstration of best*

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<sup>94</sup> See [http://ec.europa.eu/internal\\_market/securities/docs/isd/mifid/SEC\\_2011\\_1226\\_en.pdf](http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf)

<sup>95</sup> Drawn from: TABB Group, Dark Matters (2013), TABB Group, A Question of Clarity (2013), TABB Group, European Equity Trading 2014: Part 2 Low Touch Domination Takes Off (2013).

<sup>96</sup> TABB Group: A Question of Clarity (2013).

*execution has been driving a quiet revolution which is already delivering greater transparency for the end investor.*

*Rather than focus exclusively on the explicit costs of trading, firms are increasingly reviewing their implicit costs in terms of market impact to ensure they meet best execution obligations for their end clients, requiring asset managers to understand not only where orders are executed but the impact of executing on individual venues and at different times<sup>97</sup>.*

*In addition, recent developments in FIX Protocol standardisation through the introduction of Tags 29 (Broker Identifier), Tag 30 (Venue Indicator) and Tag 851 (Liquidity Indicator – whether the execution provided or took liquidity) has enabled institutional asset managers to actively monitor broker performance, as well as their own performance in delivering best execution for end investors. Such monitoring of pre-trade information enables firms to select the right execution venues and post-trade monitoring facilitates performance evaluation and demonstration of best execution to end investors. As monitoring improves and is delivered real-time, order execution can be tweaked and adapted in real-time to ensure best execution.*

*However the majority of buy side participants are still far from receiving all the actionable data required to effectively monitor execution quality on a consistent basis. Not all execution venues provide full details and not all firms have the capability to receive the data. There is a risk that the increase in technology will impact smaller institutional and retail firms that lack the capabilities to hold their execution venues to account or access all trading venues. However as larger asset managers have used their right to demand greater provision of data in execution venues practice, this practice is slowly becoming more mainstream across the industry.*

*Unsurprisingly best execution monitoring in other asset classes has yet to develop to the same extent as equities. The challenge for firms is how to efficiently demonstrate best execution in fixed income, commodities and FX trading. A major difference between European markets and those of other jurisdictions such as the US, is that best execution is broader than “best price”. Price and liquidity are driving factors but other considerations have to be considered – the quality of credit, ideas, and costs.*

*As there will be no market consensus on the value of the product other than the price negotiated at the time of a trade, the firm’s own pricing assessment may legitimately be quite different from someone else’s, the conventional duty of best execution would be therefore harder to establish. Firms have started to address best execution issues in fixed income through the creation of quasi order books, pricing bespoke OTC transactions through the re-creation of publically available pricing data (streaming prices) – best bid and offer, depth, valuations and range on the day to demonstrate that best execution has been achieved.*

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<sup>97</sup> Orders can now be executed by algorithms over a series of hours, days, even weeks, which can exacerbate short term liquidity issues. This in turn creates additional challenges; while actively managing small and mid-caps strategies may incur greater costs, outperformance in large-cap companies is harder to achieve as stocks tend to be more efficiently priced and entry or exit can be problematic if your order size represents several days’ volume. The investment process now requires a complex balance between long, mid and short term alpha horizons in order to optimise the execution process in this environment of declining liquidity to demonstrate best execution has been achieved.

*However, the recent thematic review by the FCA following on from the CESR report on best execution highlights that many firms still rely on the assumption that clients will switch to a competitor if they were not satisfied that best execution was delivered, rather than on the firms explicit obligation to take all reasonable steps to obtain the best possible result for end clients<sup>98</sup>.*

### 3. Stakeholders

According to Article 27(10) of MiFID II, ESMA has received the legal empowerment to set technical standards for the specific content, format and periodicity of data relating to the quality of execution.

As such the following entities will be affected by these Level 2 requirements:

- Execution venues
  - Trading venues - Regulated Market (RM) or a Multilateral Trading Facility (MTF); Organised Trading Facility (OTF);
  - Systematic Internalisers;
  - Market Makers;
  - Other liquidity providers;
- and
- MiFID investment firms.

The best execution publication requirement is split into two. Execution venues are required to publish data on quality of execution: this necessarily requires venues to take into account price, costs, speed, likelihood of execution and any other factor relevant to the execution of the order. Standardised reporting is required from all execution venues, and the content of reporting will vary according to trading systems.

Execution venues operating continuous auction order book and quote driven trading systems permit the publication of additional measures of potential execution quality incorporating pre and post trade data, and will therefore need to provide further metrics such as average spread at best bid and offer, and book depths ratios. Likelihood of execution shall also be assessed with data on transaction volumes, average spreads, number of order cancellations and the number of failed trades when relevant.

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<sup>98</sup> FCA Thematic Review 14/13 (July 2014).



For investment firms subject to Art. 27(10)(b) of MiFID II, there are two groups of stakeholders to be considered: sell side firms who need to establish data from the execution venues they use as well as provide this information to their end clients, and buy side firms. Currently larger asset managers have preferential access to increased granularity surrounding best execution data – especially in the equity space - as they have technology in place to monitor broker behaviour and, in some cases, alert brokers as to potential (even unintentional) malpractice. Smaller investment firms and retail investors may potentially benefit most from a more granular level of execution data as they are less likely to have sufficient resources to invest in internal systems and procedures.

#### 4. Technical proposals

According to Article 27(10) of MiFID II, ESMA is required to develop Level 2 technical standards on the specific content, format and periodicity of data to be provided by execution venues and investment firms. ESMA proposes technical proposals in the following areas:

##### Article 27(10)(a)

- Content of data to be published by execution venues
- Format of data to be published by execution venues;
- Periodicity of data to be published by execution venues;

##### Article 27(10)(b)

- Content of information to be published by investment firms;
- Format of information to be published by investment firms

#### 4.1. Execution venues

##### *Technical Proposal 1: Content of data to be published by execution venues*

MiFID II Level 1 requires that execution venues should provide data relating to the quality of the execution and that this should be made available to the public without any charges on at least an annual basis. ESMA propose that data provided by execution venues should indicate specific reporting details using execution quality metrics outlined in the draft RTS.

The content of reporting should vary according to trading systems,. Reports should be published in a standardised format using standard taxonomy (including timing) to facilitate comparisons between execution venues, based on consistent data and calculation methodologies. Following the consultation this taxonomy has been closely harmonised where relevant with Regulation (EU) No 600/2014, resulting in lower burdens for execution venues. Furthermore to take account of post trade transparency obligations publication

should take place within three months rather one month after each quarter. In addition to this, systematic internalisers, market makers and other liquidity providers are exempt from reporting point-in-time transaction data for any transactions above Standard Market Size or Size Specific to the Financial Instrument.

The data provided should be appropriate for investment firms already using the execution venues and for those considering doing so, requiring a balance between prescriptive data obligations/benchmarks and those which facilitate individual analysis.

<b>Policy Objective</b>	Greater uniformity of data to provide investment firms with minimum statistics on execution quality. This will help firms to deliver best execution for their clients, ensuring a higher standard of wholesale conduct and improved stability and resilience within financial markets.
Proposal 1	Each trading venue and systematic internaliser for financial instruments subject to the trading obligation and each execution venue for other financial instruments shall publish general information regarding the execution venue.
Proposal 3	Each trading venue and systematic internaliser for each financial instrument subject to the trading obligation and each execution venue for other financial instruments shall publish daily information and intra-day information relating to the price of each financial instrument executed on that venue.
Proposal 4	Each trading venue and systematic internaliser for each financial instrument subject to the trading and each execution venue for each other financial instruments shall publish information relating to costs.
Proposal 5	Each trading venue and systematic internaliser for each financial instrument subject to the trading obligation and each execution venue for all other financial instruments, shall publish information as regards likelihood of execution.

Additional information to be published by execution venues operating continuous auction order book or quote driven trading systems:

Proposal 6	Where an execution venue operates a continuous auction order book, continuous quote driven trading system or any other type of trading system for which that information is available, each trading venue and systematic internaliser for each financial instrument subject to the trading obligation and each execution venue for other financial instruments shall publish information relating to best bid and offer price and corresponding volumes and other specific information.
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Proposal 7	Where an execution venue operates a request for quote trading system or any other type of trading system for which that information is available each trading venue and systematic internaliser for each financial instrument subject to the trading and each execution venue for other financial instruments shall publish information relating to mean and median time for quotes.
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In order to compare the quality of executions of different sized orders, execution venues will be required to categorise their reporting by financial instrument in a series of ranges. The thresholds for these ranges will be determined for the types of financial instruments to ensure that the reports are representative in that class of financial instrument and offer sufficient granularity to capture liquid and less liquid instruments.

Proposal 8	<p>Execution venues shall publish information related to the price of the instrument for the following ranges:</p> <p>(a) For all financial instruments other than money market instruments</p> <p>(i). range 1: greater than EUR 0 and less than or equal to the Standard Market Size or the Size Specific to the financial instrument;</p> <p>(ii). range 2: greater than the Standard Market Size or the Size Specific to the financial instrument and less than or equal to large in scale;</p> <p>(iii). range 3: greater than Large in Scale.</p> <p>(b) For illiquid shares, exchange traded funds or certificates</p> <p>(i). range 1: greater than EUR 0 and less than or equal to the smallest available Standard Market Size in that type of instrument;</p> <p>(ii). range 2: greater than the smallest available Standard Market Size in that type of instrument and less than or equal to Large in Scale;</p> <p>(iii). range 3: greater than Large in Scale.</p> <p>(c) For money market instruments:</p> <p>(i). range 1: greater than EUR 0 and less than or equal to EUR 10million;</p>
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	<p>(ii). range 2: greater than EUR 10million and less than or equal to EUR 50million;</p> <p>(iii). range 3: greater than EUR 50million.</p>
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*Technical Proposal 2: Format of data to be published by execution venues*

Reports should be published in a standardised format (including timing) based on consistent data and calculation methodologies to facilitate comparisons between execution venues. On the basis of the MiFID II Level 1 mandate, the obligation to provide daily recorded data in prescribed formats on a consistent, usable and machine readable electronic format via an internet website are incremental requirements.

<b>Policy Objective</b>	More readily accessible data will enable users to search, sort and analyse provided data to reinforce best execution selection.
Proposal 1	Execution venues shall publish, for each trading day that the execution venue is open for trading, the information required in accordance with the templates set out in the Annex in the Regulation in a machine-readable electronic format, available for downloading by the public.

*Technical Proposal 3: Periodicity of data to be published by execution venues*

MiFID II only specifies that venues will be required to report on execution quality data on at least an annual basis. Therefore, ESMA had to determine whether more frequent publication is necessary and has proposed quarterly publication. Establishing the processes required for publishing execution quality data will involve an initial implementation cost, while increased frequency of publication might increase the marginal cost faced by venues.

Data should be published quarterly, within three months of each quarter end, to facilitate analysis of best execution.

<b>Policy Objective</b>	More frequent and granular data publication will improve the relevance and accuracy of standardised reporting, capturing new changes to market structure and greater data to support trend analysis.
Proposal 1	<p>Execution venues shall publish the information four times a year and no later than three months after the end of each quarter:</p> <p>(a) by 30 June, information regarding the time period 1 January to 31 March;</p>

	<p>(b) by 30 September, information regarding the time period 1 April to 30 June;</p> <p>(c) by 31 December, information regarding the time period 1 July to 30 September;</p> <p>(d) by 31 March, information regarding the time period 1 October to 31 December.</p>
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*Main changes introduced after the consultation*

Answers to the consultation identified a number of issues with the original ESMA proposal on content of data to be published by execution venues. These included i) the extension of the scope of the proposals to market makers and other liquidity providers for financial instruments subject to the trading obligation; ii) the large quantity of data to be published; iii) publishing data on illiquid instruments that are rarely traded. Considering these remarks, ESMA has refined its proposals by reducing the amount of data to be published and by ensuring that only trading venues and systematic internalisers will be subject to publishing data for financial instruments subject to the trading obligation as set out in MiFIR. Also, ESMA has reduced the number of metrics required and only requires information on the first transaction on each venue rather than the specific buy and sell price. For certain trading systems the RTS will ensure that where no transactions occurred in a particular financial instrument on a particular day, execution venues are not required to publish information related to price.

Answers to the consultation have also highlighted concerns about the lack of comparability. In this regard, ESMA has i) clarified some of the metrics, ii) simplified and reduced the number of ranges, iii) amended the point-in-time requirements to capture the average price during a two minute period. ESMA has finally taken note of some concerns regarding the frequency of data to be published by execution venues. A large number of respondents raised issues about the timing of the report and the requirement to split it into monthly sub reports. ESMA has amended the RTS to now require publication should take place within three months of the quarter end and has removed the requirement to sub-divide the publication into monthly reports.

As stated above significant amendments have also been made to mitigate concerns about conflicts with other RTS published under MiFID II/MiFIR specifically relating to post trade transparency. In addition, the RTS has been further amended to ensure consistency of language and taxonomy used in other RTS developed under MiFID II/MiFIR

## 4.2. Investment firms

### *Technical Proposal 4: Content of Reports (Investment firms)*

Under MiFID II Level 1, investment firms are required to summarise and make public on an annual basis, for each class of financial instruments, the top five execution venues in terms of trading volumes where they executed client orders in the preceding year and information on the quality of execution obtained.

ESMA propose draft RTS to establish the specific content and format of information to be published by investment firms It also includes information on the quality of execution obtained as pursuant to Article 27(6) of Directive 2014/65/EU.

<b>Policy Objective</b>	Investment firms should publish data relating to their execution of orders to the top five execution venues in terms of trading volumes where they executed client orders in the preceding year and information on the quality of execution obtained to improve monitoring the effectiveness of order execution arrangements.
Proposal 1	<p>Information on aggregated executions should be published according to the following instrument classes:</p> <ul style="list-style-type: none"> <li>(a) Equities – Shares &amp; Depositary Receipts;</li> <li>(b) Debt instruments ;</li> <li>(c) Interest rates derivatives;</li> <li>(d) Credit derivatives;</li> <li>(e) Currency derivatives;</li> <li>(f) Structured finance instruments;</li> <li>(g) Equity Derivatives;</li> <li>(h) Securitized Derivatives;</li> <li>(i) Commodities Derivatives;</li> <li>(j) Contracts for difference;</li> <li>(k) Exchange traded products (exchange traded funds, exchange traded notes and exchange traded commodities);</li> <li>(l) Emission allowances;</li> </ul>

	(m) Other instruments.
Proposal 2	Investment firms shall publish the top five execution venues in terms of trading volumes for all executed client orders for retail clients, excluding orders in Securities Financing Transactions, for each class of financial instruments.
Proposal 3	Investment firms shall publish the top five execution venues in terms of trading volumes for all executed client orders for professional clients, excluding orders in Securities Financing Transactions, for each class of financial instruments.
Proposal 4	Investment firms shall publish the top five execution venues in terms of trading volumes for all executed client orders in Securities Financing Transactions, for each class of financial instruments.
Proposal 5	<p>Investment firms shall publish execution quality information on :</p> <p>(a) an explanation of the relative importance the firm gave to the execution factors of price, costs, speed, likelihood of execution or any other consideration including qualitative factors when making assessments of the quality of execution;</p> <p>(b) a description of any close links, conflicts of interests, and common ownerships with respect to any execution venues used to execute orders;</p> <p>(c) a description of any specific arrangements with any execution venues regarding payments made or received, discounts, rebates or non-monetary benefits received;</p> <p>(d) an explanation of the factors that led to a change in the list of execution venues listed in the firm's execution policy, if such a change occurred;</p> <p>(e) an explanation of how order execution differs according to client categorisation, where the firm treats such category of client differently and where it may affect the order execution arrangements;</p> <p>(f) an explanation of when other criteria were given precedence over immediate price and cost when executing retail client orders and how these other criteria were instrumental in delivering the best possible result in terms of the total consideration to the client;</p> <p>(g) an explanation of how the investment firm has used any data or tools relating to the quality of execution including any data</p>

	<p>published under 27(10)(a) of Directive 2014/65/EU;</p> <p>(h) an explanation of how the investment firm has used, if applicable, output of a consolidated tape provider established under Article 65 of Directive 2014/65/EU which will allow for the development of enhanced measures of execution quality or any other algorithms used to optimise and assess execution performances.</p>
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*Technical Proposal 5: Format of information to be published by investment firms*

Standardisation of format of information is the second element that ESMA has to determine for investment firms according to the basis of the MiFID II Level 1 mandate. ESMA has introduced accordingly mandatory formats to be used by investment firms to ensure easy comparability.

<b>Policy Objective</b>	Increased standardisation of information will facilitate investment firms' ability to monitor the execution performance they provide to clients. It is likely to lead to an increase in independent third party verification of best execution as comparison between venues is enhanced through standardisation.
Proposal	Investment firms shall publish the information required in accordance with the RTS on their websites, by filling in the templates set out in the RTS, in a machine-readable electronic format, available for downloading by the public.

*Main changes introduced after the consultation*

Answers to the consultation highlighted a number of concerns by stakeholders, most of which ESMA has addressed as follows. Firstly, in order to reduce duplication of information between order flow and quality of execution, qualitative factors have been removed from the article dealing with order flow to the top five execution venues. Secondly, in order to protect sensitive information, ESMA has required that the volume and number of client orders executed on each of the top five venues are provided as a percentage of the volume and number of client orders for each class of financial instrument. Thirdly, in order to reduce complexity, ESMA has significantly reduced the number of classes of financial instruments while maintaining enough granularity to ensure meaningful reporting. Finally, a number of respondents also questioned whether the large amount of data on order flow and execution quality could be easily processed by retail clients. ESMA would like to point out that information will be used by all categories of clients and not only retail (including institutional investors which have requested professional client treatment). However ESMA considered



these responses and has amended the RTS to ensure that the information on the order flow to the top five venues is clearly separate to any information in relation to the quality of execution obtained on each venue. In addition, changes to the number of financial instrument classes and the format of the publication clearly enhance the readability of the information to be published.

## 5. Cost benefit analysis

*In the previous section 4 incremental obligations from the Level 2 text have been identified. This section assesses benefits and costs of these incremental obligations, which cover the following areas; execution quality metrics; format and periodicity of data provision.*

The following section will assess the impact of each individual option vis-à-vis the baseline scenario identified above. They include the list of positive and negative impacts, either direct (e.g. regulatory compliance costs/administrative burden) or indirect (e.g. widening of bid/ask spread). It also includes impacts in the EU and outside the EU, where relevant (e.g. if extraterritorial impact emerges). The text also explains where there is uncertainty about the impact.

### 5.1. Execution venues

This section assesses benefits and costs of the proposed technical options for the provision of best execution in three areas for execution venues:

- Content of data to be published by execution venues;
- Format of data to be published by execution venues;
- Periodicity of data to be published by execution venues.

While much of what is proposed will be incremental in terms of best execution requirements, it may not be considered incremental for the individual execution venue given the proposal to use standard taxonomy as defined for the purpose of pre and post trade transparency and transaction reporting requirements under Regulation (EU) no 600/2014 and MiFIR will clearly also reduce incremental costs in terms of this CBA.

<b>Technical Proposal 1</b>	Content of data to be published by execution venues: better and more uniform data.
	Qualitative description
<i>Benefits</i>	- Greater data provision and standardisation will increase clients' ability to both understand and scrutinise the quality of execution

	<p>received from execution venues.</p> <ul style="list-style-type: none"> <li>- Uniformity of data will facilitate firms' ability to deliver best execution for their clients raising the standard of wholesale conduct, improving stability and resilience in financial markets.</li> <li>- Consistent data and calculation methodologies will improve education around "best execution", helping investment firms and their end clients evaluate the quality of a venue's execution practices and compliance with their execution policies. For example improved information relating to book depth rather than just best bid and offer will establish a firmer indicator of real liquidity rather than available liquidity at the touch.</li> <li>- Better understanding of the implicit and explicit costs of trading as well as other execution factors such as price, speed, likelihood of execution and any other relevant factor. This will improve overall execution and deliver better value for end investors.</li> </ul>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Both on a one-off and on-going nature to establish a monitoring function to ensure compliance by execution venues. This would include both IT and staffing costs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Much of what is proposed is either already produced or will be produced such as daily trading activity, or available but not yet published and provided to clients who subscribe to data packages – either third parties who repackage data or clients who choose to receive this direct. For example the requirement to publish the standardised data outlined above would incur low costs in the provision as this data is likely to be readily available although not yet all publically available. For non-equity venues the provision of data may also be readily available or venues may be in the process of collating this data to comply with MIFID II/MIFIR.</p> <p>However execution venues will incur additional IT costs in the provision of data, both in technology and administration. These will include one-off costs to formalise procedures and further on-going costs to cover the monitoring and review and human capital costs for employees to collate and monitor the processes required.</p> <p>Based on data collected by ESMA, IT costs related to data gathering seem the most relevant. Related training costs are at a lower level and also mainly one-off. Finally, staff costs are the lowest and are invariant across firm size (see Annex I).</p> <p>There is also the chance of loss revenues if any of this information is required to be provided as a standardised offering for free for those</p>

	venues who currently package this data to sell on. However, this loss of revenues is expected to be minor as information will be published a few months after the execution occurred, while firms that are purchasing such services require instantaneous data provision.
<i>Indirect costs</i>	In asset classes other than equities there are possible concerns that increased transparency over the execution process will lead to wider spreads and in some cases lead to an inability to offer bid offer spreads for less liquid instruments.

<b>Technical Proposal 2</b>	Format of data to be published by execution venues: Data to be made more readily accessible to facilitate greater analysis to reinforce best execution selection.
	Qualitative description
<i>Benefits</i>	Improved accessibility of data may facilitate the growth of independent third party providers to further assess best execution.
<i>Costs to regulator:</i> - One-off - On-going	Both on a one-off and on-going nature to establish a monitoring function to ensure compliance by execution venues. This would include both IT and staffing costs.
<i>Compliance costs:</i> - One-off - On-going	<p>Execution venues will incur additional IT costs in providing standardising reporting both in technology and administration. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review, including costs in staffing to oversee systems.</p> <p>Based on data collected by ESMA, costs related to data processing, monitoring and reporting are more relevant for bigger venues while on-going staff costs are in the same region both in the case of small and big venues (see Annex I).</p>

<b>Technical Proposal 3</b>	Periodicity of data to be published by execution venues: Compilation of daily data to be published quarterly.
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	Qualitative description
<i>Benefits</i>	More frequent data publication will facilitate firms' ability to understand and scrutinise the quality of execution received from execution venues, raising the standard of conduct, improving stability and resilience in financial markets.
<i>Costs to regulator:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	Both on a one-off and on-going nature to establish a monitoring function to ensure compliance by execution venues. This would include both IT and staffing costs. More frequent data publication might increase on-going costs.
<i>Compliance costs:</i> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Execution venues will incur additional IT costs in the publication of data, both in technology, setting up a website or expanding current website to provide this information as standard and administration. These will include and further on-going costs to cover the monitoring and review including staffing.</p> <p>Increased frequency of publication may also increase the marginal cost faced by venues.</p> <p>Based on data collected by ESMA, costs related to data processing, monitoring and reporting seem mainly concentrated in big firms. On the opposite, small firms do not appear to bear significant costs, with the partial exception of on-going staff costs which are in the same region both in the case of small and big firms (see Annex I).</p>

## 5.2. Investment firms

This section assesses benefits and costs of the proposed technical options for the provision of best execution in three areas for the specific content and format of information to be published by investment firms

- Content of information to be published by investment firms;
- Format of information to be published by investment firms.

While much of what is proposed will be incremental in terms of best execution requirements, it may not be considered incremental for the investment firm in relation to current market practices.

<b>Technical Proposal 4</b>	Content of information provided by investment firms.
	Qualitative description
<i>Benefits</i>	Greater data provision and standardisation will increase clients' ability to both understand and scrutinise the quality of execution received from investment firms. Order flow and quality of execution obtained information will enable clients of investment firms to query execution choices made by firms with potential improved service standards, thereby improving stability and resilience in financial markets.
<i>Costs to regulator:</i> - One-off - On-going	Both on a one-off and on-going nature to establish a monitoring function to ensure compliance by investment firms. This would include a both IT and staffing costs.
<i>Compliance costs:</i> - One-off - On-going	Investment firms who do not currently provide this information will incur additional IT costs in the provision of data, both in technology and administration. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review  Data collected by ESMA indicate the costs related to data gathering are mainly related to IT and HR. Training costs appear to be of a quite smaller scale (see Annex I).

<b>Technical Proposal 5</b>	Format of information to be published by investment firms:  Standardisation of information relating to order flow of client orders and summaries of how investment firms have used data to improve execution quality monitoring including monitoring of execution costs, price, speed, likelihood and any other relevant factors to assess execution quality for retail clients.  Data more readily accessible to facilitate greater analysis to reinforce best execution selection
	Qualitative description
<i>Benefits</i>	- Improved availability of order execution data and order flow activity by investment firms will improve end clients ability to assess best execution

	<ul style="list-style-type: none"> <li>- In some cases improved standardisation of order execution will improve end clients ability to direct their orders where they perceive they receive better service.</li> <li>- This may also facilitate the growth of independent third party providers to further assess best execution.</li> </ul>
<p><i>Costs to regulator:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Both on a one-off and on-going nature to establish a monitoring function to ensure compliance by investment firms. This would include a both IT and staffing costs.</p>
<p><i>Compliance costs:</i></p> <ul style="list-style-type: none"> <li>- One-off</li> <li>- On-going</li> </ul>	<p>Investment firms will incur additional administrative costs in providing summaries. These will include on-off costs to formalise procedures and further on-going costs to cover the collation, monitoring and review of information, including costs in staffing to oversee execution monitoring.</p> <p>Investment firms will incur additional IT costs in providing standardising reporting both in technology and administration. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review, including costs in staffing to oversee systems.</p> <p>As indicated in Annex I, data collected by ESMA indicate that one-off IT costs are the most significant in the processing, monitoring and reporting phase. The same applies to staff costs, both one-off and on-going, which are however at a lower level.</p> <p>End clients may also need to improve technology systems in order to analyse data provided. This may also require additional staff and processes; however any investment made is likely to be repaid in increased assets given the increased scrutiny of fiduciary responsibilities by fund trustees for example.</p>

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## 7. Annex I - Results from the ESMA Questionnaire

Eighteen institutions (9 investment firms and 9 execution venues), with number of employees ranging from less than 50 to more than 1000 provided data on the costs arising from complying with the proposed obligations set out in RTS 6 (for execution venues) and RTS 7 (for investment firms). Given that the costs gathered were based on the version of the draft RTS published in the CP, they should be considered as an upper limit as amendments made to the final draft RTS have reduced the burdens imposed by the new rules.

Respondents estimated the total costs related to the implementation of the draft RTS for execution venues to be between slightly less than EUR 100k to more than 5 million. However, the distribution varied significantly based on the size of the venue, or even within the same size. Total one-off costs ranged from around EUR 20K to 100K for small venues and EUR 4 to 5 million for large venues. Recurring costs ranged from EUR 2K to 330K for small venues and 500K to 1.7 million for large venues. The main cost category was one-off IT costs for all categories. While small venues find the data gathering part more costly than the data processing part, big venues forecast (slightly) higher costs on the data processing side.

Regarding the RTS on investment firms' obligations, respondents estimated total costs related to implementation to range between less than EUR 10k to more than 2 million. Also in this case, the distribution widely varied across different firms, with total one-off costs between approximately EUR 40k to 100k for small firms, 600k to 1.2 million for medium firms and 500k to 2.3 million for big firms. On-going costs are also diverse across respondents, varying broadly from just EUR 500 to 25k for small firms, from 470k to 660k for average firms and 75k to 1.6 million for big companies. IT costs are confirmed to be the highest, especially for big and medium firms. For smaller firms, IT and staff costs are similar while training costs are minor. Data processing seems relatively more costly than data gathering for medium firms, while the cost of the two phases is similar for small and big firms, respectively.

The tables in the report indicate the averages of costs in EUR provided considering firm size in terms of number of employees, showing in brackets the number of responses received in each category and used to create the ranges shown.

The tables below indicate the averages of costs in EUR provided considering firm size in terms of number of employees, showing in brackets the number of responses received in each category and used to create the ranges shown.

### 7.1. Execution venues

Total costs - RTS 6		a. IT costs		b. Training costs		c. Staff costs	
Size of firms	Employees	IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing
Small (4)	[0-250]	21,250	1,678	3,813	2,000	6,479	55,500
Medium (0)	[250-1000]	N/A	N/A	N/A	N/A	N/A	N/A
Big (3)	[>1000]	1,402,800	288,650	273,367	52,233	186,983	110,820

Data gathering only		a. IT costs		b. Training costs		c. Staff costs	
Size of firms	Employees	IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing
Small (4)	[0-250]	22,000	145,164	138,590	27,117	96,731	83,160
Medium (0)	[250-1000]	N/A	N/A	N/A	N/A	N/A	N/A
Big (3)	[>1000]	965,625	247,500	390,033	52,233	91,150	101,200

Data processing only		a. IT costs		b. Training costs		c. Staff costs	
Size of firms	Employees	IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing
Small (4)	[0-250]	20,500	3,231	1,375	4,000	7,000	90,875
Medium (0)	[250-1000]	N/A	N/A	N/A	N/A	N/A	N/A
Big (3)	[>1000]	1,694,250	329,800	156,700	52,233	282,817	125,250

### 7.2. Investment firms

Total costs - RTS 7		a. IT costs		b. Training costs		c. Staff costs	
Size of firms	Employees	IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing
Small (4)	[0-250]	13,313	1,313	688	625	8,500	16,750
Medium (3)	[250-1000]	401,408	159,153	21,600	950	50,167	118,517
Big (5)	[>1000]	580,489	106,190	59,020	25,340	88,440	86,567

Data gathering only		a. IT costs		b. Training costs		c. Staff costs	
Size of firms	Employees	IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing
Small (4)	[0-250]	15,000	0	625	0	13,375	11,250
Medium (3)	[250-1000]	151,967	124,578	18,267	550	43,000	135,766
Big (5)	[>1000]	522,913	88,500	36,520	25,340	82,190	78,220



Data processing only		<i>a. IT costs</i>		<i>b. Training costs</i>		<i>c. Staff costs</i>	
Size of firms	Empoyees	<i>IT One-off</i>	<i>IT Ongoing</i>	<i>TR One-off</i>	<i>TR Ongoing</i>	<i>ST One-off</i>	<i>ST Ongoing</i>
Small (4)	[0-250]	11,625	2,625	750	1,250	3,625	22,250
Medium (3)	[250-1000]	650,849	193,728	24,933	1,350	57,333	101,267
Big (5)	[>1000]	626,550	123,880	81,520	25,340	94,690	97,000