European Securities and Markets Authority

ESMA Annual Statistical Report

Performance and costs of retail investment products in the EU

2019

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ESMA Annual Statistical Report on performance and costs of retail investment products in the EU

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 The reporting period of this Report is 1 January 2008 to 31 December 2017, unless indicated otherwise. Legal reference of this report: 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, Article 32 “Assessment of market developments”. Art.32 (1): “The Authority shall monitor and assess market developments in the area of its competence and, where necessary, inform the European Supervisory Authority (European Banking Authority), and the European Supervisory Authority (European Insurance and Occupational Pensions Authority), the ESRB and the European Parliament, the Council and the Commission about the relevant micro-prudential trends, potential risks and vulnerabilities. The Authority shall include in its assessments an economic analysis of the markets in which financial market participants operate, and an assessment of the impact of potential market developments on such financial market participants.” This report, while contributing to ESMA’s risk assessment activities, addresses the European Commission mandate to the three European Supervisory Authorities on recurrent reporting on the costs and past performance of the main categories of retail investment insurance and pension products. The report and its contents do not prejudice or impair ESMA’s regulatory, supervisory or convergence activities, nor the obligations of market participants thereunder. The information contained in this publication, including text, charts and data, exclusively serves analytical purposes. It does not provide forecasts or investment advice, and does not prejudice, preclude or influence in any way past, present or future regulatory or supervisory obligations on market participants. The charts and analyses in this report are based on data not proprietary to ESMA, including from commercial data providers and public authorities. ESMA uses these data in good faith and does not take responsibility for their accuracy or completeness. ESMA is committed to constantly improving its data sources and reserves the right to alter data sources at any time. The third-party data used in this publication may be subject to provider-specific disclaimers, especially regarding its ownership, its reuse by non-customers and, in particular, the accuracy, completeness or timeliness of the data provided and the provider’s liability related thereto. Please consult the websites of the individual data providers, whose names are detailed throughout this report, for more details on these disclaimers. Where third-party data are used to create any chart, table or analysis the third party is identified and credited as the source. In each case, ESMA is cited by default as a source, reflecting any data management, cleaning, processing, matching, analytical, editorial or other adjusttments to raw data undertaken.

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Editorial

Dear Reader –

With this edition, the European Securities and Markets Authority (ESMA) presents its first statistical report on the cost and past performance of retail investment products in the EU, to be published in the future on an annual basis.

In line with ESMA's investor protection mandate, past performance and cost of investment products has always been a key element of ESMA's financial market surveillance and risk analysis activities, including the monitoring in our semi-annual Report on Trends, Risks and Vulnerabilities (TRV), our quarterly Risk Dashboards, but also dedicated analyses, for example on the cost and past performance of undertakings for collective investment in transferable securities funds (TRV No. 2, 2017), the alternative investment fund market (TRV No. 1, 2018), the structured retail product market (TRV No. 2, 2018), and retailisation in the EU (2013).

With this report on the past performance and costs of retail investment products, we further enhance our analysis of what we believe are key determinants of the benefits and risks retail investors in the EU should be considering when taking investment decisions. Clear, comprehensive and comparable information on retail investment products can help investors assess the past performance and costs of products offered across the EU.

This report also addresses the important mandate we received from the European Commission to provide recurrent reports on the cost and past performance of retail investment products.[1] This mandate to all three European Supervisory Authorities (ESMA, EIOPA and EBA) is motivated by the EU agenda on the Capital Markets Union, and its key objective of fostering the participation of retail investors in the EU capital markets.

In line with this mandate, we investigate in this report UCITS, Alternative Investment Funds sold to retail investors (retail AIFs) and Structured Retail Products (SRPs). For UCITS, existing data allow us to show a differentiated range of performance indicators. Our analysis provides details on past performance and costs over a multi-year period in the EU as a whole and for individual Member States, and distinguishes different time horizons, asset classes, retail and institutional investors, actively and passively managed funds, and the impact of inflation. For retail AIFs and SRPs, evidence is severely limited, and we can merely provide an overview of EU market.

Availability, quality, cross-EU heterogeneity and usability of cost and past performance data, including issues related to fund and investor domicile and availability and treatment of distribution costs, remain a significant challenge to assessing and comparing retail investment products. This naturally limits our analysis, as explained in detail in the text, and we will work on further enhancing the coverage, methods, and assessments in future editions of this annual statistical report (ASR).

Data collection, analysis and interpretation have been a challenging task across several institutions. We thank all colleagues in our community especially at the European Commission (EC), Banking Authority (EBA), European Insurance and Occupational Pensions Authority (EIOPA), and in national competent authorities for their invaluable advice on our reporting so far, as well as ESMA staff for their dedicated work.

We at ESMA are pleased to share this part of our surveillance work with a wider audience, and we hope that our report will contribute to the understanding of the opportunities and costs in the EU market for retail investment products.

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[1] Request to the European Supervisory Authorities to report on the cost and past performance of the main categories of retail investment insurance and pension products, Ares (2017)5008790, European Commission. https://ec.europa.eu/info/sites/info/files/171013-request-to-esas-to-report_en.pdf

Executive summary

This is the first edition of the ESMA ASR series on cost and past performance of retail investment products in the EU. In the EU around 30,000 undertakings for collective investment in transferable securities (UCITS) investment funds are distributed, around 10,000 alternative investment funds sold to retail investors (retail AIFs) and around five million structured retail products (SRPs). UCITS hold 76% of overall share in terms of retail market size compared to 15% and 9% for retail AIFs and SRPs. This report provides a comprehensive overview of the EU markets and, for UCITS, a country-by-country analysis covering the period from 2008 to 2017. As a first edition it also identifies a series of data issues impacting the scope and content of our current analysis. Those include the unavailability of important cost data elements such as a part of distribution costs, transaction costs, performance fees, a lack of data granularity as well as the heterogeneity of data availability and content across Member States. Moreover, no distinction is made between the risk levels of products. We highlight that significant challenges remain, especially in the context of country-by-country analysis. This first edition focuses on UCITS – the most transparent market in terms of cost and performance disclosure. Here we undertake, subject to the limitations highlighted above, a full performance and cost analysis. For retail AIFs and SRPs the report focuses on providing an overview of the respective markets.

Investment funds

UCITS refers to conventional retail investment funds regulated and supervised in the EU. At just under EUR 10tn net asset value (NAV), it represents the largest retail investment fund segment in the Union. Our UCITS analysis focuses on the evolution of past performance and costs of UCITS funds for the major asset classes at an EU country-by-country level between 2008 to 2017, with a focus on retail investors. Gross annual past performance (i.e. before fund fees) largely follows the performance of the underlying asset classes and can – due to differences in national market structures – vary significantly across Member States. Actively managed equity funds provide a slightly better gross performance than passively managed funds, even though the margin is small. Key findings related to the cost impact are: (i) costs fluctuate less than gross performance; (ii) the largest cost impact comes from ongoing costs, while subscription and redemption fees have a significantly lower impact; (iii) across asset classes, costs are highest for equity and alternative UCITS, followed by mixed, bond and money market UCITS. (iv) costs are higher for retail compared to institutional investors; (v) costs are higher for actively managed equity funds compared to passively managed equity funds, which leades to lower performance net of costs for active compared to passive funds; (vi) high heterogeneity in costs across Member States.

AIFs in the EU have an estimated NAV of around EUR 5tn. We provide a market overview based on reporting obligations under the Directive on Alternative Investment Fund Managers (AIFMD) to National Competent Authorities (NCAs). Retail AIF investments account for 18% of the AIF market. Funds of funds (FoFs) and real estate (RE) funds display high retail participation (with 31% and 29% of overall NAV respectively), whereas retail investments in hedge funds are rare (less than 3% of NAV). Potential risks related to liquidity transformation and liquidity mismatch are analysed. No significant sign of liquidity mismatch for those AIFs with 100% retail client participation is, however, identified. The section also sets out the heterogeneity across the EU related to the distribution of retail AIFs, as this is not covered by AIFMD but falls under national regulations.

Structured retail products

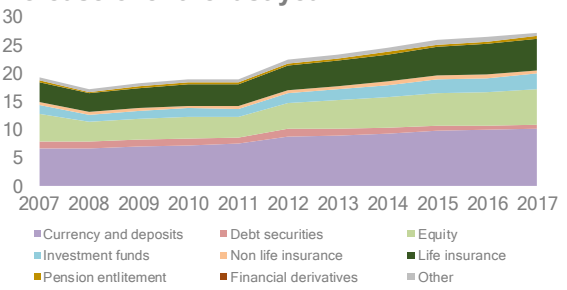
SRPs accounted for around EUR 500bn in 2017, much smaller than the UCITS market. Due to their payoff features, many structured products differentiate themselves from funds. In addition, the large variety of SRPs complicates the analysis of costs and performance. The scope for conclusive analysis is also severely constrained by data availability, as no regulatory data are available. In the future it may be possible to make use of information published in key information documents (KIDs) under packaged retail and insurance-based investment products (PRIIPs) to assess costs of SRPs, though doing so could be very resource-intensive in many cases. Performance data are not generally available at present. To the extent that data on performance may become available in future, they may be hard to interpret, as the scope for any measures of relative or risk-adjusted performance appears limited.

Fostering retail participation in EU capital markets

A key theme of the Capital Markets Union (CMU) is to foster the participation of retail investors in EU capital markets. Increased participation of retail investors in capital markets serves several purposes in a wider economic context. First, capital market-based products tend to provide higher returns than deposits and thus can help meet the challenges posed by population ageing and low interest rates. Secondly, the last financial and sovereign crises highlighted the need for more diversified funding channels in the EU. This in turn can lead to a more balanced and improved allocation of capital.

Data on EU household financial assets show that on average there is significant potential for increased participation of retail investors in EU capital markets.

ASR-PC.1
Household financial assets
Increase over the last year

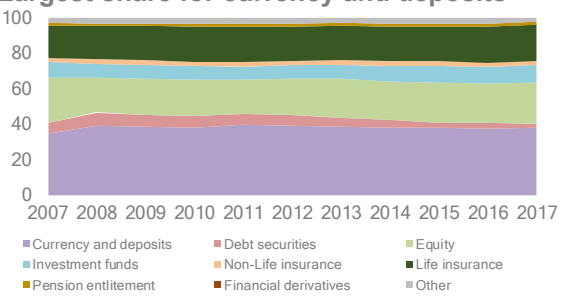


Note: Households financial assets in the EU, EUR tn. Life and non life insurance include respectively life insurance and annuity entitlements and non-life insurance non technical reserves.
Sources: Eurostat, ESMA.

Overall, EU households owned EUR 27.2tn in financial assets in 2017, steadily growing from 2011. Household financial assets increased by around 43% over the last 6 years (ASR-PC.1).

The share of assets remained relatively constant over the years, with currency and deposits staying, on average at around 30% of total financial assets against 8%, 17% and 16% respectively for investment fund shares, equity and life insurance (ASR-PC.2).[2]

ASR-PC.2
Structure of household financial assets
Largest share for currency and deposits



Note: Share of households financial assets in the EU, %. Life and non life insurance include respectively life insurance and annuity entitlements and non-life insurance non technical reserves.
Sources: Eurostat, ESMA.

At a country-by-country level, the structure of household financial assets is heterogeneous. On average currency and deposits account for around 30% of assets with a range from 14% in Sweden to 61% in Greece. There are other Member States with a share of deposits above 50% including Czech Republic and Ireland while others, such as Denmark, Finland and France report a low share of deposits (ASR-PC.3). These statistics underline the potential for an increase in capital market participation of retail investors.

A key element to achieve the goal of a stronger participation of retail investors in capital markets is to provide them with clear, comprehensive and comparable information on retail investment products.

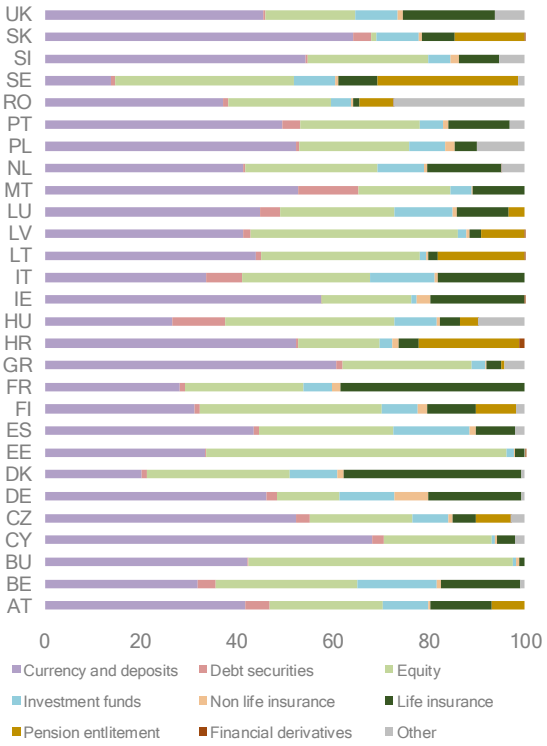
In this context, the European Commission (EC) issued a request to the European Supervisory Authorities (ESAs) in October 2017 to analyse the cost and past performance of retail investment products and provide recurrent reports.[3] For ESMA, the request covers Undertakings for Collective Investment in Transferable Securities (UCITS), Alternative Investment Funds sold to retail investors (retail

[2] Following Eurostat classification, currency and deposits include: currency in circulation, transferable deposits, inter-bank positions, other transferable deposits and other. Investment funds also includes money market fund shares/units. Life insurance and annuity entitlements include financial assets representing policy and annuity holders' claim against the technical reserves of corporations providing life insurance (both unit-linked and non-unit linked), as well as voluntary pension subscribed on individual initiatives (not linked to employment). Pension entitlements include: pension entitlements either from employer(s) or life (or a non-life) insurer, claims of pension funds on pension managers and entitlements to non-pension benefits. Financial derivatives include: financial derivatives (such as options, forwards and credit derivatives) and employee stock options. Other refers to other accounts receivable and payable. Loans are not included.

[3] Request to the European Supervisory Authorities to report on the cost and past performance of the main categories of retail investment insurance and pension products, Ares (2017)5008790, European Commission.

AIFs) and Structured Retail Products (SRP). Details of the request are presented in the annexes.

ASR-PC.3
Structure of household financial assets by country
Heterogeneity



Note: Structure of financial assets by member state, 2017, %.
Sources: Eurostat, ESMA.

The reports by the ESAs shall complement pre-contractual disclosure requirements and reporting to investors at product level under different legislative measures (for example, UCITS, MiFID II/MiFIR, IDD, IORP II, PRIIPs). In the annexes the mapping of pre-contractual disclosures to investors is reported, as they are implemented across the EU. Providing information at higher aggregation levels such as asset class and country level, will provide retail investors with a broader picture of the past performance and costs of retail investment products. This should in turn allow retail investors to better interpret the information at product level and facilitate their decision-making process.

Against this background, ESMA is presenting its first annual statistical report on cost and past performance of retail investment products in the EU covering the UCITS, retail AIF and SRP markets.

The report aims to provide an overview of the different markets, and – where possible – analyse cost and past performance measures. In light of market size, the first edition of the report will focus on aggregate cost and past performance for UCITS across the EU. For retail investors UCITS account for the 76% of the market where AIFs sold to retail investors and SRPs are respectively the 15% and 9% of the overall retail EU market. In line with the EC mandate, the report includes an analysis of fund costs and past performance for different asset classes, investor types, fund management types as well as an analysis across different time horizons and EU Member States. In this first edition of the report, the sections on retail AIFs and SRPs focus on providing an overview of the respective EU markets – mainly due to lower transparency and data availability compared to the UCITS segment. Throughout the report we will provide assessments where data availability and quality need to improve.

Investment funds: Performance and costs in the EU UCITS market

UCITS represent at just under EUR 10tn NAV the largest retail investment fund segment in the Union. This analysis focuses on the evolution of past performance and costs of UCITS for the major asset classes at an EU and on a country-by-country level for the period from 2008 to 2017. We highlight in the report that significant data-related challenges for our analysis remain, especially in the context of country-by-country analysis. Gross annual past performance (i.e. fund performance before fund fees) of UCITS largely follows the performance of the underlying asset classes and can vary significantly across Member States. Actively managed equity funds provide a slightly better gross performance than passively managed funds, even though the margin is small. Key findings related to the impact of costs are: (i) costs fluctuate much less than gross performance; (ii) the largest cost impact comes from ongoing costs, while subscription and redemption fees have a significantly lower impact; (iii) across asset classes, costs are highest for equity and alternative UCITS, followed by mixed, bond and money market UCITS. (iv) costs are higher for retail compared to institutional investors; (v) costs are higher for actively managed equity funds compared to passively managed equity funds, which leads to lower performance net of costs for active compared to passive equity funds; (vi) high heterogeneity in costs across Member States.

Background and key issues

This section provides analysis related to past performance of investment funds falling under the UCITS regime and the impact costs and inflation have on the performance of UCITS funds.

The analysis:[4]

— distinguishes between equity, bond, mixed, money market and alternative UCITS funds;[5]

— distinguishes a 1-year horizon (2017), 3-year horizon (2015 – 2017), 7-year horizon (2011–2017) and a 10-year horizon (2008 – 2017);

— separates retail and institutional investors;[6]

— analyses management type, i.e. actively and passively managed funds for equity UCITS;

— provides a country-by-country analysis wherever possible;

Apart from a distinction between asset classes, the analysis does not distinguish between different risk levels of the UCITS funds. The UCITS Directive[7] and its subsequent amendments aim to increase transparency, harmonisation across markets and thus improve investor confidence. Through the use of a "product passport"[8] UCITS funds can be sold to any investor within the EU. Ultimately, the UCITS regime aims to enhance market efficiency and investor protection, especially for retail investors, in the EU.

Therefore, among others, UCITS funds should have the following specific requirements:

— criteria to identify eligible assets;

— limits to the concentration of investments as well as leverage as both borrowing and exposure to financial derivative instruments are limited;

— the characteristics of being open-ended funds (fund shares can be redeemed on demand);

— the provision of a Key Investor Information Document (KIID).[9]

The absolute and relative performance of investment funds is a key concern for investors

[4] Data and the classification of UCITS based on asset classes, investor and management type are taken from Thomson Reuters Lipper. Thomson Reuters Lipper.

[5] For UCITS alternative strategies refer to footnote 27. A dedicated analysis is provided for exchange traded funds (ETFs) given their strong development. Please note that reported money markets UCITS do not refer to the MMF regulation 2017/1131.

[6] Thomson Reuters Lipper accounts for funds declaring themselves as institutional. If the fund does not declare itself as institutional, the fund is considered as being retail. Therefore, high net-worth investors can still account as retail. This potentially means a downward bias in the size of the market for institutional investors, especially for domiciles characterised mainly by non-retail investors.

[7] In article 1 and article 50(1) Directive 2009/65/EC UCITS can be identified as undertakings with the sole object of collective investment in transferable securities or in other liquid financial assets which operate on the principle of risk-spreading; and with units which are, at the request of holders, repurchased or redeemed, directly or indirectly, out of those undertakings' assets. Changes in the asset management industry implied a number of amendments to UCITS (The latest Directive 2014/91/EU).

[8] A passported UCITS fund in one EU Member State can be marketed to investors in another following the notification procedure. Directive 2009/65/EC.

[9] Among other requirements, to have the EU passport, the KIID should be translated into one of the official languages of the host

and has been a long-standing subject of analysis. Looking at performance and costs, estimates for costs of mutual fund shares and their respective impact on returns vary substantively across time, geographies and portfolio characteristics, as observed across previous studies. The most central topic in the literature is the provisioning of metrics for total expense ratios (TER) or ongoing charges. A recent study by Vidal-Garcia et al. (2013)[10] identifies the TER as a negative driver for fund performance, along with return volatility, fund age and net inflows. This study also highlights the life-cycle of funds, as smaller funds appear to pick assets more effectively. Yet with increasing age they develop into mature funds with higher expenses and are thus less likely to over perform.

For global samples of national mutual fund industries Khorana et al. (2008)[11] and Lang and Koehler (2011)[12] report a range of average TER within 59 to 241bps across jurisdictions, for equity, bond and other UCITS fund types. Ferreira et al. (2010)[13] report TER for equity funds ranging from 71 to 358bps across countries. Malkiel (2013)[14] and ICI (2016)[15] corroborate the relevance of TER for US mutual funds for more recent years, with values ranging between 30 to 77bps, depending on the asset types funds are focusing on. Several studies also report on the relevance of ongoing charges (including Cambon and Losada (2013)[16], Schaefer and Maurer (2013)[17] and a number of regulatory studies that are described more in detail below).

Concerning discretionary load fees, encompassing sales and redemption charges, Ferreira et al. (2010) report fee levels for equity funds between 4 and 641bps, varying across countries. Malkiel (2013) and ICI (2016) agree that US load fees strongly declined over time to a level of 13bps as of 2009 (Malkiel, 2013). Among several studies, for EU jurisdictions, both Khorana et al. (2008) and Davidoff and Klages (2014)[18] point to higher load fees, with the latter reporting an annual yearly impact of between 10 to 50bps, depending on the market and the fund type.

Bergstresser et al. (2009)[19] analyse differences in US mutual fund fees across distribution channels, differentiating between direct and broker-based distribution. They report substantive differences in TER as well as load fees, measured at their maximum level. Annual TER are higher for broker-distributed fund shares, ranging from 65 to 130bps, while directly acquired fund shares feature expenses between 49 and 103 bps. For Canada, Investor Economics (2012)[20] report, focusing on ongoing costs, differentiate across six distribution channels: 185bps in direct branches, 91-232bps for online/discount brokerage, 124bps for direct-to-public, 189bps in case of branch-based, 289-237bps for financial advisor and 182-229bps in full-service brokerage distribution. Load fees are in all channels reported as negligible. For the EU, Strategic Insight (2011)[21] differentiates between annual total expenses of funds distributed by banks, advisors, insurers and dedicated platforms. The first two groups feature both a TER of 150bps, while respective values for funds distributed by insurers (platforms) are 153 bps (154bps). A very recent study by the EC on distribution systems of retail investment products across the EU highlights the importance of distribution channels and related costs in the EU, the heterogeneity across Member States, as well as the lack of transparency. This is evident in the first edition of this report. Even if knowledge on distribution is highly important to identify the type and the level of costs, information is scarcely available and usable.

The remainder of this section is structured as follows. First, we provide an overview of the UCITS market in the EU. Second, we analyse past annual performance and costs of UCITS

EU member state or into a language approved by the competent authorities of that country.

10 Vidal-García, J., 2013, "The persistence of European mutual fund performance," Research in International Business and Finance.

11 Khorana, A., Servaes, H. and Tufano, P., 2009, “Mutual Fund Fees Around the World”, The Review of Financial Studies.

12 Lang, G. and Koehler, M., 2011, “How Does the Domiciliation Decision Affect Mutual Fund Fees”, Centre for European Economic Research.

13 Ferreira, A., M., Kesvani, A., Miguel, A., F. and Ramos, S., B., 2010,” The Determinants of Mutual Fund Performance: A Cross-Country Study”, Review of Finance.

14 Malkiel, B., G., 2013, "Asset Management Fees and the Growth of Finance." Journal of Economic Perspectives.

15 ICI, 2017, “Trends in the Expenses and Fees of Funds, 2016”, ICI Research Perspective.

16 Cambon, I. and Losada, R., 2015, “Evidence from purchases and redemptions in the Spanish equity fund market”, The Spanish Review of Financial Economics.

17 Schaefer, A. and Maurer, R., 2013 “Cost Efficiency of German Mutual Fund Complexes”. European Finance eJournal.

18 Davydoff, D. and Klages, M., 2014, “Study on the Performance and Efficiency of the EU Asset Management Industry”, INSEAD OEE Data Services.

19 Bergstresser, D., Chalmers J. M. R. and Tufano, P., 2009, “Assessing the Costs and Benefits of Brokers in the Mutual Fund Industry”, The Review of Financial Studies, Volume 22.

20 Investor Economics, 2012, “Mutual Fund MERs and Cost to Customer in Canada: Measurement, Trends and Changing Perspectives”, Study for the Investment Funds Institute of Canada.

21 Strategic Insight, 2011, “Fund Fees in Europe: Analyzing investment management fees, distribution fees, and operating expenses”, EFAMA.

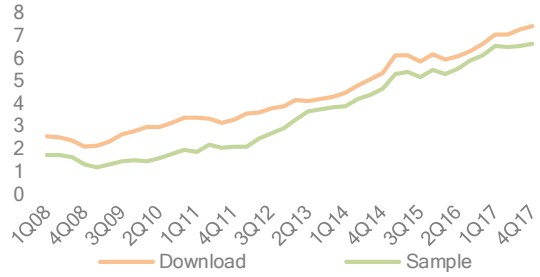
within the EU at an EU-aggregate and country-by-country level, distinguishing between different asset classes, retail and institutional investors as well as (for equity funds) between actively and passively managed funds. Third, we analyse the impact of inflation on the performance of UCITS.

The EU UCITS market

NAV of the EU UCITS universe amounts to EUR 9.7tn at the end of 2017 and has increased significantly over the last 10 years.[22] At a global level, US and Europe hold the largest shares of investment fund net assets, respectively 45.9% and 34.2%.[23] The comparison between the US and Europe shows that – despite the increase in the size of the UCITS market in the last decade – there is still significant potential for further growth.

In our analysis we used commercial data from Thomson Reuters Lipper. The data overall covers EUR 7.4tn (and 2017) or 76% of the market. Data for all parameters needed for our analysis are available for 68% of the EU UCITS market (EUR 6.6tn) (ASR-PC.4).[24]

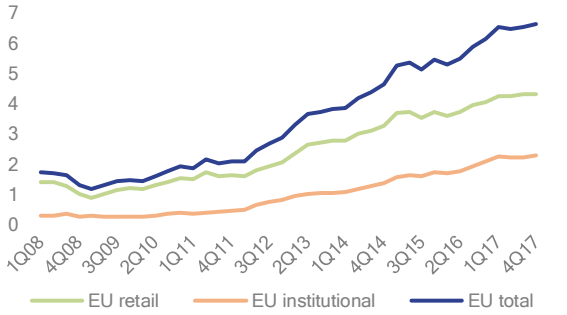
ASR-PC.4
Coverage of EU UCITS market
Significant share of the market covered



Note: EU UCITS fund size in terms of fund value. Download, all observations for which fund value and fund performance are available. Sample, all observations for which fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn.
Sources: Thomson Reuters Lipper, ESMA

Chart ASR-PC.5 shows that, for UCITS, the largest share of the market is composed of UCITS identified as marketed to retail investors, 65% (EUR 4.3tn) in 2017. The share of UCITS indicated as being targeted to institutional investors has however been growing in recent years, from 27% on average in 2012 to 35% in 2017.

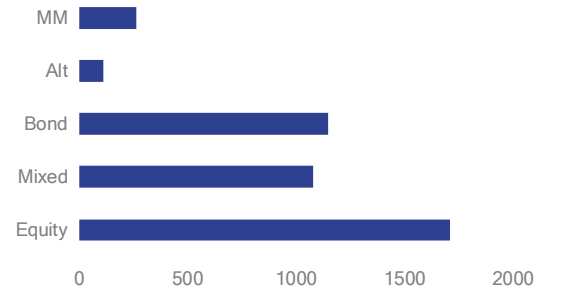
ASR-PC.5
Retail and institutional investors
65% retail investors in EU UCITS



Note: EU UCITS market size in terms of fund value, by type of investor, EUR tn.
Sources: Thomson Reuters Lipper, ESMA

At an asset class level, (ASR-PC.6), equity[25] and bonds are the largest asset classes with net assets held by UCITS identified as marketed to retail investors of EUR 1.7tn and EUR 1.2tn in 2017 respectively. Net assets held by UCITS identified as marketed to institutional investors in both equity and bond UCITS amount to around EUR 0.7tn. Mixed fund holdings amount to EUR 1.1tn for retail and EUR 0.2tn for institutional investors. MMF UCITS investments are dominated by institutional investors (EUR 0.7tn) whereas retail investors hold MMF UCITS shares with a value of EUR 0.3tn.

ASR-PC.6
Retail investors fund assets
Equity and bonds largest asset classes



Note: EU UCITS universe, in terms of fund value by asset class, retail investors, 4Q17, EUR bn.
Sources: Thomson Reuters Lipper, ESMA.

UCITS with alternative strategies (Alt in ASR-PC.6) are still marginal for retail investors, having however grown in recent years with fund values of around 0.1bn for both retail and institutional investors (ASR-PC.6 and ASR-PC-S.8 in the statistical annex) in 2017.

22 EFAMA, 2018, "EFAMA Quarterly Statistical Release No 72".

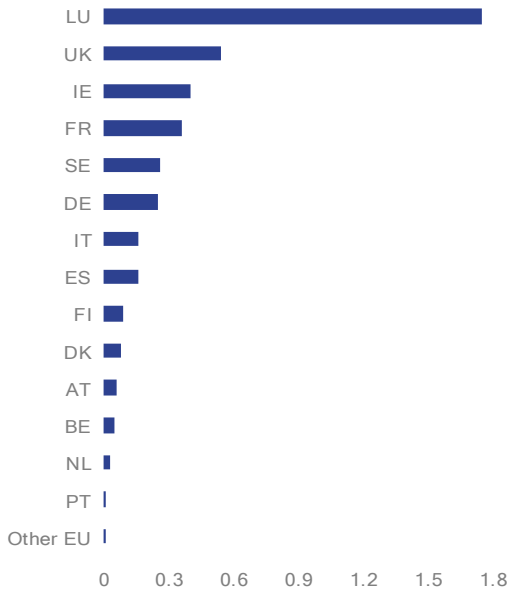
23 EFAMA, 2017 "International Statistical Release, 2017Q4".

24 This report covers a time horizon from 2008 to 2017. During such a long-time period a large number of funds enter and exit the market. In terms of analysis this leads to the question whether to use a balanced or unbalanced sample. To maximise market coverage, we have chosen an unbalanced panel. This allows to keep a larger amount of data in the analysis. We have carried out several robustness checks to ensure that this choice does not bias our analysis (see Annexes: Data, data limitations, and statistical methods).

25 For funds focusing on equity an analysis distinguishing between active and passive management has been carried out. The analysis is done on an EU level.

In the EU, the growing demand from investors for portfolio diversification led to an expansion in the eligible assets within the UCITS directive, including, for example, the use of derivatives.[26] This implied that several alternative strategies[27] are available to UCITS, governed by strict rules to guarantee transparency, liquidity, prudent risk management and to ensure investor protection.

ASR-PC.7
Domicile, retail investors
Significant difference in market size



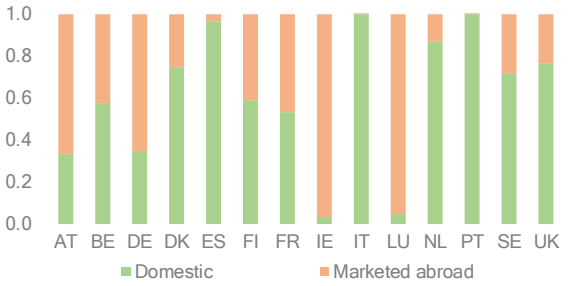
Note: EU UCITS universe in terms of fund value, retail investors, 4Q17. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees available, EUR tn. Other EU includes: BG, CY, CZ, EE, GR, HR, HU, LT, LV, MT, PL, SI, SK, RO.

ASR-PC.7 reports retail UCITS investments across Member States. We cover 14 Member States in our analysis. Data on fund shares in Thomson Reuters Lipper for the remaining 13 Member States (Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Romania) as well as Iceland data do not allow for a robust analysis.[28] These Member States are therefore reported in the category "Other EU".[29]

For retail UCITS investments, Luxembourg is the largest market with fund values of EUR 1.8tn followed by the United Kingdom (EUR 0.5tn) and France (EUR 0.4tn). When both retail and institutional investors are considered (ASR-PC-S.10), Ireland becomes the second domicile (close to EUR 1.1tn), following Luxembourg (EUR 2.9tn) and ahead of the United Kingdom (EUR 0.7tn). Tables ASR-PC-S.11 and ASR-PC-S.12 in the statistical annex report how big the domiciled market is compared to the entire EU by asset class.

Due to data constraints, our data is based on the domicile of the fund, not the domicile of the investor. Therefore, the analysis cannot provide a full picture of the different national markets where domestic and foreign funds are competing. For example, the so-called "round trip" situation (where managers of a given Member State manage funds domiciled in another Member State and market them in their own home Member State) is not captured. The annexes report data issues in detail. Fund and investor domiciles coincide where a fund is only sold in the home member state. Fund and investor domiciles may differ where a fund is sold through passporting in other EU Member States.

ASR-PC.8
Domestic funds and funds marketed abroad
Majority of LU and IE UCITS marketed abroad



Note: Share of UCITS value by destination per domicile, 4Q17. Domestic funds are produced and distributed only in the country of domicile. Foreign funds are distributed in at least one foreign country.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC.8 shows the proportion of funds sold in the home member state only (domestic) and funds which have been notified for marketing in other Member States as well (foreign).[30] ASR-PC.8 represents the different structure of the fund management industry across the EU. In

[26] Since the introduction of UCITS III, UCITS are permitted to invest beyond the usual asset classes of equities and bonds. For example, they can rely on derivative structures, either to limit risk or increase return.

[27] UCITS alternative strategies can be considered as a more regulated subset of the alternative fund universe with increased protection for retail investors under the UCITS regime. Constraints include limiting eligible assets or leverage and concentration levels, as well as preventing outright shorting. From Thomson Reuters Lipper alternative assets (or alternative investments) are generally considered to be assets that are not mainstream like debt and equity. Classic examples of alternative assets include private equity, hedge funds, and real estate.

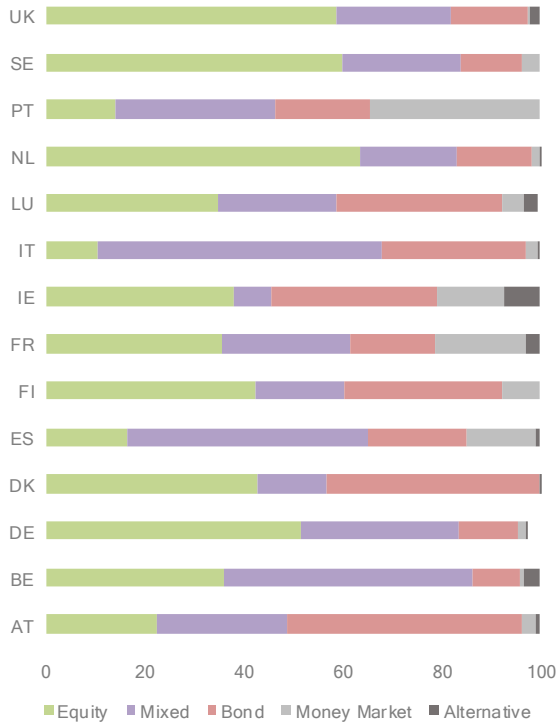
[28] The number of fund share classes reported in Thomson Reuters Lipper for these member states is not large enough to allow for robust statistical analysis.

[29] Shares in funds domiciled in Denmark, Finland, Poland and the Netherlands are not representative at the start of our time horizon, yet from 2011 data are sufficient also for these markets.

[30] Thomson Reuters Lipper data allow to distinguish domestic funds. Domestic are those funds that are only sold in the domiciled country. Therefore, we proxy as foreign funds those funds that can also be sold in other countries.

Luxembourg and Ireland, global platforms, the clear majority of funds can be sold cross-border. Only 4.7% (Luxembourg) and 3.1% (Ireland) of UCITS are sold domestically. At the other end of the spectrum only 0.1% and 3.1% of funds in Italy and Spain are sold cross border.[31]

ASR-PC.9
Asset class share by member state
Heterogeneity across Member States



Note: EU UCITS share of asset classes over total national fund value per domicile, retail, 4Q17, %. Other EU not reported.
Sources: Thomson Reuters Lipper, ESMA.

The share of asset classes for UCITS marketed to retail investors by Member States varies significantly (ASR-PC.9). In Belgium, Spain and Italy the share of mixed UCITS for retail investors is respectively 50%, 49% and 58% of domiciled UCITS in 4Q17. In other domiciles the largest share is either taken by equity (incl. Germany, 52%, United Kingdom, 59%, Sweden, 60%) or bonds (Austria, 48%). There are other domiciles in which the largest share is held by both equity and bonds (in Luxembourg, equity accounts for 35% and bonds 34%; in Denmark 42% and 43%). Moreover, when focusing on institutional investors, the share of UCITS focusing on money market instruments increases. This is the case for Spain and Ireland with a share of MMF UCITS values of 14% for retail investors and 56%, and 46% for institutional investor respectively (ASR-PC.9, ASR-PC-S.14 in the statistical annex).

These differences in market structure and preferences by retail investors have several implications for the analysis. By distinguishing between asset classes on a country-by-country basis, this analysis reflects differences in overall asset allocation both in terms of performance and costs (as, i.e., equity and bond funds show different past performance and cost levels), even if differences within the same asset class cannot be captured, as well as different cost structures in the fund industry across countries, for example in relation to different market practices or national policies and regulations.

Performance and costs across the EU

This section provides detailed analysis on the past performance of UCITS. First, we provide results at an EU- and country-by-country level across different asset classes and distinguish between retail and institutional investors again both at the EU and country level. Then we analyse the impact of inflation and describe differences between actively and passively managed equity funds.

ASR-PC.10
UCITS data and methods

Data and data limitations

The UCITS legal framework does not provide for an EU-level data collection or aggregation of fund data. In absence of regulatory data on UCITS, our analysis is based on commercial data (Thomson Reuters Lipper).

Asset classes are self-reported in Thomson Reuters Lipper and cover several different strategies within equity, bond, mixed, MMF UCITS as well as within alternative UCITS and UCITS ETFs. This implies different risk levels within an asset class, which we are not able to take into account at this stage.

A detailed description of data limitations is provided in the annexes.

Gross performance: performance of the UCITS as reported in Thomson Reuters Lipper[32].

[31] A significant share of the market is not reported for those domiciles mostly identified as domestic platforms. An example are countries where the asset under management of round trip funds are material (as in the case of Italy) – here the data presented for the domicile of the fund captures only a part of the national market.

[32] Data from Thomson Reuters Lipper on performance and costs are annual and downloaded at quarterly frequencies and then annualised. This implies an averaging across quarters when considering time horizons from 1Y to 10Y. From Thomson Reuters Lipper, the download of Performance is carried out both net and gross of TER.

Costs: cover ongoing costs measured by the TER as well as subscription and redemption fees. Data on performance fees are only covered, where they are part of the TER. Distribution costs are not included as a specific cost as we are not able to identify such fees. However, it should be noted that distribution costs may be part of the analysis to the extent they are included in ongoing costs and/or the entry charges presented in the KIID. This is a significant limitation in this first analysis given the role of distribution channels and related costs across the EU. See annexes for more details.

Net performance: gross performance – costs

Time horizon

We provide analysis for 1Y, 3Y, 7Y and 10Y time horizons – these cover the following periods:

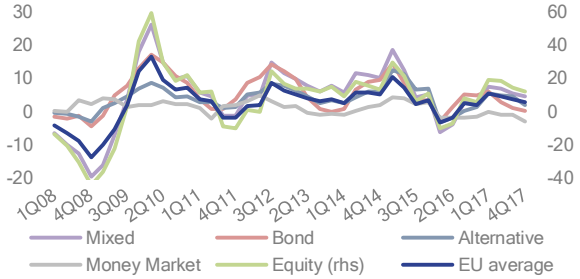
- 1Y: 2017
- 3Y: 2015 to 2017
- 7Y: 2011 to 2017
- 10Y: 2008 to 2017

A detailed description of the methodology is provided in the annexes.

Past performance and costs across asset classes

Chart ASR-PC.11 shows the gross performance of retail fund shares across different asset classes.[33]

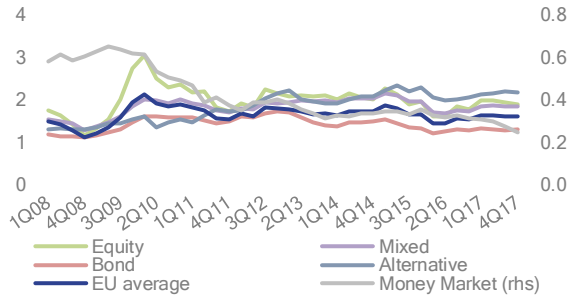
ASR-PC.11
Annual gross returns over time
Fluctuations over time



Note: EU UCITS universe, annual gross returns by asset class, retail investors, in %. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS. Primary y-axis cut-off at -20%.
Sources: Thomson Reuters Lipper, ESMA.

Average annual gross returns of EU fund shares for retail investors significantly fluctuated over the last decade. Having strongly declined during the financial crisis, gross returns improved across all asset classes afterwards (ASR-PC.11). Annual gross returns for retail investors are the highest for equity (please note that equity returns are reported on the right-hand side of the chart): 16% on average in 2017 followed by mixed funds at 6% in 2017. Bond UCITS display lower returns at around 2% in 2017. Money market funds have negative performance in 2017 and UCITS focusing on alternative strategies have a performance of 4.2% in 2017. Average returns over the 2008 to 2017 period are 7.3% for equity, 5.3% for bond, 4.6% for mixed, 1.1% for MMF and 3.9% for alternative UCITS.[34] The development of gross fund returns closely follows market conditions in the underlying asset classes and is monitored on an ongoing basis in ESMA's TRV report.[35]

ASR-PC.12
Cost over time
Broadly stable over time



Note: EU UCITS universe, impact of ongoing costs, subscription and redemption fees on gross returns, by asset class, retail investors, in ppt. Money Market refers to MMF UCITS on right-hand side axis (rhs).
Sources: Thomson Reuters Lipper, ESMA.

During the period from 2008 to 2017, costs charged by funds have remained broadly stable across asset classes, except for MMF UCITS (ASR-PC.12).

Impact of costs is on average higher for equity, mixed and alternative UCITS (around 2ppt, 1.8ppt and 1.8ppt respectively). For bond UCITS impact is 1.4ppt on average. For UCITS following money market strategies, reported on the right-hand side, the impact of costs has declined especially over the last year (from 0.6ppt in 2008 to 0.25ppt in 2017). Costs are predominantly driven by the TER, with subscription and redemption fees having a small impact on an aggregate basis. While varying across asset classes, the impact of costs on investor returns is significant, with costs on average taking out 25% of gross returns in the period from 2015 to 2017.

Charts ASR-PC.12 and ASR-PC-S.20 (for institutional investors) lead to two main conclusions. Costs across asset classes are less variable for retail than institutional investors and costs are on average higher for retail compared to institutional investors. The difference in fund costs between retail and institutional investors is especially marked for bond UCITS, with cost impacting gross annual returns for retail bond

[33] The very high and low values across asset classes, and especially for equity correspond to periods with very low or high underlying asset valuations. In terms of fund asset values, we observe very low, in 2008, and very high, in 2010, gross annual returns across several share classes and especially in the largest domiciles.

[34] Details on the methodology are provided in the annexes.

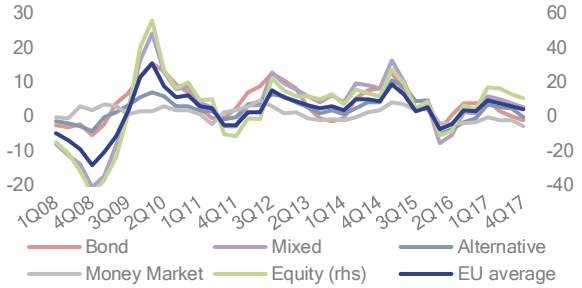
[35] ESMA, September 2018, TRV No.2 2018, charts T.1 and R.5.

UCITS by 1.3ppt and for institutional bond UCITS by 0.5ppt.

ASR-PC.13

Annual net returns over time

Variability over time as for gross returns



Note: EU UCITS universe, annual net returns by asset class, retail investors, in %. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS. Primary y-axis cut-off at -20%.
Sources: Thomson Reuters Lipper, ESMA.

As fund costs are relatively stable over time, net returns follow the patterns of gross returns (ASR-PC.13). In 2017 net returns for equity and mixed UCITS amounted respectively to around 14% and 4% (-2ppt compared to gross returns). For bond UCITS, whose gross returns were already relatively lower (around 2%) than UCITS investing mainly in other asset classes, net returns decline to 1% when ongoing and one-off fees are included. Alternative UCITS displayed net returns of 2% during 2017. With respect to MMF UCITS, 2017 net returns in the prevailing low-interest rate environment were negative at -1.5%.

Equity UCITS

Chart ASR-PC.14 reports gross and net past equity UCITS performance for retail investors across different time horizons.

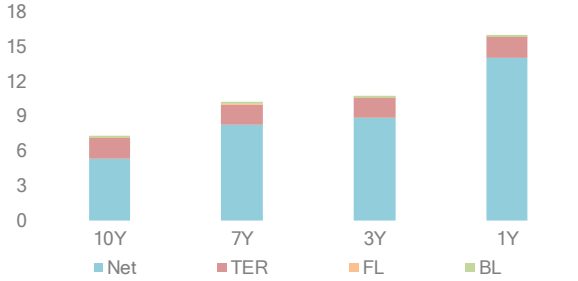
Equity UCITS had the highest returns, but also the highest cost levels across asset classes and cost levels have not decreased since 2008. Gross performance of equity UCITS follows underlying equity market performance. Thus, 1-year performance is very strong at around 16%, whereas performance at the 10-year horizon (i.e. from 2008 to 2017) is the weakest (around 7%), due to weak equity market performance during the global financial crisis in 2008 and 2009.

At the aggregate EU level, the level of UCITS costs does not change significantly over time. Ongoing costs, proxied by the TER have the highest impact, between 1.7ppt and 1.8ppt depending on the time horizon. Redemption fees impact gross performance by 0.16ppt at the 3-year and 0.19ppt at the 1-year horizon. The impact of subscription fees on annual gross return remains at 0.03ppt[36].

ASR-PC.14

Equity UCITS performance and costs by time horizon

Stable cost levels; high recent performance



Note: EU UCITS equity fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %.
Sources: Thomson Reuters Lipper, ESMA.

As cost levels are broadly constant over time, net performance follows the same patterns as gross performance. The range of equity UCITS net performance is between 5.3% over the 10-year horizon and 14% over the 1-year horizon.

Bond UCITS

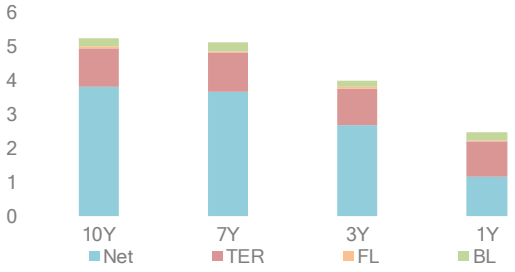
Chart ASR-PC.15 reports gross and net past bond UCITS performance for retail investors across different time horizons.

Bond UCITS performance has been declining significantly in recent years due to underlying bond market performance. Hence costs, while broadly stable in absolute terms, have reduced investor returns to a much larger extent in recent periods – taking out 52% of gross returns during 2017 compared to 27% during the period from 2008 to 2017.

When looking at the components of net past performance, gross performance follows underlying bond market performance – the pattern for bond UCITS is thus inverse compared to equity fund performance. We observe a strong decline in performance over time. 1-year performance (i.e. during 2017) is the weakest at around 2.5% due to the prevailing low interest rate environment. The highest performance is observed at the 10-year horizon (around 5.3%) with 7-year and 3-year performance relatively close to the 10-year performance. (5.1% and 4% respectively).

[36] Subscription and redemption fees are based on Thomson Reuters Lipper data, which reports the maximum level of fees charged by a fund. Actual fees may be subject to negotiation and thus be lower. Please see annexes on data, data limitations, and statistical methods for more details.

ASR-PC.15
Bond UCITS performance and costs by time horizon
Stable cost levels; low recent performance



Note: EU UCITS bond fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %.
Sources: Thomson Reuters Lipper, ESMA.

Similarly to equity UCITS, at the aggregate EU level, the level of bond UCITS costs does not change significantly over time. Ongoing costs, proxied by the TER have the highest impact, between 1.2ppt and 1.0ppt depending on the time horizon. Subscription and redemption fees stand at around 0.2ppt and 0.4ppt respectively.

Overall, the net performance follows the same pattern as the gross performance. The range of net bond UCITS performance is between 1.2% over the 1-year horizon and 3.8% over the 10-year horizon.

Mixed UCITS

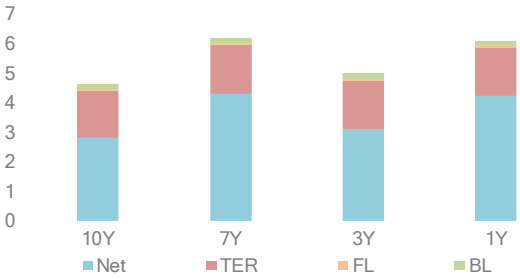
For UCITS funds whose investments are focused on mixed strategies, as expected, returns are in between equity and bond UCITS. A mixed or also balanced UCITS is a fund which holds a portfolio consisting of equities and bonds. This means that valuations related to these two asset classes will jointly have an impact on the overall gross and net performance of the fund itself.

Chart ASR-PC.16 reports performance and cost impact for retail mixed UCITS. Gross performance is varying and stands between 4.6% (10-year horizon) and 6.1% (1-year horizon).

Cost levels at the aggregate EU level are again broadly stable over time. Ongoing cost levels are between the ones of equity and bond UCITS and have the highest impact (TER around 1.6ppt). Subscription fees vary only slightly and are around 0.1ppt across time horizons. The impact for redemption fees stands at around 0.2ppt across time horizons.

Net returns are fluctuating and vary between 2.8% (10Y) and 4.2% (1Y) at an aggregated EU level.

ASR-PC.16
Mixed UCITS performance and costs by time horizon
Performance fluctuating; cost levels stable

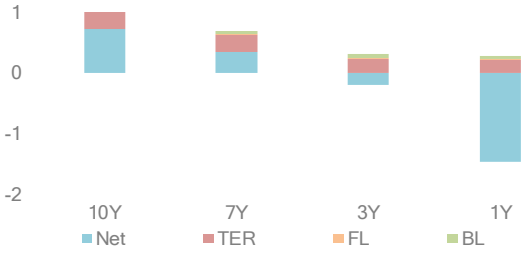


Note: EU UCITS mixed fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %.
Sources: Thomson Reuters Lipper, ESMA.

MMF UCITS

Looking at UCITS investing in money market instruments for retail investors at the EU aggregate level, chart ASR-PC.17 reports very low gross returns especially over shorter time horizons, going from 1.1% at 10-year to 0.1% and -1.1% at 3-year and 1-year horizons respectively. The reduction in gross performance, turning negative in the last year, is mainly related to the persistent low interest rate environment. Moreover, a significant part of MMF UCITS invest in USD and GBP-denominated assets; returns for these funds are therefore affected by currency movements.

ASR-PC.17
MMF UCITS performance and costs by time horizon
Net performance negative at 3Y/1Y horizon



Note: EU UCITS money market fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns not reported, as returns either close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

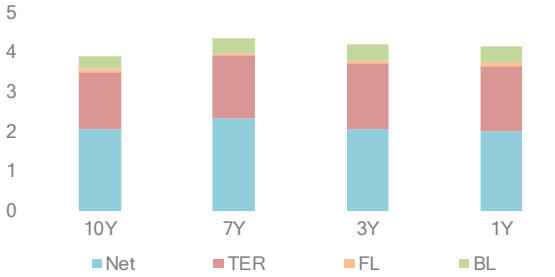
As observed for other asset classes, gross returns fluctuate more than costs. Overall, costs are lower than for other asset classes. Ongoing costs have the highest impact but are declining over time (from 0.4ppt at 10-year to 0.2ppt at 1-year horizons).

Net performance has similar movements as gross performance, turning negative at 3-year (-0.2%) and especially 1-year (-1.5%) horizons.

Alternative UCITS

For UCITS following alternative strategies for retail investors (ASR-PC.18), it should be noted that the size of this market is overall much smaller compared to other asset classes both at the EU aggregate level and when looking at a domicile-by-domicile basis.

ASR-PC.18
Alternative UCITS performance and costs by time horizon
Stable performance, high cost levels



Note: EU UCITS alternative fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %.
Sources: Thomson Reuters Lipper, ESMA.

Gross performance is broadly stable at around 4% across time horizons (4.2% at 3-year and 1-year horizons).

Costs are at the higher end of the spectrum, with levels between those of mixed and equity funds. Ongoing costs again are the most prominent. Their impact goes from 1.4ppt at 10-year to around 1.7ppt at 1-year time horizons, slightly increasing recently. While subscription fees remain broadly constant across time horizons (impact on gross returns around 0.1ppt), redemption fees slightly increase (0.3ppt impact at 10-year to 0.4ppt at 1-year horizons).

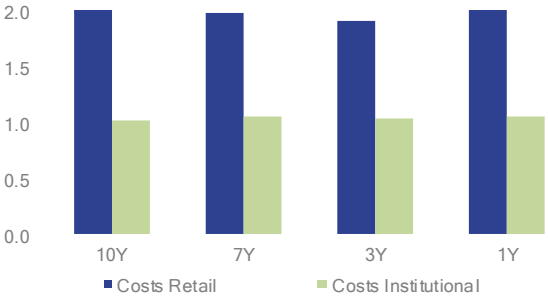
This in turns implies low net performance that remains roughly stable across time horizons, at around 2%.

Retail and institutional investments

In this section, we will outline differences and similarities of UCITS sold to retail investors with UCITS sold to institutional investors.

UCITS identified as sold to retail and institutional investors differ in terms of asset classes. For retail investors, we observe a much larger focus on mixed UCITS while institutional investors have a larger focus on MMF UCITS (ASR-PC-S.8). For retail investors, at an EU level, UCITS investments are distributed as follows: 39% in equity UCITS, 27% in bond UCITS, 25% in mixed UCITS, 6% in MMF UCITS and 3% in alternative UCITS. UCITS sold to institutional investors are instead distributed as: 30% equity UCITS, 29% bond UCITS, 7% mixed UCITS, 30% MMF UCITS and 4% alternative strategies UCITS.[37]

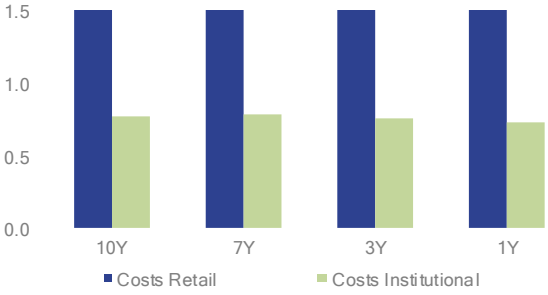
ASR-PC.19
Equity fund costs by time horizon across investor type
Higher costs for retail investors



Note: EU UCITS equity funds absolute cost impact, per time horizon %. Impact of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

The main difference between UCITS identified as sold to retail and the ones sold to institutional investors are cost levels. Across asset classes cost levels are higher for retail compared to institutional investors. For equity UCITS sold to retail investors (ASR-PC.19), impact of ongoing costs is around 1.9ppt (at 10- 7- 3- or 1-year horizons) compared to around 1ppt for institutional investors.

ASR-PC.20
Bond fund costs by time horizon across investor type
Higher costs for retail also in fixed income



Note: EU UCITS bond funds absolute cost impact, per time horizon %. Impact of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

Similarly, for retail bond UCITS (ASR-PC.20) and retail mixed UCITS (ASR-PC-S.35 in the statistical annex), cost impact is higher by more than 0.5ppt on average compared to institutional investors.

Regarding MMF and alternative UCITS (ASR-PC-S.36, ASR-PC-S.37), again the differences between retail and institutional investors remain (costs for retail investors are higher by about

[37] These shares are based on the asset class data reported in our Thomson Reuters Lipper sample.

0.2ppt for MMF UCITS and 0.6ppt for alternative UCITS respectively).[38]

It is interesting to note that in some cases and over some time horizons, retail UCITS have slightly higher gross annual returns than institutional UCITS (as for equity at 1-year horizon or bonds at 7-year horizon). This pattern may point to the intuition that institutional investors may also consider liquidity needs and risk considerations to a higher degree compared to retail clients.

Despite this, gross returns for retail and institutional UCITS still follow very similar patterns. Therefore, higher retail cost levels imply a higher wedge between gross and net performance for investors and thus necessarily lower net returns for retail compared to institutional investors. Reasons may include lower costs for fund managers for institutional share classes, but also better-informed investment decisions and higher bargaining power by institutional investors.

Performance and costs in Member States

This section provides analysis of fund annual past performance and costs on a country-by-country level. The section on the EU UCITS market has already highlighted differences between fund markets across Member States – size of the markets, preferences for asset classes, domestic and cross-border character of national fund markets.[39] We complement the analysis with a sample of recent studies performed by national supervisors and regulators in selected Member States.

ASR-PC.21

Country-by-country analysis: data limitations

Our analysis on a country-by-country level is subject to several serious data limitations, which limit the possibility to draw firm conclusions from the analysis.

One of the objectives of the report is to provide costs and past performance analysis on a country-by-country level. This objective is significantly impaired by the fact, that UCITS reporting is based on the domicile of the fund and not on the domicile of the investor. Two elements limit the comparability of country-by-country results: (i) Significant heterogeneity of UCITS which can be sold in other Member States (see ASR-PC.8), varying between a largely domestic (for example, ES, IT, PT) and a predominantly international fund industry (for example, LU, IE); however, also in Member States with a largely domestic fund industry, a significant proportion of UCITS sold are produced in other EU Member States. (ii) Heterogeneity of cost data across Member States including whether parts of distribution costs and performance fees are included in reported costs or not. This is a significant issue in the analysis given the role of distribution channels and thus related costs within the EU. The mapping exercise outlined in the annex provides more detail.

A detailed description of data limitations is provided in the annex.

Evidence from Member States

Studies on past performance and costs of investment funds have been published by the Austrian FMA (2017)[40], French AMF (2018)[41], Banca d'Italia (2017)[42], CONSOB (2018)[43], HCMC (2018)[44] the FCA (2017[45], 2018[46]) as well as the Central Bank of Ireland (2018) [47].

We summarise their main findings below.

The Austrian FMA market study (2017) focused both on analysing the return-risk profile of several funds as well as the effect of fees (one-off fees and ongoing charges) on performance.

The AMF study covers the levels of costs charged by asset management firms that manage UCITS distributed in France for 2015. The study is based both on national regulatory data and Thomson Reuters Lipper data. Besides being focused on 2015 reports, the French approach implied a level of cost aggregation higher than current regulatory requirements.[48] The reports provides:

[38] For MMF and alternative UCITS, it should be borne in mind that the sample size for retail UCITS is small and focused on a relatively small number of Member States.

[39] The market size of institutional and retail investors across countries is referred to in the tables ASR-PC-S.11 and ASR-PC-S.12 of the Statistical annex. It must be highlighted that market size is based on the domicile of the fund and not the domicile of the investor. For more details see the Annexes.

[40] AT FMA, Österreichische FMA – Finanzmarktaufsicht, 2017, Marktstudie über Fondsgebühren von österreichischen Publikumsfonds.

[41] AMF France, 2018, Fees charged in 2015 by UCITS distributed in France.

[42] Banca d'Italia, 2017, Il costo totale dell'investimento in fondi comuni, Questioni di economia e finanza.

[43] CONSOB, 2018, Il costo dei fondi comuni in Italia Evoluzione temporale e confronto internazionale, Discussion Papers.

[44] HCMC, October 2018. Survey on fees and charges applicable on UCITS in Greece.

[45] FCA, 2017, Asset Management Market Study, Final Report, Financial Conduct Authority,.

[46] FCA, 2018, Now you see it: drawing attention to charges in the asset management industry, Occasional Paper 32.

[47] Central Bank of Ireland, September 2018, "Thematic Review of UCITS Performance Fees".

[48] The report details which costs and fees are included in ongoing costs and specifies that performance and entry and exit charges are disclosed separately.

— an overview of the market in France with most distributed funds being equity funds (46% by assets) followed by bonds (22%) and money markets (19%); and a significant concentration of the UCITS market;

— ongoing charges: linear regressions show that, when looking at actively managed funds, the sample of French equity funds seems to have higher charges than foreign funds distributed in France (1.80% and 1.68% respectively); on the contrary, for bond UCITS ongoing charges are lower for French funds than for foreign funds distributed in France (0.69% versus 1.1%) and this is also the case for money market funds (0.1% and 0.2%);

— explanatory factors behind ongoing costs including different investment strategies; provision of different distribution services; size of the fund.

Both the Italian analyses provide a significant insight in the Italian UCITS industry, describing the level of costs across different types of funds, as well as highlighting some characteristics of the market that can be considered significant explanatory factors behind different performance and costs dynamics across different EU countries.

The Bank of Italy (2017) focuses on total shareholder costs for UCITS funds sold in Italy, equal to TER plus subscription and redemption fees. It provides an estimation of gross and net performance between 2006 and 2016. On average the total costs are around 1.58%, with an increase in commissions following 2011 as target date funds spread[49]. Results are in line with CONSOB (2018). The Bank of Italy study also develops a sensitivity analysis on the impact of risk-return on investment decisions, highlighting that past performance do have a significant impact on investors' decisions.

Among its main conclusions, CONSOB (2018) analysis shows that a significant component of total costs in Italy is made up by distribution channels (about 70%).[50] Main findings identify:

— an overview of the market between 2012 and 2016 with mixed and bond funds having the largest share (48.5% and 39.4% in 2016 of managed assets),

— at an aggregate level the ongoing costs remained stable in the last five years, amounting to around 1.4% of the NAV,

— in aggregate terms, gross returns significantly reduced over the period under study from 9.2% in 2012 to 2.9% in 2016 and thus the net decreased from 7.7% to 1.4%; gross returns varied by asset class,

— costs vary across asset classes; they are for example higher for equity funds (2.34% in 2016) compared to bond funds (1.16% in 2016).

The study also looks at costs between funds domiciled and distributed in Italy and those domiciled in other EU countries (incl. Luxembourg, Ireland, United Kingdom and France) and distributed in Italy. Results identify that costs for Italian funds may be on average higher than in some other EU countries.[51] There are differences across type of funds. Several explanations are reported, including: differences in investment amounts in some countries with lower cost for larger investments (especially in terms of commissions); a more restrictive regulatory framework compared to other jurisdictions; market structure, mostly based on bonds rather than equity; distribution channels (in IT they account for 70% of the costs considered).

The FCA published two analyses in 2017 and 2018. FCA (2017) assesses the functioning of the United Kingdom market and the value for money of investment products for consumers.

Overall their main findings are:

— a weak price competition in several areas of the asset management industry;

— some evidence of persistent poor performance. Yet worse performing funds are more likely to be closed or merged;

— communication concerns: poor clarity of objectives and charges with poor investors' awareness and focus on charges.

Moreover, there is also a focus on the type of investment management, active and passive. Unable to identify a clear relationship between

[49] These are open-ended funds with a defined investment horizon (i.e., 5-7 years or retirement funds), a return-risk target and with the distribution channels usually paid at the beginning of the fund life. Their costs are higher than other type of funds, but convenient for distributors.

[50] This is true in particular in relation to target date funds.

[51] For example, while in Italy for all funds in 2016 costs are around 1.4%, in Luxembourg, Ireland and France they are lower (1.1%, 0.9% and 0.7% respectively).

charges and gross performance of retail active funds in United Kingdom, the analysis leads to the conclusion that what is important is for investors to understand total costs and objectives of the fund in order to reach an optimal investment decision according to their own needs. Finally, the study proposes a series of remedies including proposals to drive competitive pressure on asset managers and increase accountability and disclosures to investors.

FCA (2018) highlights that especially for retail investors, not only the content of information is important, but also the way the information is presented. The study analysed investor choices among a certain number of funds, by proposing alternative ways of providing information. Main findings show that participants' choices were more likely to be directed to the cheaper fund when presented with information pointing out the impact of costs rather than when presented with information according to the current market disclosure.

In October 2018 the Hellenic Capital Market Commission (HCMC) published a study on fees and charges for UCITS funds in Greece. This is a project based on data collected from Mutual Fund Management Companies supervised by the HCMC and related only to funds authorised by the HCMC for the years 2016-2017. The project is valuable in relation to the granularity of the data and the reference to actual applied fees (not the maxima foreseen by the regulation). In terms of costs, charges are divided in ongoing costs, entry and exit fees, distribution fees, performance fees.

Main findings show that for 2016 and 2017 respectively, ongoing costs across asset classes were on average around 2.28% (2016) and 2.35% (2017), while entry and exit fees averaged respectively 0.36% (2016) and 0.3% (2017), distribution fees 0.47% (2016) and 0.4% (2017) and performance fees stood at slightly less than 0.1%, 0.03% (2016) and 0.09% (2017).

The Central Bank of Ireland published in September a thematic review of UCITS performance fees with a focus on investor protection. It identified a number of good practices across the majority of the sample of UCITS sub-funds reviewed including clear and unambiguous prospectus disclosures in respect of the performance fee methodology as well as transparent, comprehensive and frequent review of performance fee calculations by Fund Service Providers.

It, however, has also identified, for about 10% of the sample of UCITS sub-funds, instances of non-compliance with the UCITS Performance Fees Guidance issued by the Central Bank. The Central Bank is therefore concerned that a lack of compliance in a consistent manner may be detrimental to investors.

At the EU level, ESMA (2017)[52] and the EC (2018)[53] published initial work on cost and performance. ESMA (2017) provided metrics to analyse the impact of ongoing fees, one-off charges and inflation on mutual fund returns. Preliminary results are reported over the period 2013-2015, however not distinguishing across asset classes. The EC (2018) aims to provide an understanding of the market for retail investment products specifically in relation to the distribution and intermediation channels available.

Thus, on-going monitoring and analysis has been developed over the years by national supervisors and regulators. From an EU perspective, this report is among the first studies to provide a comprehensive perspective across different domiciles over different time horizons. For more details on data issues related to a country-by-country analysis please refer to the annex. To account for different risk levels and structural market differences, also at a national level, the analysis has been carried out by asset class.

Equity UCITS

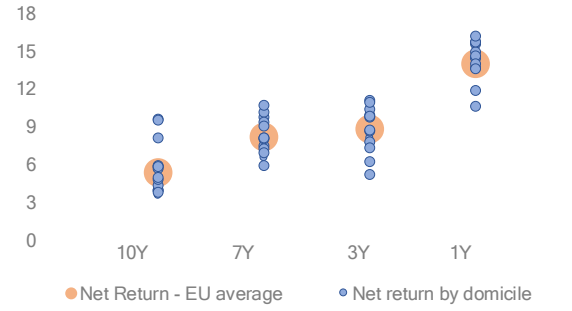
Gross performance of equity UCITS varies significantly across fund domiciles (ASR-PC.22, ASR-PC-S.48-ASR-PC-S.51) – likely to be driven by differences in investment strategies of equity UCITS and equity market performance across Member States.

Regarding cost levels, we observe a significant degree of heterogeneity in terms of fees across domiciles in the EU. This is related to several reasons including national market structures, regulatory requirements as well as investor preferences.

[52] ESMA, 2017, The impact of charges on mutual fund returns, TRV No.2 2017.

[53] European Commission, 2018, Distribution systems of retail investment products across the European Union.

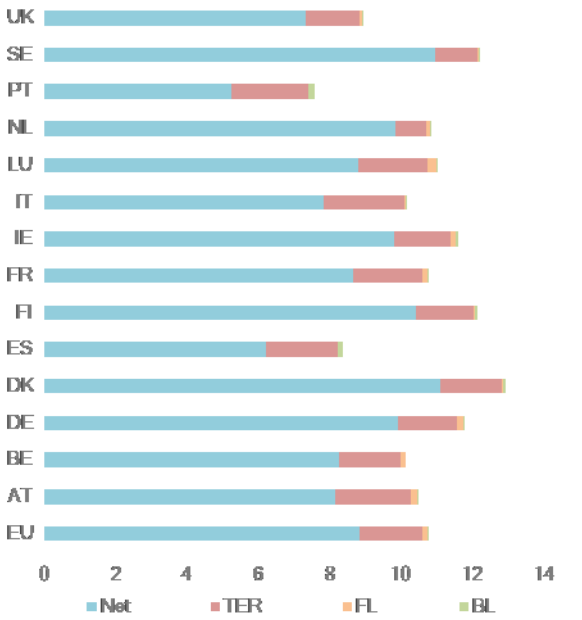
ASR-PC.22
Equity UCITS dispersion in net return by time horizon
Increased dispersion at medium horizons



Note: EU UCITS Equity annual net return, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

Chart ASR-PC.22 shows the dispersion in net performance for equity UCITS, across domiciles.[54] Heterogeneity is significant for all time horizons; it is driven by differences in gross performance of equity UCITS across Member States and/or by heterogeneity of cost levels.[55]

ASR-PC.23
Equity UCITS performance by domicile, 3Y horizon
Gross performance and cost fluctuating



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon %. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

Chart ASR-PC.23 looks at cross-EU heterogeneity for equity UCITS in more detail.[56] It reports annual gross performance and performance net of ongoing costs, subscription and redemption fees over the 3-year horizon for funds investing in equity, focusing on retail investors. Equity UCITS show on average higher gross returns than other asset classes. At a 3-year horizon, total gross returns vary – from 8.4%, 7.6% and 8.9% for Spain, Portugal and United Kingdom to 12.2% for Finland and Sweden and 12.9% for Denmark.

The magnitude of costs varies significantly across domiciles[57] – between around 1ppt (Netherlands) to more than 2ppt (Austria, Spain, Italy, and Portugal). Ongoing costs account for the biggest share in all domiciles and across asset classes. Overall, the role of ongoing costs is highly heterogeneous across domiciles, with some domiciles above the EU average (e.g. Belgium, Italy, France, and Luxembourg) and others clearly below.

The heterogeneity in costs charged to investors has to be put into context, as it may reflect differences in cost levels as well as a number of other factors. Cost classification varies across Member States. In particular, fees may be classified differently (management, distribution, administrative fees) in relation to national legislation as well as market practices (see annex). This can have an impact on the costs reported in the Thomson Reuters Lipper data, and needs to be taken into account in a cross-country analysis. In particular, following a survey[58] that ESMA carried out across jurisdictions, in Italy[59] management fees may increase due to the inclusion of distribution fees within that category. The French AMF reported that investment management commissions are aggregated with a number of administrative costs. In the case of Belgium, there might be a fee sharing between the manager of a Belgian UCITS and the financial intermediary in its marketing. This implies that part of the remuneration of the distributor may be contained within the management fee of the Belgian UCITS.[60] Also in Spain, management fees may

54 Data shown in the country-by-country analysis refers to the fourteen individually reported Member States.

55 See also the annexes in this report for further explanations.

56 The charts in the text refer to the 3-year horizon. To see in details all other time horizons please look in the Statistical annex of this report.

57 As in the text below and as highlighted in ASR-PC.21, the inclusion or not of parts of distribution costs and performance fees in reported costs is an issue when measuring the overall magnitude of costs.

58 In August 2018, an ESMA survey was addressed to National Competent Authorities aiming to obtain additional information on management and distribution fees.

59 From CONSOB (2018), about 70% of costs allocated to investment funds remunerates distribution channels.

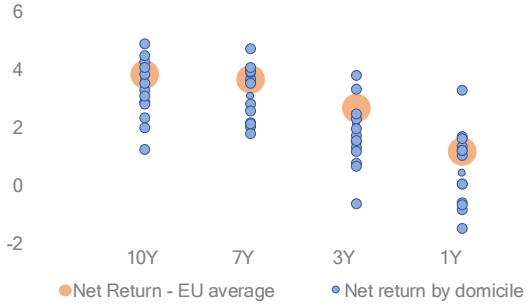
60 In Belgium some share classes within the sample of equity funds have been identified as part of structured compartments. The Belgian FSMA has invited distributors of structured products in Belgium to sign on to a voluntary moratorium. A large majority of distributors signed and committed themselves not to distribute to

increase due to the inclusion of distribution fees (which make up around a 70% of the overall fee). It is also worth pointing out the specific impact on the TER of cross border distribution costs (distributor fees, and also implicit fees such as additional legal, hedging, or other fees), especially when distributing outside of Europe (as in the case of Luxembourg). Details regarding potential issues due to data aggregation and availability are reported in the annexes.

Similarly, the regulatory approach to one-off fees is not harmonised and therefore varies across domiciles. As already highlighted before, there is potential overestimation of one-off fees. These are usually reported at their maximum but can be subject to negotiation between counterparties.[61]

Bond UCITS

ASR-PC.24
Bond UCITS dispersion in net return by time horizon
Larger dispersion at the short term

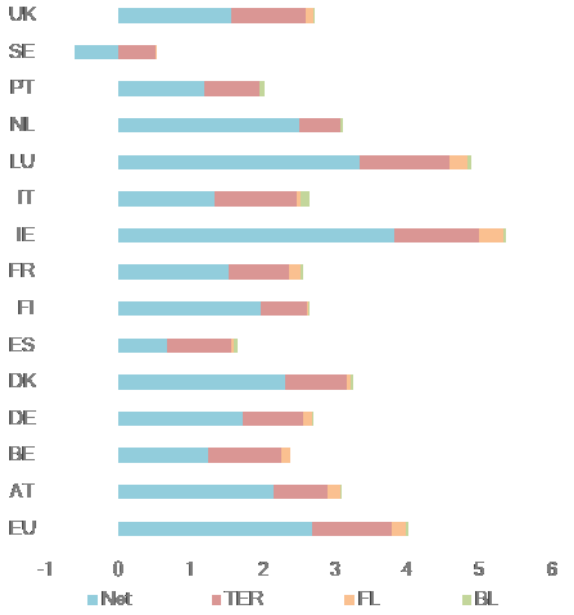


Note: EU UCITS Bond annual net return, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

Chart ASR-PC.24 shows the dispersion in net returns for UCITS focusing on bonds across domiciles. As for equity UCITS, heterogeneity is significant for all time horizons, but has increased further for the 1-year time horizon. Again, heterogeneity can be driven by gross performance of bond UCITS across Member States and/or by heterogeneity of cost levels.

Chart ASR-PC.25 focuses on gross and net performances by domicile at the 3-year horizon. The low gross performances, at 3-year and 1-year (ASR-PC-S.56) horizons are likely to be related to the prevailing low-interest rate environment as well as national investment strategies. Bond UCITS performance is especially low for benchmark or safer domiciles (Germany, The Netherlands, Sweden, and United Kingdom).

ASR-PC.25
Bond gross and net performance by domicile, 3Y horizon
Impact of current interest rate environment



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon %. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

Costs, ongoing as well as subscription and redemption fees, are on average lower than for equity and mixed UCITS. Again, the magnitude of ongoing costs varies significantly across Member States, from 0.5 ppt in Sweden and 0.6ppt in the Netherlands to 1.6ppt in Ireland over the 1-year time horizon.[62]

Over a 3-year horizon, net performance is thus below 2% in a number of Member States (Germany, Spain, France, Italy, Portugal, and United Kingdom) and even negative in Sweden.

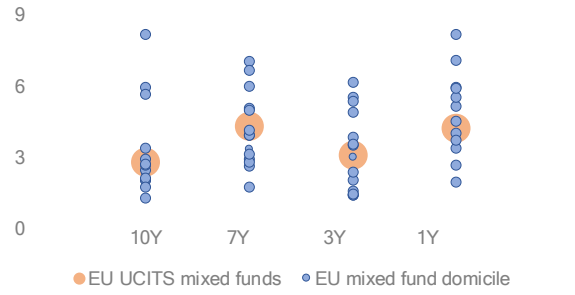
retail investors any structured products that are considered "particularly complex" on the basis of a number of criteria set out by the FSMA. More information on the moratorium, and the criteria by which structured products are judged to be particularly complex or not, can be found on here: https://www.fsma.be/en/structured-products-moratorium.

61 In the case of Belgium, we decided not to include redemption fees as they might be massively overestimated in our commercial data. In practice a significant part of Belgian UCITS reports the maximum redemption fee in the prospectuses. These redemption fees may be charged if redemption is asked within a period of one month after subscription and thus only in a very small number of cases. The overall exclusion of exit charges may lead to a slight underestimation of actual redemption charges, yet this should be limited to a small part of the Belgian UCITS sector.

62 Belgium not included. See footnote 61.

Mixed UCITS

ASR-PC.26
Mixed UCITS dispersion in net return by time horizon
Dispersion higher than for equity and bonds



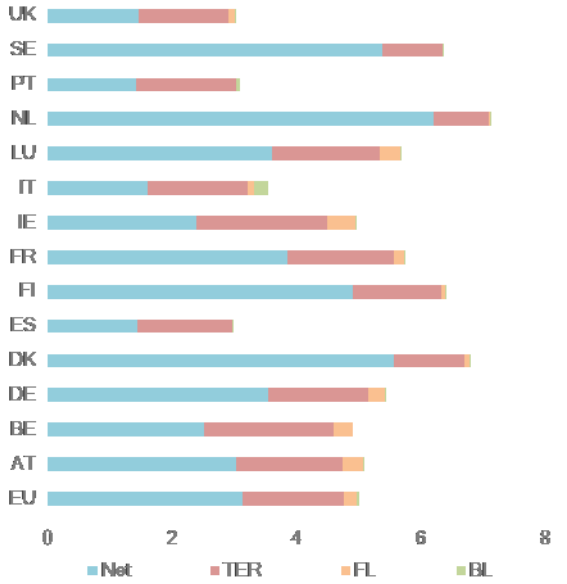
Note: EU UCITS mixed fund annual net return, retail investors, %. Net of ongoing costs (TER), subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

Focusing on mixed or balanced UCITS, these have recently attracted an increasing amount of capital. This recent interest in UCITS with underlying mixed strategies might be related to the diversified portfolio allocation that mixed UCITS have across asset classes. This allows investors to take positions in the equity markets, yet with a lower risk/return compared to pure equity UCITS. Therefore, in an environment in which equity market valuations are at historical highs while bonds mirror the uncertainty on interest rate developments, mixed UCITS have become increasingly attractive. This is the case especially for retail investors (ASR-PC-S.27) unable to actively reallocate their portfolios to ensure a constantly high return as this will have also a significant impact on information and transaction costs.

The dynamic of returns for equity and fixed income explains the gross past performance of mixed UCITS being lower than equity but higher than bond UCITS. Overall, across time horizons and domiciles, we can identify similar patterns than for equity: performance more volatile than costs and significant heterogeneity across domiciles also partially due to the way costs are reported and aggregated and differences in national regulations.

Looking at domiciles, chart ASR-PC.26 shows the dispersion in net returns for mixed UCITS funds. As for equity UCITS, heterogeneity is significant for all time horizons, but has increased further in the 1-year horizon. Again, heterogeneity can be driven by gross performance of mixed UCITS across Member States and/or by heterogeneity of cost levels, as well as allocation of assets into different asset classes with the portfolios of mixed funds.

ASR-PC.27
Mixed UCITS gross and net returns by domicile, 3Y horizon
Heterogeneity across countries



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon %. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

We observe the highest annual gross performances (ASR-PC.27) in the case of retail investors for mixed funds in Denmark and the Netherlands (6.8% and 7.1% respectively at a 3-year horizon). At the 1-year time horizon, while annual returns in the Netherlands are still the highest at 9%, France significantly improved its gross annual performance going from 5.8% at the 3-year to 7.8% at the 1-year horizon. Similarly, annual gross returns in Italy went from 3.6% at the 3-year horizon to 4.7% at the 1-year horizon.

Cost levels for mixed UCITS are stable over time. Heterogeneity in our sample however remains, and is higher than for equity and bond UCITS. Cost levels for mixed UCITS at a 3-year horizon are highest for Belgium, Ireland and Luxembourg (impact around 2ppt, 2.6ppt and 2ppt respectively).[63] For the other countries ongoing costs are lower, but still well above 1% (ASR-PC.27) except for Denmark, The Netherlands and Sweden, where ongoing costs account respectively for an impact of 1.2ppt, 0.9ppt and 1ppt at a 3-year horizon and are lowest over all other time horizons.

Given that cost levels are lowest for Denmark, the Netherlands and Sweden, net mixed UCITS performance is highest for these Member States

[63] Redemption fees for BE not included. See footnote 61.

at 5.6%, 6.2% and 5.4% respectively. Mixed UCITS net performance is lowest, at the 3-year horizon, at less than 2%, for Spain, Italy, Portugal and United Kingdom.

Data for MMF UCITS and alternative UCITS are not reported at country-by-country basis due to sample sizes being too small, presenting issues of representativeness.

Institutional vs. retail investors

Focusing on institutional investors, on the basis of our sample, data are scarcer across asset classes and especially when moving from an aggregate analysis at EU level to a country-by-country analysis. It can be observed, however, that across asset classes and domiciles, costs are on average higher for retail investors than institutional investors. This is in line with the results at the EU aggregate level.

Inflation and impact on performance across the EU

We also report net real returns of UCITS, taking inflation into account. Inflation data are related to the fund domicile and not to investor domicile.[64]

The impact of inflation on the different measures is similar across asset classes. One point worth mentioning: during the time horizon of our analysis (2008 to 2017) there are two periods where inflation has been negative; the post crisis year of 2009 and the years 2015 and 2016. During these periods, taking inflation into account will in fact increase real net performance for investors. This shows in the data for the 3-year time horizon (2015 – 2017) where overall inflation remained very low.

ASR-PC.28

Inflation impact: data limitations

As for our country-by-country analysis the key issue for our analysis of the impact of inflation is related to UCITS reporting based on the domicile of the fund and not on the domicile of the investor. Where UCITS are sold cross-border, the inflation taken into account in our analysis refers to the domicile of the fund and not to the domicile of the investor.

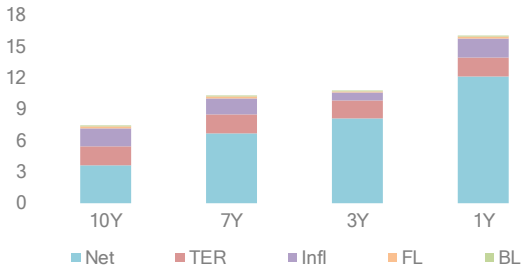
Inflation data is sourced from Eurostat. A detailed description of the inflation data and the methodology used to include inflation is provided in the annexes.

Equity UCITS

ASR-PC.29

Equity UCITS performance and costs with inflation

Variable impact of inflation



Note: EU UCITS equity fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

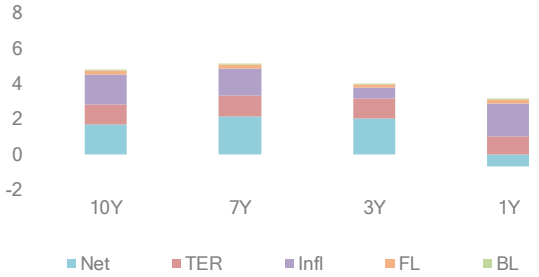
Returns for equity UCITS remain the highest across asset classes when inflation is taken into account. The impact of inflation changes significantly across time horizons (ASR-PC.29), between 0.7ppt at the 3-year horizon, as it includes periods with negative inflation, and around 1.9ppt for the 1-year horizon. Net performance after inflation varies between 3.6% at a 10-year horizon and 12% at a 1-year horizon.

Bond UCITS

ASR-PC.30

Bond UCITS performance and costs with inflation

Negative net real returns at 1Y horizon



Note: EU UCITS fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %.
Sources: Thomson Reuters Lipper, ESMA.

The impact of inflation changes significantly across time horizons, between 0.7ppt at the 3-year horizon and around 1.9ppt for the 1-year horizon. Net performance after inflation is between 2.1% and 2.2% for 3Y-, 7Y- and 10Y-horizons, however turning negative to -0.7% at the 1Y-horizon.

Mixed UCITS

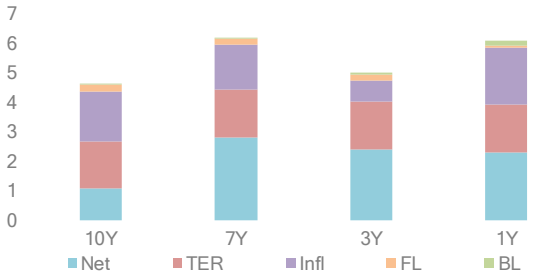
Again, the impact of inflation changes significantly across time horizons, between

[64] The analysis refers to the annual rate of change of the Harmonised Index of Consumer Prices (HICP) reported at a monthly frequency. See annex on Data, data Limitation and statistical methods.

0.7ppt at the 3-year horizon and around 1.9ppt at the 1-year horizon (ASR-PCF.31).

Net annual real returns fluctuate between 2.8% at the 7-year horizon and 1.1% at the 10-year horizon.

ASR-PC.31
Mixed UCITS performance and costs with inflation
Net performances at longer times higher



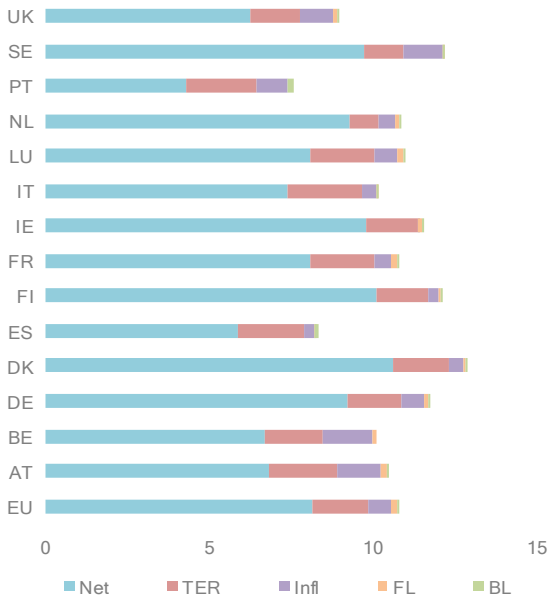
Note: EU UCITS fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %.
Sources: Thomson Reuters Lipper, ESMA.

Taking inflation into account, MMF UCITS display negative real returns across most time horizons, whereas alternative UCITS still display positive net real returns across all time horizons.

Inflation and impact on performance in Member States

Equity UCITS

ASR-PC.32
Equity UCITS performance, costs and inflation by domicile
Heterogeneity across countries



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon %. Other EU countries not reported.

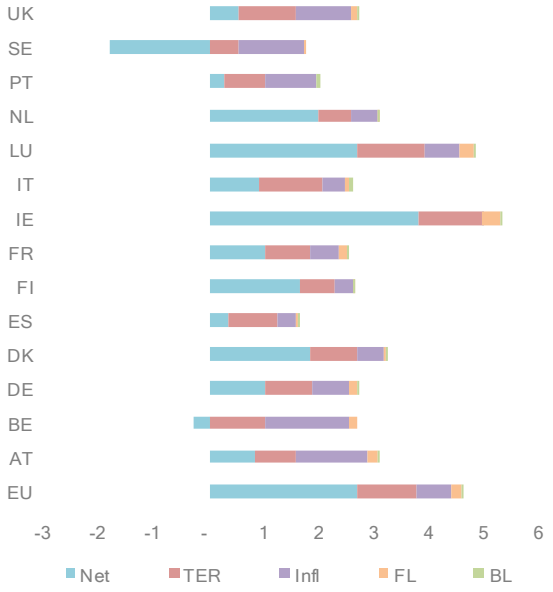
As in the previous section, the country-by-country analysis focuses on the 3-year horizon. Charts for other time horizons are displayed in the statistical annex.

Over the 3-year horizon we observe an average inflation impact of 0.7ppt for equity UCITS. The impact varies between 0.01ppt in Ireland and 1.5ppt in Belgium. Annual net performance after taking inflation into account varies between 4.3% and 5.8% in Portugal and Spain respectively and 10.6% in Denmark (ASR-PC.32).

Bond UCITS

Over the 3-year horizon we observe an average inflation impact of 0.7ppt for bond UCITS. The impact is the highest in Belgium (1.5ppt) and the lowest in Ireland (0.01ppt) over a 3-year time horizon. Net performance after taking inflation into account varies between -1.8 % in Sweden and 2.7% in Luxembourg. Net real performance is negative for Belgium and Sweden (ASR-PC.33).

ASR-PC.33
Bond UCITS performance, costs and inflation by domicile
Heterogeneous impact across domiciles



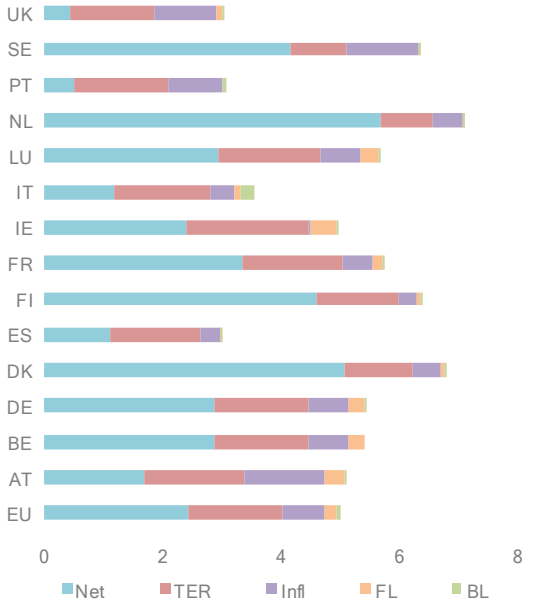
Note: EU UCITS bond fund annual gross returns, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

Mixed UCITS

The impact of inflation at the EU level as already pointed out is 0.7ppt, highest being Belgium and lowest Ireland over the 3-year horizon. Including inflation, net performance for UCITS investing in mixed asset then varies between 5.1% in Denmark and 0.4% in United Kingdom. Again,

annual gross performance of underlying assets, in particular considering the strong equity valuation, has a significant impact (ASR-PC.34).

ASR-PC.34
Mixed UCITS performance, costs and inflation by domicile
Uneven impact across domiciles



Note: EU UCITS mixed fund annual gross returns, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

Data for MMF and alternative UCITS are not reported at country-by-country basis due to small sample sizes. Results, for other time horizons and institutional investors, are shown in tables and charts in the statistical annex.

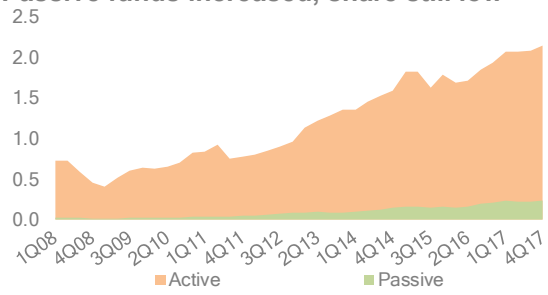
UCITS performance by management type

In this section, we analyse costs and past performance by management type, i.e. a comparison between actively and passively managed UCITS.

Both at the EU level and globally, growth in passive UCITS has been rapid for equity and bond asset classes.[65] In the EU, however, the majority of passive portfolios remain focused on equities. The analysis is therefore focused on equity UCITS only.

Our sample covers EUR 2.4tn of the equity UCITS universe at the end of 2017 (ASR-PC.35). This corresponds to 64% of the market as reported by EFAMA (EUR 3.7tn end-2017).

ASR-PC.35
Sample data
Passive funds increased, share still low



Note: EU UCITS equity actively and passively managed funds in terms of fund value. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees available, EUR tn.
Sources: Thomson Reuters Lipper, ESMA.

In terms of relative share, at the EU level, over the last five years, passive management in the equity market segment still averaged around 10% of the overall equity EU market or EUR 240bn (ASR-PC.35). However, the growth in terms of fund value of passively managed portfolios has been substantial: 11%, 39%, 95% respectively over the last 1-, 3- and 10-year investment horizons versus 10%, 26% and 78% for actively managed UCITS. Looking at a national level, however, the passive segment is negligible in some domiciles (including Belgium, Italy, France), while reaching more than 10% to 30% in others (including Ireland, Luxembourg, Sweden, United Kingdom). Given that samples are very small for a large number of Member States, the analysis in this section is presented at an aggregate EU level.

Results show that, in terms of gross returns, active equity UCITS perform slightly better than passive equity UCITS over the 1-year and 3-year horizons, 16% and 15%, and 11% and 10% respectively (ASR-PC.36).

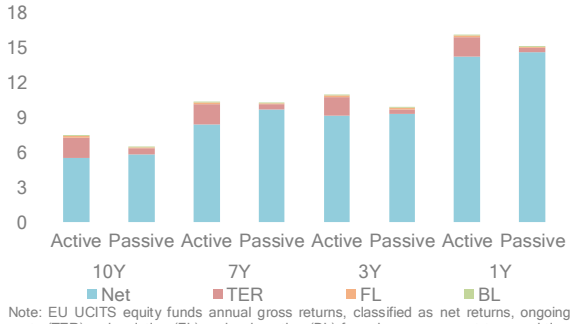
Cost levels are broadly stable over time and consistently higher for actively managed UCITS impacting annual gross return by 1ppt compared to 0.6ppt on average for passively managed UCITS.

Consequently, net annual returns are similar at 1-year and 3-year horizons, around 14% and 9% respectively, while being higher for passively managed UCITS compared to actively managed UCITS at longer time horizons: 9.7% against

[65] Passive management is an investment strategy that tracks the returns of a benchmark. Usually it does not require trading if there are no changes in the benchmark composition. Actively managed portfolio implies stock selection and active trading to generate higher returns compared to a given market benchmark. According to the BIS, the US equity market is still the market in which passive funds have expanded the most (more than USD 4tn in fund assets at June 2017, 43% of total US equity fund assets or 15% of total).

8.4% at 7-year horizons and 5.8% against 5.5% at 10-year horizon (ASR-PC.36). Including inflation does not change this picture.

ASR-PC.36
Active and passive equity UCITS performance
Costs significantly higher for active funds



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon, in %.
Sources: Thomson Reuters Lipper, ESMA.

These results are in line with previously published studies both at the EU and US level. In its asset management report, the FCA (2017) highlights how after charges investor returns are higher in typical low-cost passive funds. An investigation conducted by the Investor Protection Bureau of the Office of the New York attorney General (2018) [66] reached similar conclusions. Results of other studies consistently show that actively managed funds clearly produce higher costs to investors than their passive peers, while equating them in terms of gross annual performance or even underperforming.

UCITS Exchange Traded Funds

Exchange Traded funds (ETFs) have enjoyed increasing popularity among investors in recent years. While not included in the general analysis of UCITS funds so far, most ETFs in the EU are registered and supervised as UCITS funds.

ASR-PC.37
UCITS ETFs: Data limitations

Our data does not contain information on the UCITS ETF bid-ask spread – which are therefore not included in the analysis. The potential costs related to ETF bid-ask spreads could be significant especially in markets characterised by lower liquidity and therefore exert significant impact in terms of reduction of performance.

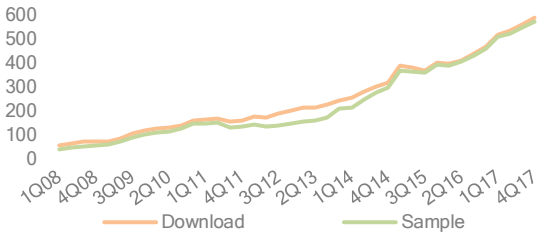
A detailed description of data limitations is provided in the annexes.

Overall, there has been a big expansion in UCITS ETFs for the past ten years, as the total volume became five times larger since 2008. In terms of number of funds, the market represented in our sample increases from 120 to 1,178 funds. It should be noted that there is a significant difference between the EU and US markets. This potentially mirrors the fact that the EU market is highly fragmented with multiple listings across many exchanges, also showing lower retail investors' participation compared to the US.[67]

If, on one side, such an increase has been supported by an increasing demand in easily tradeable, liquid and relatively low-cost investment products, on the other, it has been fostered by increasing transparency and more efficient regulation. From a regulatory perspective, as they are being traded on main markets, ETFs are put in the realm of MiFID. Moreover, the implementation of MiFID II should ameliorate the transparency regime, enlarging it to all trading venues for shares and certain equity-like instruments, such as ETFs.[68]

In this specific case, EU ETFs are all UCITS. The UCITS authorisation requires: diversification, so that no single holding is worth more than 20% of the fund's NAV, segregation, with fund's assets segregated from those of the ETF provider; and liquidity, so that the ETF is open-ended, and an investor can redeem their shares at any time. Moreover, the prospectus disclosure for UCITS ETFs is required, together with the KIID. This should ensure increased transparency and investor protection.

ASR-PC.38
Data download and sample
Large majority of the market covered



Note: EU UCITS ETFs universe in terms of fund value. Download includes all observations for which information on fund value and and fund performance is available. Sample includes all observations for which information on fund value, fund performance, net flows and subscription and redemption fees is available, EUR bn.
Sources: Thomson Reuters Lipper, ESMA

The download and sample used for the analysis represent respectively 97% and 94% of the

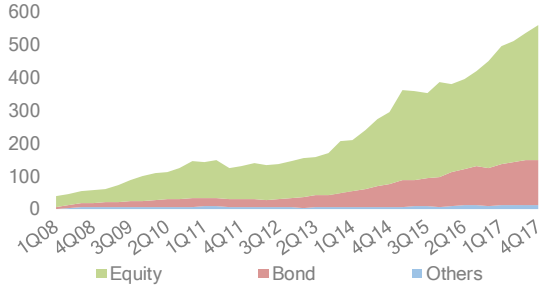
[66] State of New York Attorney General, 2018, "Mutual fund and active share".

[67] CEPS, 2018, "The European ETF Market: What can be done better?".

[68] MiFID II, Directive 2014/65/EU. Since the beginning of 2018, MiFID II came into effect. This implies that ETF trades have to be reported.

overall EU UCITS ETF universe as reported by EFAMA at 4Q2017 (ASR-PC.38). Our sample covers a total of EUR 570bn of net assets value while EFAMA reports EUR 609bn. It includes both retail and institutional investors as well as active and passive management strategies. In order to ensure consistency with the UCITS analysis, extraction and data processing are performed similarly.[69]

ASR-PC.39
Fund value distribution by asset class
Equity largest asset class, followed by bonds



Note: Fund value evolution of EU UCITS ETFs over time by asset class, in EUR bn.
Sources:Thomson Reuters Lipper, ESMA

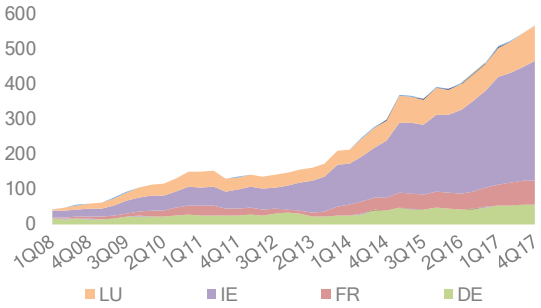
On an aggregate EU level, as of 4Q2017, equity constitutes the large majority of the underlying asset type, with 73% of UCITS ETFs, equivalent to EUR 410bn in assets. Bonds make up for 25% (EUR 138bn). The rest, including alternative assets and money market represents only 2% of the market. This proportion is relatively stable over time (ASR-PC.39). Fixed-income assets, however, have been increasingly growing in the ETFs market: over the last five years they went from about 17% to 25% of the overall market.

We consider the geographic distribution of UCITS ETFs in terms of country of domicile. Four countries – DE, FR, IE, LU – have the largest share of the EU market.

Chart ASR-PC.40 shows the evolution of the market across domiciles over the years, where IE is leading with nearly EUR 342bn in total asset value, followed by LU, FR and DE. The two main domiciles LU and IE account for 78% of the total number of funds.

The market concentration of UCITS ETFs in global fund domiciles (LU and IE) is in line with the rest of UCITS analysis. If we move from domicile to countries, or trading venues in which funds are listed and traded in terms of assets under management, the picture slightly changes with Switzerland, Germany, United Kingdom becoming the largest European markets according to ETFGI.[70]

ASR-PC.40
Fund value distribution by country
Four main domiciles

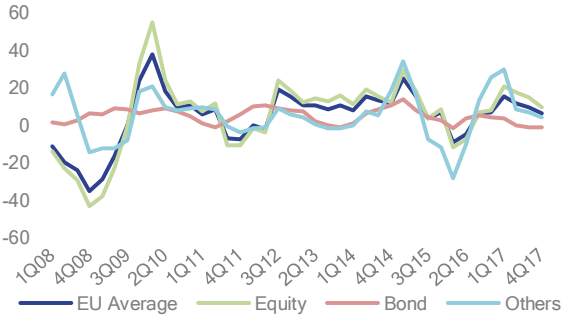


Note: EU UCITS ETFs universe in terms of fund value by domicile, over time, EUR bn. Only the four largest domiciles reported.
Sources: Thomson Reuters Lipper, ESMA.

ETF performance across the EU

In the case of UCITS ETFs we limit the analysis of cost structure and performance to equity and bonds, grouping the rest of asset classes together as they only have a marginal share of the market. We first look at the overall evolution of UCITS ETFs gross and net annual returns over the past ten years (ASR-PC.41, ASR-PC.42).

ASR-PC.41
Annual gross returns over time
Heterogeneous, highly fluctuating over time



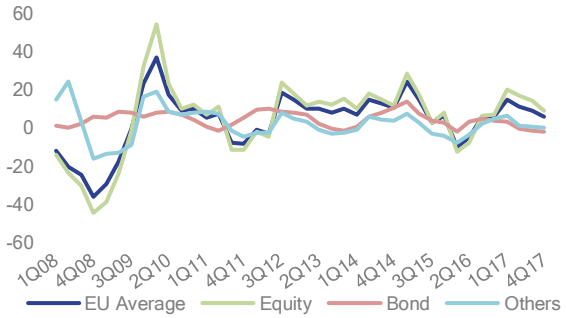
Note: EU UCITS ETFs universe, annual gross returns by asset , %.
Sources: Thomson Reuters Lipper, ESMA

In terms of asset class, there is heterogeneity in the scale of fluctuations. Indeed, annual returns for funds with bonds as underlying asset have been more stable, which is in line with its low risk-return profile. Equity has a more procyclical behaviour and higher returns are reflected in the gross annual performances for UCITS ETFs. For 2017, UCITS equity ETFs have an average annual gross return of 10%, whereas bonds fall to -1.2%.

[69] Differently from the UCITS analysis, no distinction is made between retail and institutional investors as such differentiation is not provided in our sample.

[70] https://etfgi.com

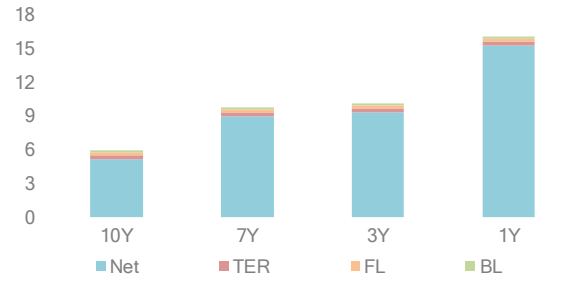
ASR-PC.42
Annual net returns over time
Highly variable following gross performance



Note: EU ETFs universe, annual net return by asset class, %.
Sources: Thomson Reuters Lipper, ESMA

For different investment horizons (ASR-PC.43, ASR-PC.44), we observe, for UCITS ETFs investing in equity, a strong increase in gross annual performance (10% and 16% over 3Y and 1Y), and a decline for UCITS ETFs focusing on fixed income products (going from 4% to 0.5%). From the charts we can also observe the relatively low annual performance over 10-year (6%) that can be partially related to the financial and sovereign crises before increasing to 10% for the 7-year horizon to finally 16% in 2017 only, as previously noted.

ASR-PC.43
Equity ETF performance and cost by time horizon
Constant cost impact over time

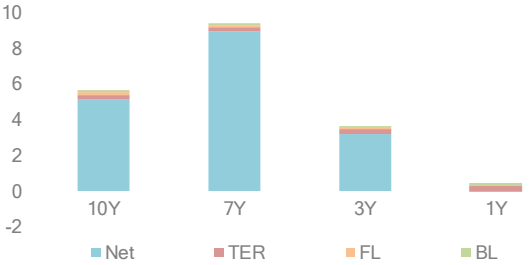


Note: EU UCITS ETFs equity fund shares annual gross returns, classified as net returns, ongoing costs, subscription (FL) and redemption (BL) fees, aggregated by time horizon, in %.
Sources: Thomson Reuters Lipper, ESMA

For bonds, chart ASR-PC.44 reports a gross annual performance varying over time horizons, being dependent on changes in interest rates. Over the 7-year horizon, annual gross performance is the highest (9.5%). In the last year, instead, following persistent low interest rates and, more recently, increased uncertainty of future monetary policy, annual gross returns for funds mainly investing in bonds reached 0.46%, and -0.01% in net terms.

As for the rest of UCITS previously analysed, UCITS ETFs annual gross performances are more volatile than costs over different time horizons. The behaviour of the average annual net performance of UCITS ETFs therefore follows that of gross annual returns over time, both in the case of equity and bonds. Indeed, costs remain relatively stable over time, fluctuating between 0.7ppt and 0.8ppt on average for equity (0.5ppt for bonds). As for UCITS, when inflation is not included, ongoing costs account for the largest part of overall costs.

ASR-PC.44
Bond ETF performance and costs by time horizon
Strong performance decline over 3Y and 1Y



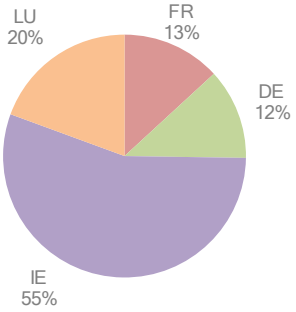
Note: EU UCITS ETFs bond fund shares annual gross returns, classified as net returns, ongoing costs, subscription (FL) and redemption (BL) fees, aggregated by time horizon, in %.
Sources: Thomson Reuters Lipper, ESMA

Overall, on average, UCITS ETFs, both for equity and bonds, report lower fees than the rest of UCITS. This probably relates to the fact that they follow passive management and is behind the strong increase in the demand of these products over the last decade. Significant variations are observable across domiciles due to structural differences and investor preferences. Also, while being in line with overall costs for equity UCITS passively managed (costs for UCITS ETFs are slightly higher), UCITS ETFs have a cost structure somewhat different, with TER being lower and one-off fees higher.

ETF performance in Member States

As mentioned above, there significant heterogeneity across countries due to a number of factors including structural differences, types of investors and overall economic environment that vary from one domicile to another. Based on available data, we focus on the four main countries highlighted in ASR-PC.45. As previously mentioned for UCITS, we are well aware of the limitations of referring to domiciles also for UCITS ETFs. Regarding UCITS ETFs focusing on equity, Ireland has 55% share of the market in terms of domicile of funds in 2017 (EUR 226bn). Luxembourg follows with EUR 79bn and then respectively France (EUR 53bn) and Germany (EUR 49bn). This distribution is in line with that of the overall ETF market.

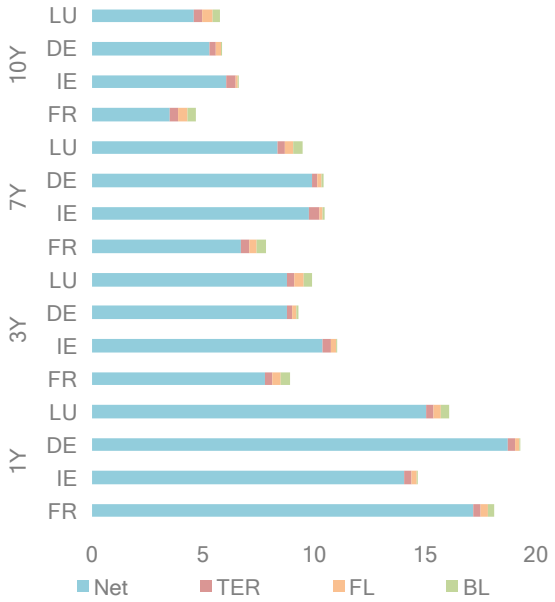
ASR-PC.45
Equity UCITS ETF fund value share by domicile
Four major domiciles dominate the market



Note: EU UCITS ETFs equity fund value share by domicile, in %, 4Q17.
Sources: Thomson Reuters Lipper, ESMA.

Across domiciles, gross annual performance of UCITS equity ETFs grew from a range between 7% and 8% to between 15% and 20% in 2017. This again is related to the strong equity valuations over more recent periods.

ASR-PC.46
UCITS ETFs equity funds gross and net returns by domicile
Performance increase, costs stable over time

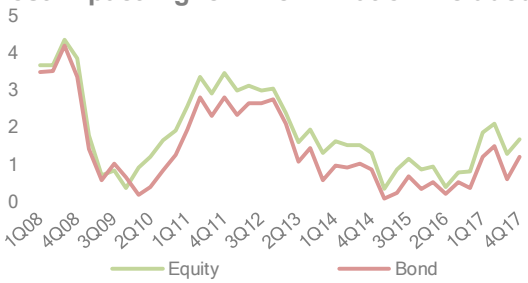


Note: EU UCITS ETFs equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by domicile and time horizon, in %. The rest of EU countries not reported as domiciles not significant.
Sources:Thomson Reuters Lipper, ESMA.

As for costs, being relatively stable over time, they however differ across domiciles (ASR-PC.46) Germany and Ireland annual gross performances reduce by only 0.55ppt and 0.6ppt respectively. For Luxembourg and France overall impact of costs on annual gross performance is higher (1.10ppt and 1.13ppt). Differences, however, as for the rest of UCITS, also strongly depends on nation-specific regulations (i.e., France). Again, the behaviour of ongoing costs and one-off fees at domicile level are similar to those of the overall EU market. Ongoing costs for each identified domicile are significantly lower for equity than for the rest of UCITS and this is probably related to the nature of ETFs products.

Inflation impact on ETF performance

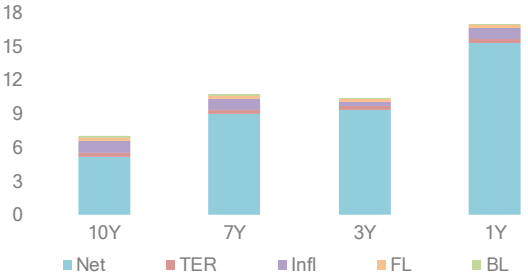
ASR-PC.47
Cost impact by asset including inflation by domicile
Cost impact higher when inflation included



Note: EU UCITS ETFs universe, impact of ongoing costs, inflation, subscription and redemption fees on annual gross returns by type of asset, ppt.
Sources:Thomson Reuters Lipper, ECB SDW, ESMA.

Also, for UCITS ETFs, inflation is calculated by domicile. This, together with the fact that it is a cost external to the fund, leads inflation to be considered of second order relevance. As for the rest of UCITS funds, inflation increases the impact of costs on annual gross returns (ASR-PC.47), with a similar effect across asset classes. In line with UCITS, in periods when inflation is negative in some domiciles (2015, 2016) the impact of costs significantly declines for equity. The behaviour, across UCITS ETFs and UCITS, are different probably in relation to how inflation unfolds in the domiciles covered, which are different in the two samples.

ASR-PC.48
UCITS ETF equity fund performances and inflation by domicile
Variable impact of inflation



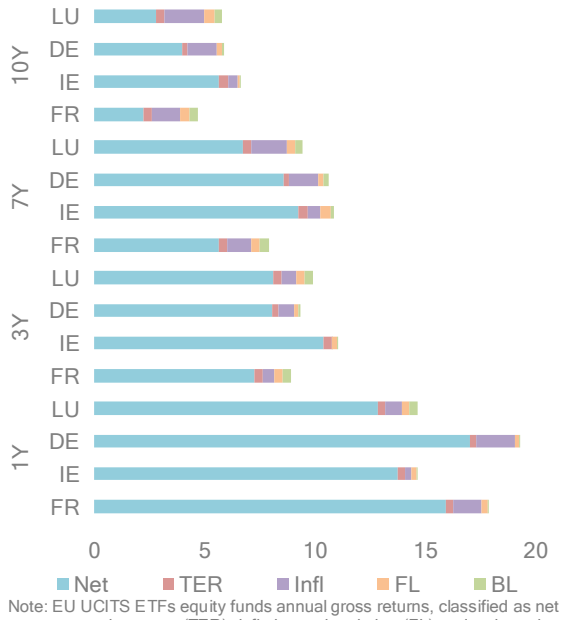
Note: EU UCITS ETFs equity fund shares annual gross returns, classified as net returns, ongoing costs, inflation, subscription (FL) and redemption (BL) fees, aggregated by time horizon, in %.
Sources: Thomson Reuters Lipper, SDW, ESMA.

Considering horizons 1- 3- 7- and 10-years, for equity (ASR-PC.48), inflation results as the most prominent among the other costs, reducing gross

annual returns on average by 1ppt across time horizons.

The relative impact, however, is lower at 1-year time horizon given the strong increase of annual gross returns. While the cost impact on annual gross performance is more than 15% over the 7-year horizon, at 3-year and 1-year is of about 10%. The impact of inflation is particularly mild at 3-year horizon, probably because it includes periods characterised by extremely low if not negative inflation. For the rest of UCITS funds, the role of ongoing costs is not lower than inflation, or if it is, not significantly lower. It is not the case for UCITS ETFs where ongoing costs are significantly low, and lower than inflation. This seems to be in line with the fact that ETFs mostly track an index and therefore are not actively managed, which entails low investment costs.

ASR-PC.49
UCITS ETFs equity fund performances, inflation by domicile
Heterogeneity across countries



Note: EU UCITS ETFs equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption (BL) fees, by domicile and time horizon, in %. The rest of EU countries not reported as domiciles not significant.
Sources: Thomson Reuters Lipper, ECB SDW, ESMA.

In individual Member States, as an external cost, inflation affects UCITS ETFs in the same way it is affecting the rest of the UCITS market. This means an increase in fluctuations for the overall ETF market. By adding inflation, the differences already highlighted at a national level more than at the EU level, are more evident. Nevertheless, it is important to note that the inflation should be considered in the countries where funds are marketed rather than domiciled.[71] From an investor perspective this information should therefore be critically evaluated. Overall results for other asset classes, time horizons and institutional investors, are shown in tables and charts in the statistical annex. For institutional investors, again, the impact of inflation is significant but lower than for retail investors.

Summary findings

The above analysis highlighted the evolution of performance and costs of UCITS for the major asset classes at an EU and on a country-by-country level.

The key findings for gross performance for the largest UCITS asset classes are:

— Gross performance follows the behaviour of the underlying asset classes. This together with the underlying national market structures has a significant impact for the results on a country by country level.

— For equity UCITS, the recent rise in valuation has significantly ameliorated gross performances over the last years compared to longer time horizons. Consistently across the EU countries, gross performance averages around 16% in 2017.

— For UCITS focusing on bonds, the second largest fund asset class, performance has been driven by the low interest rate environment. Consequently, the gross performance of these funds has declined significantly over the last ten years reaching 2.5%.

— Mixed UCITS, had a less clear trend in their performance, due to their diversification strategy across different asset classes. The gross returns of these funds have been fluctuating between 4.5% and 6.5% according to the time horizon considered.

— Actively managed equity UCITS provide a slightly better gross performance than passively managed funds, even though the margin is small.

Key findings related to the impact of costs are:

— The largest impact comes from ongoing costs. Subscription and redemption fees have a significantly lower impact.

— Overall costs fluctuate much less than gross performance, therefore the dynamics of

[71] See this report, Annexes.

gross performance will ultimately also drive net returns.

— Across EU Member States heterogeneity in costs is significant. There are a number of potential reasons for this, including different cost levels, costs related to cross-border distribution and heterogeneity in the way ongoing costs as measured by the total expense ratio (TER) are calculated.[72]

— Across asset classes, costs are highest for equity and alternative UCITS, followed by mixed, bond and money market UCITS. The current broad definition of asset classes does not allow us to take account of different strategies, for example, within equity funds and may also explain part of the cross-country heterogeneity in gross fund performance.

— Costs are higher for retail compared to institutional investors.

— Costs are significantly higher for actively managed equity UCITS compared to passive UCITS. This leads to lower performance net of costs for active compared to passive equity UCITS.

In terms of net performance therefore both costs and gross performance dynamics have a relevant impact on the reduction of net returns. The heterogeneity across countries is significant.

[72] See Annexes for more details on data, data limitations and statistical methodology.

Investment funds: Retail AIFs in the EU

This section provides an overview of the market for retail AIFs based on reporting obligations under the AIFMD to NCAs. AIFs in the EU have an estimated NAV of around EUR 5tn. Retail AIF investments account for 18% of the AIF market in terms of NAV. Funds of funds (FoFs) and real estate (RE) funds display high retail participation (with 31% and 29% of overall NAV respectively), whereas retail investments in hedge funds are rare (less than 3% of NAV). Potential risks related to liquidity transformation and liquidity mismatch are analysed. No significant sign of liquidity mismatch for those AIFs with 100% retail client participation is, however, identified. The section also sets out the heterogeneity across the EU related to the distribution of retail AIFs, as this is not covered by AIFMD but falls under national regulations.

Background and key issues

The global financial crisis showed the need for an amelioration and increase in market oversight to build a more resilient and sound financial system. At a global level, the G20 Summit and following it the Financial Stability Board (FSB) came forward with a programme to improve global monitoring covering both the banking and the non-banking systems (FSB, 2011).

In the EU, we can identify three main fund regimes:

— UCITS regime;

— Directive on Alternative Investment Fund Managers (AIFMD) regime that regulates fund investment managers managing AIFs within EU;

— NPPR (National private placement) regime regulating the sale of non-EU funds in the EU and referring to member jurisdictions being able to impose national requirements on any sale within national borders.

This report aims to provide some more indication related to AIFs sold to retail investors. It will therefore focus on AIFMD[73] and the marketing of AIFs to retail investors. The article provides the EU regulatory background and, when possible, data to give a topology of the EU market and identify limits to such an analysis.

Alternative investment vehicles have assumed increased popularity, over the last years. Reasons behind this development may be traced back to the possibility of obtaining higher returns yet, in turn, higher risks. Alternative products are characterised by a risk-return profile fundamentally different from classic forms of investments. They involve lower market transparency, lower liquidity, reduced correlation with traditional financial investments, such as stocks and bonds, implying different performance and risk measurement. Investment in alternative assets leads to augmented portfolio diversification and potentially above-average returns and risks, given the return-risk profile of the alternative investment products.

The decline in interest rates related to monetary policies has led several traditional investments, especially those in bonds, failing to generate sufficient returns. This has encouraged investors, particularly those who should meet return targets, to rely increasingly on alternative assets.[74]

A report of the World Economic Forum (WEF) on the development of alternative investments acknowledges institutional investors being the largest investors in the alternative market.[75] It identifies, however, a series of changes, especially in developed economies (including demographic dynamics, retirement systems moving from defined benefits to defined contribution, low interest rates, technological changes, etc.), as fostering increasing allocation of retail capital to alternative investments. This so-called “retailisation” trend is identified as one of the main drivers behind the development of alternative products.

Against this background, regulators and supervisors are keen to ensure access to returns and diversification associated with these

[73] Directive 2011/61/EU.

[74] ECB, 2017, “Developing macroprudential policy for alternative investment funds”, Occasional Paper Series.

[75] World Economic Forum, 2015, “Alternative investment 2020. The future of alternative investment”.

products, in light of more efficient allocation of capital and increased access to capital market. At the same time, though, they should guarantee investor protection by providing investors with an adequate degree of transparency and information, as well as additional regulatory and supervisory action if needed. This is related also to the inclusion within the UCITS framework of alternative investment strategies and the inclusion of certain derivatives products within eligible assets (UCITS III).[76] In broad terms, funds within the UCITS umbrella need to fulfil all the requirements of the UCITS regime. Hence, alternative UCITS are often marketed as funds able to offer hedge fund like risk-return profiles in a regulated, liquid and transparent manner.

Within this framework, the EC request[77] on past performance and costs of retail investment products also extends to the area of alternative investments available to retail investors.

Evidence on performance and costs of AIFs is limited compared to UCITS. The main issues encountered in the past rely both on AIFs return series being too short to perform traditional performance measures and data being highly confidential or not available (Kowoski et al., 2007).[78]

AIFs under AIFMD include a very wide range of investments products and funds excluding funds authorised under the UCITS Directive.[79] The definition covers not only hedge funds, but also other types of funds, such as private equity funds, venture capital, real estate, some funds of funds (as for funds of hedge funds), and structures that have not opted to be authorised under the UCITS regime. This implies that there might be cases where an AIF offered to retail investors does not necessarily pursue a strategy considered to be alternative and may pursue similar strategies than some UCITS. However, AIFs are generally less constrained then UCITS entailing broader scope of strategies and potential risks.

The pre-crisis inefficiency in the market of non-UCITS investment funds shed light on the necessity to introduce EU-level legislation to regulate managers of AIFs. Although many asset managers were authorised to manage their portfolio and invest under MiFID[80], several regulatory activities were implemented at the national level. Therefore, the pre-crisis regulatory and supervisory framework for the tasks of AIFs was considerably fragmented.

The AIFMD came in as the first form of EU-level legislation aiming to provide an internal market and a harmonised regulatory and supervisory framework for the activities within the EU of all alternative investment fund managers (AIFMs), regardless of whether they have their registered office in a Member State (EU AIFMs) or a country outside the EU (non-EU AIFMs).[81] It postulates rules for the authorisation, ongoing operations and transparency of AIFMs. In contrast to the UCITS Directive, the AIFMD is not a voluntary regime. The core of AIFMD explicitly requires managers of AIF, if they fall within scope of the AIFMD, to be authorised or registered, depending on, among others, the types of AIFs they manage and their assets under management. Upon authorisation, AIFMs may access the EU passport for cross-border management of AIFs or cross-border sale of AIF units to professional investors.

The EU passport is not valid under the following requirements:

- Article 36 – The AIFM is domiciled in the EU and markets a non-EU AIF in the EU.
- Article 42 – The AIFM is not domiciled in the EU, but the AIF is marketed in the EU, regardless of its domicile.

AIFs sold to retail investors: AIFMD regime

The AIFM marketing passport does not extend to the category of retail investors. Nevertheless, the Directive allows AIFMs to market to retail investors, in their territory, units or shares of AIFs they manage, irrespective of whether such AIFs are marketed on a domestic or cross-border basis or whether they are EU or non-EU AIFs. In this instance, Member States may impose stricter

[76] Directive 2009/65/EC.

[77] Request to the European Supervisory Authorities to report on the cost and past performance of the main categories of retail investment insurance and pension products, Ares (2017)5008790, European Commission.

[78] Kosowski r., Naik N. Y., Teo M., 2007, “Do hedge funds deliver alpha? A Bayesian and bootstrap analysis”, Journal of Financial Economics.

[79] Directive 2009/65/EC.

[80] Directive 2014/65/EU of the European Parliament and of the Council.

[81] ESMA, 2018, “AIFMD – a framework for risk monitoring”, TRV No.1 2018.

requirements than those applicable to AIFs marketed to professional investors.[82]

In other words, besides not directly regulating the products (i.e. the funds), the AIFMD does not cover the marketing of AIFs to retail investors, yet only to professional investors as defined in MiFID. This is a national prerogative implying a certain degree of heterogeneity and therefore limitations in data availability in terms of Union Law. Some examples of different EU national regimes are reported below. We refer to the largest industries in terms of NAV in 2017, according to what has been reported by national jurisdictions to ESMA, within the AIFMD umbrella.

In the United Kingdom, restrictions on an AIFM marketing an AIF specify, among others, that managers selling AIFs that are either not domiciled in the United Kingdom or European Economic Area (EEA) cannot benefit from the AIFMD marketing passport. Such funds are subject to the national private placement provisions in respect of their marketing.[83] Besides general marketing provisions, there are certain cases with specific provisions when marketing is directed to retail investors.[84] Whenever a fund is marketed to a retail client, the AIFM may not sell an AIF unless the FCA has received a regulator's notice regarding the marketing of the AIF in relation to the Financial Services and Market Act[85], or it has approved the marketing and not revoked or suspended that approval[86].

Focusing on regulatory fees for AIFs, these vary across jurisdictions. EEA AIFMs passporting in the United Kingdom are required to pay periodic fees in relation to their activities. Charges are based on gross income and funds under management. A discount on fees is applied according to the fee-block under which the AIFM falls and to the responsibilities that the Member State and the FCA share in it.[87]

In Germany, the marketing of EU AIFs and foreign AIFs, by an EU or foreign AIFM, to retail investors is subject, by law, to certain criteria. These criteria include: the AIF and the AIFM being subject to effective public supervision for the protection of investors in the countries in which the AIF and AIFM have their joint registered offices; a satisfying cooperation between BaFin and the foreign supervisory authority of the home countries for the AIF and the AIFM; compliance of the AIFM and its management of AIF with AIFMD; details on compliance function, depositary, paying agent, asset value; minimum content in fund rules, the articles of association or company agreement, among others open/closed-end fund thresholds; fees and charges.[88] Further requirements are imposed for foreign AIFs that are being managed by a foreign AIFM. If the notified foreign AIF is managed by a foreign company, BaFin and the Supervisory Authority of the country supervising the foreign company must reach a suitable agreement about their cooperation. The bilateral agreement between the home country and Germany includes i.e. provisions to avoid double taxation and must ensure effective exchange of information on tax matters.[89] Concerning regulatory fees and charges, BaFin charges a fee for each EU sub-fund notified (EUR 2,520 until 31.12.2017 and as of 01.01.2018 EUR 1,545), plus an annual fee per each EU sub-fund.[90]

In France, all marketing to retail clients is subject to a preliminary authorisation procedure.[91] Marketing with a passport is only possible when the AIF is established in the EU and the manager is domiciled in France. The applicable regime varies according to the domicile of both the fund and the manager: if both the AIF and AIFM are established in France but not authorised under the AIFMD; if the AIFM is established in France and authorised under AIFMD; and the other cases (incl. the AIF is established in France while the AIFM is established in a country different from France in the EU or the AIF is established in a country different from France in the EU while the AIFM is established in France or any other EU

82 See Art.43 (1), Directive 2011/61/EU.

83 See Regulation 49 of PERG 8.37.2 (1), (2) of the FCA handbook.

84 See footnote above.

85 FCA, Financial Services and Markets Act 2000.

86 Regulation 54, Fund 3.12.1 FCA Handbook, "Marketing in the home Member State of the AIFM": https://www.handbook.fca.org.uk/handbook/FUND/3/12.html?date=2018-10-01#DES351

87 FCA Handbook.

88 Section 317 (2) of the German Capital Investment Code (Kapitalanlagegesetzbuch – KAGB).

89 The above-mentioned rules apply also for feeder AIFs. However, further requirements pursuant to section 317 (3) of the German Capital Investment Code (Kapitalanlagegesetzbuch – KAGB) have to be met. In accordance with article 4(1) (m) of AIFMD, a feeder AIF is an AIF which invests at least 85% of the assets in units or shares of another AIF (Master AIF), invests at least 85% of its assets in two or more AIFs if those AIFs (the 'master AIFs') have identical investment strategies, or otherwise has an exposure of at least 85% of its assets to such a master AIF.

90 Wherever the AIFM is notified (EU or non-EU) charges are identical.

91 AMF Instruction, Procedure for marketing unit or shares of AIFs – DOC-2014-03. Reference texts: Articles 421-A, 421-1, 421-13, 421-13-1, 421-14 and 421-27 of the AMF General Regulation.

country). France does not charge an application fee for outward or inward AIFMD passport authorisations. However, the AMF requires AIFMs passporting into France to pay annual fees based on the amount of AuM wherever localised and notified at a specific date. Passporting of a foreign AIF is subject to the payment of an AMF fee of EUR 2,000 per AIF upfront and per-year.[92]

In Luxembourg, the focus is on foreign AIFs marketed to retail investors. Prior to marketing its units or shares to retail investors any foreign AIF must have obtained an authorisation for such marketing by the CSSF.[93] The authorisation request must include all the relevant information about the AIF. Furthermore, a foreign AIF is authorised to market its units in Luxembourg if it calculates the redemption prices of its shares at least once a month and it demonstrates sufficient risk spreading. Investment restrictions of foreign AIFs are applied if risk-spreading criteria on securities borrowings, use of derivatives, and real estate assets are not fulfilled. The CSSF charges a fee for each non-Luxembourg AIF marketed in Luxembourg. AIFs with single investment portfolio are charged a lump sum of EUR 2,650, while for multiple compartments funds the fee amounts to EUR 5,000. The same annual flat fee is charged for EEA AIFs, while passport notification does not involve any application fee.

AIFs sold to retail investors: PRIIPs regime

The examples above demonstrate heterogeneity across EU Member States in terms of AIFs marketing to retail investors. This is likely to introduce a degree of fragmentation not only on the functioning of EU markets themselves, yet also on the degree of flowing of information and transparency especially at a retail investor level.

Against this background, the implementation of the latest rules established on the packaged retail and insurance-based investment products (PRIIPs) is relevant. The aim is to establish uniform transparency rules for PRIIPs offered to retail investors[94] in the EEA and, from January 2018, for AIFs made available to retail investors in the EU/EEA.[95] This regime applies to all those products that provide an investment opportunity to retail investors (irrespective if EU or not-EU) where the product return is subject to the performance of assets not directly purchased by the retail investor. Therefore, AIFs are included.

The product manufacturer (i.e. the manager) must produce a key information document (KID) for the product (i.e. AIF), publish it on its website and provide it to a retail investor in good time prior to the investment. The content of the KID is available in the PRIIPs regulatory technical standards.[96]

The EU retail AIF market

This first analysis gives a comprehensive overview of the EU market in terms of AIFs sold to retail investors based on AIFMD reporting data. Even if not directly addressed to retail clients,[97] as already specified in the ESMA TRV No.1 2018,[98] the AIFMD reporting obligation represents an unprecedented EU-wide harmonised data collection in the AIF industry and can be considered as a first step toward increasing market convergence and integration.

As described in the UCITS section, the size of UCITS focusing on alternative strategies, even if growing in recent periods, is still marginal compared to the rest of the UCITS market (ASR-PC.23-ASR-PC.24). Focusing on EU alternative investment outside UCITS we rely on the reporting by NCAs under AIFMD. The EU market size in terms of NAV is around EUR 4.8tn, 94% of NAV as reported by EFAMA for the EU AIFs (EUR 5.09tn).[99] ASR-PC.50 provides a picture of the EU AIF market as at the end of 2017. Data refer to six main types of funds: funds of funds, hedge funds, private equity, real estate and a residual category labelled as “others”, distinguishing between retail and professional investors.

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92 Art.22, art.24 AMF Instruction, Procedure for marketing unit or shares of AIFs – DOC-2014-03. Article L621-5-3 4 and D621-27-4 Code Monétaire and Financier.

93 CSSF Regulation N. 15/03.

94 “Retail investor” should equal “retail client”, see 2014/65/EU, Art. 4(1).

95 Regulation (EU) No 1286/2014 on key information documents (KIID) for packaged retail and insurance-based investment products (PRIIPs). There is a transitional period applying for UCITS: a KIID (in the PRIIPs sense) does not have to be published until January 2020. Until then, a UCITS can refer to its own key investor information document (KIID).

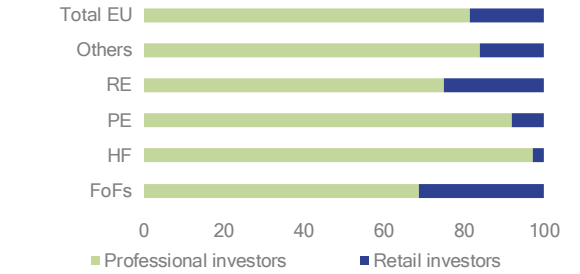
96 Commission Delegated Regulation (EU) 2017/653 supplementing Regulation (EU) No 1286/2014 on KIID for PRIIPs.

97 For details on availability of data refer to the Annexes.

98 ESMA, 2018, “AIFMD – a framework for risk monitoring”, TRV No.1 2018.

99 EFAMA, 2018, Quarterly Statistical Release No 72.

ASR-PC.50
AIF NAV by type of client
Retail investors focusing on FoFs and RE



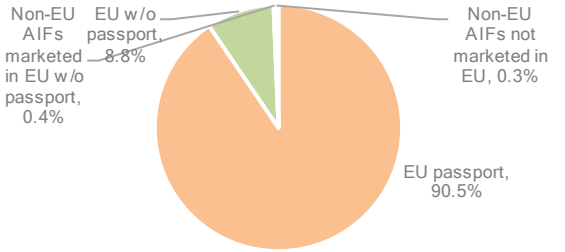
Note: NAV of AIFs by type of client reported, end of 2017 under the AIFMD, in %. FoFs = fund of funds; HF = hedge funds; PE = private equity; RE = real estate.
Sources:National Competent Authorities, ESMA

The largest share of the market, as expected, belongs to professional investors (ASR-PC.50). The results above may be traced back to two forces. Indeed, retail investors have focused more on UCITS as the UCITS directive has originally been developed for retail investors, among others, to increase transparency and reduce risks. Secondly, yet not less important, the AIFMD regulates professional clients whereas retail marketing is left to national regulation. As Members States do specify requirements for AIFs to be marketed to retail investors, however, we can observe the presence of retail investors in the AIF segment. As of end 2017, 10,179 out of the 26,085 AIFs (39% in terms of number of funds) have retail clients among their investors. In terms of NAV, retail clients account for 18% of the market. There are however differences across fund types, with FoFs and RE funds having the largest share, 31% and 25% respectively (ASR-PC.50).[100]

FoFs, while also holding shares in hedge funds, provide investors with higher diversification probably attracting more retail investors. However, fees charged by FoFs are potentially high, with an incentive fee component that may, in some cases, exceed the realised return on the fund. Furthermore, it should also be highlighted that typically FoFs passes on to the investor all fees charged by the constituent funds as after-fee returns.[101]

Focusing on the retail segment, the majority of the assets of AIFs sold to retail investors, 91% (ASR-PC.51) benefit from the passporting regime, i.e. can be sold across the EU. Similarly, this is the case for professional investors, where AIFs totalling 73% of NAV benefit from the passporting regime.

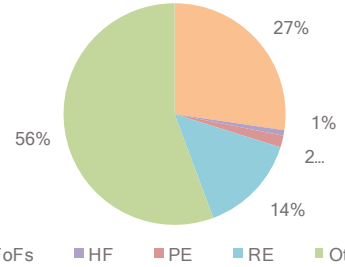
ASR-PC.51
AIFMD passport by NAV of retail investors AIFs
Large use of passporting regime



Note: NAV of retail AIFs by manager's access to AIFMD passport, end 2017, %. Authorised EU AIFMs access AIFMD passport or market non-EU AIFs to professional investors w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights.
Sources: National Competent Authorities, ESMA

In terms of type of AIFM status, according to data reported under the AIFMD umbrella, there is a lot of heterogeneity across Member States There are countries that report managers mostly being registered, meaning they can market their products only in the jurisdiction they are registered in, whereas others in which most of the reporting, if not all, consist of authorised AIFMs. This may mean both structural market differences across Member States, yet also differences in reporting levels. On this last point, both NCAs and ESMA are working to improve the levels and quality of the reporting.

ASR-PC.52
Retail investor NAV by AIF type
High concentration in "Other", FoFs and RE



Note: Share of NAV of AIF by type, retail clients, end 2017, in %. Reporting according to the AIFMD. AIFs managed by authorised and registered managers.
Sources:National Competent Authorities, ESMA

ASR-PC.52 shows that retail clients seem to invest more in FoFs and RE in terms of NAV

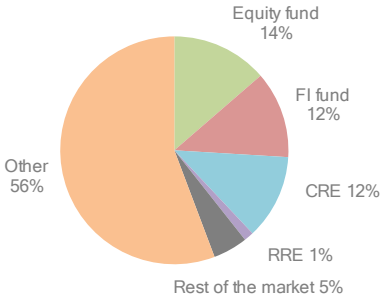
[100] ESMA, 2018, "AIFMD – a framework for risk monitoring", TRV No.1 2018 reports for 2016 35% (FoFs) and 27% (RE) for all investors professional and retail.

[101] Brown et al., 2004, note, the following: "[…] the more diversified the fund is, the greater the likelihood that the investor will incur an incentive fee regardless of overall fund performance. In fact, there is a significant probability that the incentive fee will be so large that it absorbs all of the annual fund return. […] and diversification does not increase the fee burden as an informed investor would face the same fees if they diversified on their own account. The problem arises because investors lack information necessary to hedge incentive fees charged by the underlying hedge funds and passed on to the investor through the fund of fund in the form of after-fee returns."

followed by Others, when looking at type of funds. The type identified as "Others" consists of fixed income funds, equity fund, infrastructure funds, commodity funds, and other funds.[102] The importance of these types of AIF is evident when looking at the overall share aggregated across jurisdictions in 2017. Portfolios of retail clients in AIFs classified under the type "Others" represent 56% of the total of net assets managed by AIFMs (ASR-PC.52). Retail clients have also a significant participation in FoFs and RE, which account for 27% and 14% of the total of retail assets managed by AIFM. The participation of retail clients in hedge funds and private equity is low.

According to a study previously published by ESMA,[103] focusing on all clients, in 2016, fixed income held the largest share of NAV. Focusing on retail clients the largest share, in 2017, is taken by the strategy "Other" with 56% (ASR-PC.53) that includes FoFs. In the RE segment there is a prevalence towards CRE (commercial real estate) that may give rise to prudential risks.[104]

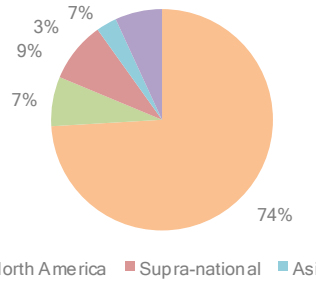
ASR-PC.53
Retail investors NAV by AIF strategy
Five dominant investment strategies



Note: Share of NAV by investment strategy, end of 2017 retail clients, reported under AIFMD, in %. FI = Fixed Income; CRE = Commercial Real Estate; RRE; Residential Real; Estate.
Sources:National Competent Authorities, ESMA

Looking at the investment focus (ASR-PC.54), according to the data reported by EU-domiciled AIFMs on behalf of their funds, the European Economic Area (EEA) is the dominant investment region for funds with a 100% retail client participation[105], with 74% of assets domiciled in the EU.

ASR-PC.54
NAV by regional investment focus
Retail AIF: Europe as key investment area



Note: NAV of AIFs by regional investment focus, retail clients, end of 2017, in %, reporting according to the AIFMD. AIFs managed by authorised and registered AIFMs. Sources: National Competent Authorities, ESMA.

In terms of risks, liquidity is one of the most prominent risks in the fund industry and, in particular, liquidity transformation. On one side there is the possibility for clients to redeem shares when needed according to the redemption rights granted by the AIF, on the other side there is the ability of the fund of meeting redemption requests without necessarily cause significant market impact and safeguarding the fund investment objectives and strategies. Redemption rights and liquidity mismatches are then crucial for clients and especially retail clients, potentially having a lower degree of information and flexibility than professional investors. This is behind, one of the main features of UCITS products and their requirements of portfolio diversification and eligibility criteria to certain types of assets.

Because AIFs are generally less constrained than UCITS, AIFs are potentially riskier and also entail a broader scope of potential risks. Regulators, however, foresee specific requirements. Besides, risk management requirements, the AIFMD and the delegated Regulation No. 231/2013 include provisions to ensure sound liquidity management.[106]

[102] Annex IV, Commission delegated regulation (EU) No 231/2013 supplementing Directive 2011/16/EU.

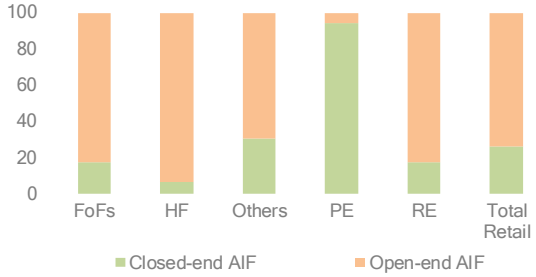
[103] ESMA, 2018, "AIFMD – a framework for risk monitoring", TRV No.1 2018.

[104] ESMA, 2018, "AIFMD – a framework for risk monitoring", TRV No.1 2018 already highlighted issues related to micro- and macro-prudential risks and the lack of a uniform agreement on the definition of CRE.

[105] 100% retail client participation refers to those funds for which the reporting refers to 100% retail clients. By focusing on these funds, we would then account exclusively for retail clients.

[106] Article 16 Directive 2011/61/EU stating that AIFMs shall for each fund managed, not closed-end, employ an appropriate liquidity management system, […]. Article 43 of the Delegated Regulation 231/2013 requires that managers demonstrate to the relevant NCAs of their home Member State that an appropriate liquidity management system and effective procedures are in place in relation to the investment strategy, liquidity profile and the redemption policy of the AIF they manage.

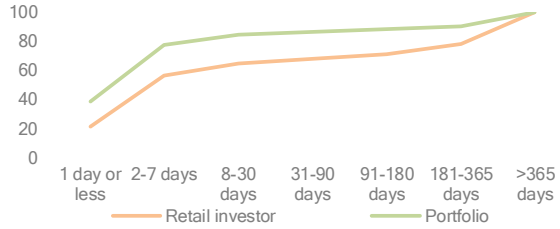
ASR-PC.55
Redemption rights to retail investors
Majority of open-ended funds



Note: NAV of AIF by redemption rights offered to retail clients, end 2017, %, reporting according to AIFMD. AIFs managed by authorised and registered AIFMs.
Sources: National Competent Authorities, ESMA.

According to the AIFMD sample as reported in 2017, the majority of the share of NAV is composed by open-ended funds, more than 70% of NAV (ASR-PC.55), in line with the overall AIF market.[107] The open-ended feature adds to the risk of potential liquidity mismatches. In this respect, the AIFMD requires specific disclosures to NCAs and investors.[108] These include a description of the investment strategy and structure of the AIF as well as information on redemption rights, notice periods, lock-up periods and circumstances in which the normal redemption mechanisms might be suspended.[109]

ASR-PC.56
Portfolio and investor liquidity
Retail AIF: Liquidity profile



Note: AIFs portfolio and investor liquidity profiles, retail investors. The portfolio liquidity profile is determined by the percentage of the fund portfolios that can be liquidated within the period specified on the horizontal axis. The retail investor liquidity profile reflects the shortest period at which the fund could be withdrawn or investors could receive redemption payments.
Sources: National Competent Authorities, ESMA.

Potential liquidity mismatches may arise from the difference between portfolio and investor liquidity profile, shown in aggregated terms in ASR-PC.56. The portfolio liquidity profile refers to the time needed by the fund to liquidate its assets whereas the retail investor profile refers to the shortest period at which the investor herself can redeem the fund.

Overall, AIFs with a 100% participation of retail clients show no significant sign of liquidity mismatch. This is true on an aggregated basis, but liquidity issues with individual AIFs remain possible.[110] The only asset type that present a different liquidity risk profile is hedge funds with 100% retail client participation where for time periods longer than three months the percentage of portfolio liquidity is lower than investor liquidity needs.

Summary findings

A systematic EU-level analysis of the performance and costs of investing in retail AIFs is not possible at this stage as no relevant regulatory data are at the disposal of ESMA, and commercial data do not suffice at this stage to undertake granular analysis.

The market overview presented here suggests that:

— Professional investors detain the largest share of the AIF market.

— As of end 2017, investments by retail investors in AIFs occur in 39% of funds account for 18% in terms of NAV.

— FoFs and RE funds have the largest share, 31% and 25% respectively.

— 91% of the assets of AIFs sold to retail investors are managed by authorised AIFMs.

— In terms of liquidity risk, overall, AIFs with a 100% participation of retail clients show no sign of liquidity noteworthy mismatch. The only asset type that presents a different liquidity risk profile is hedge funds.

[107] ESMA, 2018, "AIFMD – a framework for risk monitoring", ESMA TRV No.1 2018.

[108] Article 23 and article 24 Directive 2011/61/EU. Reporting template for regulatory disclosures 2013/1359.

[109] ESMA, 2018, "AIFMD – a framework for risk monitoring", TRV No.1 2018, reports that half of the open-ended AIFs analysed in the cited paper, including open-ended AIFs this report refers to, disclose that they require redemption notice to investors. The use of lock-up period is limited.

[110] For RE and FoFs, there is evidence of liquidity mismatching when we do not differentiate between type of client. Analysis on liquidity profile continues. This may lead to different conclusions in forthcoming analysis.

Structured retail products

Outstanding SRPs account for around EUR 500bn in 2017, a small market compared to UCITS. Due to their payoff features, many structured products cannot simply be regarded as long-term investments in the same way as funds. In addition, the large variety of SRPs complicates analysis of costs and performance. The scope for conclusive analysis is also severely constrained by data availability, as no regulatory data are available. In future it may be possible to make use of information published in KIDs under PRIIPs to assess costs of SRPs, though doing so could be very resource-intensive in many cases. Performance data are not generally available at present. To the extent data on performance may become available in the future they may be hard to interpret, as the scope for any measures of relative or risk-adjusted performance appears limited.

Background and key issues

The total outstanding amount of structured products held by EU retail investors at the end of 2017 was around EUR 500bn, far less than holdings in UCITS which were EUR 9.7tn. [111]

The huge variety of products on offer, their complexity and the existence of significant costs and charges for retail investors prompt continued market surveillance. At the same time, the breadth of the product range complicates analysis of costs and performance. The scope for conclusive analysis is also severely constrained by data availability.

With the exception of a few types of structured products such as some tracker certificates, most structured products offer investors a return that is non-linear in the return of the underlying index or asset value(s). In this way, certain structured products are designed for use to hedge a portfolio (i.e. reduce the impact of adverse market conditions on an investor's overall returns), or to speculate on price movements over the period of months or years. These features are in contrast to long-term investment products such as funds, which offer full participation in the underlying. As such, many structured products cannot simply be regarded as long-term investments in the same way as funds. This observation has consequences in relation to any assessment of costs and performance, as set out in more detail below.

Description of structured products

Structured products are investments whose return is linked to the performance of one or more reference indices, prices or rates ('reference values'). Such reference values may include stock indices, the prices of individual equities or other assets, and interest rates. The return of a structured product is determined by a pre-specified formula, which sets out how the product performs in different scenarios defined with respect to the reference value(s). To take just one possible example, if the price of a stock index falls during a given period of time, the formula may determine that the product yields zero return for the investor, who participates to some extent if the index increases in value.

Structured products can be categorised in different ways, but the European Structured Investment Products Association (EUSIPA) provides a reference framework used within the industry. Under this framework, investment products are products for which any downside exposure (i.e. potential loss) is no greater than any given percentage price fall in the underlying.[112] Leverage products are products with downside exposure than can exceed a price fall in the underlying in percentage terms.[113]

Many different variants of payoffs are possible within each of these categories. For example, the way a knock-out is triggered can be varied via changing the threshold level of the underlying or the period over which the underlying is measured. Knock-outs may even be triggered based on various statistics calculated from a

[111] EFAMA, 2017, "Quarterly Statistical Release No. 22".

[112] Notably, some of these products are not necessarily 'long term' investment products. For example, some have a 'knock out' feature meaning that the product expires prior to maturity under certain conditions. Other 'investment products' have features that may be associated with hedging strategies, such as products that replicate the payoffs of call or put options.

[113] According to the commercial data used in this section of the Report, around 97% of sales volumes to retail clients across Europe in 2017 were investment rather than leverage products and around 95% of outstanding amounts by volume were investment rather than leverage products.

basket of reference assets. Equally, 'barriers' (which offer limited or conditional capital protection), coupons and participation rates can be varied by the product designer. The large number of different types of payoffs are likely to preclude an exhaustive analysis of every type of product in terms of pricing and risk-adjusted performance.

Some of these popular payoff types involve greater levels of risk, return or complexity (in the sense of the number of features of the payoff function) than others. For example, a capped call involves an additional feature – namely, a capped return – compared to an uncapped call. Both products offer capital protection but may offer different expected returns even if they have the same underlying. Neither of these popular payoff types would naturally be considered a long-term investment, however, as the call and put options whose payoffs they imitate are generally used either for speculation or as hedging instruments within a broader portfolio.

Additionally, within each of the popular payoff types listed above, there is scope for varying levels of risk, return and complexity. For instance, reverse convertibles may include a 'barrier', to mitigate some downside risk (while retaining downside tail risk). Alternatively, downside risk may be mitigated by applying a discount. Again, for this popular payoff type, the payoff function measures the product should not be considered as a long-term investment.

Another source of heterogeneity in the market for structured products is the way in which the products are distributed. First, some standardised products are issued on a continuous basis, while others are issued as part of a tranche with a pre-determined subscription period.[114] Second, the EU market involves both bank-issued and exchange-issued products. The use of different distribution channels may vary geographically: for example, exchange-based issuance tends to be more common in Germany while bank-based issuance is seen more in Italy.

A number of empirical studies on structured retail products have been carried out. Significant premia (intrinsic costs to investors) are typically found, with estimated average premia usually ranging between around 2% and 9%. As might be expected, the results vary by market, by the type of product analysed and by the period of the analysis.

In 2013, ESMA published a report on retailisation in the EU.[115] Part of the report estimated the costs faced by retail investors across a sample of different types of structured products, across several EU countries. Estimate Initial Value (EIV) was 96% in the case of capital protection products and 94% in the case of other products, with yearly associated costs of 1.2% and 2.1% respectively. There was significant variation in the figures, with the 10th percentile of EIV standing at 90.0% and the 90th percentile at 99.6%.

The results of several similar studies in the US and for some European countries over the last two decades paint a broadly consistent picture (ASR-PC.57), though there is some variation in results over time and between different payoff types, and countries.[116] Other studies report that the mark-up differs from the primary market to the secondary market. Within the same type of SRPs, the time to the expiration date, the complexity of the product, the issuer's method of pricing and competition can also affect the level of mark-up.

ASR-PC.57

Summary of literature on EIV of structured retail products

Study	Country, time	Products	EIV	Cost
Bertrand & Prigent (2014)	FR, 2014	Structured funds	93%-98%	2%-7%
Burth et al (2001)	Switz., '01	RCs and DCs	97% (RCs); 99% (DCs)	3% (RCs); 1% (DCs)
Joergensen et al (2011)	DK, '98-'01	Principal protected notes	94%	6%
Stoimenov & Wilkens (2005)	DE, 2005	Equity-linked products	95%-99%	1%-5%
Szymanowska et al (2008)	NL, '99-'02	RCs	94%	6%
Wilkens et al (2003)	DE, '03	RCs and DCs	97% (RCs); 96% (DCs)	3% (RCs); 4% (DCs)

Note: "EIV"=average Estimated Initial Value of sample of products studied. Cost is estimated intrinsic cost to investor at issuance and is not annualised; Cost=1-EIV. "RCs"=Reverse Convertibles. "DCs"=Discount Certificates. Figures rounded to nearest percentage point.

[114] According to the commercial data used in this section, approximately one sixth of outstanding product volumes at the end of 2017 in Europe were tranche products.

[115] See ESMA, 2013.

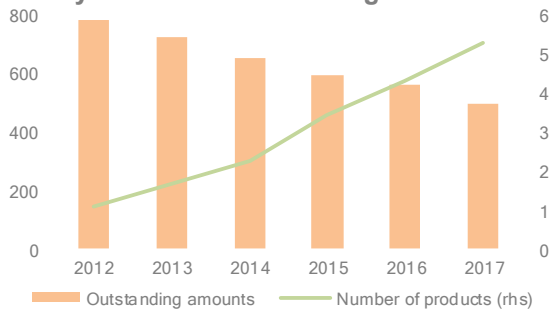
[116] For ease of exposition, the intrinsic cost (equal to 100% minus EIV) is presented alongside EIV in Table.

The EU SRPs market

The statistics in this report that describe the EU market for SRPs are based on a large commercial database of SRPs issued in many different jurisdictions internationally.[117]

The retail market for structured products makes up around 4% of the financial net worth of EU households.[118] A long-term trend for the past several years has been a steady and gradual decline in outstanding amounts of structured products (ASR-PC.58).

ASR-PC.58
Outstanding amounts of structured retail products in Europe
Steady decline in outstanding amounts

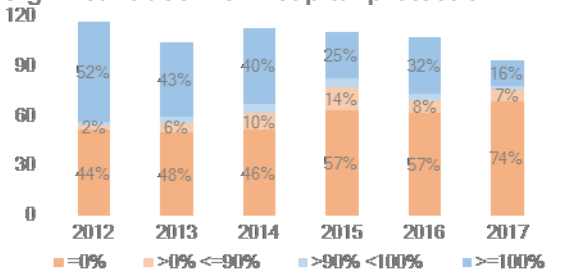


Note: Outstanding amounts, EUR bn. Number of products, in million.
Sources: StructuredRetailProducts.com, ESMA.

In 2017, volumes outstanding stood at around EUR 500bn, down from almost EUR 800bn in 2012. At the same time, numbers of outstanding contracts continued to rise, reaching over 5 million. The decline in volumes may be related to the supply side, also in the light of changes in market practices, and the regulatory environment. An increasing number of products have been listed on exchanges. On-exchange products tend to be issued in smaller volumes than OTC products, the latter typically being sold through large distribution networks. Several regulatory changes have characterised this market in recent years, both country-specific and EU-wide, aimed at enhancing consumer and investor protection.[119]

Structured products can be classified by the level of capital protection they offer the investor, ranging from products with a capital guarantee of greater than 100% (i.e. a guaranteed return, setting aside counterparty risk) to those with no capital protection (i.e. the capital is at risk if underlying assets fall in value). In the 6 years to 2017, the share of 100% capital-protected products declined by 36 ppt; the share of capital-at-risk products increased accordingly by the same amount (ASR-PC.59).[120] This trend is likely to be at least in part attributable to the low interest rate environment and the consequent search for yield by investors, though supply factors may of course also be an important determinant.[121]

ASR-PC.59
Volume of products sold by level of capital protection
Significant decline in capital protection



Note: Volumes of structured products sold to retail investors by level of capital protection, EUR bn and expressed as percentages of total.
Sources: StructuredRetailProducts.com, ESMA.

Consistently, more than 99% of products issued by number (as opposed to around two thirds of market share by volume) have zero capital protection. Capital-protected products tend to be more standardised and so are typically larger in volume but far fewer in number than capital-at-risk products. This development also suggests, all other things equal, that the risks to retail investors in structured products significantly increased on average over the period.

Another variable of interest is the term of a structured product (ASR-PC.60). While the clear majority of products (with respect to the number of products issued) are short-term (< 2 years), as

[117] Data are sourced from *StructuredRetailProducts.com*. In the annex related to data issues and difficulties around structured retail products are reported. Estimates of certain metrics based on data from this provider may differ significantly from those from other sources. For example, available estimates of the total amount of outstanding products from national structured retail products associations tends to be lower than those in the commercial dataset used to provide descriptive statistics in this section of the Report.

[118] The financial net worth of EU households stood at around EUR 24tn in 4Q17, compared with outstanding amounts of structured retail products in the EU of around EUR 500bn in Dec 2017, according to the dataset used in this article. For comparison, total NAV in UCITS was EUR 9.7tn.

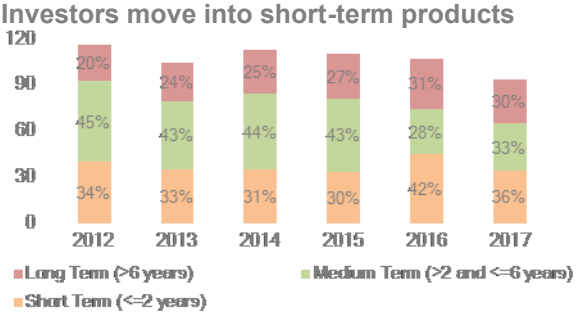
[119] For further details on the evolution of the EU regulatory framework, see ESMA Opinion, 2014, "Structured Retail Products – Good practices for product governance arrangements".

[120] Structured products may also differ in their type of 'wrapper'. Based on the available commercial data, around 4% of product volumes issued in Europe in 2017 were classed as deposits, while around 2% were solely classed as life insurance. These products are included in the dataset on which the results in this section of the Report are based. It does not appear to be possible based on the available data to identify the precise proportion of non-MiFID products in the total, though they are likely to represent a minority of the outstanding volumes reported.

[121] In particular, in a low interest rate environment, it may be harder to offer products with capital protection that also have attractive headline rates of return. Relatedly, to understand the move to shorter term products (ASR-PC.60), it is possible that more risk averse investors tend to move to shorter-term products when capital-protected products are unavailable.

regards volumes there is a more even split between short-term, medium-term (2–5 years) and long-term (> 5 years) products. In 2016 short-term products registered higher sales by volume (42%) than either long- or medium-term products. Data for 2017 indicate a less marked but somewhat similar split among the different term categories of SRPs, with short-term products still making up a larger share of sales volumes than from 2012 to 2015.

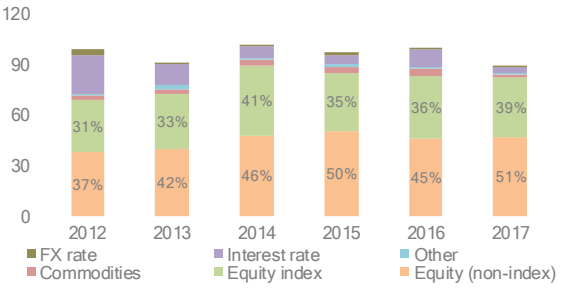
ASR-PC.60
Volume of products sold by term
Investors move into short-term products



Note: Annual volumes of structured products sold to retail investors by investment term, EUR bn and expressed as percentages of total.
Sources: StructuredRetailProducts.com, ESMA.

The vast majority of sales volumes – around 90% in 2017 – are products that take equities or equity indices as underlying, as opposed to other types of underlying such as interest rates, exchange rates or commodities (ASR-PC.61).

ASR-PC.61
Volume of products sold by type of underlying
Vast majority of sales volumes equity-related



Note: Volumes of structured products sold to retail investors by asset class, EUR bn. Percentage of total annual volumes presented for selected asset classes. Number of products sold, in thousand.
Sources: StructuredRetailProducts.com, ESMA.

This share has grown over the last few years, while sales volumes of products with the next-most popular type of underlying, interest rates, fell to 4% in 2017, down from 23% in 2012. This trend may relate to the very accommodative monetary environment. Retail investors may have come to expect interest rates would remain near the lower bound during this period and hence looked to riskier assets for real returns.

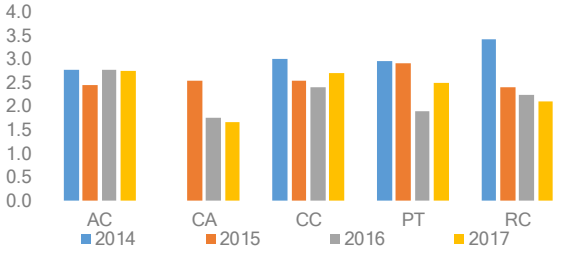
Measurement of costs

To assess the overall costs of structured products in a given market, it may be possible to use issuers' own cost estimates if such information can be collected systematically from providers, as in the case of certain providers in Germany.

Unlike in many other EU Member States, some issuers in Germany have for some time reported their EIV of each product, values captured in their database. EIV expresses the expected value of the product as a percentage of the estimated fair value. Taking the difference between EIV and 100% therefore yields an estimate of the intrinsic cost incurred by the retail investor.

Focusing on issuers' self-reported EIV in Germany, the discernible increase in intrinsic cost in the case of callables (CA) and protected trackers (PT) (ASR-PC.62) is not explained by changes in term length as the terms for these products in fact increased towards the end of the years sampled. It appears that the costs facing retail investors in these products in Germany have moderated in recent years.

ASR-PC.62
Issuers' self-reported estimated initial values in Germany
Some costs to investors decrease



Note: Estimated intrinsic cost of product at issuance as a percentage of amount invested, as reported by issuer and recorded in StucturedRetailProducts.com data set. Costs are for term of product and not annualised. Abbreviations stand for the following payoff types: AC=Auto-callable; CA=Callable; CC=Capped Call, PT=Protected Tracker; RC=Reverse Convertible.
Sources: StructuredRetailProducts.com, ESMA.

The cost estimates in relation to Germany are however tentative, based as they are on commercial data with limited coverage.[122] Information on cost estimates is required to be published in KIDs under PRIIPs, though such data are not required to be reported to ESMA. Some but not all NCAs have however opted for pre-notification, meaning that it may be possible to obtain issuer-estimated cost data in future for some countries, but not others. For those

[122] Estimated coverage (i.e. the proportion of all products in the dataset with given payoff types issued in Germany for which cost estimates were available) ranged from 17% to 28% for 2014 to 2017.

countries without pre-notification, issuer-estimated costs would need to be collected from individual KIDs published online by issuers, which would be likely to be resource-intensive, and unlikely to be a fully automatable process. A general constraint is that as PRIIPs has been applicable only since 1 January 2018, KIDs-based data would not cover products issued before this date.

Basing average cost information on provider-supplied estimates approach has certain drawbacks, as the methodology and pricing models used may vary between providers. To some extent this concern is mitigated by the fact the PRIIPs regulatory technical standards (RTS) harmonise the way costs should be measured (including the types of costs to be taken into account and how to estimate them) and aggregated (i.e. the construction of a cost indicator). However, it is important to note that in the case of structured products the estimate of the fair value – a key element of implicit costs for such products – is not fully prescribed in the PRIIPs RTS.

Alternatively, costs can be estimated for a stratified sample of products using publicly available information. This can be done by observing the prices of the components of the structured product that are traded on an exchange while using a model to value the components that are not traded. Another approach is to use financial models to value all components of the structured product. While both approaches have their pros and cons, both approaches are also likely to be very involved and resource-intensive when used to arrive at a detailed overview of costs across different market segments within the EU.

Performance

Measuring the absolute performance of a structured product in absolute terms is conceptually straightforward, though performance for structured products is only determined for those products that have matured, in contrast with fund performance.[123] A significant limitation at present is that such data are not required in KIDs under PRIIPs, limiting the scope for building up a dataset on absolute performance in future. However, in a Joint Consultation Paper concerning amendments to the PRIIPs KID, the three ESAs have published proposals to require additional information on past performance in KIDs in future.[124]

Another potential source of performance data is any available data recorded directly by issuers. A final possibility is that performance can be calculated manually for a sample of products, given the specification of a product and market price data of the underlying.

In respect of SRPs, the EC mandate includes performance. However, one limitation in measuring absolute performance of structured products is that it does not indicate the nature of the risks taken on by investors. Additionally, unlike in the case of an investment in a product such as a fund, for many kinds of structured products there is no natural benchmark against which to compare performance since the payoff function itself transforms the exposure to the underlying. In other words, a structured product offers not just exposure to an underlying but some transformation of the risk-return profile, which may cater to an investor's preferences. As such, performance relative to the underlying cannot generally be interpreted simply as the 'added value' of the product compared to a benchmark over the period studied. An exception is the case of capital-protected products, where the performance of the product relative to the risk-free rate adjusted for market-implied counterparty risk is likely to be instructive as to the relative value created for investors by the products over a given time period.

Considering that a structured product offers a transformed risk-return profile, risk-adjusted performance measures appear to be especially relevant. In contrast to funds, where standard statistics such as the Sharpe Ratio or Information Ratio lend themselves to standard interpretations, in the case of structured products generally assessment of risk-adjusted performance is likely to require numerical simulations, again due to the fact that the return profile is a non-linear transformation of the underlying return, in some cases (for instance, with a knock-in barrier) involving path-dependent payoffs. For example, a reverse convertible with

[123] Performance will depend not only on the date at which the product matures (which may be earlier than the maximum term of the product, if the product has a 'knock out' features) but also the date of issuance.

[124] Joint Committee of the European Supervisory Authorities, 2018, "Joint Consultation Paper concerning amendments to the PRIIPs KIID", JC 2018 6. https://eba.europa.eu/news-press/calendar?p_p_id=8&_8_struts_action=%2Fcalendar%2Fview_event&_8_eventId=2441668

a knock-in barrier set considerably below the strike price involves a downside tail-risk to the investor which is unlikely to materialise over an observation period of even several years. Monte-Carlo simulations based on historical price data of a given underlying could in theory be a way to simulate the ex-ante return profile, and hence to consider the risk taken on by investors alongside the ex-post performance. However, providing a comprehensive overview of risk and reward for investors – and thereby helping put ex-post performance into context – does not appear feasible given available resources. A more modest way to gain some insight on the risks of investing in a given product is available in the data on ex-ante performance scenarios and Summary Risk Indicators in KIDs published under PRIIPs. As in the case of costs, it may be possible to obtain data from KIDs via some NCAs, meaning that it could be possible in future to obtain issuer-estimated ex-ante performance scenarios and/or Summary Risk Indicators for products in some countries. Finally, simply comparing absolute performance of structured products against performance in underlying markets could provide some additional context.

Summary findings

A systematic EU-level analysis of the performance and costs of SRPs is practically impossible at this stage as no relevant regulatory data are at the disposal of ESMA, and commercial data do not suffice at this stage to undertake granular analysis.

The market overview presented here suggests that:

— The large variety of SRPs complicates analysis of costs and performance. With the exception of a few types of structured products such as some tracker certificates, most structured products offer investors a return that is non-linear in the return of the underlying, contrast to long-term investment products such as funds, which offer full participation in the underlying.

— The scope for conclusive analysis is also severely constrained by data availability. No regulatory data are available on SRPs in the EU. This will be a major limitation in any assessment of costs and performance for these products.

— To assess the overall costs of structured products in a given market in the future, it may be possible to use issuers' own cost estimates, for instance those published in KIDs under PRIIPs. In theory, estimated costs for given types of products could be collected from individual KIDs published online by issuers, but this would be very resource-intensive. Basing average cost information on a provider-supplied estimates approach has certain drawbacks, as the methodology and pricing models used may vary between providers. To some extent this concern is mitigated by the PRIIPs framework.

— While measuring the absolute performance of a structured product in absolute terms is conceptually straightforward, performance data are not generally available at present. In addition, any future data on performance may be hard to interpret, as the scope for any measures of relative or risk-adjusted performance appears for the most part to be limited to data based on individual KIDs regarding performance scenarios and/or Summary Risk Indicators.

Annexes

EU Commission mandate to the ESAs

Aim

A key theme of the Capital Markets Union (CMU) is to foster the participation of retail investors in EU capital markets. A key element to achieve this goal is to provide retail investors with clear, comprehensive and comparable information on retail investment products. In this context, the European Commission (EC) issued a request to the European Supervisory Authorities (ESAs) in October 2017 to analyse the cost and past performance of retail investment products and provide annual reports.[125]

The reports by the ESAs shall complement pre-contractual disclosure requirements and reporting to investors at product level under different legislative measures (including UCITS, MiFID II/MiFIR, IDD, IORP II, PRIIPs).

Providing analysis at higher aggregation levels such as asset class and country level, will provide retail investors with a broader picture of the performance and costs of retail investment products. This information should in turn allow retail investors to better interpret the information at product level and facilitate their investment decision making process. Providing aggregate and EU-wide cost and performance analysis to investors may also enhance competition and price formation. It may be, moreover, a way to identify markets where investors are in a sub-optimal situation and areas in which more in-depth analysis might be required.

Scope

The EC mandate indicates the investment products that should be covered by the three ESAs in the reports, subject to the availability and accessibility of data. From an ESMA perspective the focus is on products covered by PRIIPs-KID and UCITS–KIID:

- UCITS investment funds;
- AIF investment funds sold to retail investors for which KIID rules are applicable at national level (retail AIFs);
- Structured products sold to retail investors (SRPs).

Data

The reporting should be based on data and information originating from disclosures and reporting already required by Union law or national legislations and collected in a direct or indirect manner. The EC mandate foresees difficulties related to data accessibility and usability and resources availability. Therefore, it envisages that “the reports may be based on already available but potentially incomplete databases”[126].

Main principles

Subject to data availability, reporting on net performance should be based on:

- appropriate level of granularity: analysis presented by asset, investor and management type;
- country-by-country analysis: identify differences and national specificities;
- comparability of indicators: whenever possible, indicators should be reported in a comparable manner;
- reporting of all fees – subject to data availability;
- time horizon, preferably 1,3,7,10 years;
- inflation, to be taken into account.

[125] Request to the European Supervisory Authorities to report on the cost and past performance of the main categories of retail investment insurance and pension products, Ares (2017)5008790, European Commission.

[126] Request to the European Supervisory Authorities to report on the cost and past performance of the main categories of retail investment insurance and pension products, Ares (2017)5008790, European Commission.

First edition of report

The first edition of the report should be a baseline for future cycles and reporting (extension of scope, modification of methodology etc.). The first iteration of reporting should therefore document data gaps: issues related to data collection, including steps and cost of acquiring data; data accuracy; and data comparability. It should report on other difficulties and include any recommendation for the consecutive reporting cycles as appropriate. Moreover, it should also benefit from analysis and identification of observed differences in data availability across product categories. [127]

[127] ESMA, in this first iteration, partially relies on commercial databases, reporting on significant differences across products. Differently, EIOPA, given the nature of the market segment supervised, relies on a data collection on part of the industry according to the specifics illustrated in the EIOPA report. This implies differences across products as well as across market sectors given the peculiarities inherent to those sectors. If on one hand, this is making the ESAs results not directly comparable, yet it provides additional information and transparency within each sector on which the analysis is focused. In light of transparency, limitations and difficulties are reported.

Mapping pre-contractual disclosures to investors

Scope

Step 1 of the EC request requires the ESAs to conduct a mapping of pre-contractual disclosures and reporting to investors related to cost and past performance under EU or national legislation. The aim is to enhance the understanding of what type of information is available to investors across Member States.

ESMA carried out surveys on the products within the scope of the EC request, i.e. products covered by the PRIIPs KID and UCITS KIID: UCITS; AIFs sold to retail investors for which KIID rules are applicable; structured products sold to retail investors.[128]

Main findings

UCITS and AIFs sold to retail investors where KIID rules are applicable

The key findings of the survey are as follows:

- generally, there is a higher level of information available concerning investment products falling within UCITS and UCITS KIID compared to structured retail products;
- a high degree of heterogeneity across national jurisdictions in terms of costs and gross past performance information available to investors.

Both findings already indicate limitations for any EU-wide analysis with a country-by-country focus and highlight the need for future convergence and harmonisation at in the context of the EC mandate to ESAs.

Overall, 31 answers were received. The summary provides an indicative picture of the feedback received.

Fourteen Member States have put in place regulation prescribing pre-contractual disclosure requirements in addition to Union Law (Belgium, Denmark, Estonia, France, Germany, Ireland, Italy, Malta, Poland, Romania, Slovenia, Spain, Sweden, United Kingdom). One EEA country, Norway has additional national pre-disclosure requirements. Portugal, Lithuania (together with the EEA member Iceland) follow EU regulation requirements for UCITS, yet they refer to UCITS requirements for those AIFs that are marketed to retail investors. Croatia, even if declaring of not having national pre-disclosure requirements in addition to Union Law, mentions the requirements for UCITS of a publication of a monthly report to inform retail investors about costs of the investment.

Differences in scope and type of national requirements add an additional layer of heterogeneity:

- Additional disclosure requirements refer mostly to costs charged to the fund during its life, which is not required by EU regulations;
- There is variation in the requirements on how to treat transaction costs – disclosure vs. non-disclosure, if disclosure, disclosure on stand-alone basis vs. aggregation with other fees;
- Methodologies to calculate management fees and performance fees (calculation periods, granularity of data, reporting);
- Lack of convergence with respect to unit of measure on which costs are reported (among other, in percentage terms or not);
- Additional requirements in terms of advertising material and assigned charges.

Heterogeneity of pre-contractual disclosure adds to structural differences across national markets, with potential impacts on costs and thus net performance.

However, in this respect, it is to be noted that the PRIIPs KIID harmonises in particular i) the way to measure and disclose transaction costs ii) the way to measure and disclose performance fees.

[128] Members of the ESMA Investor Management Standing Committee (IMSC) and the Investment Protection and Intermediaries Standing Committee were asked to answer questions falling within the scope of the exercise.

Structured retail products

The key findings of the survey (based on responses from twenty-five Member States) are as follows:

— Pre-contractual disclosures linked to UCITS or AIFMD regulations. Only one respondent (Belgium) mentioned additional national requirements;

— MIFID II precontractual disclosures for structured products where a KID is required. Two respondents highlighted additional national rules:
(1) Belgium foresees a voluntary sales moratorium for “particularly complex” structured products (i.e. products which contain a derivatives component) regardless of the form in which they are sold. The advertising materials used by the distributor to promote its structured products must contain transparent communication about all costs included in the subscription price (such as structuring costs) or charged over and above the subscription price.

— (2) In the Netherlands, a more detailed or standardised disclosure of costs for “complex” products in the form of an overview table is requested. The table provides potential costs over different time horizons (as in the case of after 1, 6 and 10 years) for the complex structured product.

The survey also asked about SRP data available at national level or national studies. Two respondents reported the following:

— Ireland - the Central Bank of Ireland carried out a thematic review of structured retail products (findings published in September 2016). Over half of the SRPs maturing in 2014 and 2015 underperformed vs. available State Savings products. This suggests that in some circumstances less complex, costly or risky products may meet consumer needs.

— The United Kingdom issued a report referring to costs of structured products, focusing on understanding consumer behaviour, product development and governance.

Data, data limitations, and statistical methods

Data and data limitations

UCITS fund data

The data available have a number of implications for the interpretation of the analysis.

Data based on the disclosure requirements stemming from EU directives and regulations have only just started to become available and currently do not cover the ten-year time horizon as in the EC request. Therefore – as outlined above – we rely on commercial data from Thomson Reuters Lipper.

A significant data issue is related to information about location or domicile. Available data is based on the domicile of the fund. This has two main consequences. First, we do not have information about the domicile of the investor. Therefore, where funds are sold cross-border, our analysis reports results based on the domicile of the fund, not the domicile of the investor. Second, this also limits information about the national or cross-border character of the fund management industry across Member States. For example, we cannot capture the so-called "round trip" situation, where, for example, an Italian fund management company produces a fund through its subsidiary based in Luxemburg and then sells the fund in Italy. This situation is relevant for a number of Member States (such as Italy) and is a limitation of our analysis.

Thomson Reuters Lipper cost data partly use a different cost taxonomy compared to current EU regulation, as reported below. Data coming from the UCITS Directive is not available and usable at an EU level while for PRIIPs, data are not yet usable. None of the mentioned data can have the time-series perspective of 10-, 7- and 3-years as requested by the EC mandate. A time-series perspective can only be adopted so far by relying on a commercial database.

Ongoing costs and entry and exit fees

Using commercial data has the following implications regarding data definitions and availability at fund share level.

Ongoing costs – these are proxied with the total expense ratio (TER). The TER includes all charges paid to the fund itself to cover the costs of resources used to design and operate the fund, as well as to pay for external services employed in the process.[129] However, the TER is provided at an aggregate level and components of the TER are not available in our database. Accordingly, potential different practices in the TER computation are not captured (including with regard to the cost charged by funds in which UCITS invest) and that contributes to explain the high variability of costs across countries.

Entry and exit fees – these are reported at their maximum level for each fund share class by Thomson Reuters Lipper. This is in line with regulatory requirements. It leads however to an overestimation, as actual entry and exit fees are often subject to negotiation and may vary for individual fund transactions. EC regulation No 583/2010 specifies that, a statement disclosing the actual entry and exit fees should be issued where applicable.[130] The UCITS KIID will report them. These statements, however, are either not accessible, as it is necessary the identification as being an investor, or not reported in a harmonised format. This first iteration of the report estimates entry and exit fees using information on subscription and redemption fees provided. This information, being however time invariant, is weighted to account for the fact that these fees are not applied constantly over time, but they depend on actual redemptions or subscriptions of investors. When more granular data and data on actual redemptions and subscriptions are available future reports will be adjusted accordingly.

[129] TER is available from Thomson Reuters Lipper on request. For more detail see below. To note is the exclusion of performance fees from the TER.

[130] Articles 10 and 11, Commission Regulation No 583/2010.

Performance fees

We do not include performance fees in our analysis as the reporting field for performance fees in Thomson Reuters Lipper is not adequately filled to provide consistent results.

An underlying reason for the lack of consistent data is the heterogeneity in the way performance fees are computed across markets due to a lack of EU regulatory requirements on calculation and reporting of performance fees. In the context of this study this means that where performance fees are charged, these may or may not be included in ongoing costs. This observation needs to be considered when evaluating gross and net fund performance, especially when comparing results across countries.

Distribution fees

Distribution fees (both at a one-off and ongoing basis) can be a significant cost element of UCITS investments. However, distribution costs are not included as a specific cost as we are not able to identify such fees. However, it should be noted that distribution costs may be part of the analysis to the extent they are included in ongoing costs and/or the entry charges presented in the KIID.

Distribution channels and thus distribution fees vary significantly across EU Member States.[131] In several EU Member States (i.e., IT) distribution of UCITS is dominated by banks. The importance of other distribution channels such as financial advisors and electronic platforms is also varying significantly. Overall, significant differences can be observed across domiciles as market practices as well as national regulatory actions significantly differ. In some countries distribution costs may be included in on-going costs or entry fees increasing the analysed costs.

However, currently available data are not enough granular and do not allow for systematic analysis of the impact of distribution cost components on net returns of fund shares available to retail clients.

The main issue for an EU-wide analysis is that distribution costs for a specific fund share class vary firstly across the different distribution channels through which this fund is sold and secondly, even for the same distribution channel, distribution costs may vary across investors (as an example, depending on the size of the investment).

Taxonomy of costs: EU regulation and commercial data

There are differences in the definitions on costs used by Thomson Reuters Lipper and by current EU Regulation: UCITS Directive and Delegated Acts, MiFID II and PRIIPs regulation.

Ongoing costs

UCITS: Chapter IX, Section 3, of the Level 1 Directive (2009/65/ES) refers to key investor information (KIID) and art. 78(3) specifies that KIID shall provide information also on cost and charges. Details of the content and format shall be provided in delegated acts adopted by the Commission (art. 78(7)).

UCITS KIID: From the UCITS Directive, details on content and format have been left to be developed further by means of implementing measures, which should be specific enough to ensure that investors receive the information they need in respect to particular fund structures (Recital (1) Commission Regulation (EU) No 583/2010). Art.10 Section 3 of the Commission Regulation No 583/2010 defines the charges and their presentation.

For ongoing costs (art.10, 2(b)), a single figure shall be shown for charges taken from the UCITS over a year, representing all annual charges and other payments taken from the assets of the UCITS over the defined period, and based on the figures for the preceding year.

The following is the definition on the reporting of charges in Annex II of the UCITS regulation:

“Ongoing charge: [] % charges taken from the fund under certain specific conditions”.

CESR guidelines: CESR guidelines on the methodology for calculation of the ongoing charges figure in the Key Investor Information Document contain the definition of the ongoing charge figures to be disclosed, including an indicative but not exclusive list on the types of ongoing charges. As from the guidelines, ongoing charges include:

— all payments to the management company of the UCITS, directors of the UCITS if an

[131] European Commission, Distribution systems of retail investment products across the European Union, April 2018.

investment company, the depositary, the custodian(s), any investment adviser, also including any person to whom they have delegated any function;

- all payments to any person providing outsourced services to any of the above;
- registration, regulatory fees and similar charges;
- audit fees;
- payments to legal and professional advisers;
- any costs of distribution;
- cost charged to the funds in which the UCITS is invested where such funds represent a material share of the UCITS' portfolio;
- charges and payments that do not form part of the amount to be disclosed as ongoing charges in the KIID include but are not limited to: entry/exit charges; a performance-related fee payable to the management company or investor advisor; transaction costs; interest on borrowing; payments to third parties […].

PRIIPs: Details are referred to in the Commission delegated regulation (EU) 2017/653.

Annex VI refers to the methodology for the calculation of costs. Part I, refers to the list of costs, one-off fees, recurring costs, incidental costs: Recurring costs are payments deducted from the assets of an AIF or UCITS and represent the following: expenses necessarily incurred in their operations; any payments, including remunerations, to parties connected with the AIF or UCITS or providing services to them; transaction costs.

Annex VI fully harmonises the way to measure and disclose transaction costs.

The cost indicator to be used is the reduction in yield (RIY).

In terms of what recurring costs include CESR guidelines previously reported (see above), these are in line with PRIIPs.

MIFID II: Directive 2014/65/EU of the European Parliament and of the Council.

Art.1 sets the scope "The MIFID II Directive applies to investment firms, market operators, data reporting service providers and third-country firms providing investment services or performing investment activities through the establishment of a branch in the Union. […]".

UCITS funds and managers are generally exempt from MIFID II, except to the extent that they also conduct MIFID investment services and activities in relation to financial products.

Art.24 (4 and 5) refer to costs and charges to be reported and how. Art 24(13) empowers the Commission to adopt delegated acts to ensure the compliance to the principles set out in art.24, art.50 of Commission Delegated Regulation 2017/565 details on disclosures.

Annex II of this regulation includes examples on disclosures on ongoing charges.

Commercial data: Thomson Reuters Lipper data based on information mainly provided by the fund management company Total expense ratio (TER) can include one of the following figures.

- Expense Ratio (ER)
- Fund Expense Ratio (FER)
- Management Expense Ratio (MER)
- Ongoing Charges (OC)
- Total Expense Ratio (TER)

For the EU, TER mostly refers to OC and is used as a proxy for ongoing costs.

More detailed can be found in the paper titled "Adjusted Performance Lipper Calculation Definition Methodology Research Team" from Thomson Reuters Lipper.

Entry and exit charges

UCITS KIID: Art.10 (2)(a) Commission Regulation No 583/2010 clarifies that entry and exit charges shall each be the maximum percentage which might be deducted from the investor's capital commitment to the UCITS".

Art. 11(1)(a) follows by clarifying that:

i. regarding entry and exit charges, it shall be made clear that the charges are always maximum figures, as in some cases the investor might pay less;

ii. a statement shall be included stating that the investor can find out the actual entry and exit charges from their financial adviser or distributor.

PRIIPs: Annex VI, Part 1–List of costs, includes the definition for one-off costs. A one-off cost is an entry or exit cost which is either paid directly

by the retail investor; or deducted from a payment received by or due to the retail investor.

One-off costs include, but are not limited to, the following types of up-front initial costs that shall be taken into account in the cost amount to be disclosed in the KIID: distribution fee, to the extent that the amount is known to the management company.

If the actual amount is not known to the management company, the maximum of the possible known distribution costs for the specific PRIIP shall be shown; constitution costs (up-front part); marketing costs (up-front part); subscription fee including taxes.

MIFID II: Annex II shows how entry and exit fees should be reported by MIFID investment firms.

Commercial data: Maximum subscription (redemption) fees or front (back) loads are disclosed as percentages of the initial investment (withdrawals). Both are reported according to the fund disclosure.

As most of institutions report the maximum fees, as required by regulation, these are the fees available.

Performance fees

UCITS KIID: Art. 12(3) of the Regulation No 583/2010 foresees the inclusion of a performance fee to be disclosed in accordance with art 10(2) (c) of the same regulation. The amount charged during the UCITS last financial year shall be included as a percentage figure. Details on the presentation of charges are reported in Annex II.

PRIIPs KID: Annex VI harmonises the way to measure and disclose performance fees.

CESR guidelines: In the guidelines (page 5) it is specified that a performance-related fee payable to the management company or any investor advisor “shall not form part of the amount to be disclosed as ongoing charges in the KIID”.

MIFID II: Annex II of Reg. 2017/585 includes examples on how to report performance fees. These are considered as incidental costs.

Commercial data: Performance fees not included in the TER.

Inflation

The EC request sets out that the impact of inflation should be taken into account. Therefore, the analysis in this report serves two purposes: reporting on different cost structures across asset classes and EU Member States; reporting of real returns after inflation, in the context of long-term/retirement savings, where these are a key element for investment decisions.

In this analysis we therefore report, initially, gross and net fund performance in nominal terms, i.e. first report net fund performance without taking inflation into account. The impact of inflation will be reported in a separate section. This separation also takes into account that inflation is exogenous for fund managers. Inflation refers to the annual HICP rate of change for the Euro Area changing composition.

The reporting of returns after cost and inflation only provides information about real returns for end investors where investor and fund are domiciled in the same member state, as only information on the fund domicile, but not the investor domicile is available.

Further issues

Specific examples of data issues from an analysis of commercial data sources, sample prospectuses and KIID data include:

- Heterogeneity of the data format, granularity, language when information on distribution charges is available, impeding comparability of the limited data accessible;
- The MiFID II costs and charges information requirements have been applicable since January 2018 only. Published data are not yet available. Nevertheless, these requirements should lead to the publication of data that will allow for estimates for the impact of individual components to be constructed.
- Limited availability of transaction level data, even after the entry into force of MiFID II. To compute the exact effects of fees and charges on the returns of retail investors such data are indispensable, as individual transaction flows impact on the realisation of subscription, redemption and trading fees.

Retail AIFs

The reporting obligations established by the AIFMD and the Implementing Regulation provide a standard data collection framework and

ultimately improve transparency to NCAs. These obligations together with PRIIPs requirements should ultimately enable NCAs and ESMA to acquire a complete overview of the structure of the AIF and AIFM markets. At present, data collected for the end of 2017 cover around 80% of the AIFs managed or marketed in the EU by authorised asset managers. Not all the data currently reported, however, show an adequate level of quality. Together with the high degree of diversity and complexity in the AIF industry, the quality of relevant information poses challenges from an analytical perspective. ESMA together with NCAs is currently working on improving the coverage and quality of AIFMD data. If, from an AIFMD perspective work is still ongoing trying to ameliorate data quality, data to be collected from PRIIPs are not yet available. This lack of information impacted on the type of studies previously developed as well as on the current study focusing on alternative investments.

Focusing on the current analysis, given the lack of data and of data quality a full analysis as the has not been yet fully developed. Data relying on the disclosure requirements based on EU directives and regulations not only start to become available only currently, lacking the time series perspective and information on performances and costs. Moreover, there is no commercial database at our disposal that consistently and comprehensively covers this segment of the market.

Against this background, while being aware that relying on AIFMD data lacks the perspective of AIF sold to retail investors. It however provides an EU perspective on the size of the AIFM segment marketed to EU investors, retail and professional.

SRPs

No regulatory data are available on structured retail products in the EU. Moreover, data on the costs faced by investors are not generally available, for most EU Member States

The intrinsic value of structured products typically comprises much of the premium paid by retail investors to the issuer, though it is also possible that products may be sold with additional fees or charges. It is important to note that such fees and charges are not considered here.

Coverage of EIV in the commercial data set is around 20% in each of the years 2014-2017 (and had been zero before 2014). The simple averages of the relevant variable in the data set for these years may therefore not be representative of true average costs facing investors due to sample bias. The data are self-reported, and providers may use different pricing methodologies, as discussed above. However, the coverage of the variable is stable over time and across payoff types in the sample, meaning that trends within and across payoff types are likely to be informative.

Estimating the cost of a structured product can be complex. The cost can be estimated by comparing the price a retail investor pays with the prices of the component instruments that would replicate the product's payoffs. As set out below, different pricing methodologies can be used to do this. Distribution costs should also be taken into consideration, though data may not be available.

Structured products can be understood as products that combine at least two single financial instruments of which at least one is a derivative (Das (2000)). The law of one price thus suggests that a structured product's price can be calculated simply by adding together the prices of its components.

For example, in options markets, a reverse convertible is a bond that can be exchanged into shares of common stock at the discretion of the issuer. A long position in a reverse convertible can therefore be replicated by a long position in a coupon-bearing bond issued by the issuer of the reverse convertible, and a short position in a put option, i.e. a written put. A structured product with reverse convertible payoffs can be similarly priced or valued.

Approaches to replication

If prices are not disclosed by the issuer, or the credibility of the issuer's disclosure has to be questioned, an own estimate can be made. To come up with a fair price for a structured product, the components of the respective structured product must be identified. For every structured product, there are many ways to replicate its payoff structure. For example, a reverse convertible can be replicated by a long position in a bond and a short position in a put option or by a combination of bonds, a short call, and a forward contract. Nevertheless, economic reasoning suggests that the replication of the

structured product with the least products possible is the most efficient one.

Two approaches exist to find the prices of different structured product components. One is to observe the prices of the components that are traded on an exchange and using a financial model for those that are not traded. This approach, used by e.g. Szymanowska et al. (2008), uses few assumptions. However, it will not always be possible to find the respective components on an exchange, as sometimes the component does not exist, or there is no incentive to trade it on an exchange.

Another approach is to use a financial model for all components of the structured product. This approach does not run the risk of issuer bias and virtually every option can be priced. However, using a financial model for the option component can be time-consuming. Additionally, decisions should be taken with respect to the model that will be used and the inputs. These decisions, as for example the assumed volatility, can have a big impact on the price. Replicating prices using financial models is by far the most common approach taken in research. A detailed summary of results of this approach can be found in Bouveret et al. (2013).

Statistical methods

Data are entity-specific share class level and cover a ten-year period between January 2008 and December 2017. We rely on a commercial data provider, as data based on reporting requirements under Union law are not available for the entire reporting period.

We use the following data for our analysis[132]:

- annual returns (gross, and net of ongoing costs, proxied by TER).
- annual fund value as a proxy for asset net asset value.
- and annual net flows.
- EU member state inflation rates.

Our analysis aims to produce analysis on performance and costs of long-term investment products on a recurrent basis. Data scope and availability are likely to change and improve over time.

Therefore, the methodology is designed in a flexible way. In practice this means that the different cost elements are treated separately.

This allows: (a) to add cost categories which are currently not included (performance and distribution fees[133]) in the future and (b) to incorporate data from different data sources where this improves the analysis.

We distinguish between:

- gross returns;
- returns net of ongoing costs, proxied by the TER;
- net returns, which equals gross returns net of ongoing costs and subscription and redemption fees charged directly by the fund (proxied by entry and exit charges);
- net returns minus inflation, where inflation annual provided on a monthly basis. It is downloaded from the ECB statistical datawarehouse and it is based on Eurostat data.

The analysis does not cover the impact of taxation on fund returns.

Turning to the technical specification of individual metrics used in this study, we define the gross return of a fund, r^G, as the gross return of the portfolio, in which the fund is invested in, proxied by

$$r^G = r^N + TER$$

where r^N stands for the returns net of TER. Both r^G and r^N are obtained directly from the data provider. Next, we factor in subscription and redemption fees (FL/BL) by deducting respective fees as weighted by the ratio of netflows[134] to fund

[132] The data are retrieved from Thomson Reuters Lipper (performances, TER, netflows, fund value) are annual data at quarterly frequencies. We are also able to retrieve static information on front and back fees, asset types, domiciles, jurisdictions in which the share class is marketed. For inflation, annual inflation rates at monthly frequencies come from the ECB Statistical Data Warehouse.

[133] Regarding distribution fees, we are not able to identify such fees as distribution, therefore we do not include them as a specific cost. However, it should be noted that they are not necessarily excluded from the analysis if included in the entry charges presented in the KIID. Alternatively, distribution fees might be included in the ongoing costs as part of the management fee (this is specifically mentioned by some domiciles). Overall, how distribution fees are paid depends also on national legislation and market practice in a jurisdiction.

[134] Please note that Thomson Reuters Lipper provides netflows and does not distinguish between inflows and outflows.

values (FV). Hence returns net of TER and subscription and redemption fees, r^{NL}, are

$$r^{NL} = r^{N} - \left|\frac{net\ flows}{FV}\right|(FL/BL)$$

The variable r^{NL} denotes the return net of ongoing costs FL and BL. These fees are provided as static information and the maximum fees are used when information on actual fees is not available. This implies a potential upward bias. On the other hand, we weigh them by the ratio of netflows over FV across quarters limiting their impact.[135] The weighting is structured in this way to account for potential variability in the holding period. As specified FL and BL are reported as time invariant, while subscription and redemption fees are not as such. Once more granular data and data on actual subscription and redemption fees will be available a more accurate calculation is possible in future reports.

Finally, we also subtract inflation, i.e. the inflation rate π for the country, in which the respective fund is domiciled, and generate the metric on returns net of TER, subscription and redemption fees, and inflation.

$$r^{NLI} = r^{NL} - \pi$$

Data on inflation are retrieved from the ECB Statistical Data Warehouse and refer to the annual HICP rate of change for the Euro Area changing composition.

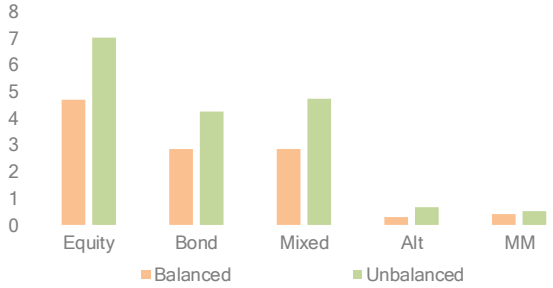
Data are available at a share class level. To have data by time horizon, we aggregate share classes through a weighted average and then we compute the mean across time according to the time horizon considered.

Robustness checks: balanced vs. unbalanced panel

This report covers a time horizon from 2008 to 2017. During such a long period a large number of funds enter and exit the market. In terms of analysis this leads to the question whether to use a balanced or unbalanced sample. In a balanced sample, only funds where data are available over the entire time horizon are included, thus the number of fund shares remains constant in the sample (i.e. over 3-year we only consider those funds still present at the end of the 3Y), yet the sample size reduces. An unbalanced sample includes all fund shares where data are available at some point during 2008 to 2017, thus the number of fund shares will change over time.

We compare balanced and unbalanced samples at an aggregate level for three and one years. For three years, moving from unbalanced to balanced sample would reduce the number of fund shares by 35% (ASR-PC.63).

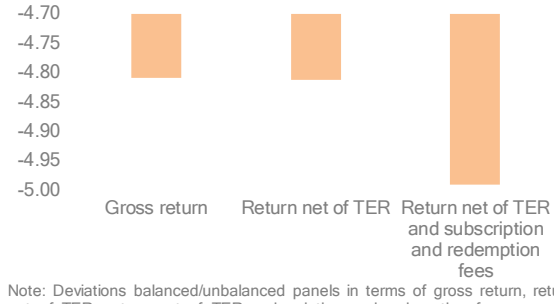
ASR-PC.63
Balanced and unbalanced sample
Number of funds 3Y horizon



Note: EU UCITS universe, number of funds per asset class, balanced and unbalanced samples. 3Y horizon, in thousands.
Sources: Thomson Reuters Lipper, ESMA.

Yet in terms of gross and net performances metrics this will only move within a +/- 10% boundary (ASR-PC.64). A +/-10% deviation between the two samples, measured as the ratio of the metrics reported between the two samples, is considered small and not significant in terms of changes in the results. Therefore, it was decided to follow an unbalanced panel approach.

ASR-PC.64
Balanced and unbalanced sample
Deviations from balanced sample below threshold

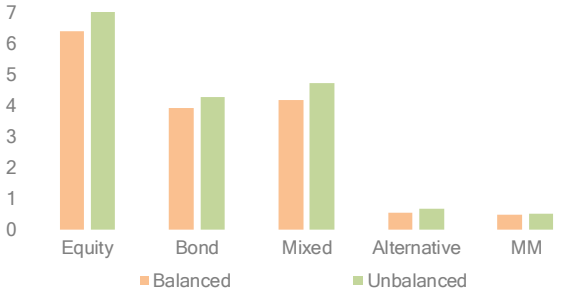


Note: Deviations balanced/unbalanced panels in terms of gross return, return net of TER, return net of TER, subscription and redemption fees over 3Y horizon, %.
Sources:Thomson Reuters Lipper, ESMA.

As expected, the 3-year samples have higher deviations than the 1-year ones (ASR-PC.65). This means that the funds have changed more over a longer period of time which is expected.

[135] Not having gross inflows or outflows, we can have net inflows or net outflowes. When the weights calculated are negative we only consider redemption otherwise only subscription fees. Weights are between 0 and 1, however potentially implying an upward bias to smaller or newly created funds. We could also overestimate the impact as considering quarterly frequencies we could include subscription and redemption fees at potentially at higher frequencies then those actually incurred by investors.

ASR-PC.65
Balanced and unbalanced sample
Number of funds 1Y horizon



Note: EU UCITS universe, number of funds per asset class, balanced and unbalanced samples. 1Y horizon, in thousands.
Sources: Thomson Reuters Lipper, ESMA.

Overall, there are no large deviations of the unbalanced sample from the balanced one from one country to another or one asset type to another. The main variables regarding fund performance have deviations of less than 5% (ASR-PC.66).

ASR-PC.66
Balanced and unbalanced sample
Deviations from balanced sample below threshold

Note: Deviations balanced/unbalanced panels in terms of gross return, return net of TER, return net of TER, subscription and redemption fees over 1Y horizon, %.
Sources:Thomson Reuters Lipper, ESMA.

Therefore, across samples there are not significant differences. In the main analysis, we thus decided to refer to an unbalanced panel to keep a larger number of observations.

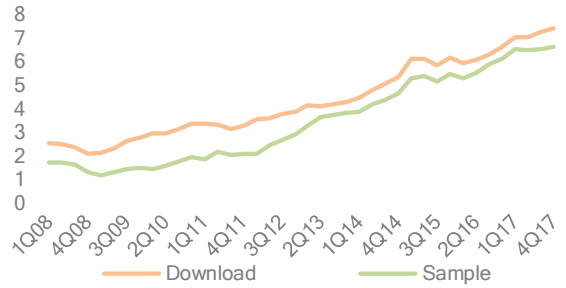
Statistical annex

UCITS

Market overview

ASR-PC-S.1

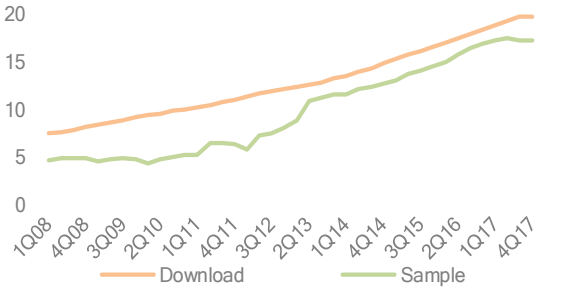
UCITS market size



Note: EU UCITS market size in terms of fund value. Download, all observations for which fund value and fund performance are available. Sample, all observations for which fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn.
Sources: Thomson Reuters Lipper, ESMA

ASR-PC-S.2

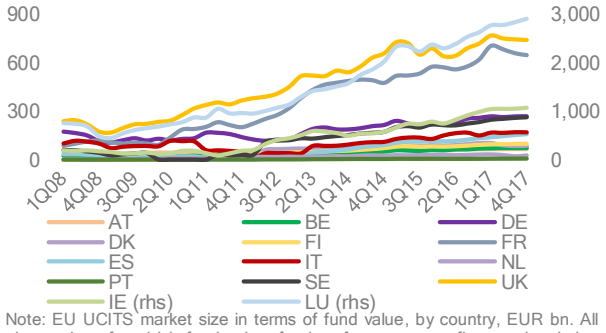
Number of UCITS funds



Note: EU UCITS market size in terms of number of funds. Download, all observations for which fund value and fund performance are available. Sample, all observations for which fund value, fund performance, net flows, subscription and redemption fees are available, thousands.
Sources: Thomson Reuters Lipper, ESMA

ASR-PC-S.3

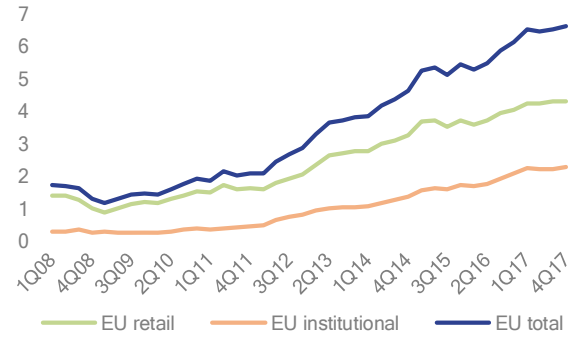
UCITS market size by country



Note: EU UCITS market size in terms of fund value, by country, EUR bn. All observations for which fund value, fund performance, net flows, subscription and redemption fees are available.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.4

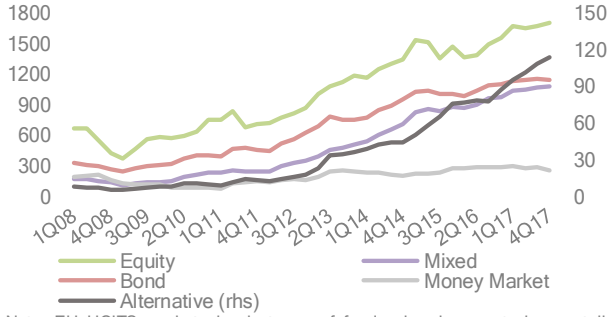
UCITS market size by type of investor



Note: EU UCITS market size in terms of fund value, by type of investor, EUR tn
Sources: Thomson Reuters Lipper, ESMA

ASR-PC-S.5

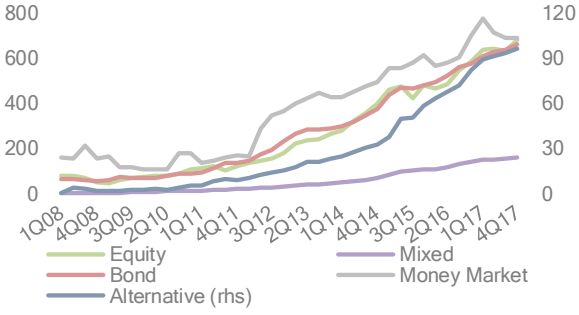
UCITS retail market size by asset class



Note: EU UCITS market size in terms of fund value, by asset class, retail investors, EUR bn. Money Market refers to MMF UCITS. Alternative strategies on the right hand side axis (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.6

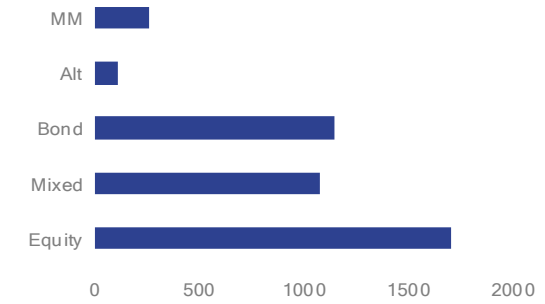
UCITS institutional market size by asset class



Note: EU UCITS market size in terms of fund value by asset class, institutional investors, EUR bn. Money Market refers to MMF UCITS. Alternative strategies on the right-hand side axis (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.7

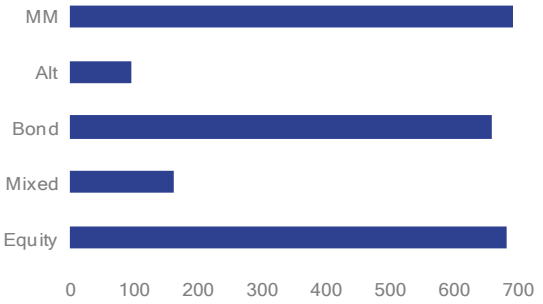
UCITS retail market size by asset class – 2017



Note: EU UCITS universe, in terms of fund value by asset class, retail investors, 4Q17, EUR bn.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.8

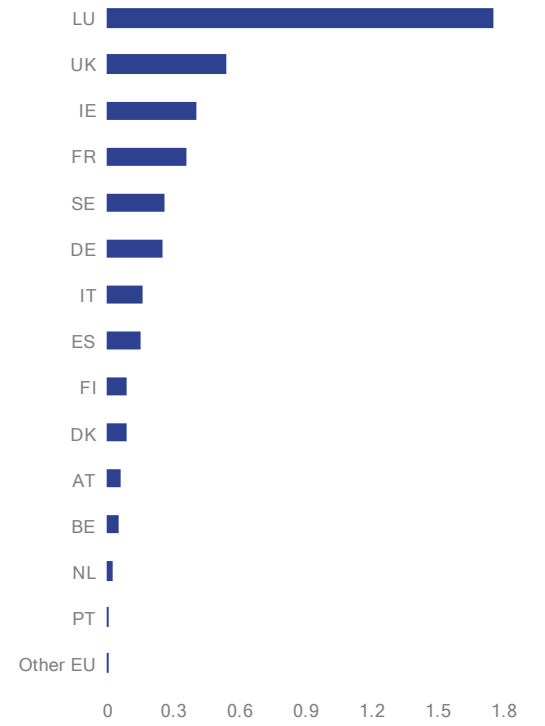
UCITS institutional market size by asset class – 2017



Note: EU UCITS universe, in terms of fund value by asset class, institutional investors, 4Q17, EUR bn.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.9

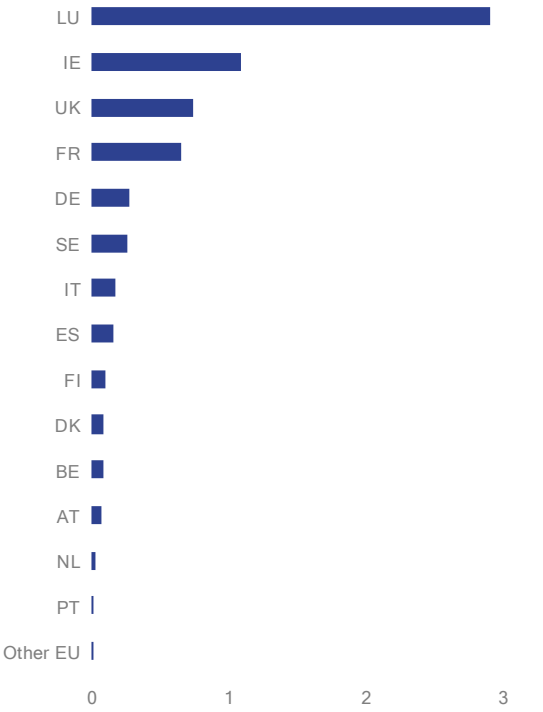
UCITS retail market size by domicile



Note: EU UCITS universe in terms of fund value, retail investors, 4Q17. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees available, EUR tn. Other EU includes: BG, CY, CZ, EE, GR, HR, HU, LT, LV, MT, PL, SI, SK, RO.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.10

UCITS market size by domicile – all investors



Note: EU UCITS by domicile in terms of fund value, retail and institutional investors, 4Q17, EUR bn All observations for which information on fund value, fund performance, net flows, subscription and redemption fees available, EUR tn. Other EU includes: BG, CY, CZ. EE. GR, HR. HU, LT, LV, MT, PL, SI, SK, GR, RO.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.11

UCITS market share of domiciles by asset class – retail investors

	AT	BE	DE	DK	ES	FI	FR	IE
Equity	0.83	1.11	7.78	2.07	1.50	2.18	7.78	9.65
Bond	2.59	0.44	2.65	3.13	2.74	2.43	5.51	12.63
Alternative	0.41	1.54	0.92	0.01	1.33	0.00	10.06	27.79
Mixed	1.52	2.45	7.64	1.08	7.06	1.47	8.94	3.05
Money market	0.71	0.11	1.72	0.01	8.44	2.90	29.68	22.27

	IT	LU	NL	PT	SE	UK	Other EU
Equity	1.00	37.09	0.88	0.07	9.18	18.85	0.04
Bond	4.19	53.01	0.31	0.14	2.81	7.37	0.04
Alternative	0.92	47.22	0.00	0.00	0.00	9.79	0.00
Mixed	8.77	39.78	0.43	0.26	5.76	11.78	0.01
Money market	1.42	30.93	0.16	1.17	4.34	36.55	1.56

Note: Share of national fund value versus the EU total, by domicile, for retail investors, %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.12

UCITS market share of domiciles by asset class – institutional investors

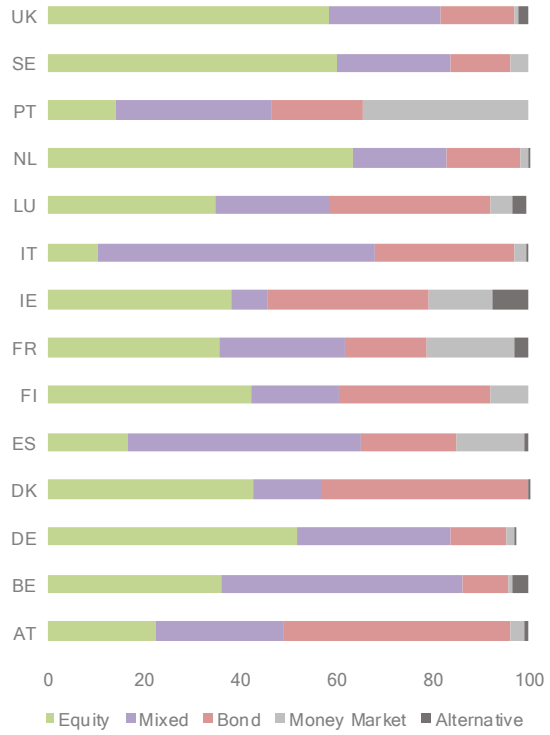
	AT	BE	DE	DK	ES	FI	FR	IE
Equity	0.06	2.71	0.68	0.28	0.10	0.05	3.73	20.38
Bond	0.09	0.41	0.66	0.22	0.03	1.06	7.81	25.53
Alternatives	0.00	0.19	0.29	0.00	0.00	0.00	7.26	29.74
Mixed	0.07	0.27	3.79	0.00	0.28	0.30	4.32	8.49
Money market	0.00	0.18	0.03	0.00	0.25	0.47	27.13	43.22

	IT	LU	NL	PT	SE	UK	Other EU
Equity	0.37	53.06	0.38	0.00	0.28	17.91	0.00
Bond	0.38	58.62	0.56	0.00	0.04	4.58	0.00
Alternatives	0.17	54.93	0.00	0.00	0.00	7.41	0.00
Mixed	1.21	64.62	0.00	0.00	0.00	16.65	0.00
Money market	0.20	26.98	0.00	0.00	0.08	1.47	0.00

Note: Share of national fund value versus the EU total, by domicile, for institutional investors, %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.13

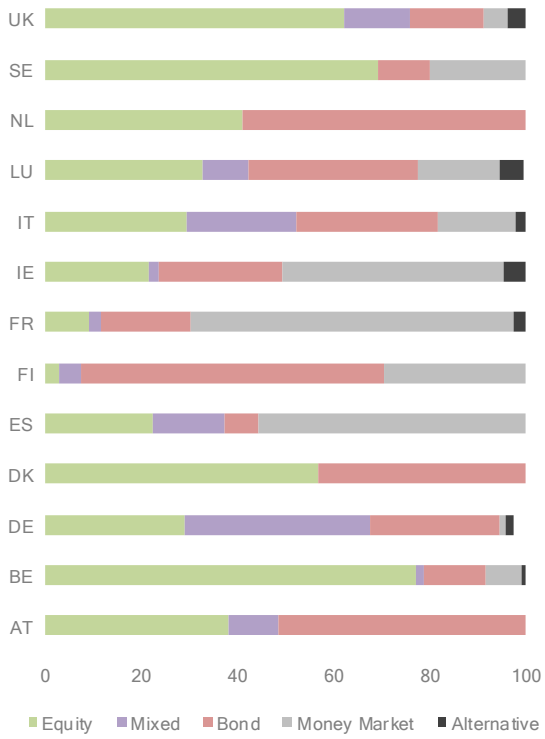
UCITS share of asset classes, by domicile – retail



Note: EU UCITS share of asset classes over total national fund value per domicile, retail, 4Q17, %. Other EU not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.14

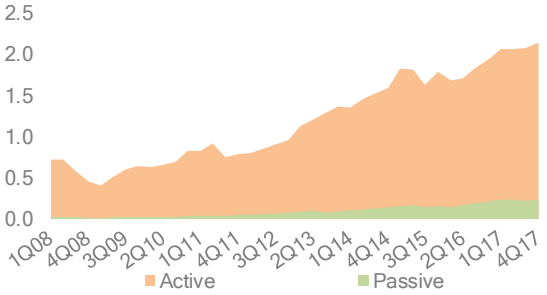
UCITS share of asset classes, by domicile – institutional



Note: EU UCITS share of asset classes over total national fund value per domicile, institutional, 4Q17, %. No data for PT. Other EU not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.15

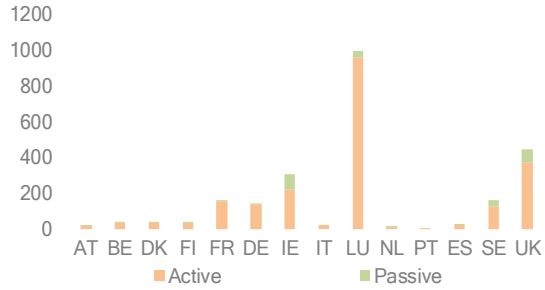
UCITS equity funds – active and passive funds size



Note: EU UCITS equity actively and passively managed funds market size in terms of fund value. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.16

UCITS equity funds size - by domicile

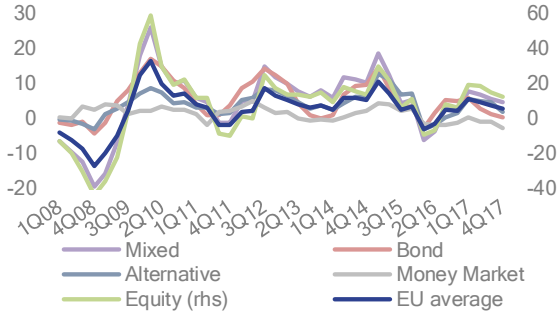


Note: EU UCITS equity actively and passively managed funds market size in terms of fund value. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR bn.
Sources: Thomson Reuters Lipper, ESMA

Performance and costs, by asset class and domicile

ASR-PC-S.17

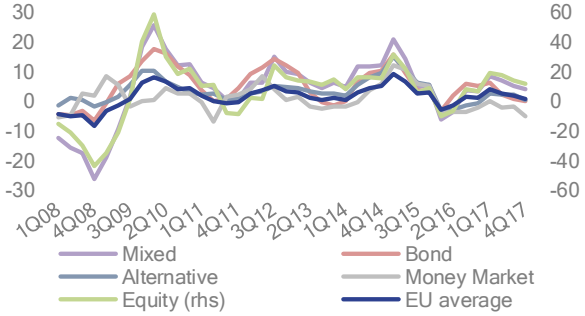
UCITS annual gross return – retail investors



Note: EU UCITS universe, annual gross returns by asset class, retail investors, in %. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS. Primary y-axis cut-off at -20%.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.18

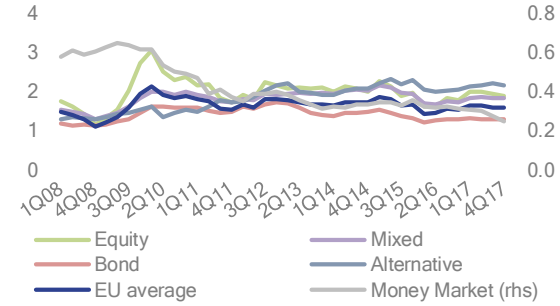
UCITS annual gross return – institutional investors



Note: EU UCITS universe, annual gross returns by asset class, institutional investors, %. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.19

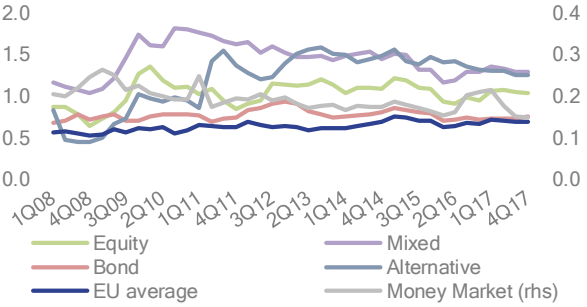
UCITS fund costs – retail investors



Note: EU UCITS universe, impact of ongoing costs, subscription and redemption fees on annual gross returns, by asset class, retail investors, in ppt. Money Market refers to MMF UCITS on right-hand side axis (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.20

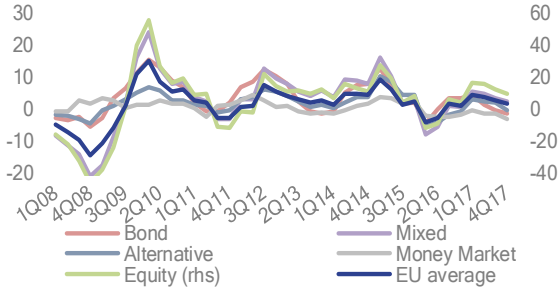
UCITS fund costs – institutional investors



Note: EU UCITS universe, impact of ongoing costs, subscription and redemption fees on annual gross returns, by asset class, institutional investors, ppt. Money Market refers to MMF UCITS on right-hand side axis (rhs).

ASR-PC-S.21

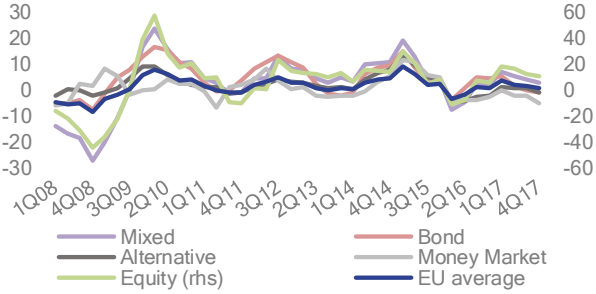
UCITS annual net return – retail investors



Note: EU UCITS universe, annual net returns by asset class, retail investors, in %. Net return: gross return net of ongoing costs, subscription and redemption fees. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS. Primary y-axis cut-off at -20%.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.22

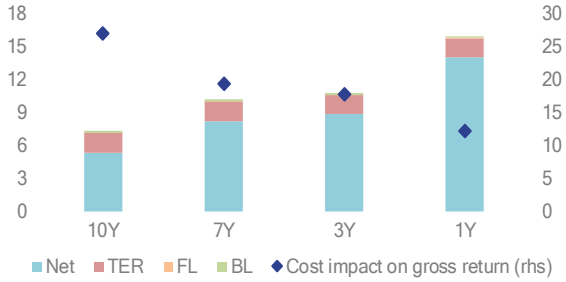
UCITS annual net returns – institutional investors



Note: EU UCITS universe, annual net returns by asset class, institutional investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.23

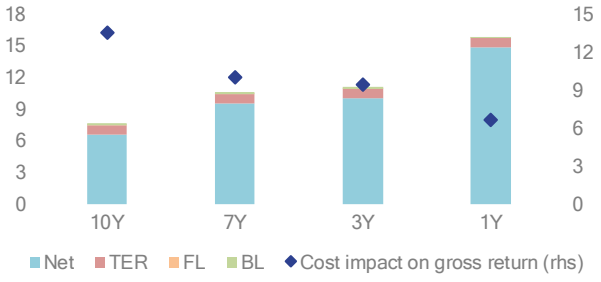
Equity UCITS performance and costs – retail



Note: EU UCITS equity fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.24

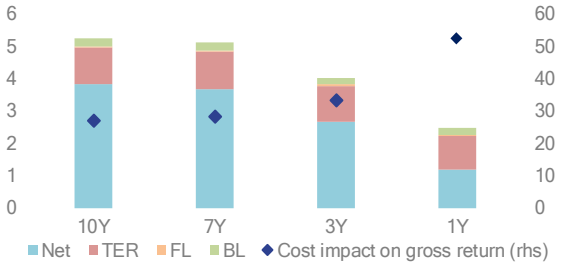
Equity UCITS performance and costs – institutional



Note: EU UCITS equity fund shares annual gross returns, institutional investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.25

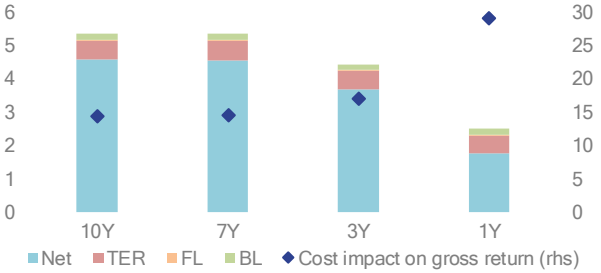
Bond UCITS performance and costs – retail



Note: EU UCITS bond fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.26

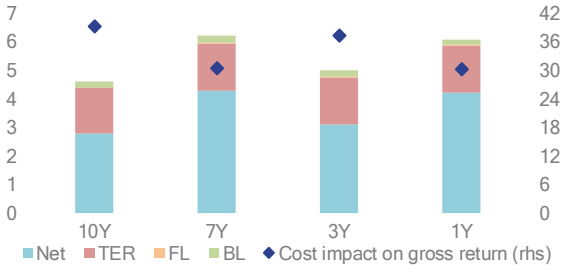
Bond UCITS performance and costs – institutional



Note: EU UCITS bond fund shares annual gross returns, institutional investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.27

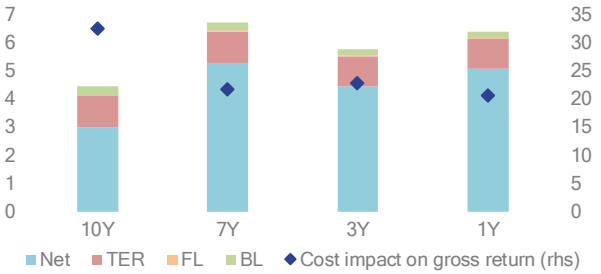
Mixed UCITS performance and costs – retail



Note: EU UCITS mixed fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.28

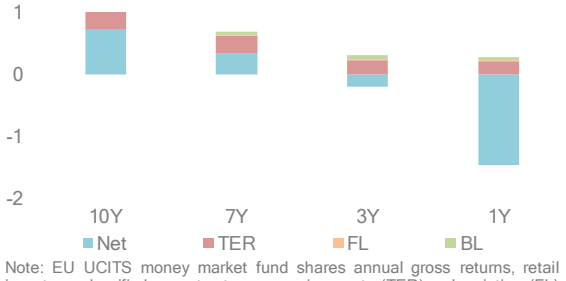
Mixed UCITS performance and costs – institutional



Note: EU UCITS mixed fund shares annual gross returns, institutional investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, in %. Impact of total cots relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.29

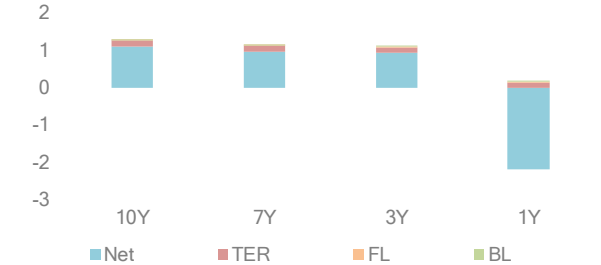
MMF UCITS performance and costs – retail



Note: EU UCITS money market fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns not reported, as returns either close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

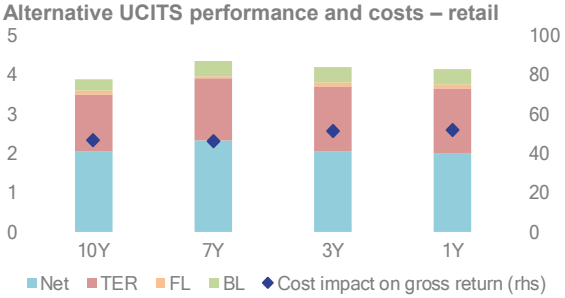
ASR-PC-S.30

MMF UCITS performance and costs – institutional



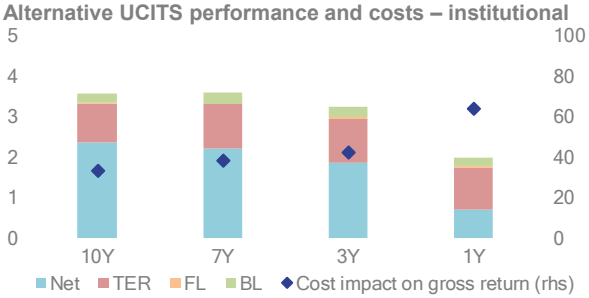
Note: EU UCITS money market fund shares annual gross returns, institutional investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns not reported, as returns either close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.31
Alternative UCITS performance and costs – retail



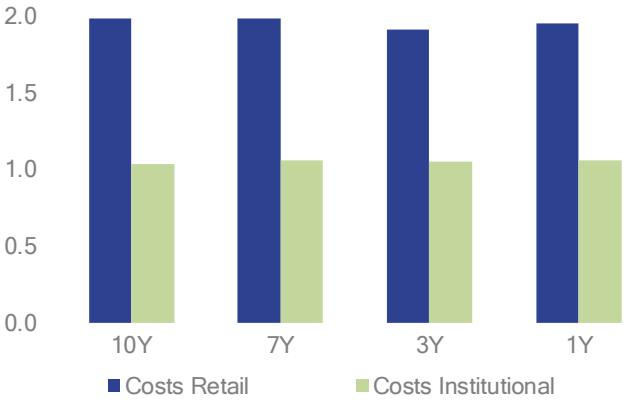
Note: EU UCITS alternative fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.32
Alternative UCITS performance and costs – institutional



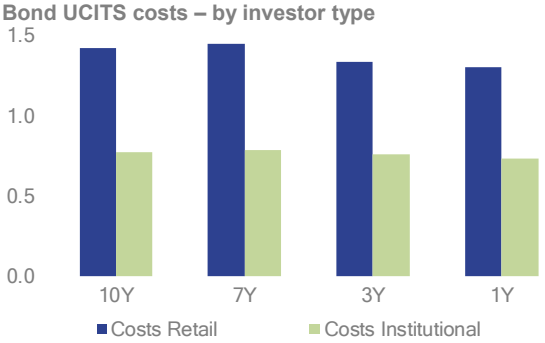
Note: EU UCITS alternative fund shares annual gross returns, institutional investors, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.33
Equity UCITS costs – by investor type



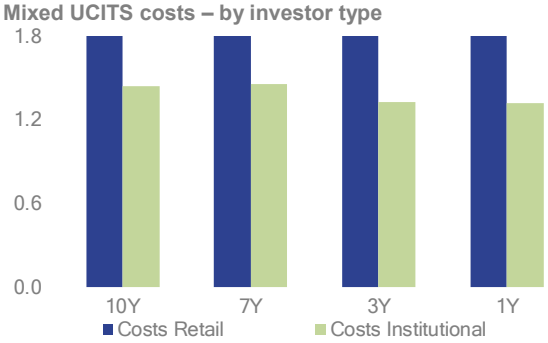
Note: EU UCITS equity funds costs, per time horizon, ppt. Costs comprise ongoing costs, subscription and redemption fees.
mson Reuters Lipper, ESMA.

ASR-PC-S.34
Bond UCITS costs – by investor type



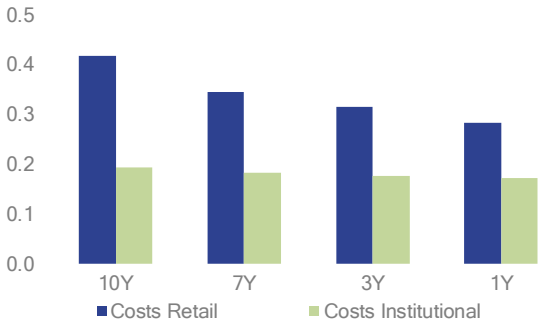
Note: EU UCITS bond funds costs, per time horizon, ppt. Costs comprise ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.35
Mixed UCITS costs – by investor type



Note: EU UCITS mixed funds costs, per time horizon, ppt. Costs comprise ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.36
MMF UCITS costs – by investor type

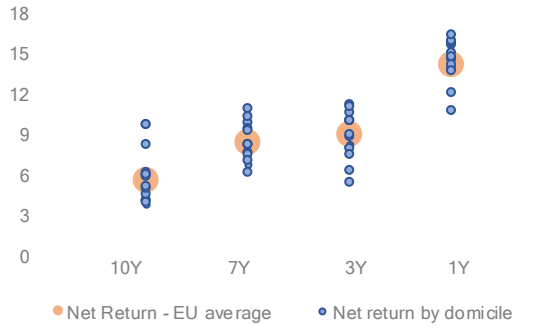


Note: EU UCITS money market funds costs, per time horizon, ppt. Costs comprise ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.37
Alternative UCITS costs – by investor type

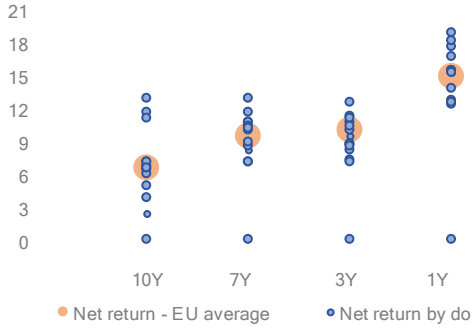
Note: EU UCITS alternative funds costs, per time horizon, ppt. Costs comprise ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.38
Equity UCITS net return dispersion by domicile – retail



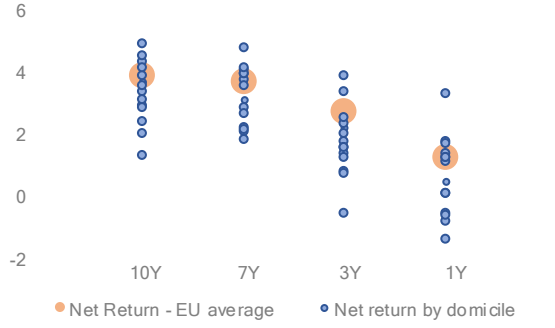
Note: EU UCITS Equity annual net return, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.39
Equity UCITS net return dispersion by domicile – institutional



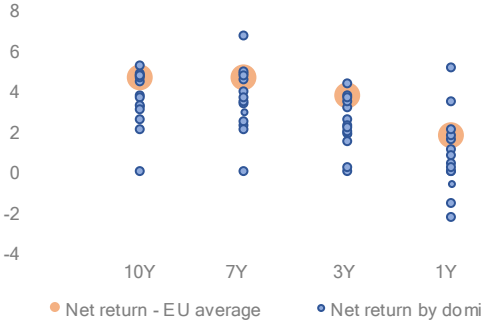
Note: EU UCITS Equity annual net return, institutional investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.40
Bond UCITS net return dispersion by domicile – retail



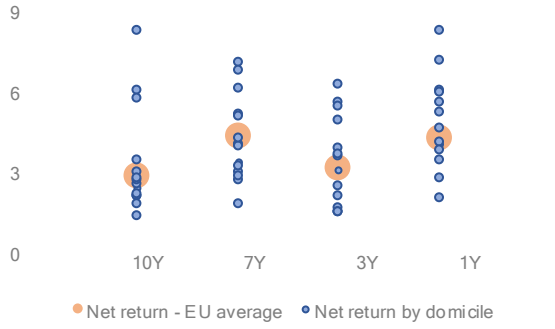
Note: EU UCITS Bond annual net return, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.41
Bond UCITS net return dispersion by domicile – institutional



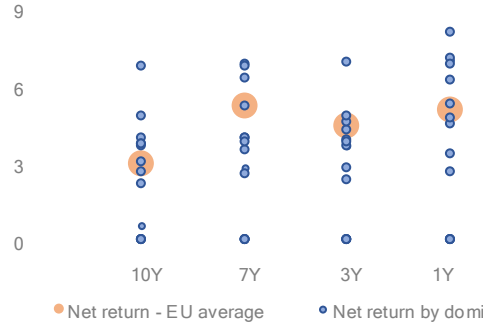
Note: EU UCITS Bond annual net return, institutional investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.42
Mixed UCITS net return dispersion by domicile – retail



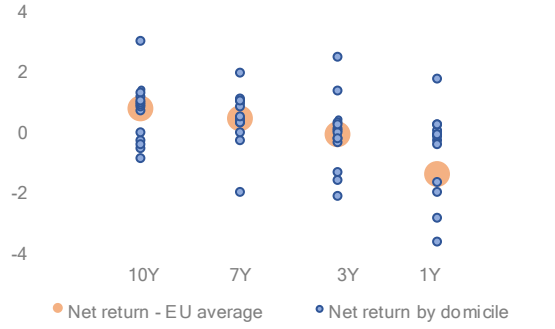
Note: EU UCITS Mixed annual net return, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.43
Mixed UCITS net return dispersion by domicile – institutional



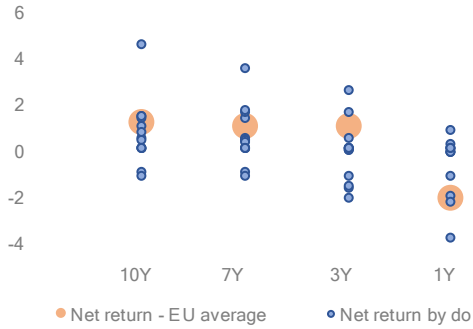
Note: EU UCITS mixed funds annual net return, institutional investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.44
MMF UCITS net return dispersion by domicile – retail



Note: EU MMF UCITS annual net return, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

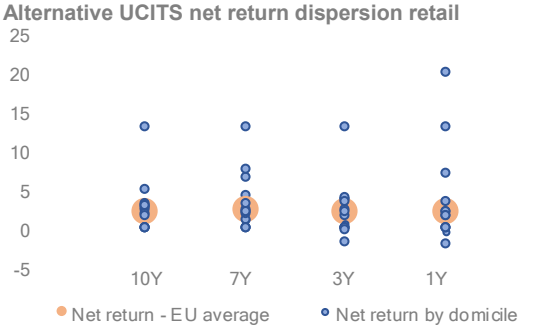
ASR-PC-S.45
MMF UCITS net return dispersion by domicile – institutional



Note: EU UCITS MMF annual net return, institutional investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.46

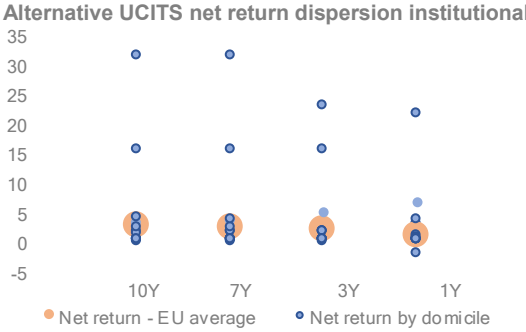
Alternative UCITS net return dispersion retail



Note: EU UCITS Alternative annual net return, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.47

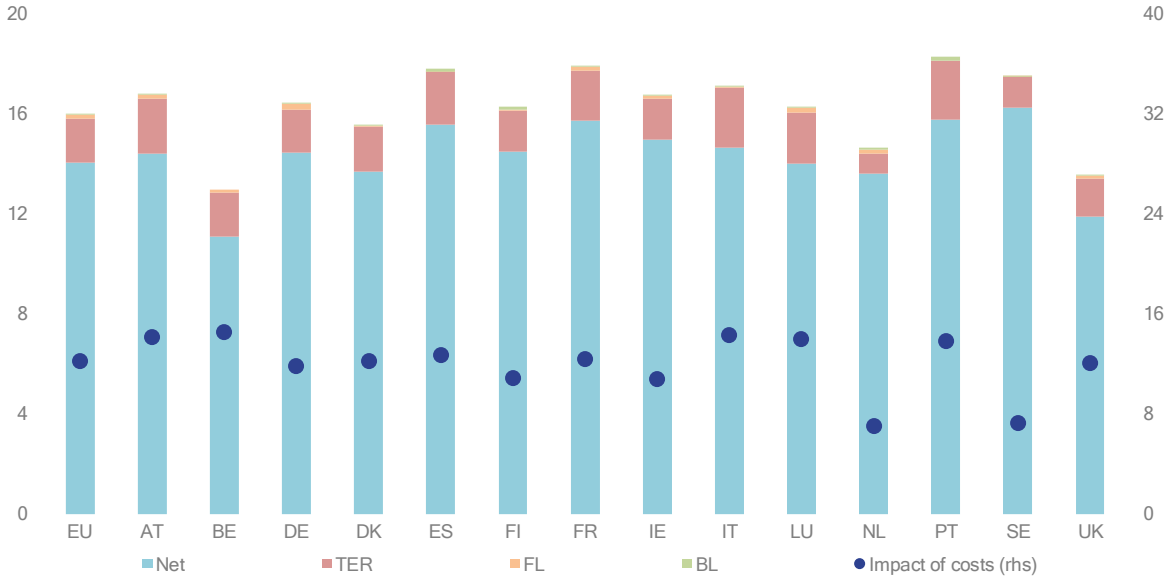
Alternative UCITS net return dispersion institutional



Note: EU UCITS Alternative annual net return, institutional investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.48

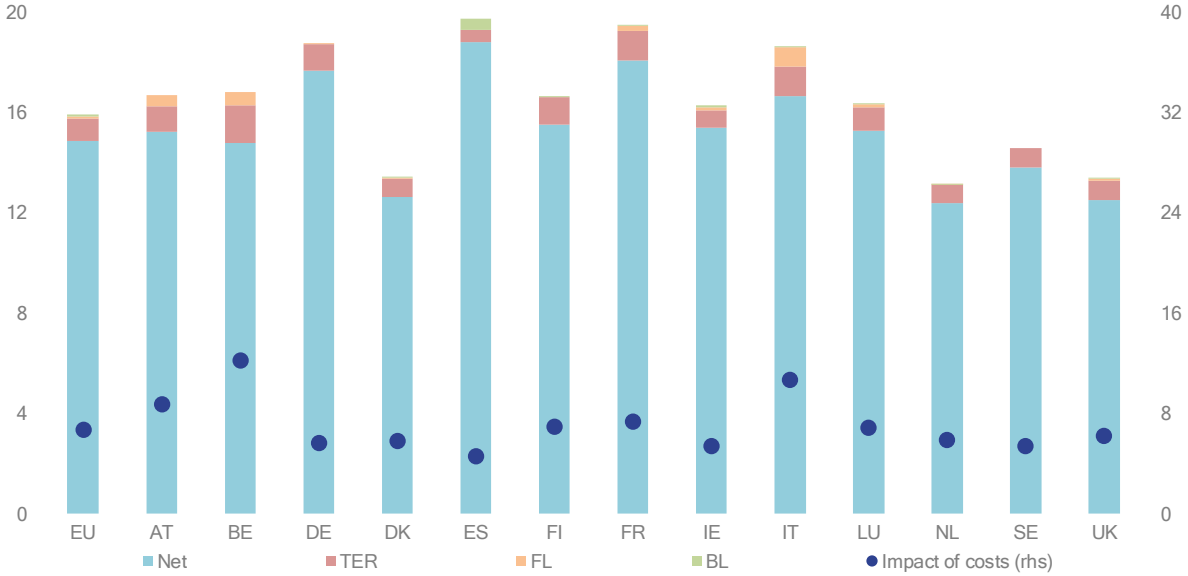
Equity UCITS gross performance and cost impact by domicile – retail investors – 1Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.49

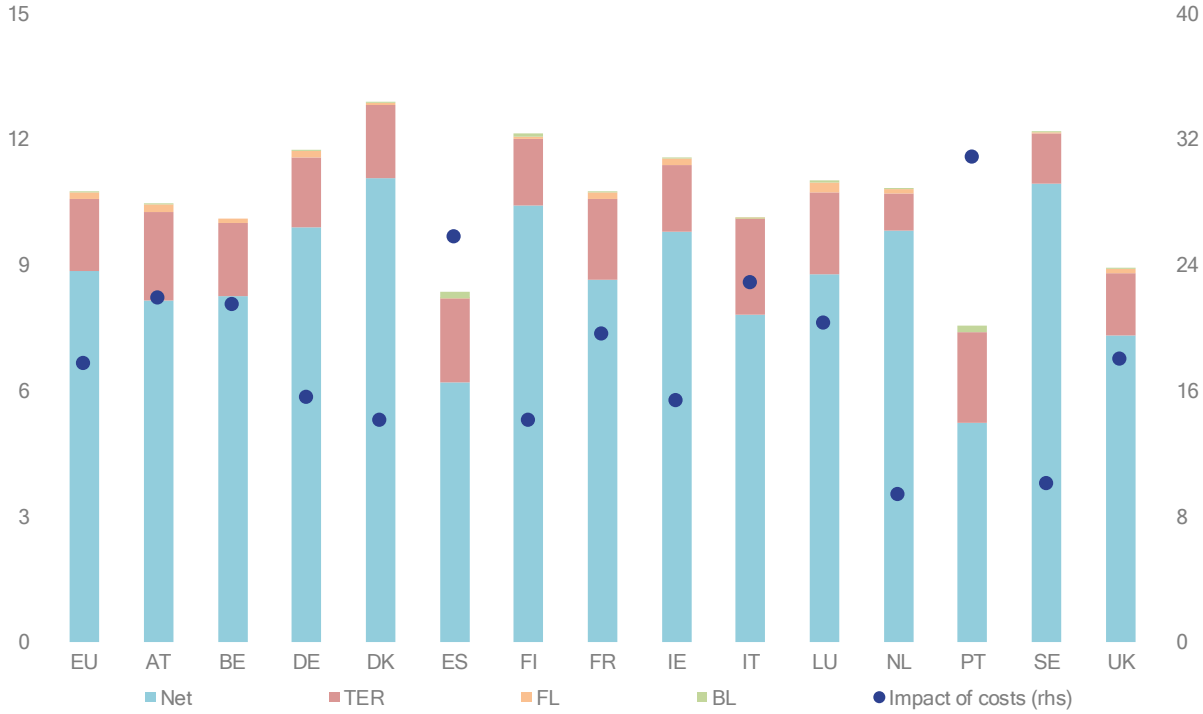
Equity UCITS gross performance and cost impact by domicile – institutional investors – 1Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 1Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.50

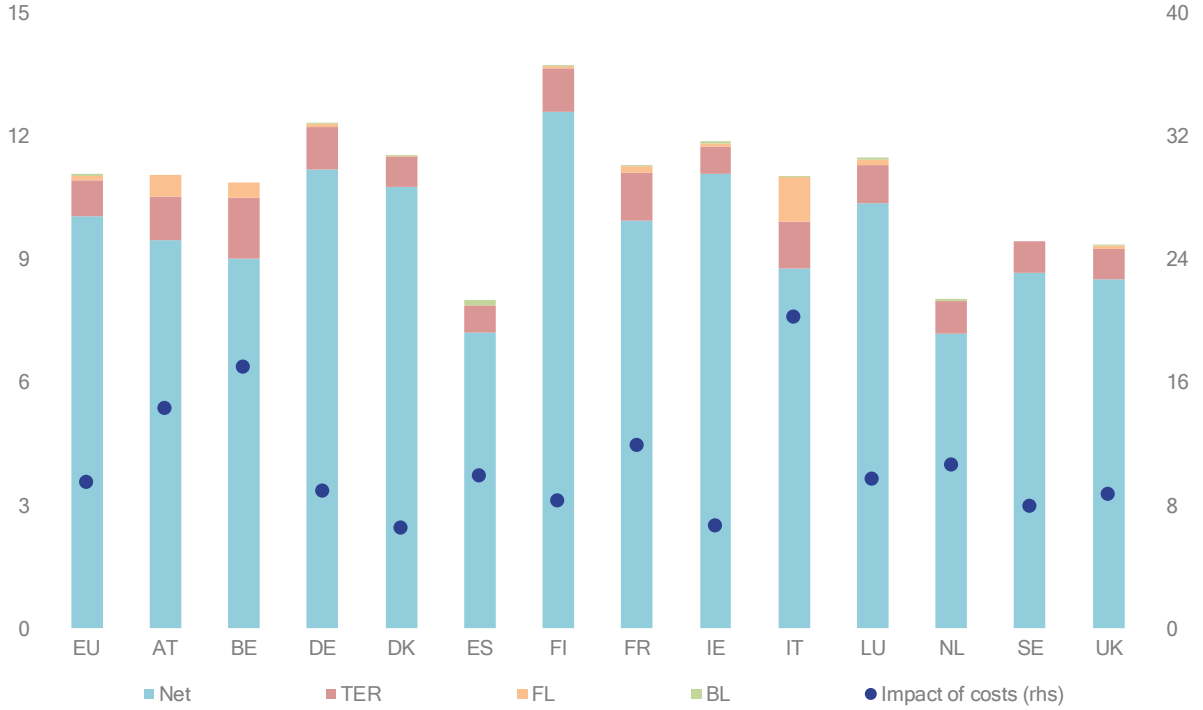
Equity UCITS gross performance and cost impact by domicile – retail investors – 3Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.51

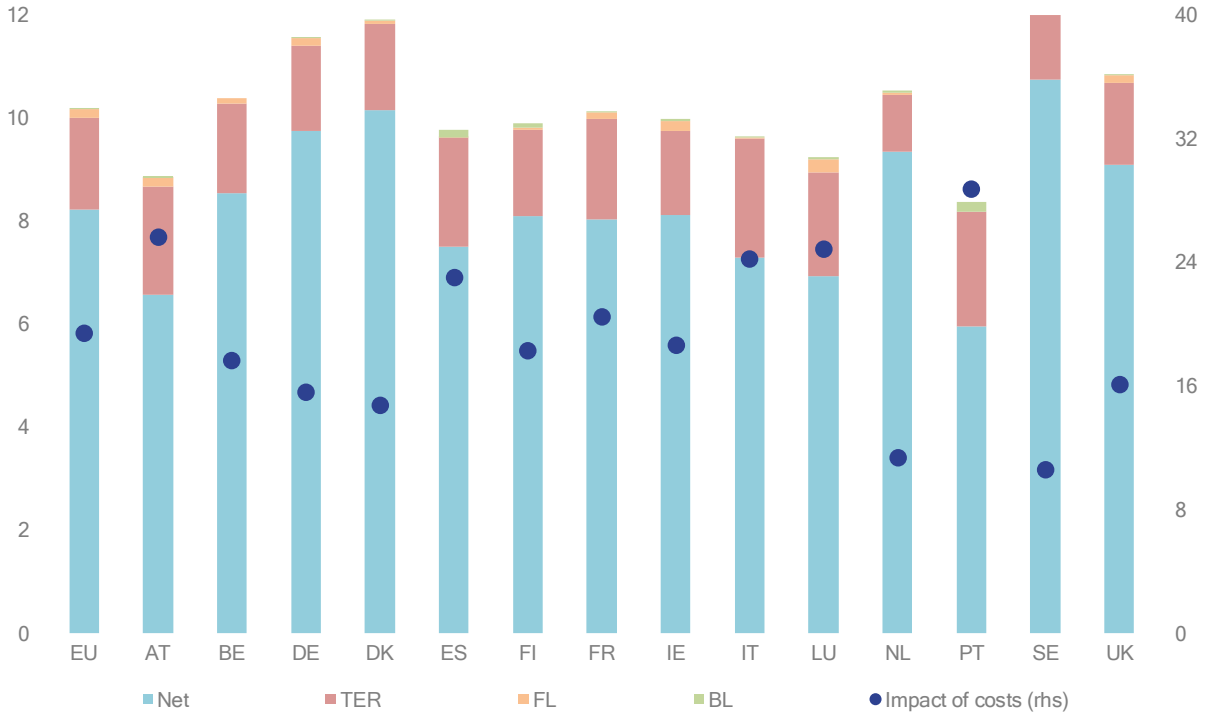
Equity UCITS gross performance and cost impact by domicile – institutional investors – 3Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 3Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.52

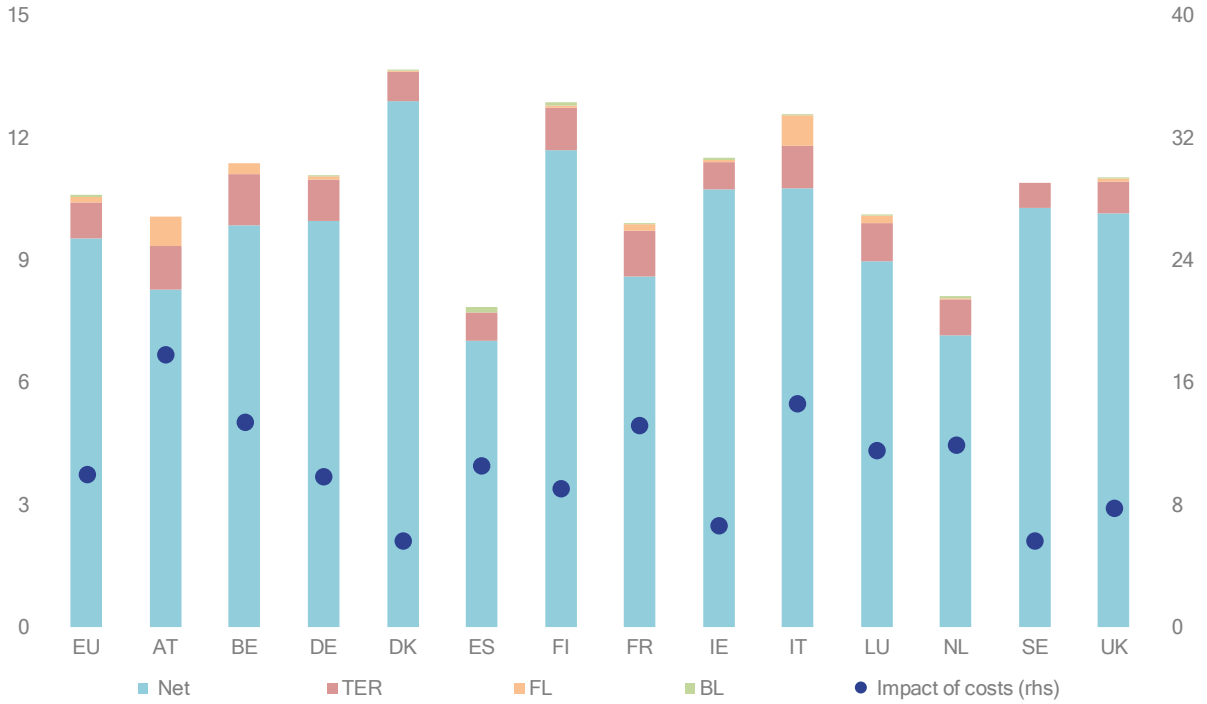
Equity UCITS gross performance and cost impact by domicile – retail investors – 7Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.53

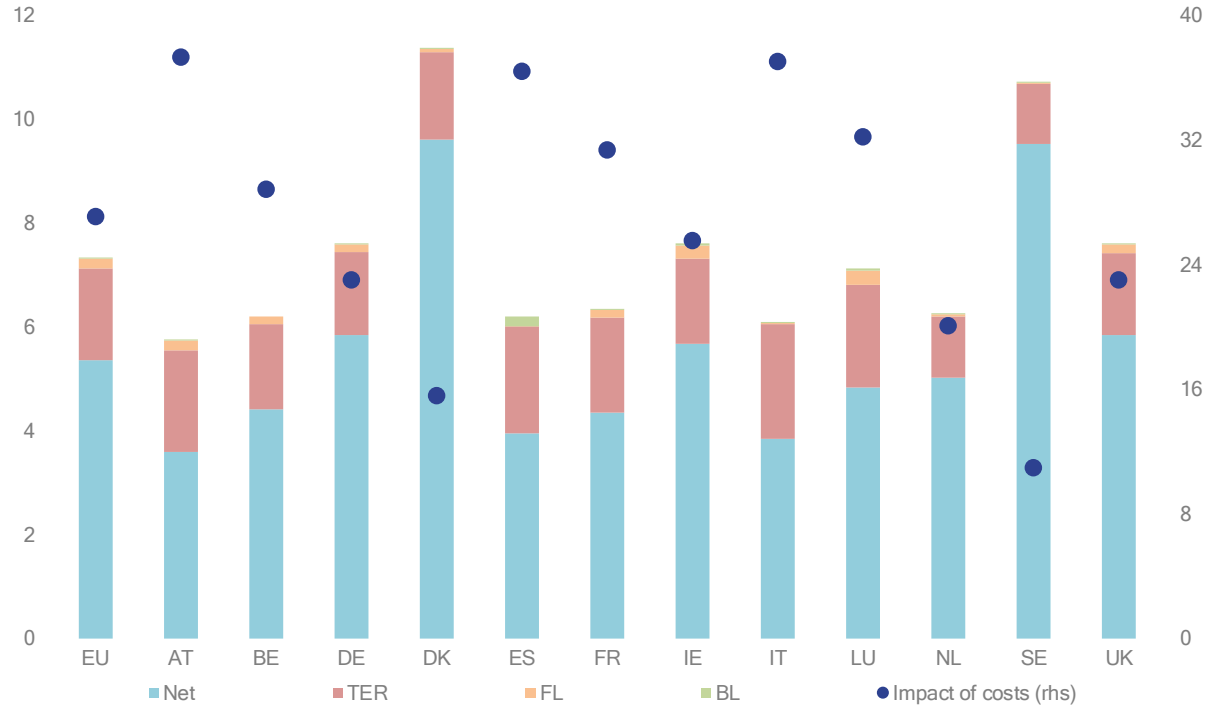
Equity UCITS gross performance and cost impact by domicile – institutional investors – 7Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER) and subscription (FL) and redemption fees (BL), institutional investors, by domicile, 7Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.54

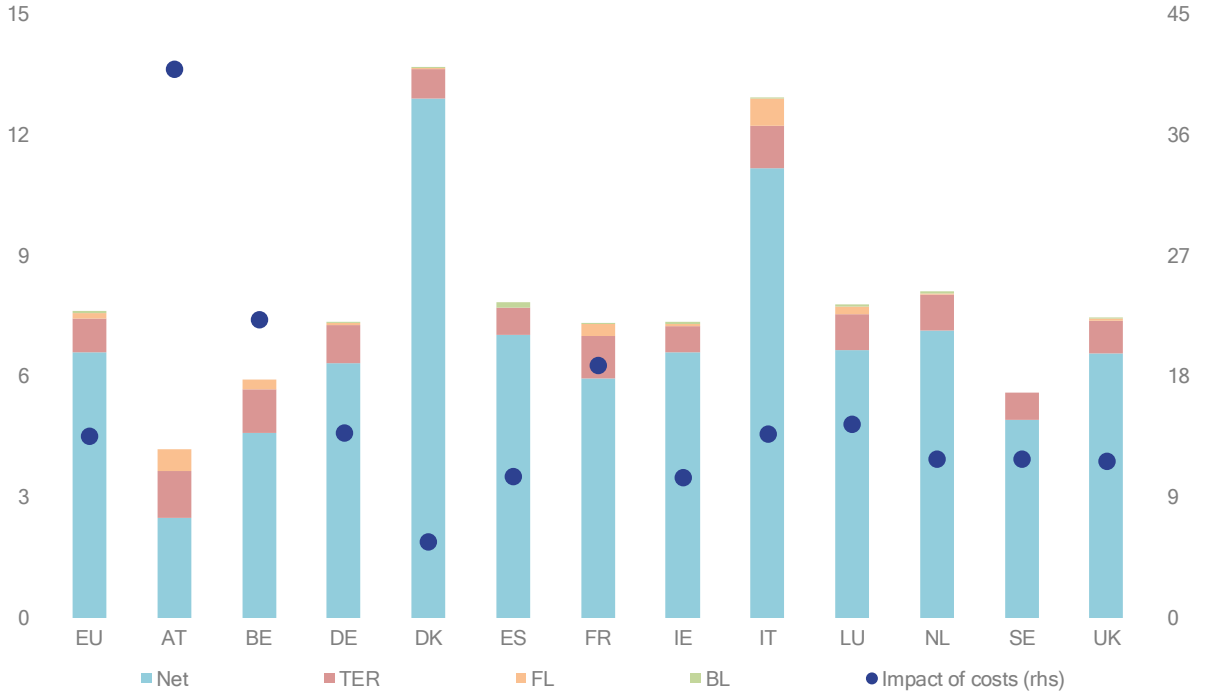
Equity UCITS gross performance and cost impact by domicile – retail investors – 10Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon, %. FI, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.55

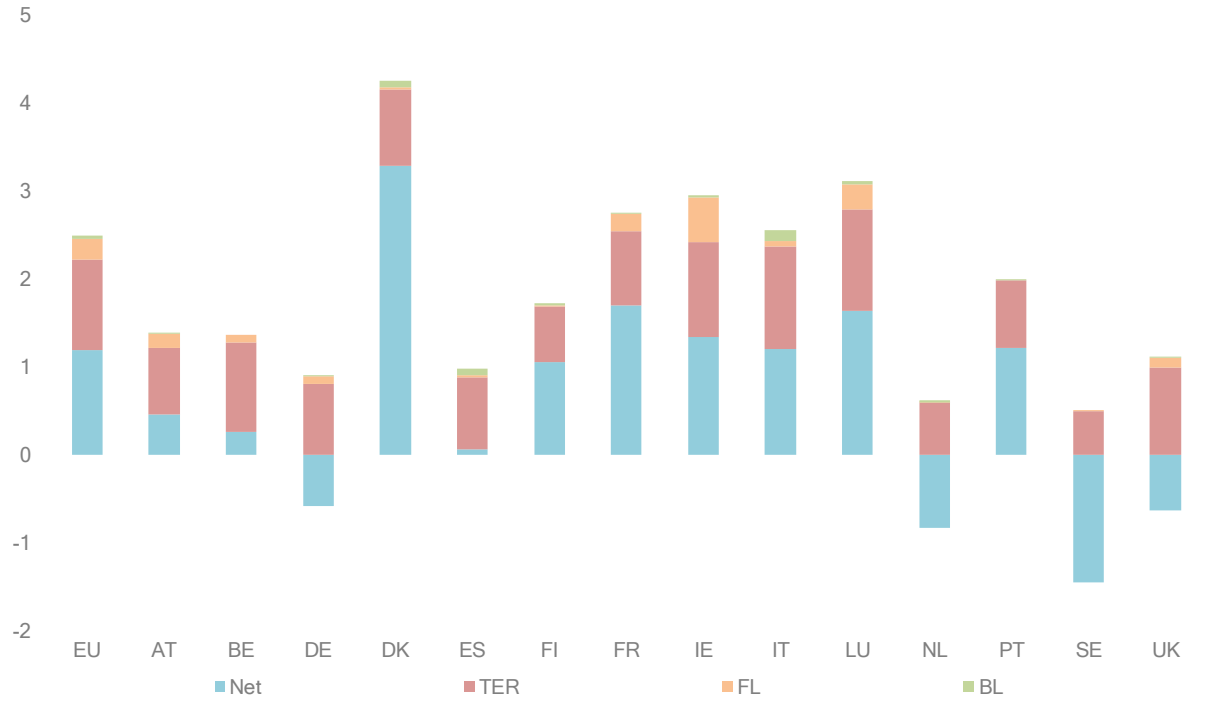
Equity UCITS gross performance and cost impact by domicile – institutional investors – 10Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 10Y horizon, %. FI, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.56

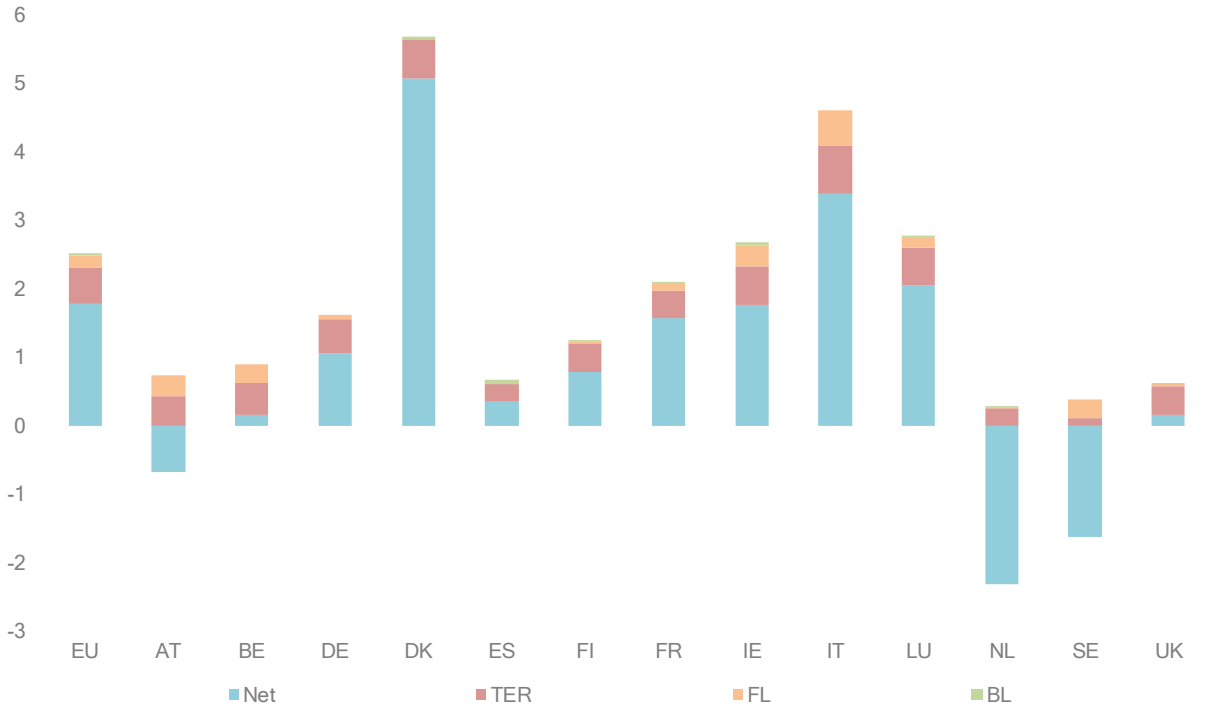
Bond UCITS gross performance and cost impact by domicile – retail investors – 1Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon, %. Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.57

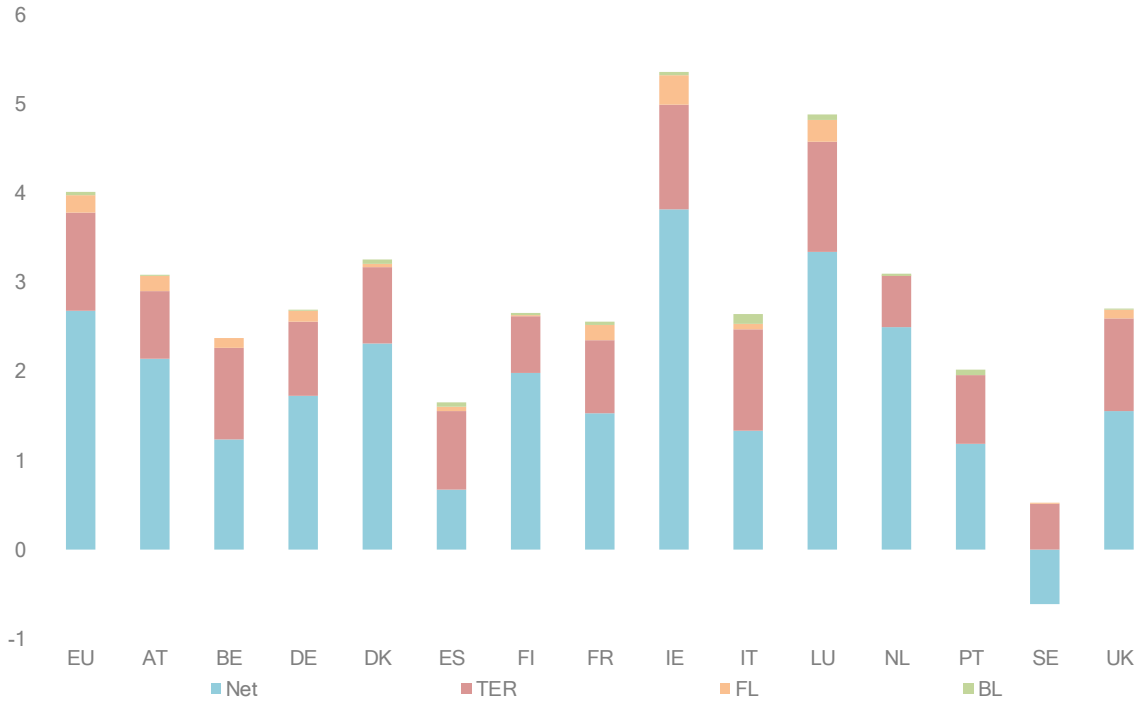
Bond UCITS gross performance and cost impact by domicile – institutional investors – 1Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 1Y horizon, %. PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.58

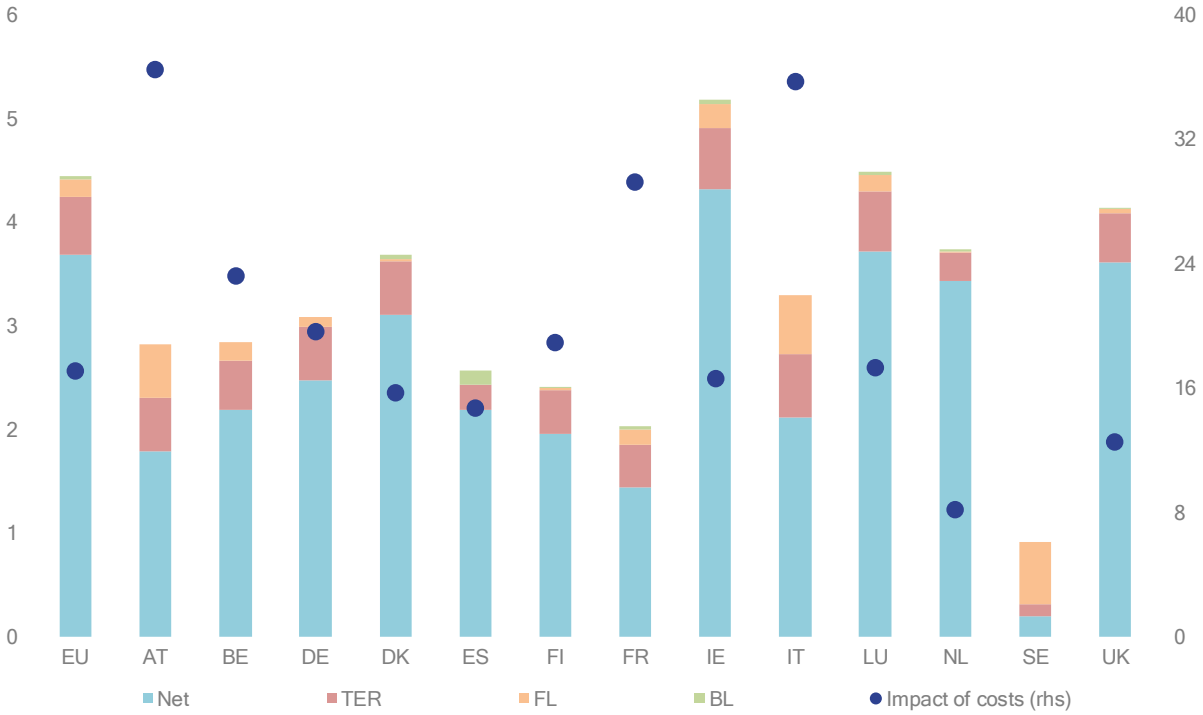
Bond UCITS gross performance and cost impact by domicile – retail investors – 3Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.59

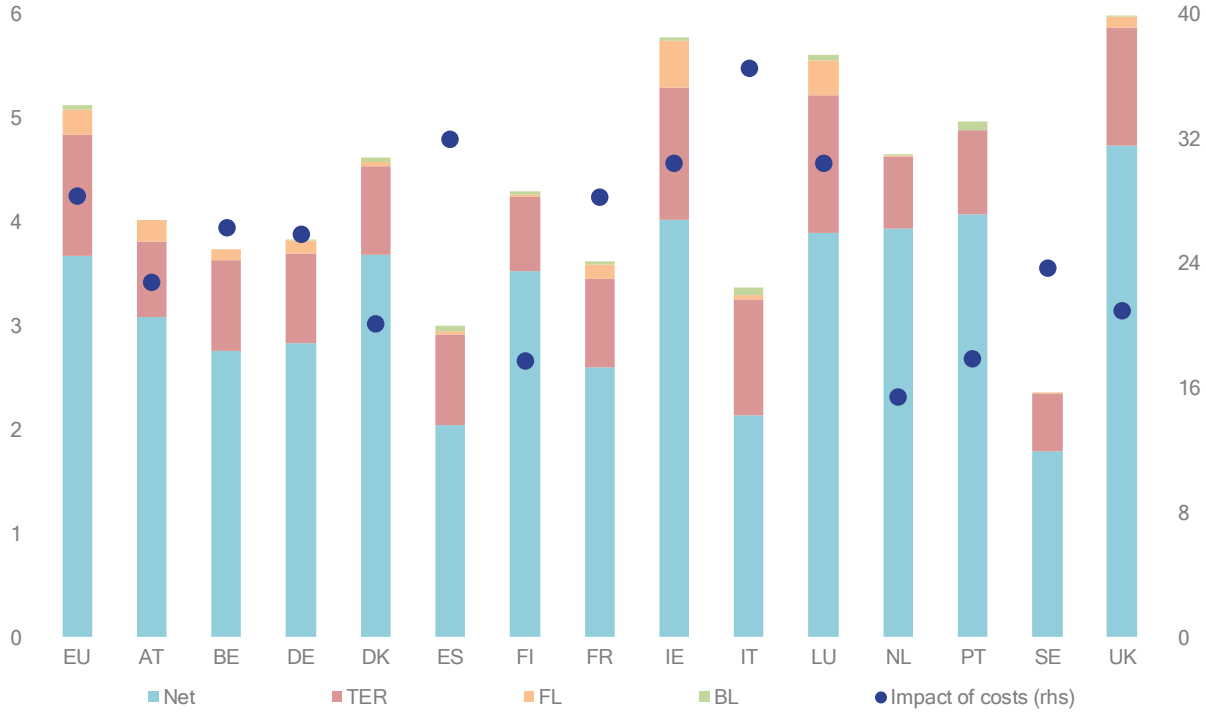
Bond UCITS gross performance and cost impact by domicile – institutional investors – 3Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 3Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.60

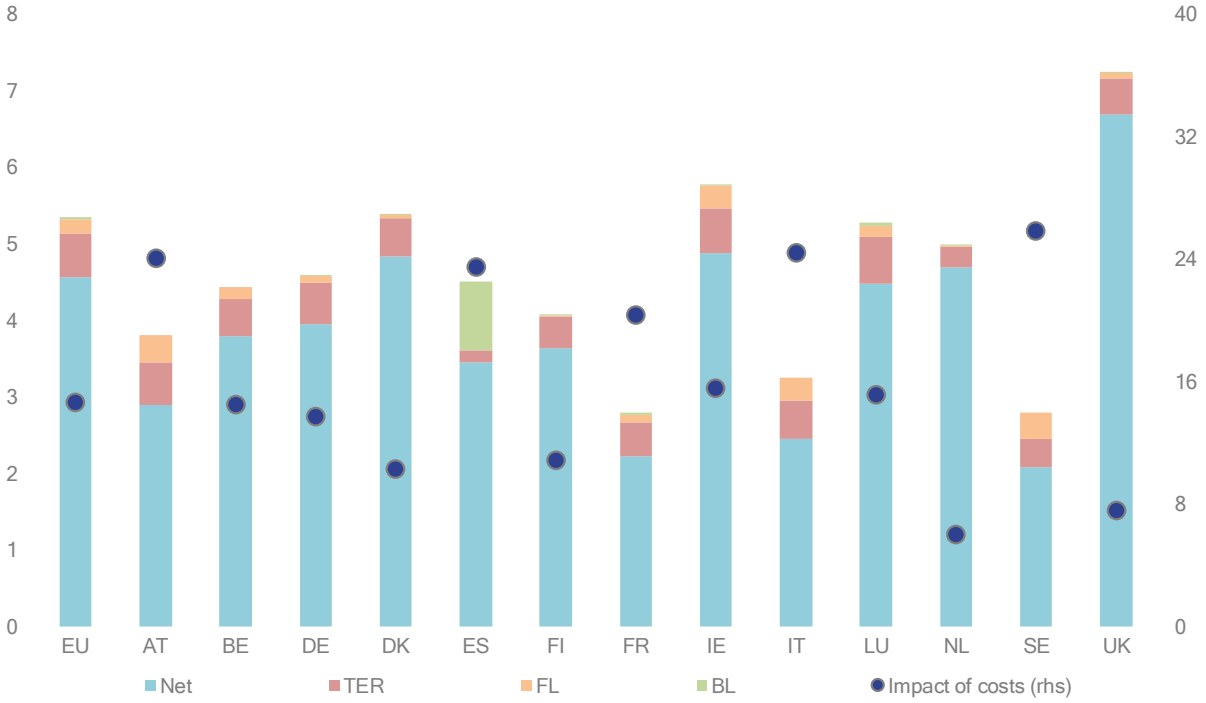
Bond UCITS gross performance and cost impact by domicile – retail investors – 7Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.61

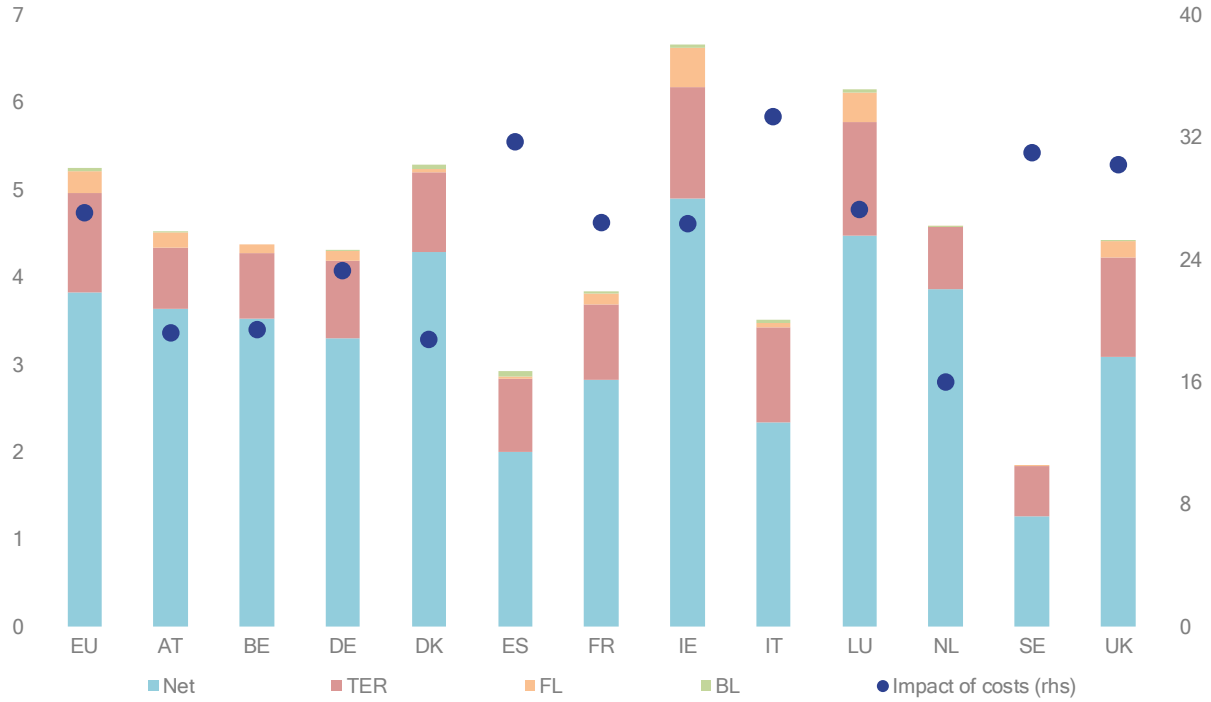
Bond UCITS gross performance and cost impact by domicile – institutional investors – 7Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 7Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.62

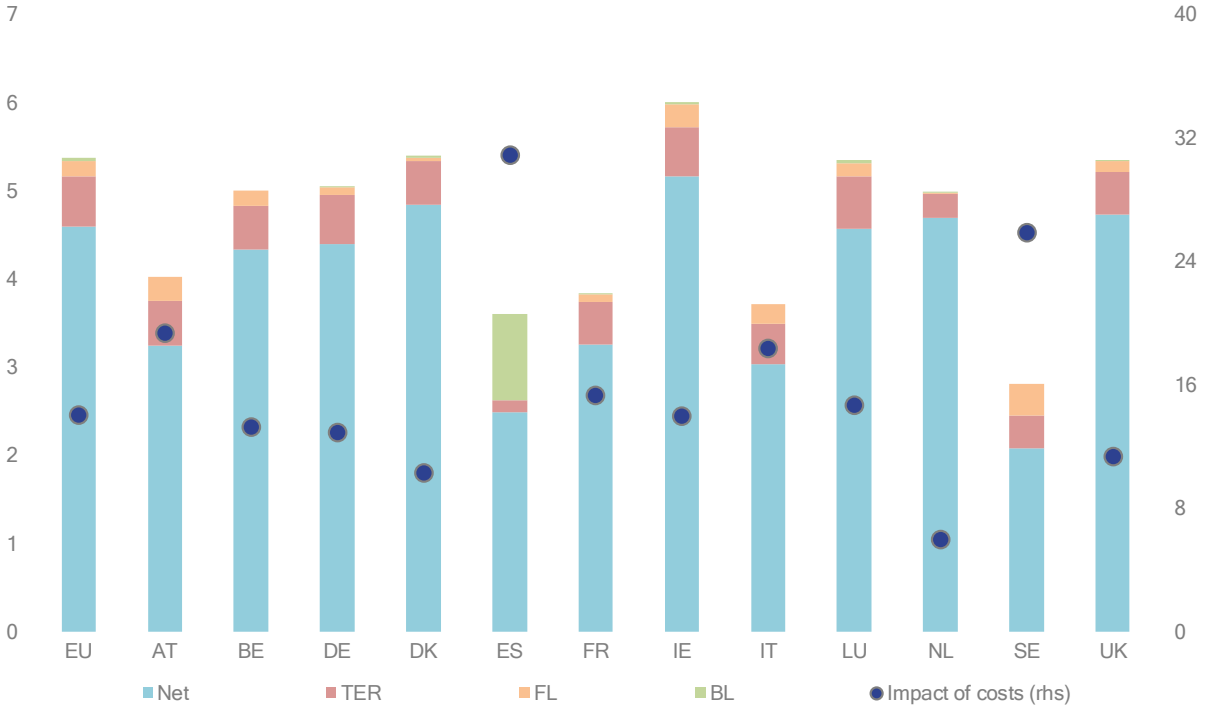
Bond UCITS gross performance and cost impact by domicile – retail investors – 10Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile,10Y horizon, %. FI, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.63

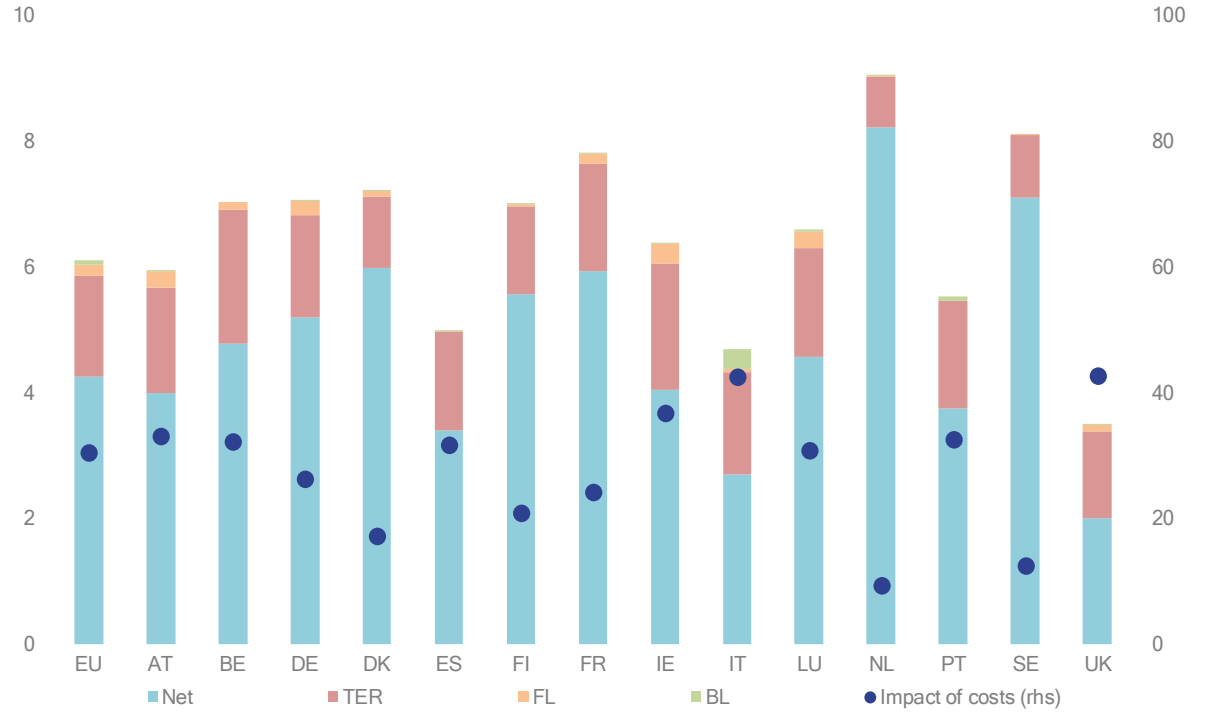
Bond UCITS gross performance and cost impact by domicile – institutional investors – 10Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile,10Y horizon, %. FI, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.64

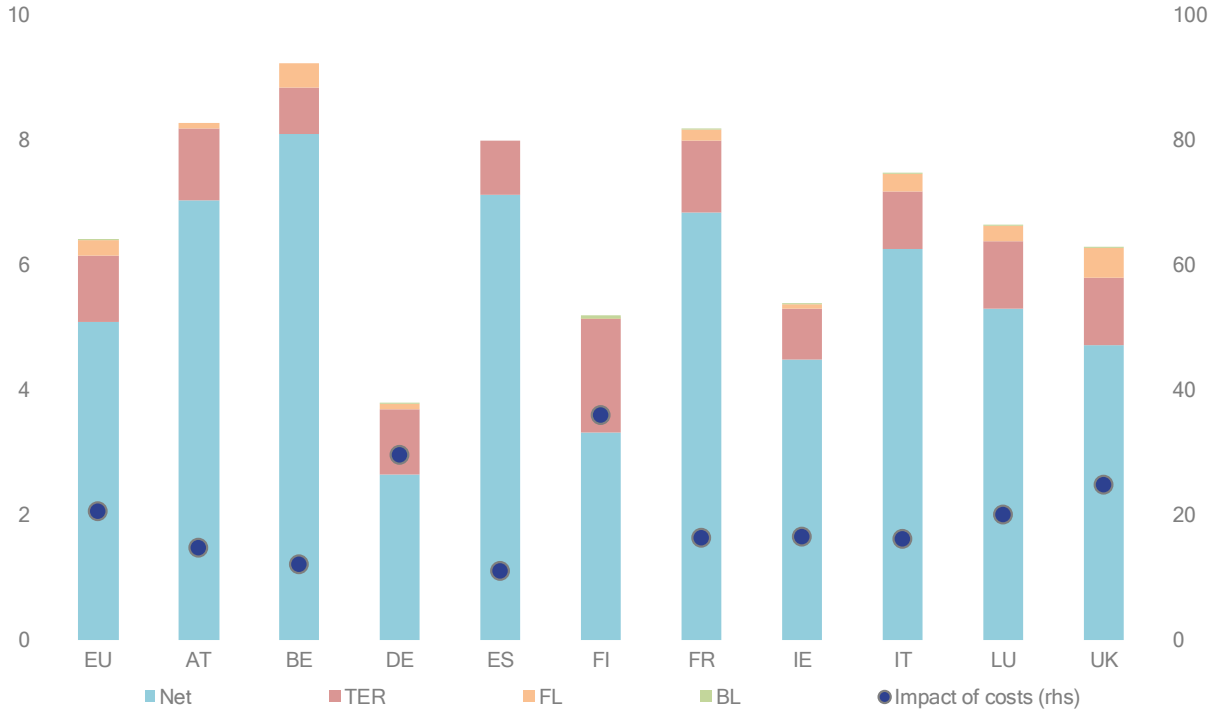
Mixed UCITS gross performance and cost impact by domicile – retail investors – 1Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.65

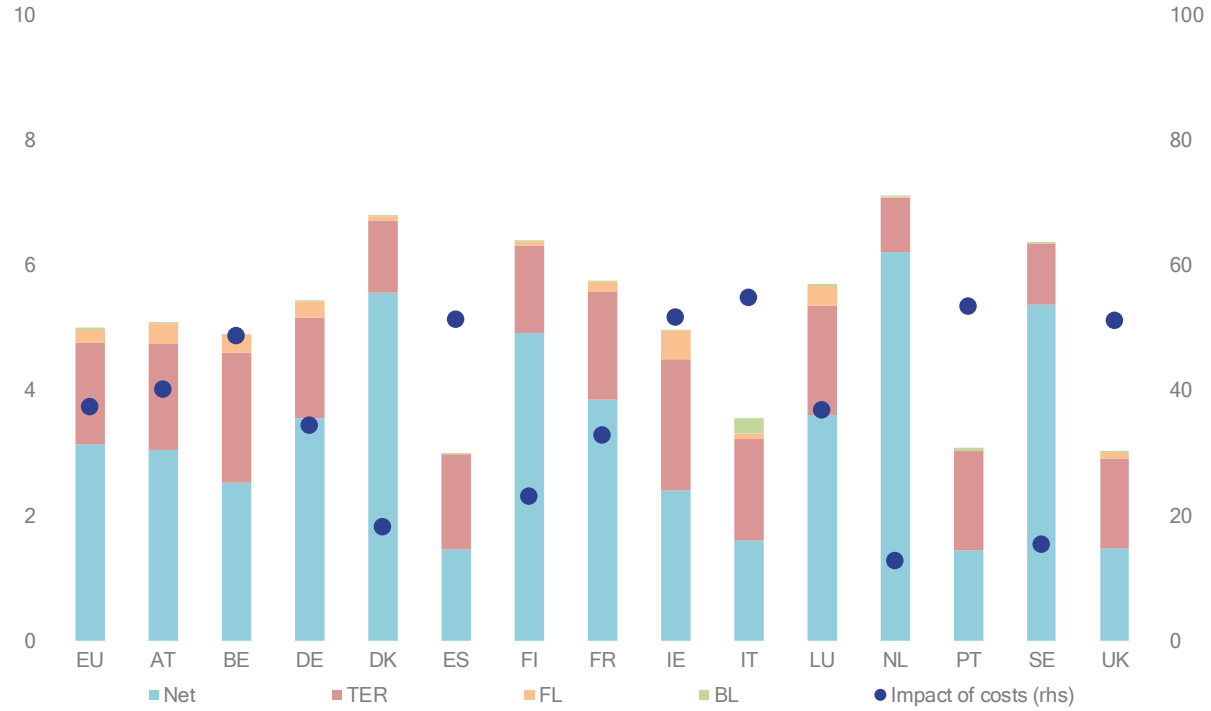
Mixed UCITS gross performance and cost impact by domicile – institutional investors – 1Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 1Y horizon, %. DK, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.66

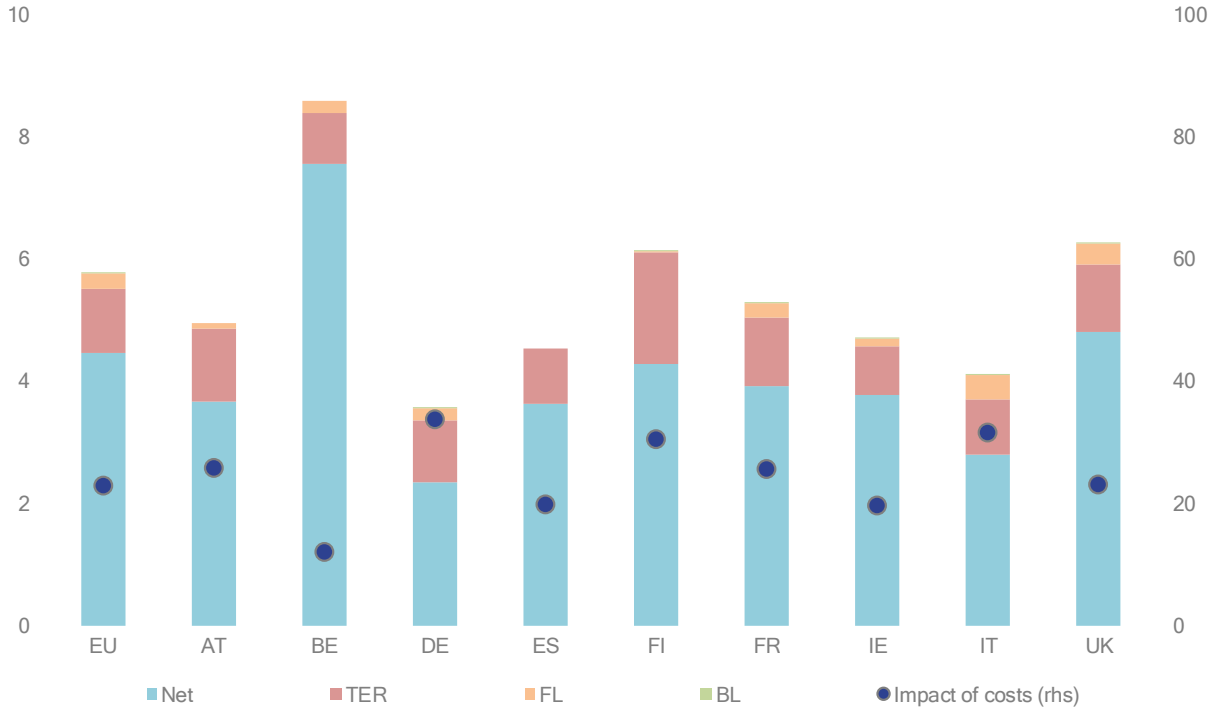
Mixed UCITS gross performance and cost impact by domicile – retail investors – 3Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.67

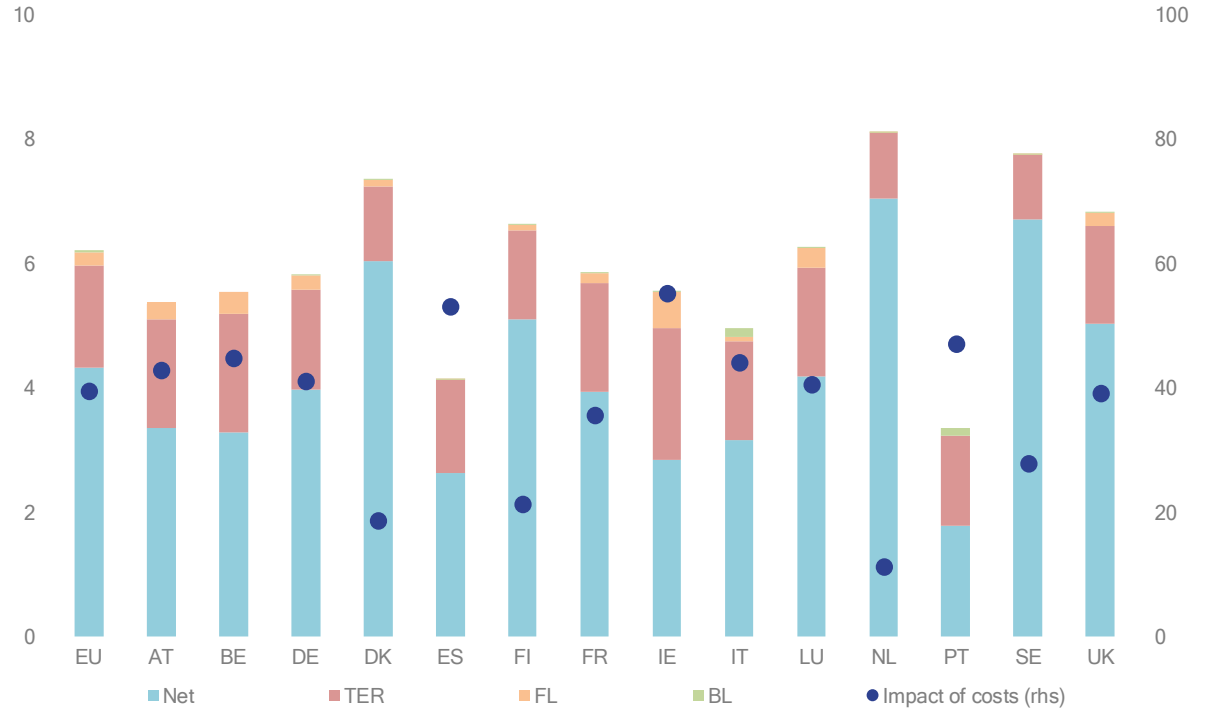
Mixed UCITS gross performance and cost impact by domicile – institutional investors – 3Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 3Y horizon, %. DK, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.68

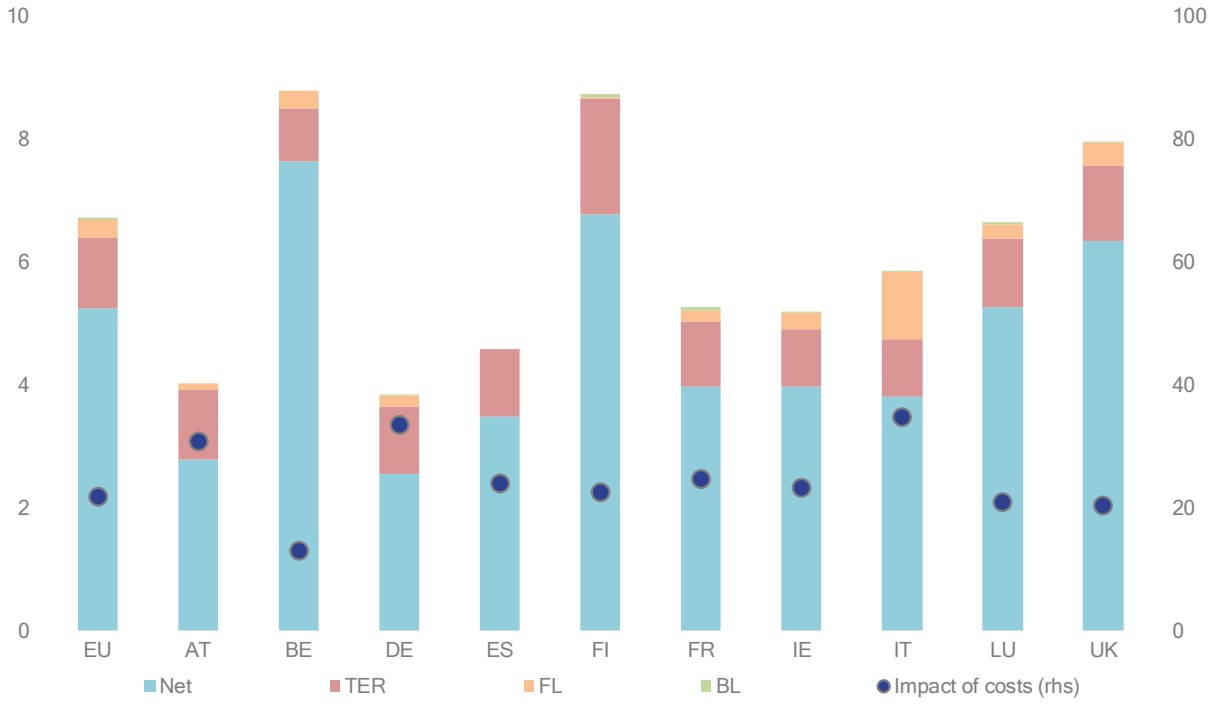
Mixed UCITS gross performance and cost impact by domicile – retail investors – 7Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.69

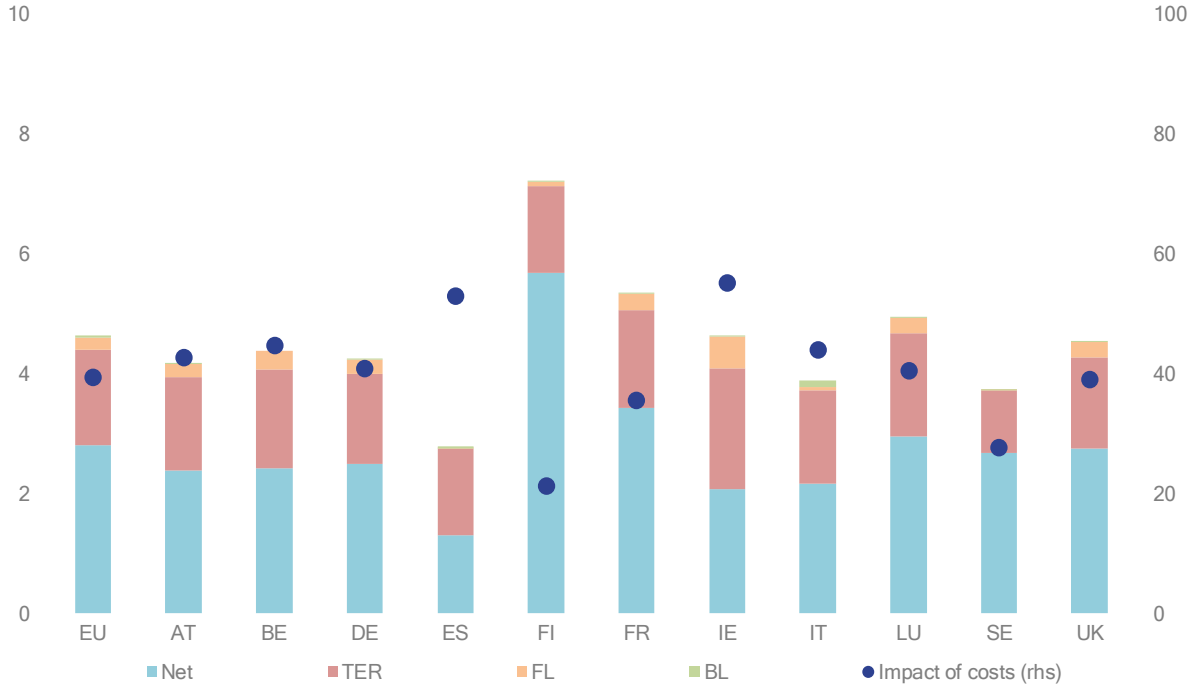
Mixed UCITS gross performance and cost impact by domicile – institutional investors – 7Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 7Y horizon, %. DK, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.70

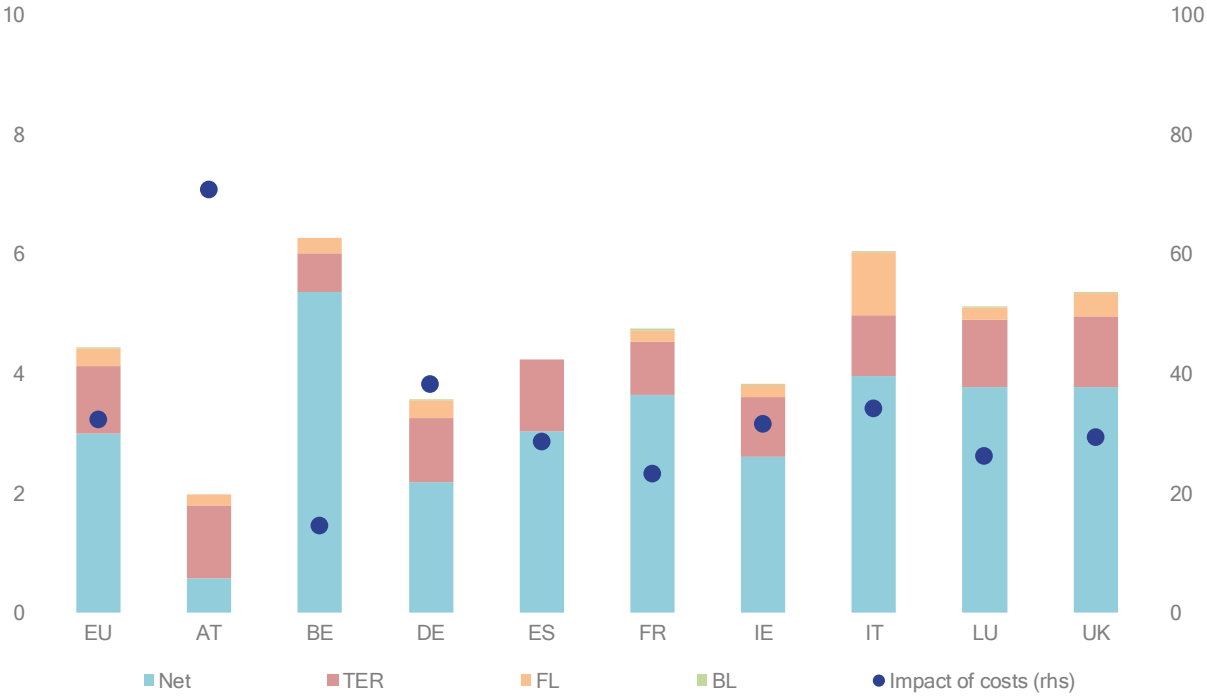
Mixed UCITS gross performance and cost impact by domicile – retail investors – 10Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon, %. DK, NL, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.71

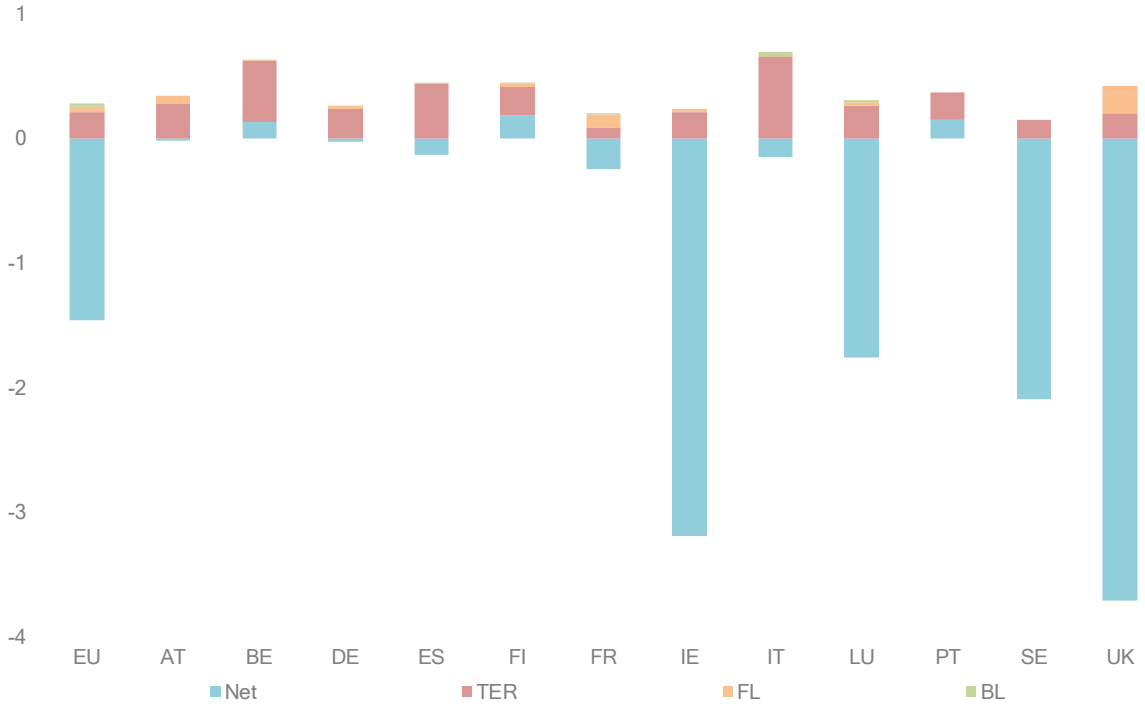
Mixed UCITS gross performance and cost impact by domicile – institutional investors – 10Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 10Y horizon, %. DK, FI, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.72

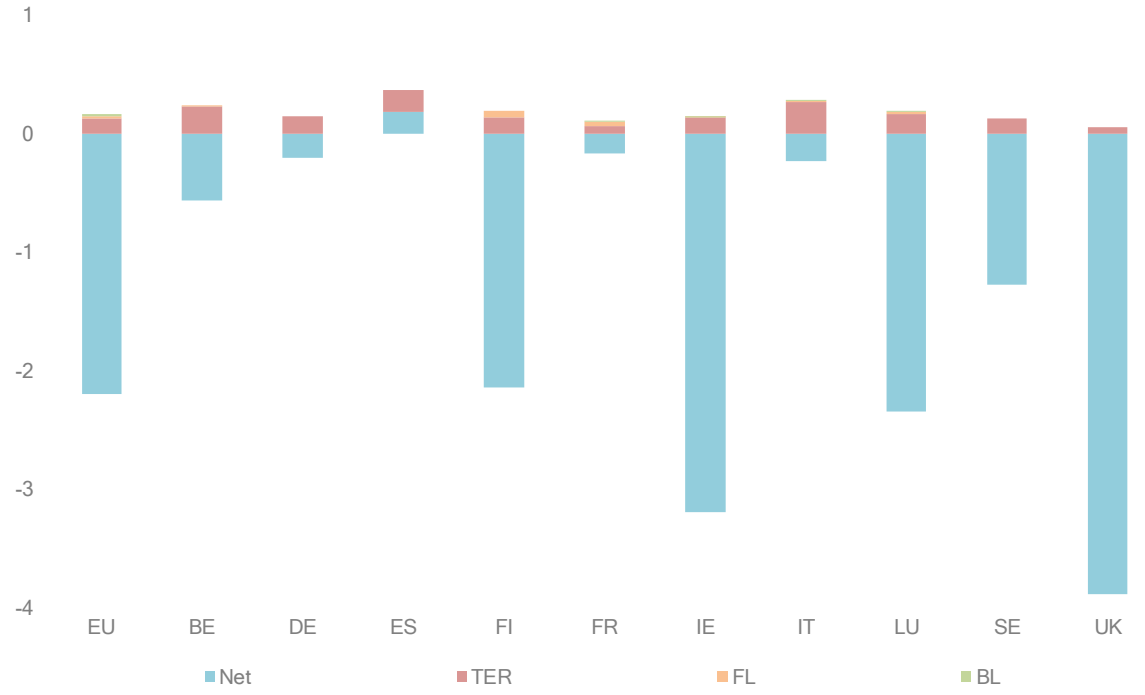
MMF UCITS gross performance and cost impact by domicile – retail investors – 1Y horizon



Note: EU UCITS money market fund annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by country, 1Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, NL and Other EU countries not reported. Impact of costs relative to gross returns not reported as returns being close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.73

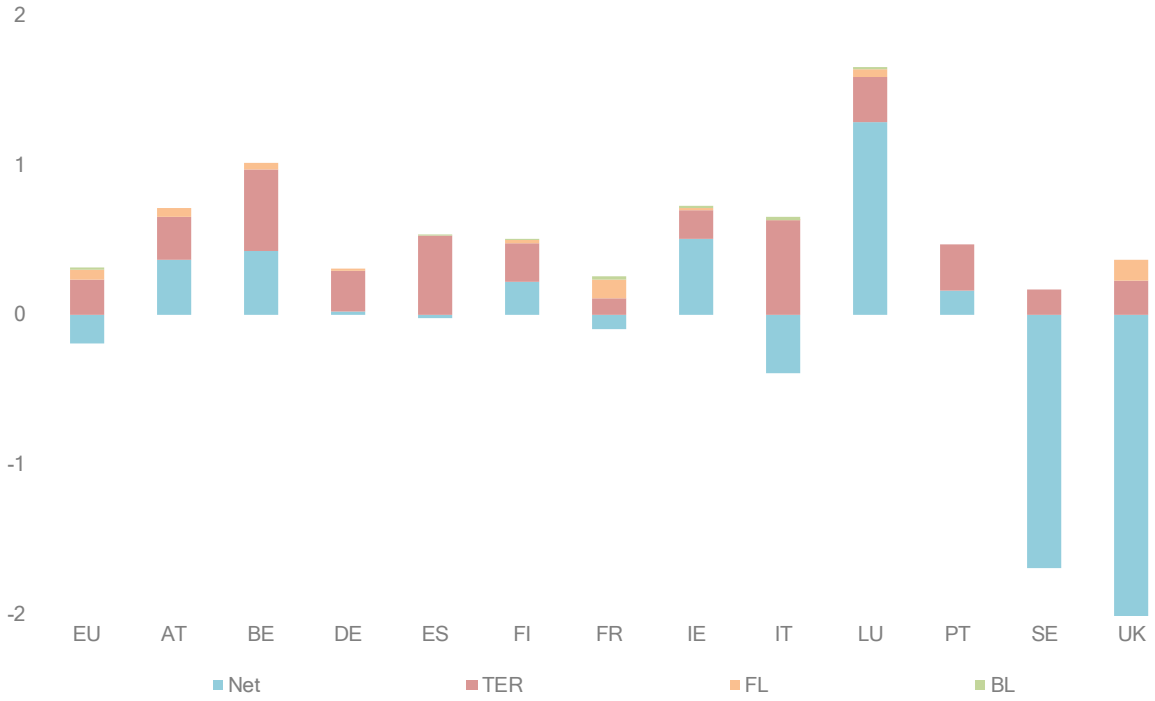
MMF UCITS gross performance and cost impact by domicile – institutional investors – 1Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by country, 1Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. AT, DK, NL, PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.74

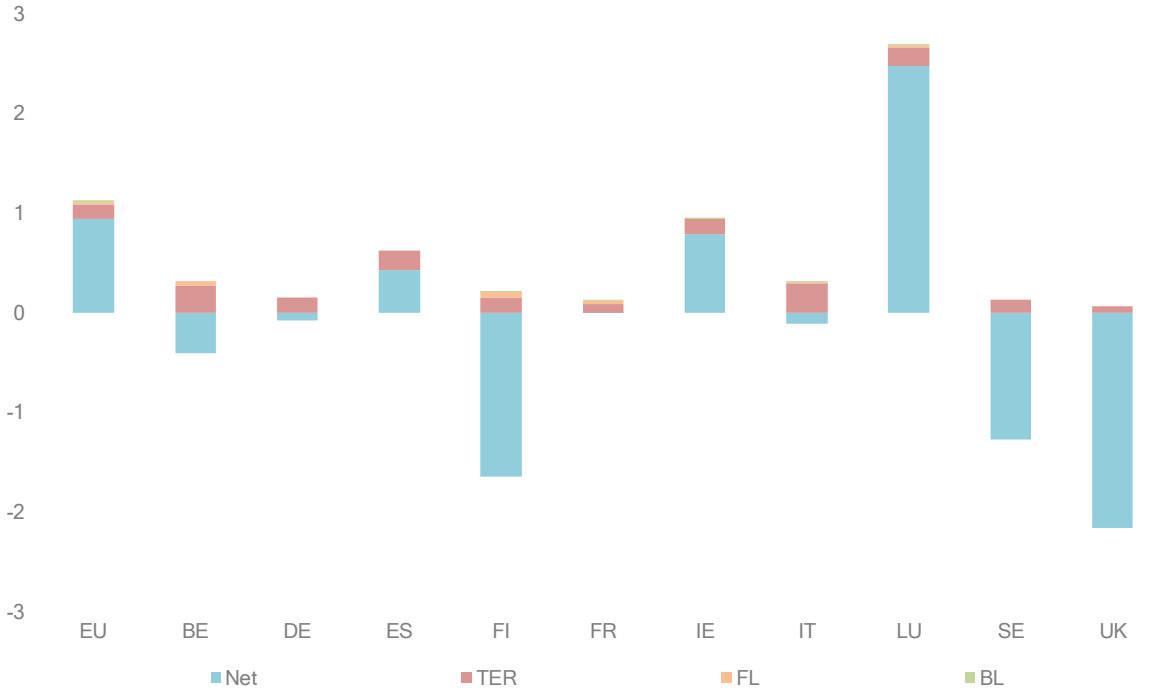
MMF UCITS gross performance and cost impact by domicile – retail investors – 3Y horizon



Note: EU UCITS money market fund annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by country, 3Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, NL and Other EU countries not reported. Impact of costs relative to gross returns not reported as returns being close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.75

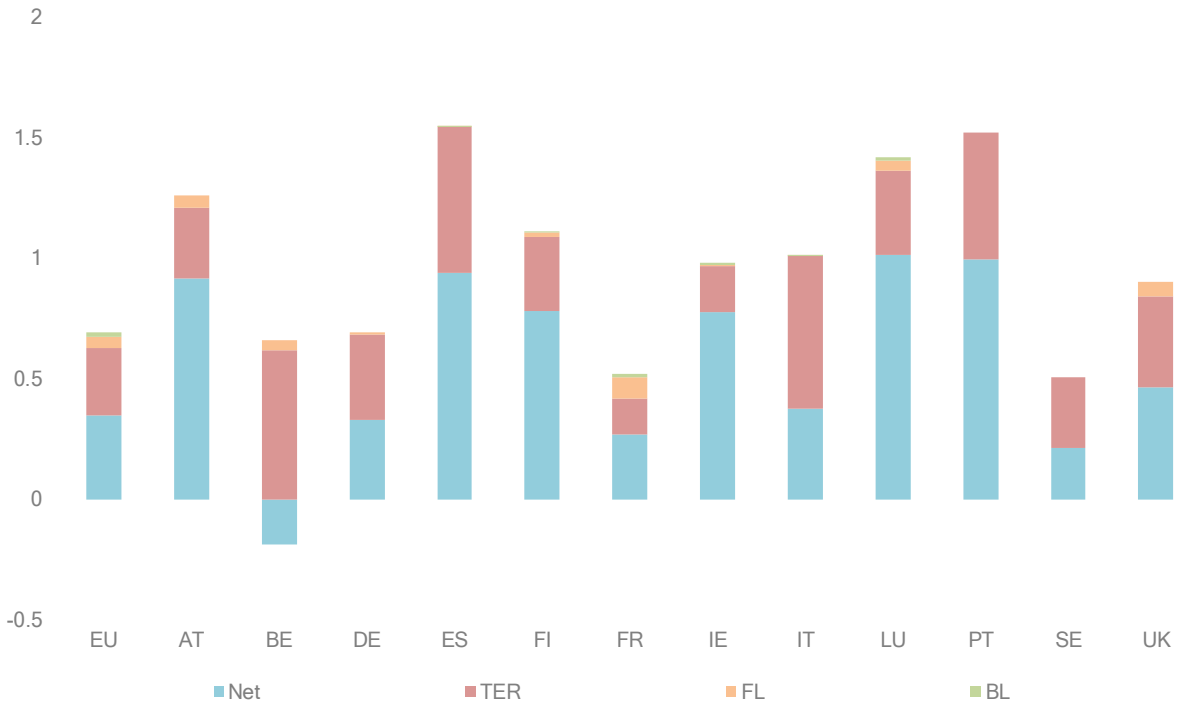
MMF UCITS gross performance and cost impact by domicile – institutional investors – 3Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by country, 3Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. AT, DK, NL, PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.76

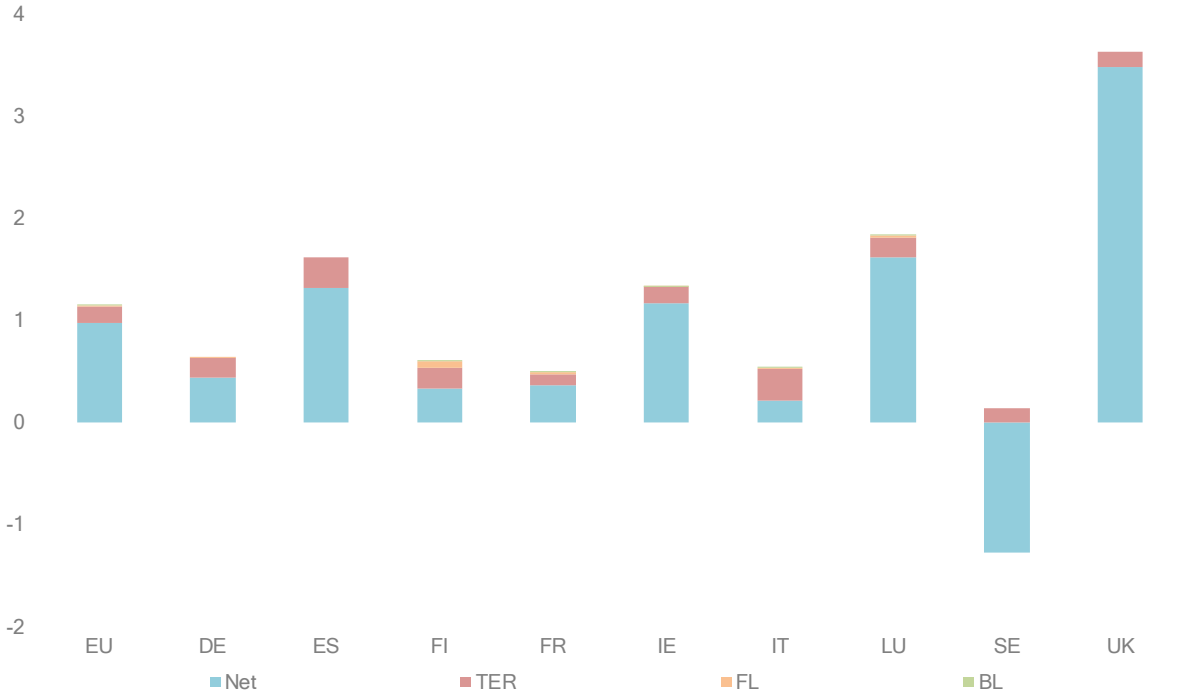
MMF UCITS gross performance and cost impact by domicile – retail investors – 7Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by country, 7Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, NL and Other EU countries not reported. Impact of costs relative to gross returns not reported as returns being close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.77

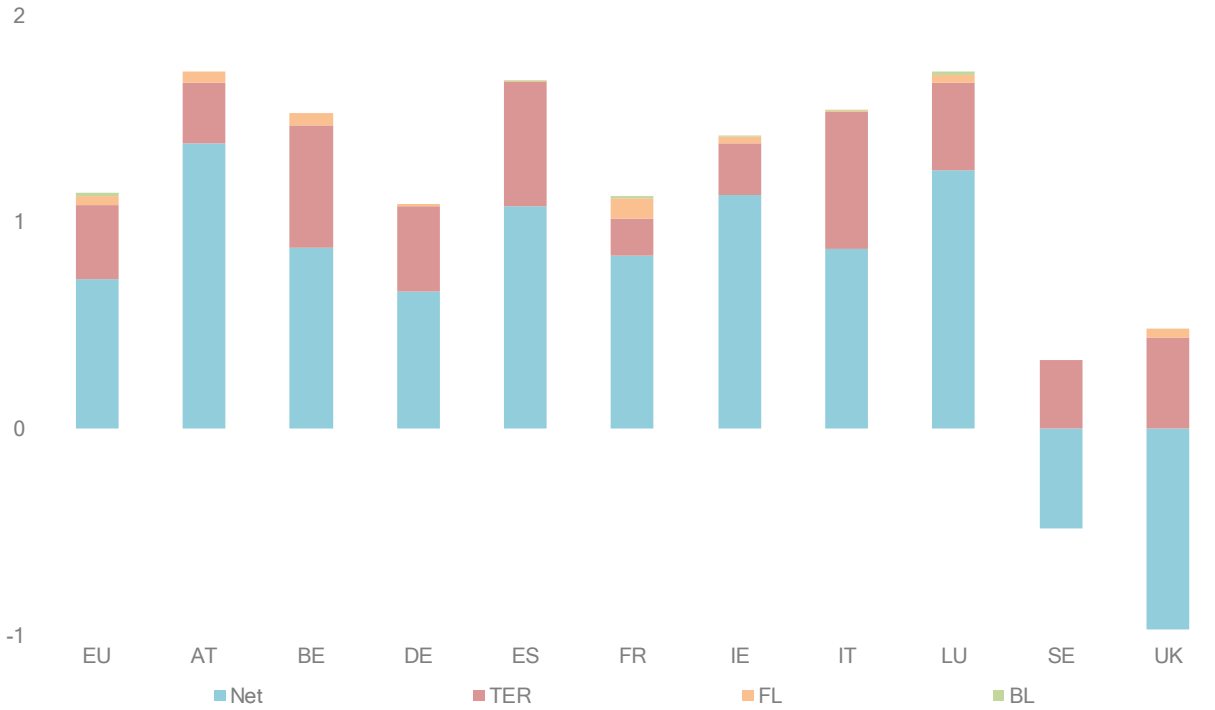
MMF UCITS gross performance and cost impact on gross returns by domicile – institutional investors – 7Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by country, 7Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. AT, BE, DK, NL, PT and other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.78

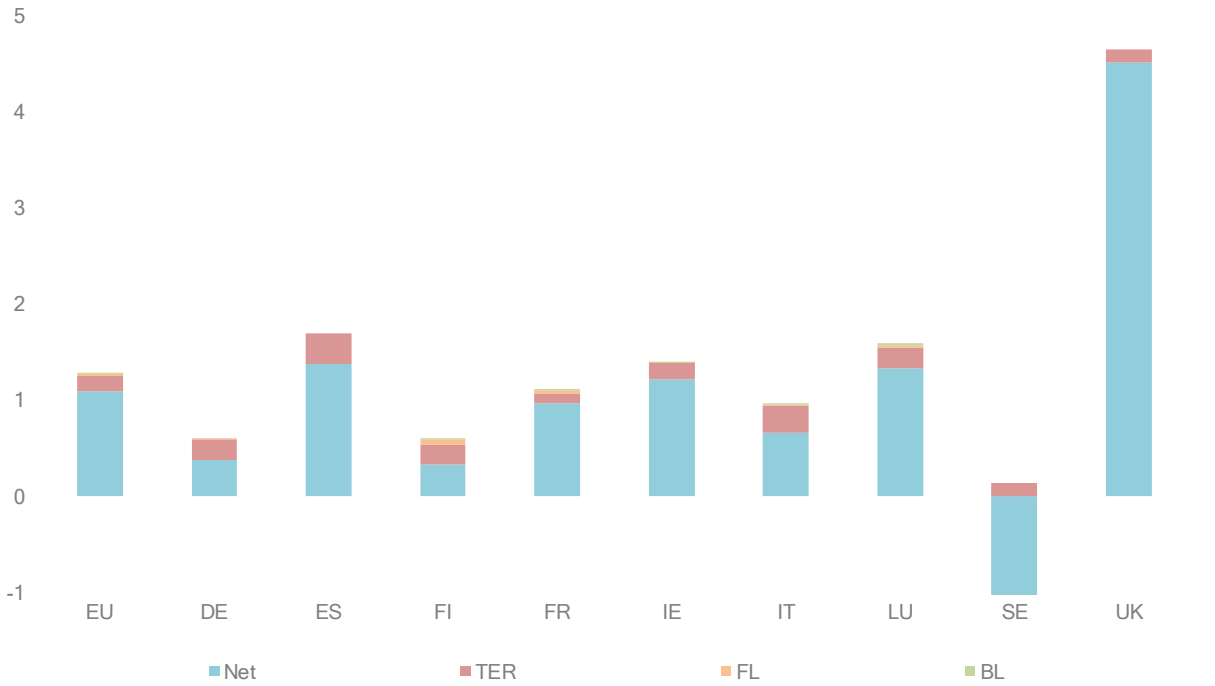
MMF UCITS gross performance and cost impact by domicile – retail investors – 10Y horizon



Note: EU UCITS money market fund annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), re investors, by country, 10Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, FI, NL, PT and Otl EU countries not reported. Impact of costs relative to gross returns not reported as returns being close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.79

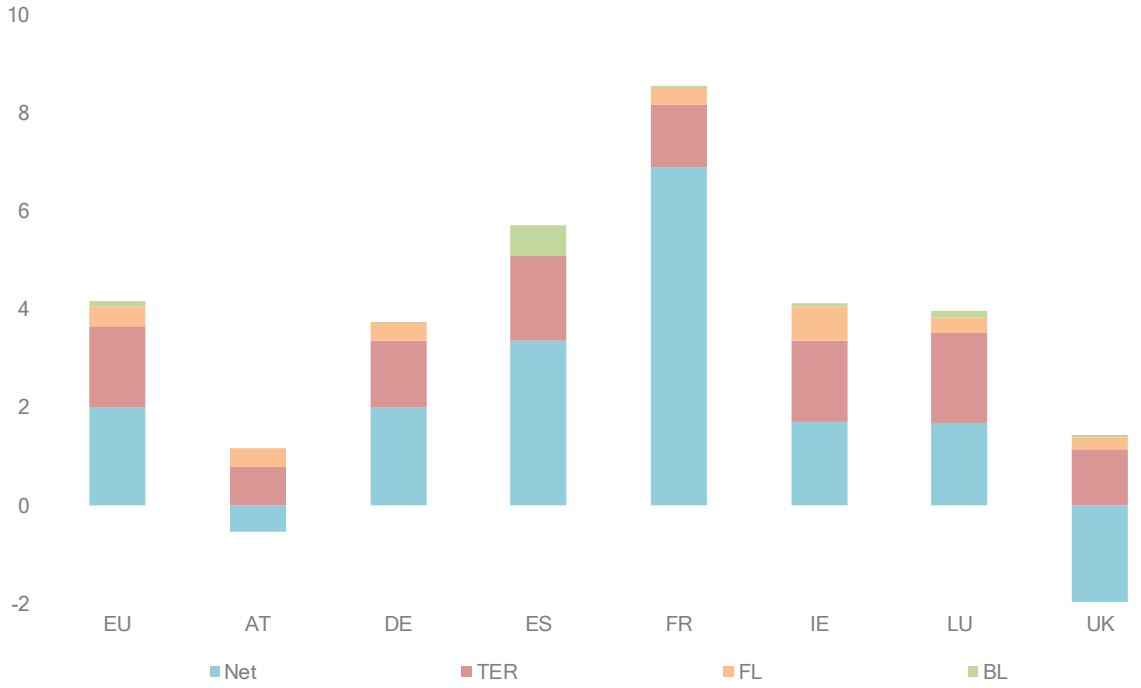
MMF UCITS gross performance and cost impact by domicile – institutional investors – 10Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by country,10Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. AT, BE, DK, NL, PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.80

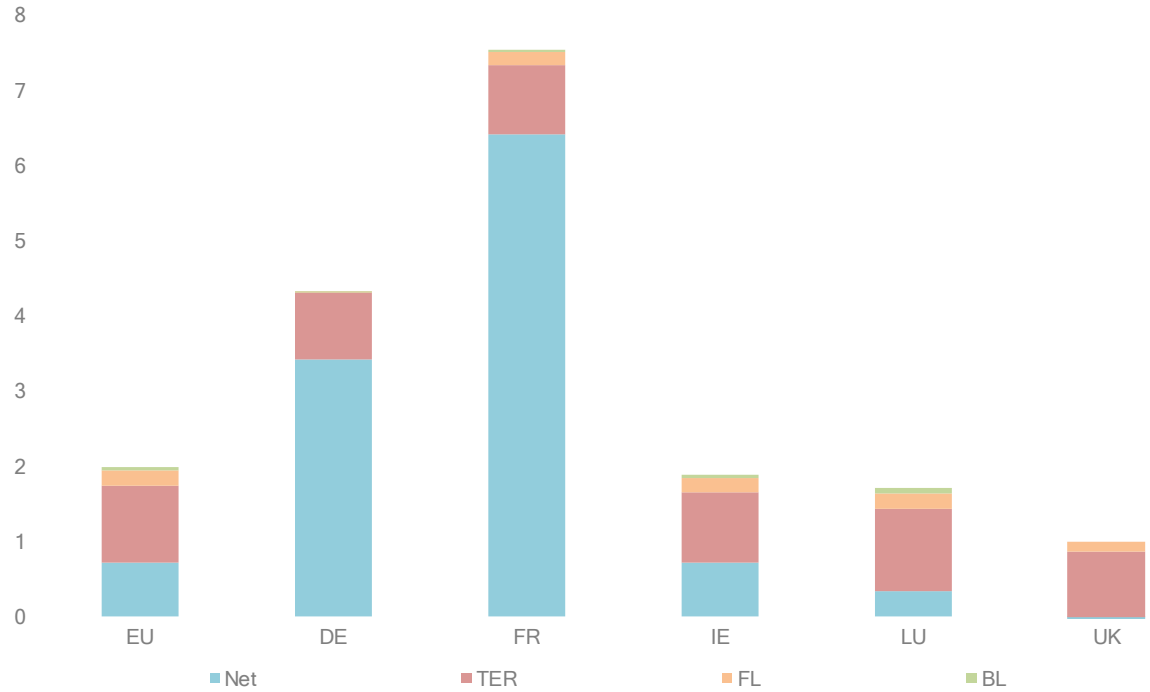
Alternative UCITS gross performance and cost impact by domicile – retail investors – 1Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER) and subscription (FL) and redemption fees (BL), retail investors, by country, 1Y horizon, %. BE, DK, FI, IT, NL, PT, SE and other EU countries not reported. Impact of costs relative to gross returns not reported as returns are close to zero or negative in some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.81

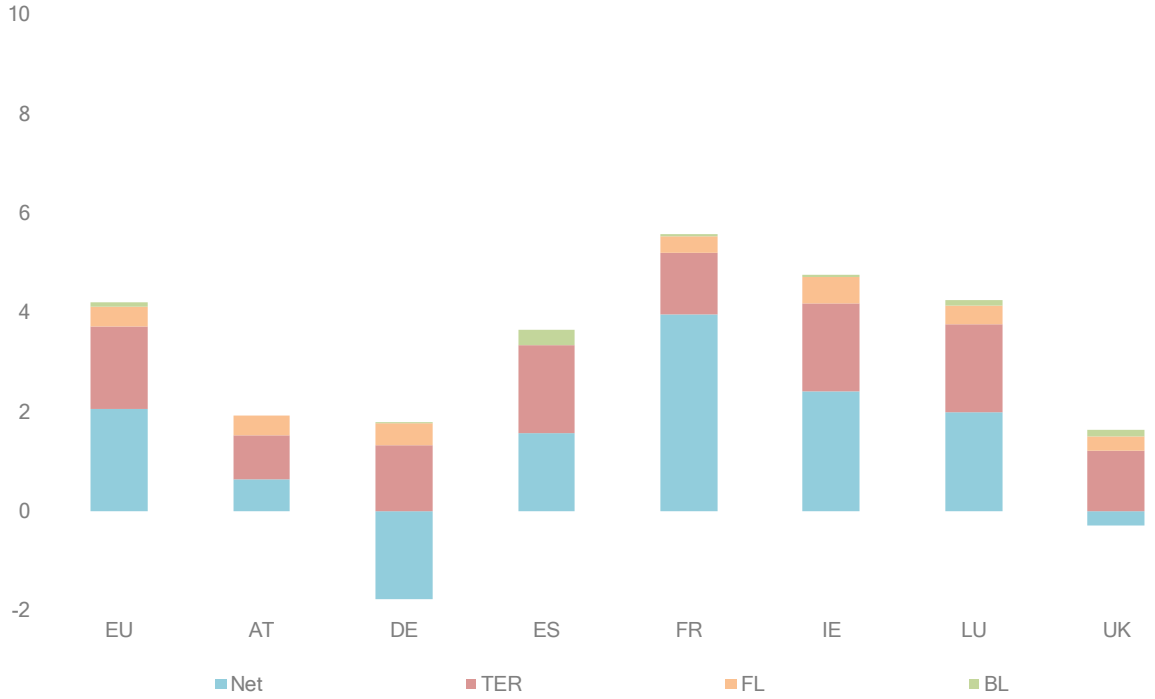
Alternative UCITS gross performance and cost impact by domicile – institutional investors – 1Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER) and subscription (FL) and redemption fees (BL), institutional investors, by country,1Y horizon, %. AT, BE, DK, ES, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.82

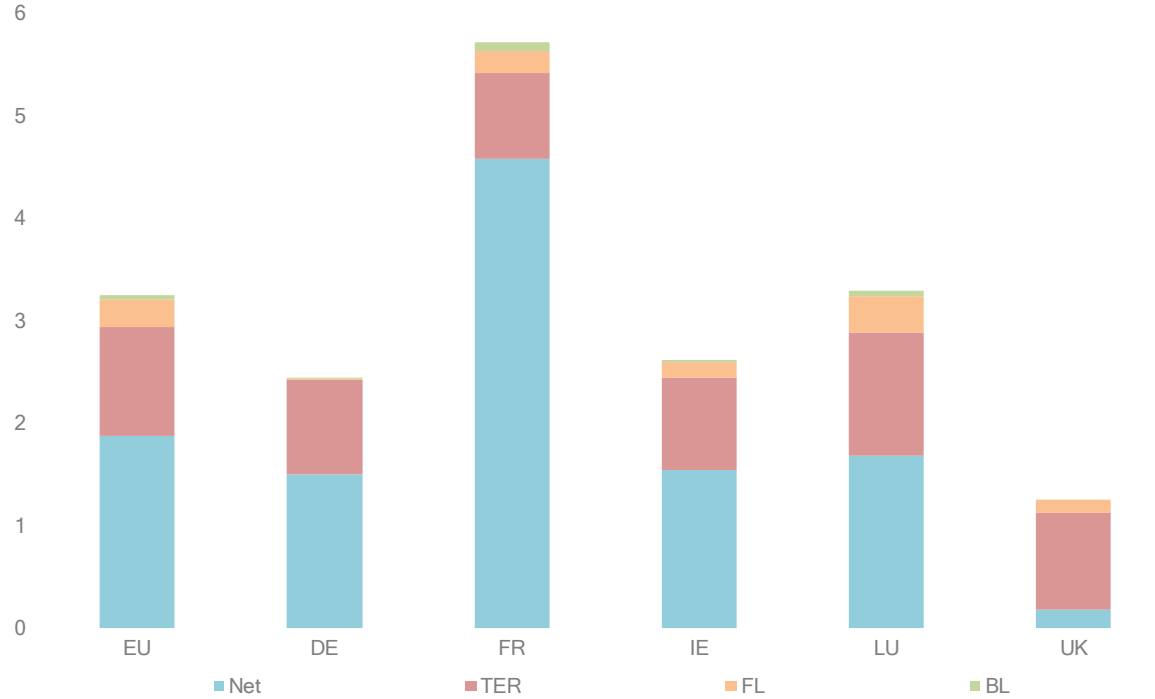
Alternative UCITS gross performance and cost impact by domicile – retail investors – 3Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by country, 3Y horizon, %. BE, DK, IT, FI, PT, SE and other EU countries not reported. Impact of costs relative to gross returns not reported as to returns are close to zero or negative in some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.83

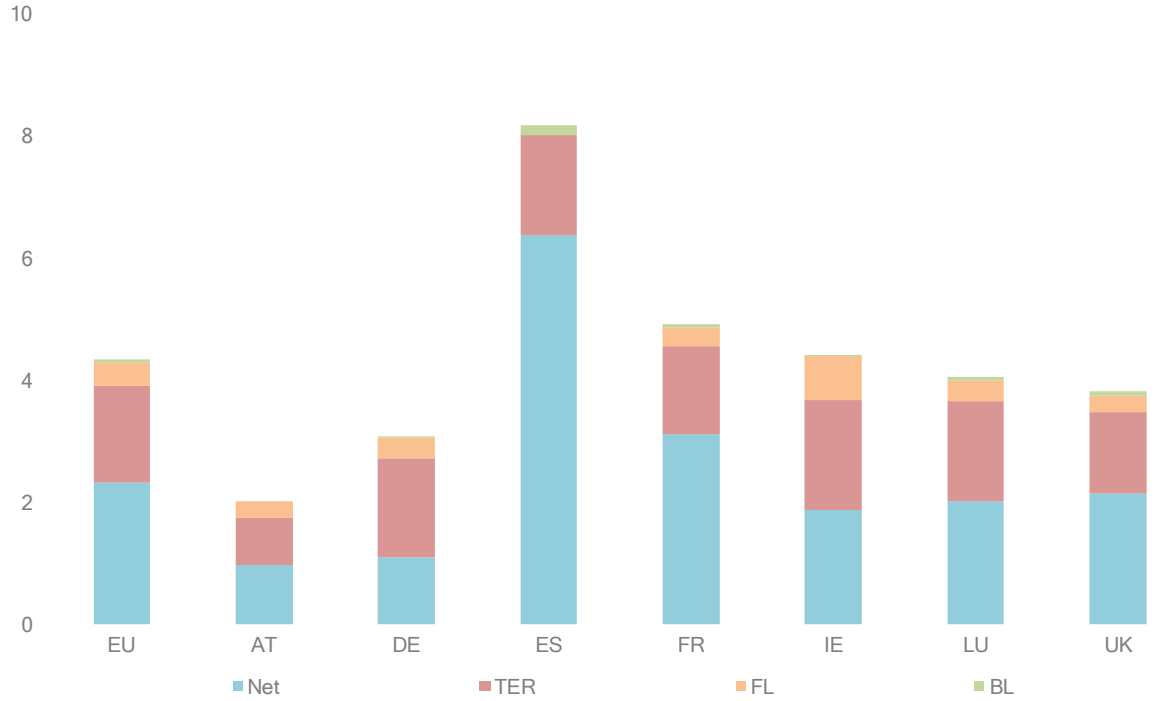
Alternative UCITS gross performance and cost impact by domicile – institutional investors – 3Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER) and subscription (FL) and redemption fees (BL), institutional investors, by country, 3Y horizon, %. AT, BE, DK, ES, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.84

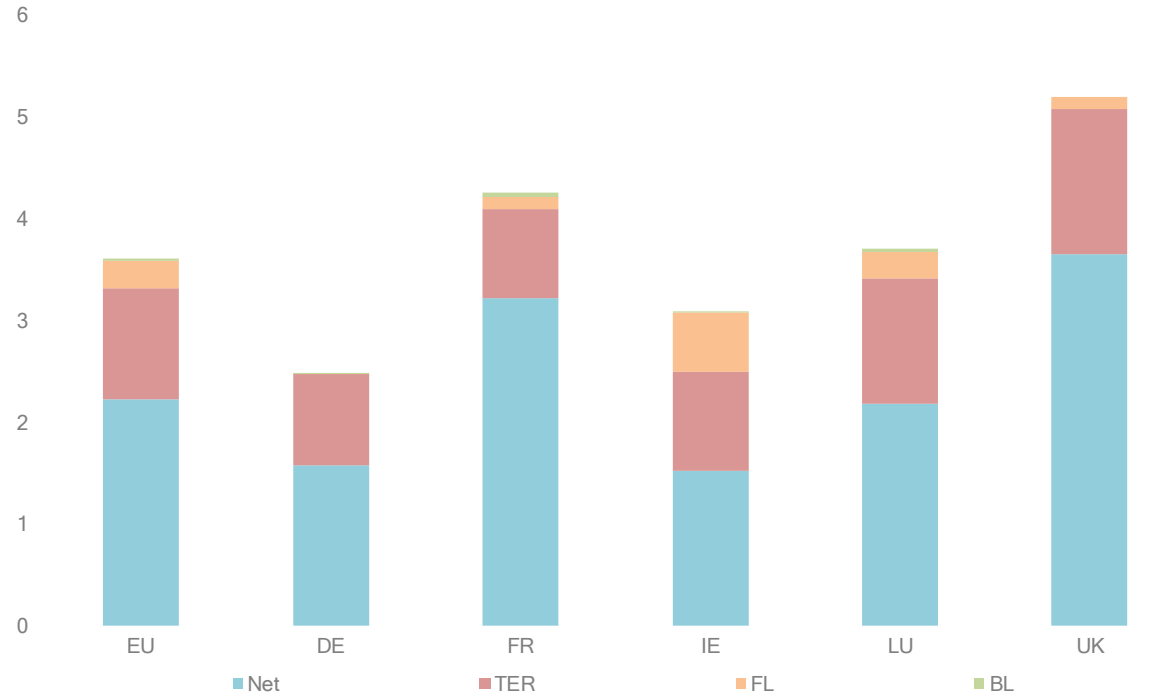
Alternative UCITS gross performance and cost impact by domicile – retail investors – 7Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by country, 7Y horizon, %. BE, DK, FI, IT, NL, PT, SE and other EU countries not reported. Impact of costs relative to gross returns not reported as returns are close to zero or negative in some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.85

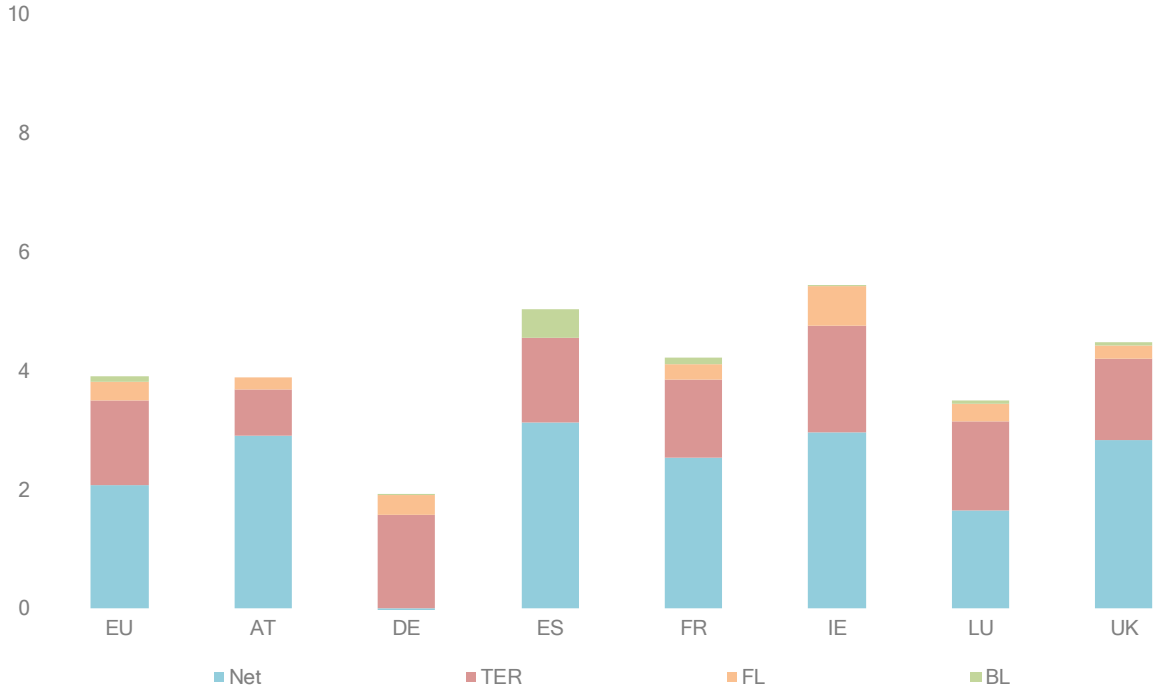
Alternative UCITS gross performance and cost impact by domicile – institutional investors – 7Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER) and subscription (FL) and redemption fees (BL), institutional investors, by country, 7Y horizon, %. AT, BE, DK. ES. FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.86

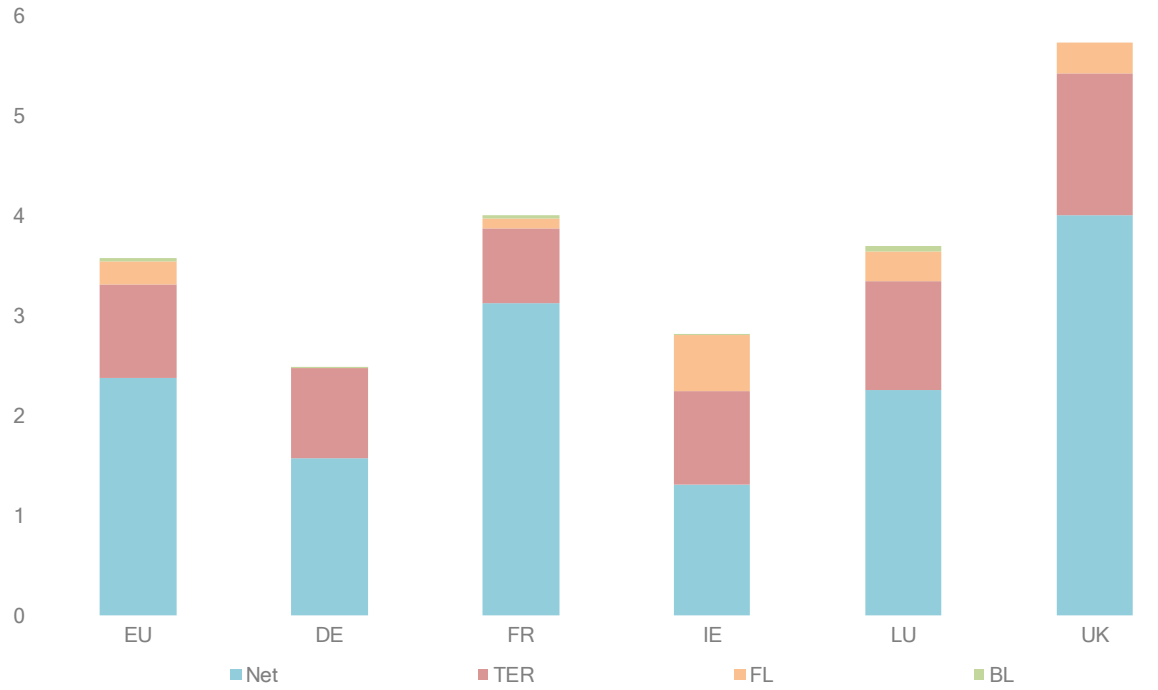
Alternative UCITS gross performance and cost impact by domicile – retail investors – 10Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by country, 10Y horizon, %. BE, DK, FI, IT, NL, PT, SE and other EU countries not reported. Impact of costs relative to gross returns not reported as returns are close to zero or negative in some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.87

Alternative UCITS gross performance and cost impact by domicile – institutional investors – 10Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), institutional investors, by country, 10Y horizon, %. AT, BE, DK, ES, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported.
Sources: Thomson Reuters Lipper, ESMA.

Performance and costs, by management type

ASR-PC-S.88

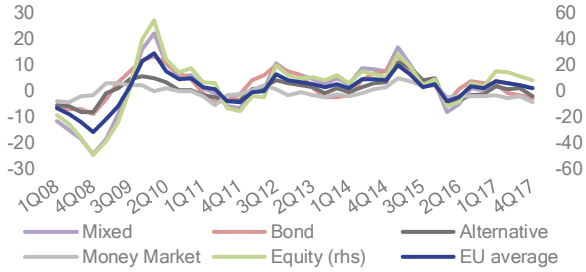
Equity UCITS gross performance – active and passive funds

Note: EU UCITS equity UCITS annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and ETFs, by time horizon, in %.
Sources: Thomson Reuters Lipper, ESMA.

Performance and costs, including inflation

ASR-PC-S.89

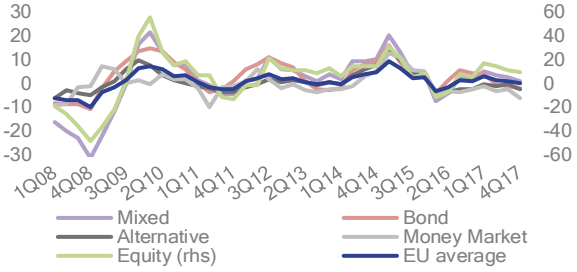
UCITS annual net returns – retail investors



Note: EU UCITS universe, annual net returns by asset class, retail investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees, and inflation. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.90

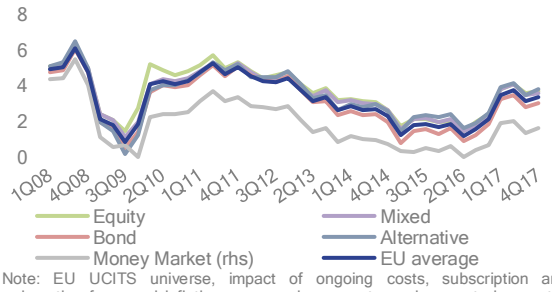
UCITS annual net returns – institutional investors



Note: EU UCITS universe, annual net returns by asset class, institutional investors, %. Net return: gross return net of ongoing costs, subscription and redemption fees, and inflation. Equity on the right-hand side axis (rhs). Money Market refers to MMF UCITS.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.91

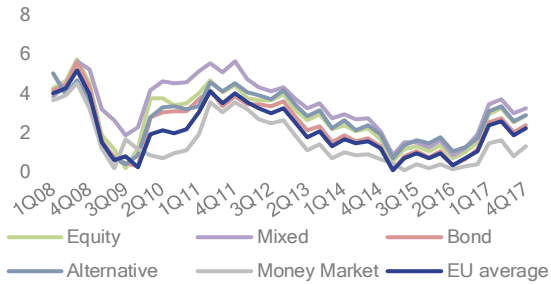
UCITS fund costs – retail investors



Note: EU UCITS universe, impact of ongoing costs, subscription and redemption fees, and inflation on annual gross returns, by asset class, retail investors, ppt. Money Market refers to MMF UCITS on the right hand side axis (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.92

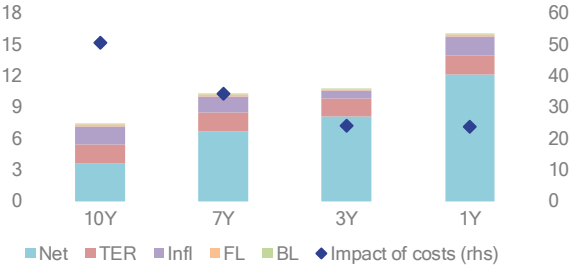
UCITS fund costs – institutional investors



Note: EU UCITS universe, impact of ongoing costs, subscription and redemption fees, and inflation on annual gross returns, by asset class, institutional investors, ppt. Money Market refers to MMF UCITS
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.93

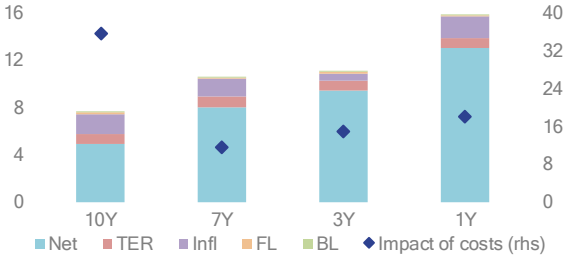
Equity UCITS performance and costs – retail



Note: EU UCITS equity fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.94

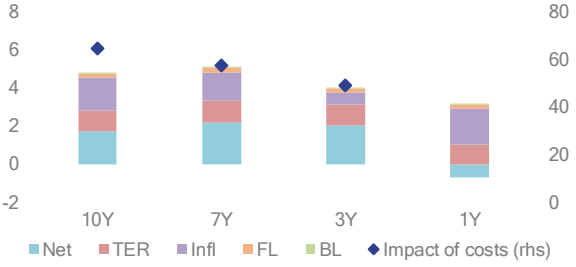
Equity UCITS performance and costs – institutional



Note: EU UCITS equity fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources:Thomson Reuters Lipper, ESMA

ASR-PC-S.95

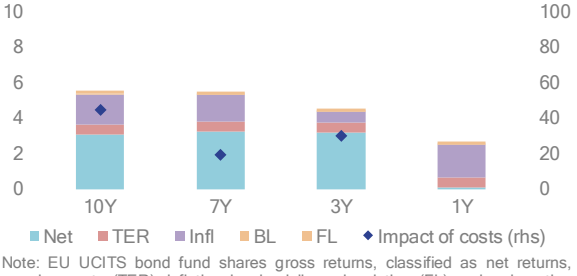
Bond UCITS performance and costs – retail



Note: EU UCITS bond fund shares gross returns, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs). Impact not reported when returns either close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.96

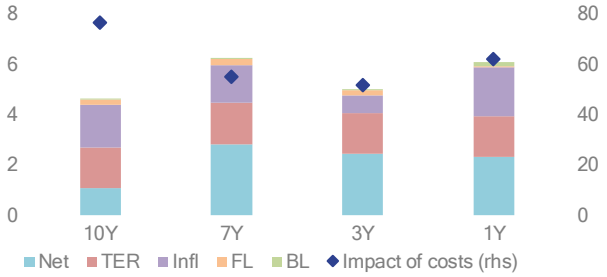
Bond UCITS performance and costs – institutional



Note: EU UCITS bond fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns, % (rhs). Impact not reported when returns either close to zero or negative.
Sources:Thomson Reuters Lipper, ESMA

ASR-PC-S.97

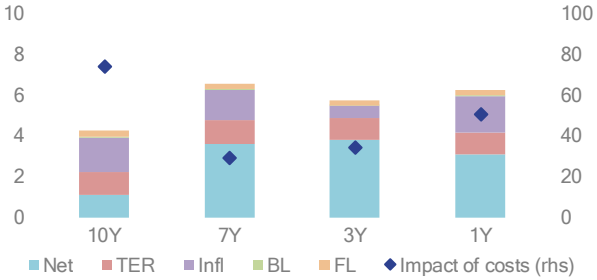
Mixed UCITS costs and performance – retail



Note: EU UCITS mixed fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.98

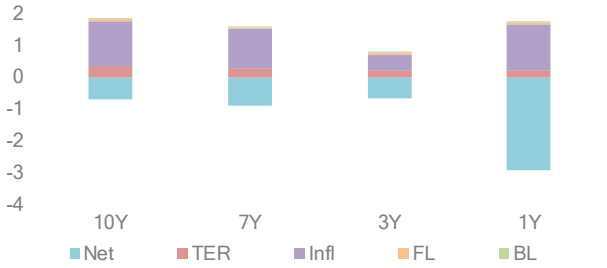
Mixed UCITS costs and performance – institutional



Note: EU UCITS mixed fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns, % (rhs).
Sources:Thomson Reuters Lipper, ESMA

ASR-PC-S.99

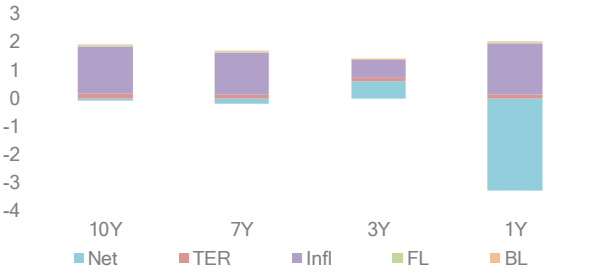
MMF UCITS costs and performance – retail



Note: EU UCITS money market fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns not reported, as returns either close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.100

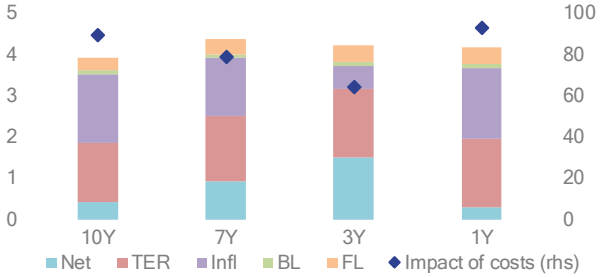
MMF UCITS costs and performance – institutional



Note: EU UCITS money market fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns not reported, as returns either close to zero or negative.
Sources:Thomson Reuters Lipper, ESMA

ASR-PC-S.101

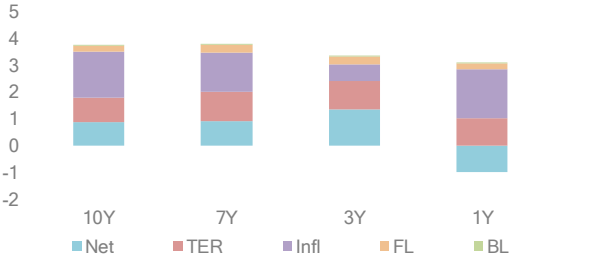
Alternative UCITS costs and performance – retail



Note: EU UCITS alternative fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of total costs relative to gross returns, % (rhs).
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.102

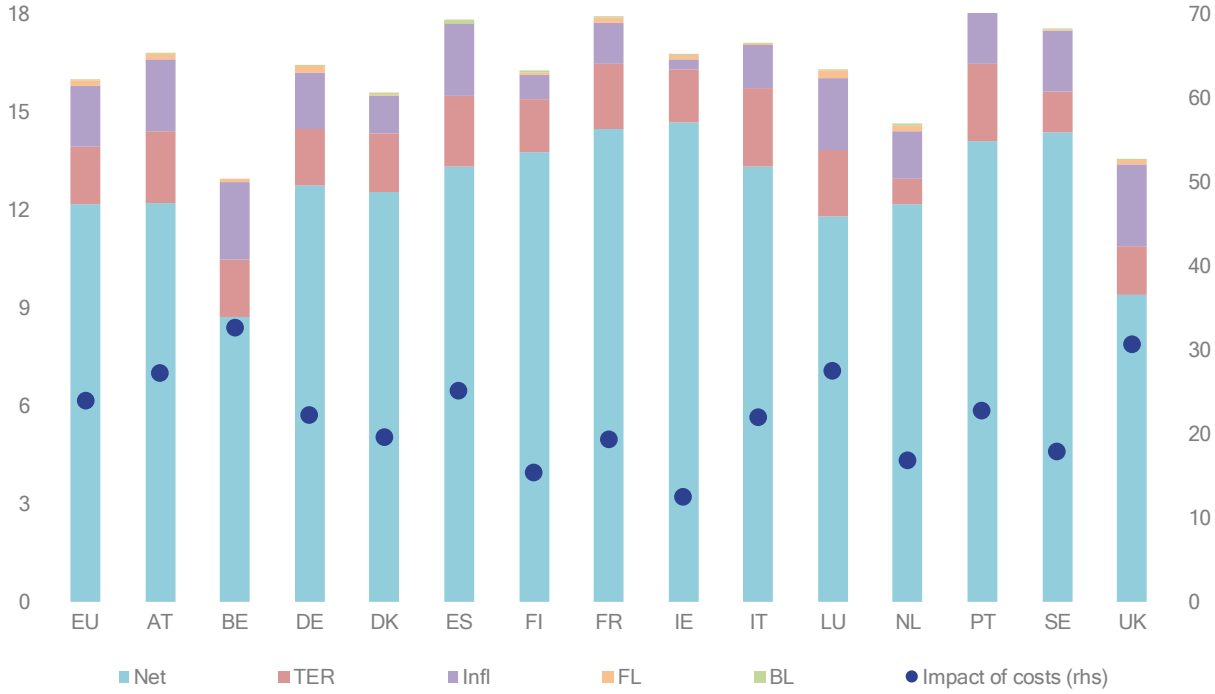
Alternative UCITS costs and performance – institutional



Note: EU UCITS alternative fund shares gross returns, classified as net returns, ongoing costs (TER), inflation by domicile, subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Impact of costs relative to gross returns not reported, as returns either close to zero or negative.
Sources:Thomson Reuters Lipper, ESMA

ASR-PC-S.103

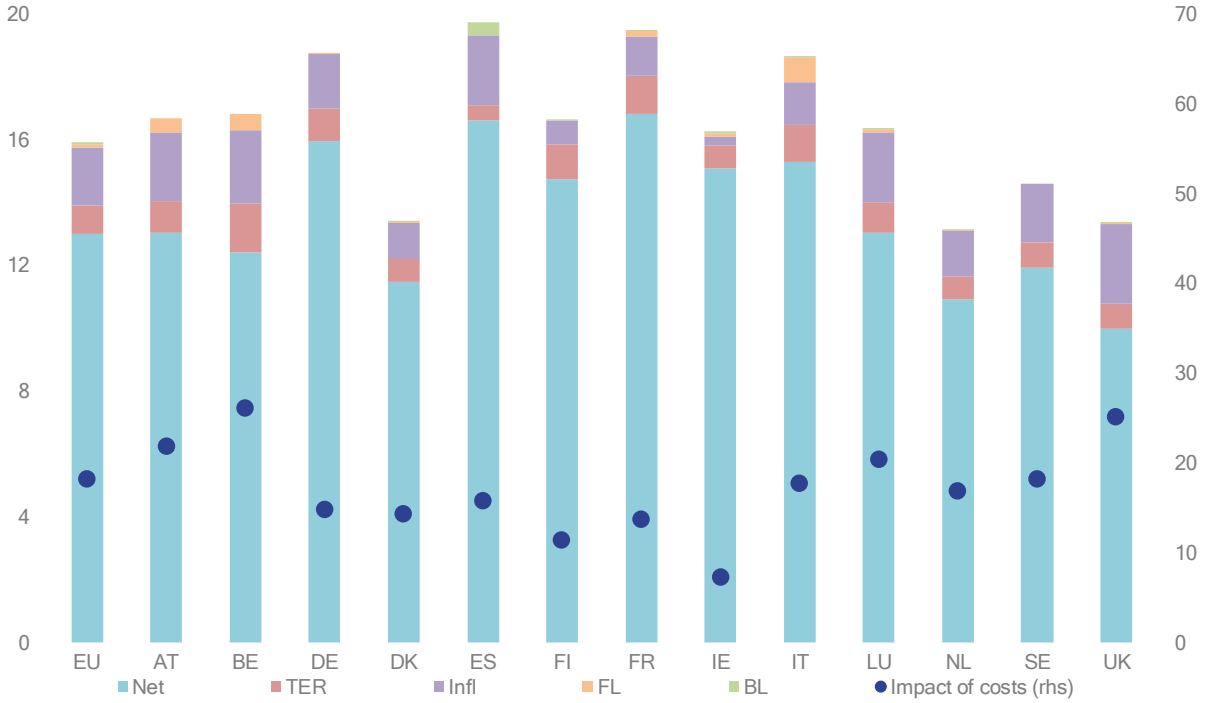
Equity UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 1Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.104

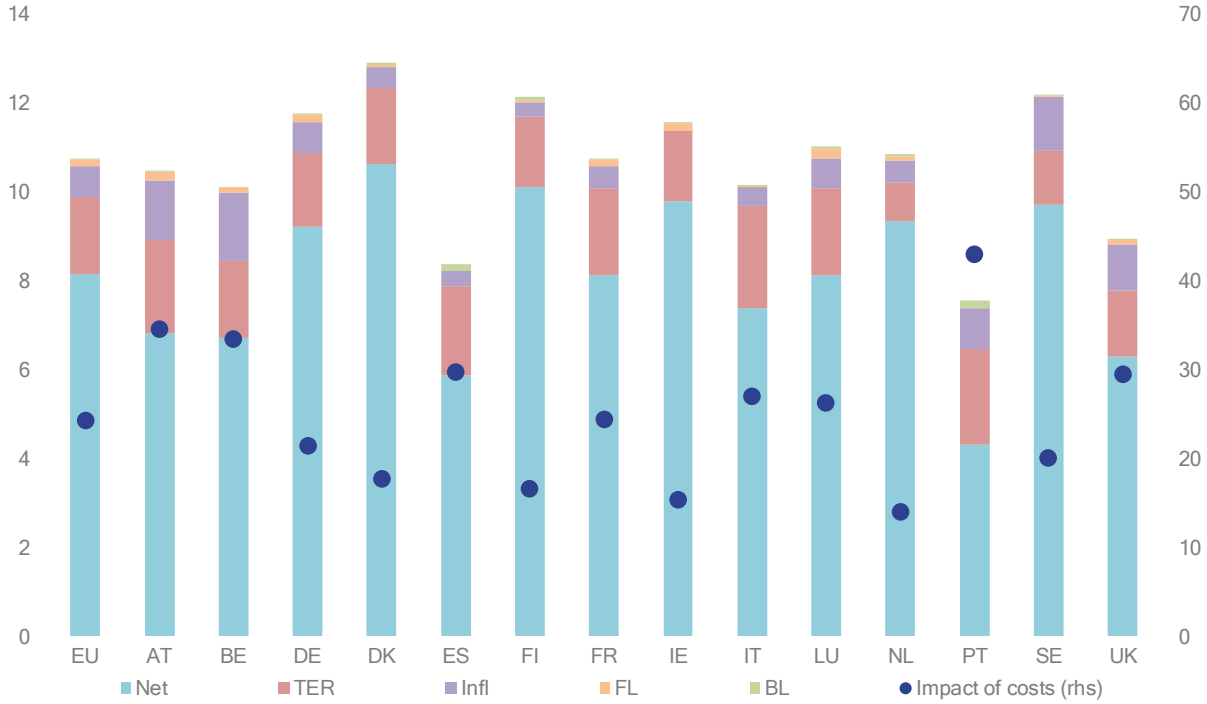
Equity UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 1Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 1Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.105

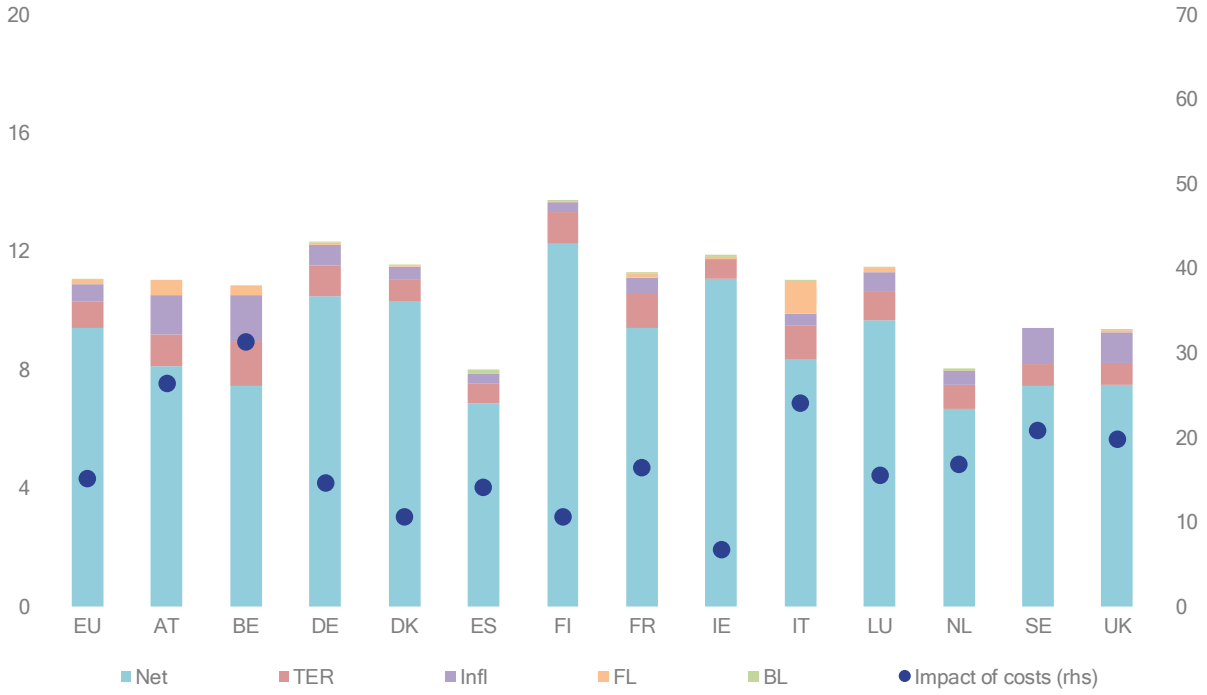
Equity UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 3Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.106

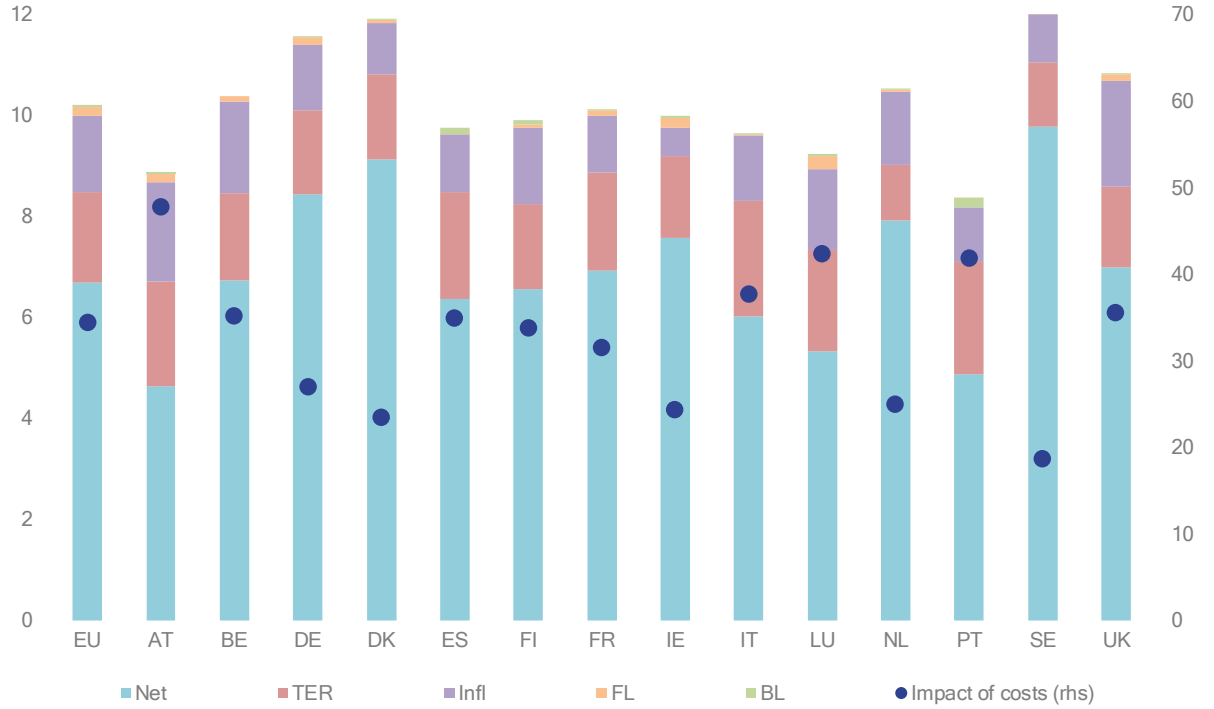
Equity UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 3Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 3Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.107

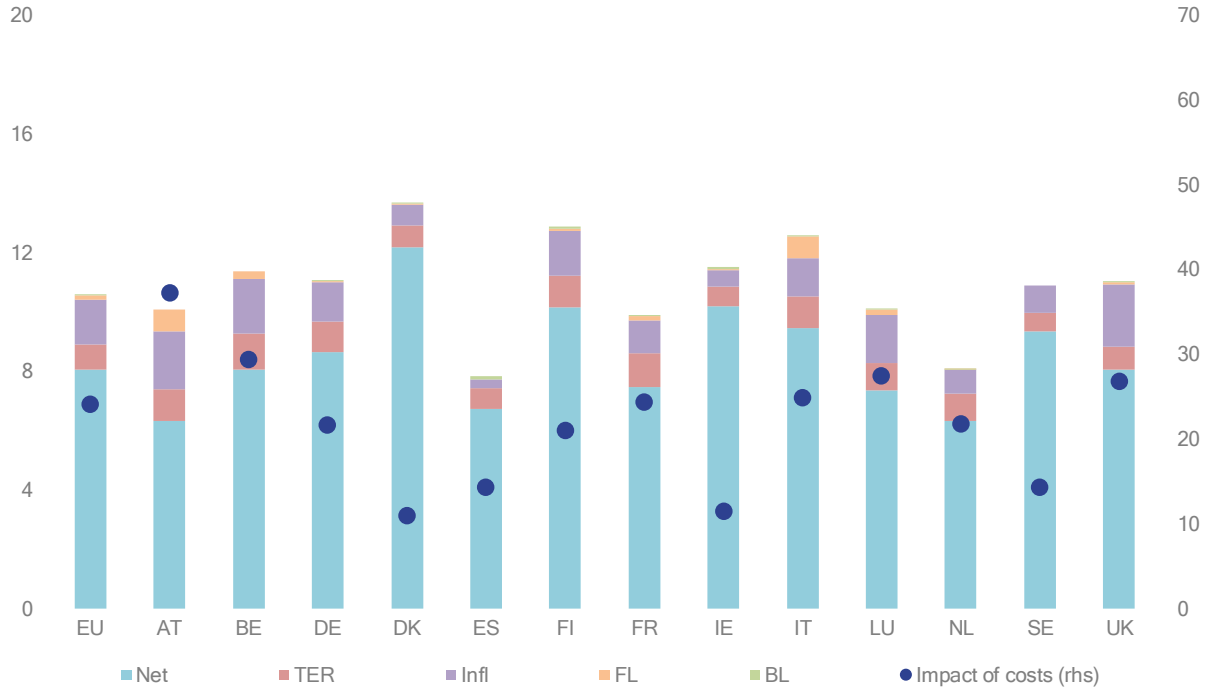
Equity UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 7Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl, subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.108

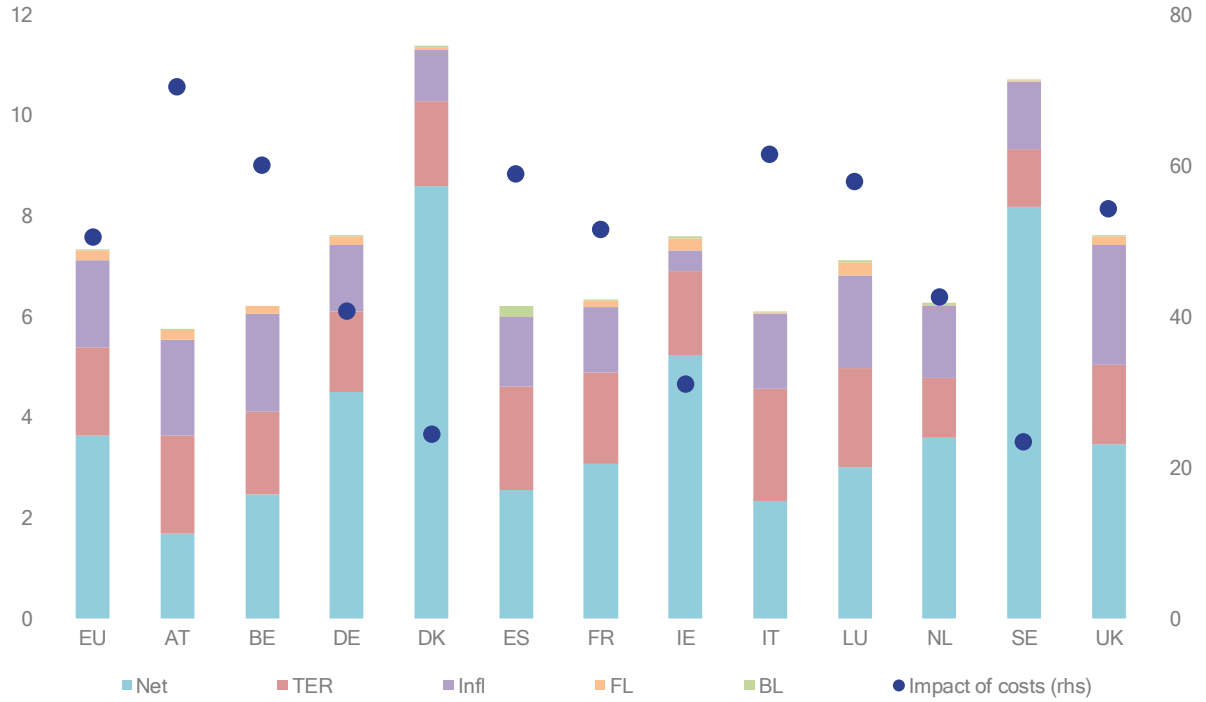
Equity UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 7Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 7Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.109

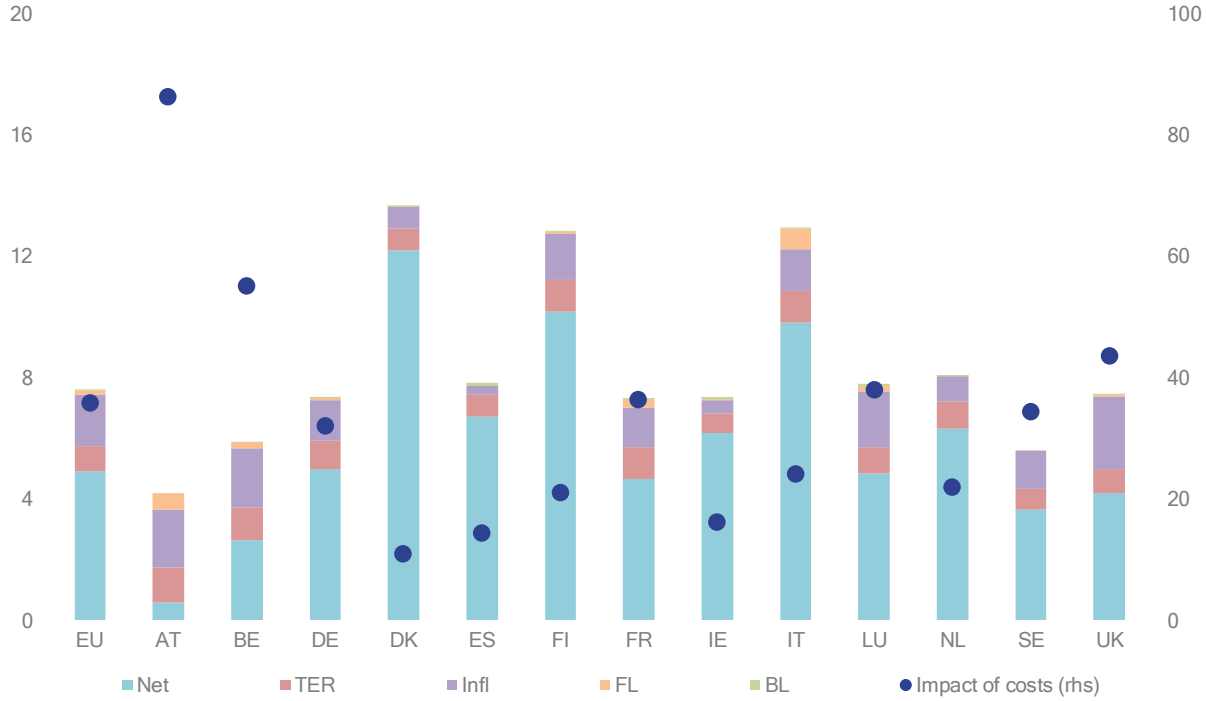
Equity UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 10Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon %. FI, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.110

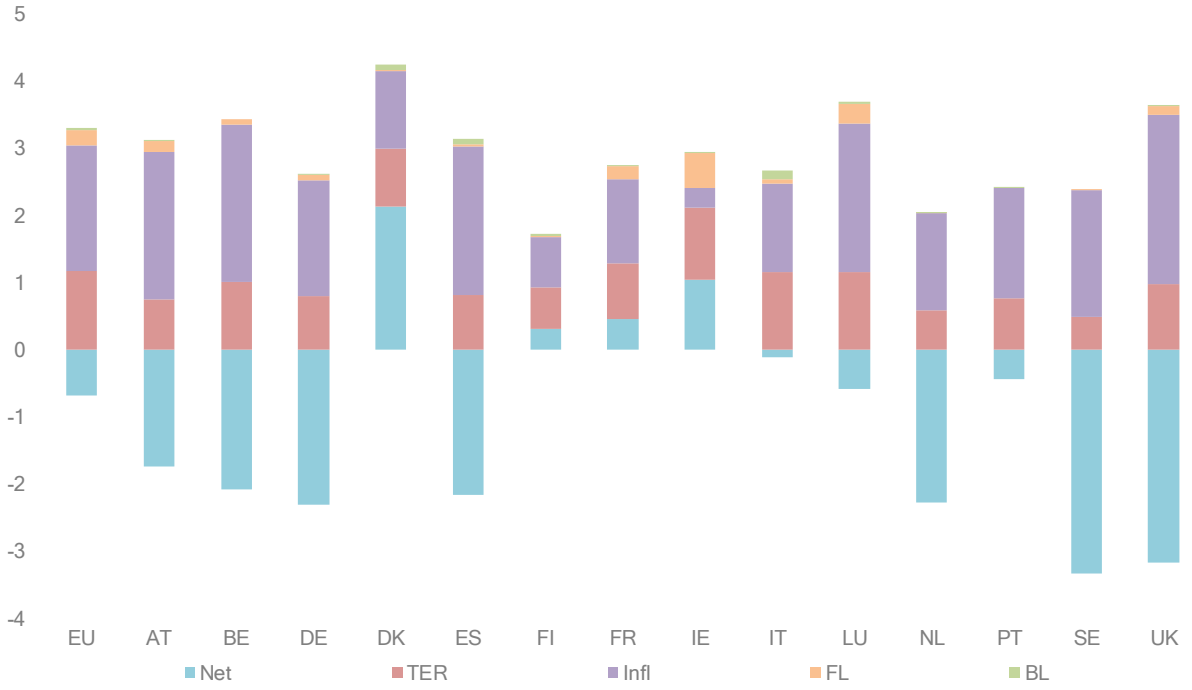
Equity UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 10Y horizon



Note: EU UCITS equity funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 10Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.111

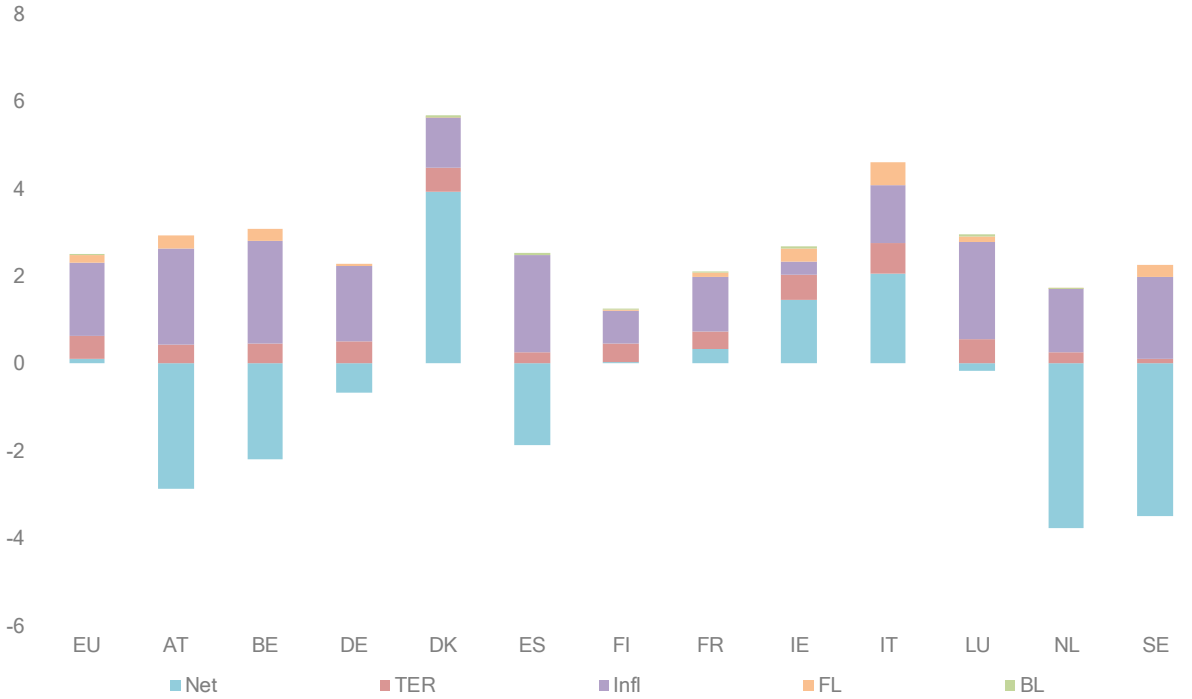
Bond UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 1Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon, %. Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.112

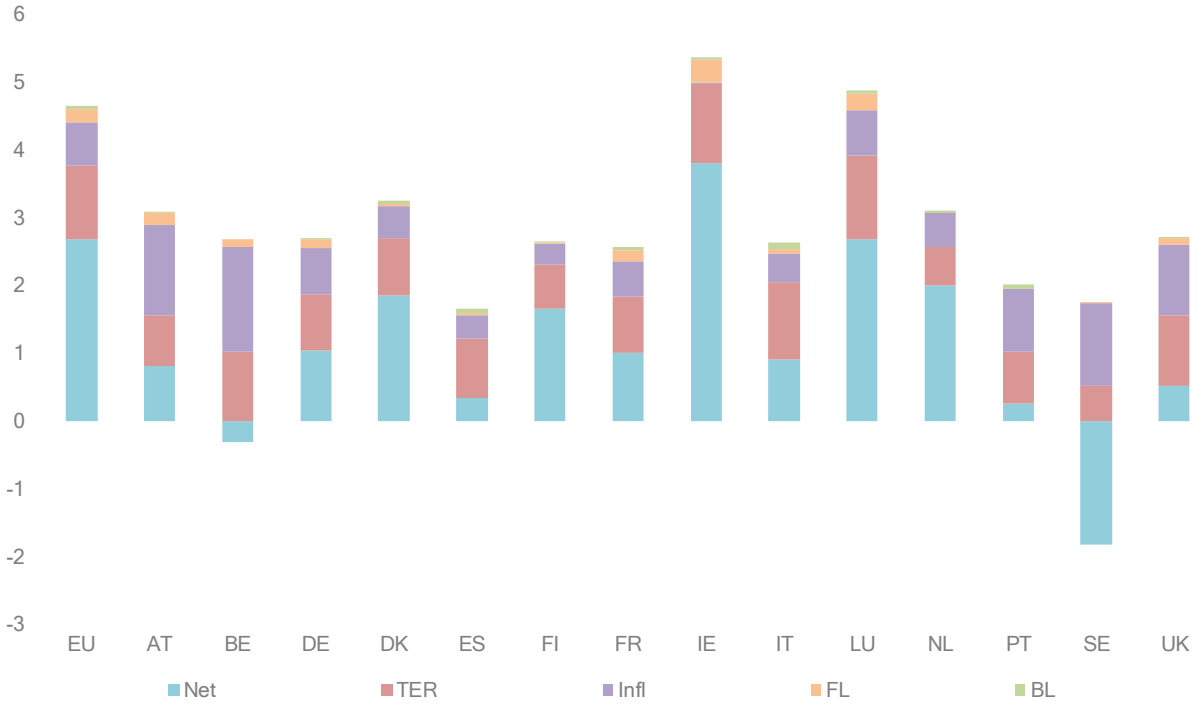
Bond UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 1Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 1Y horizon, %. PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as annual gross returns are close to zero or negative for most domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.113

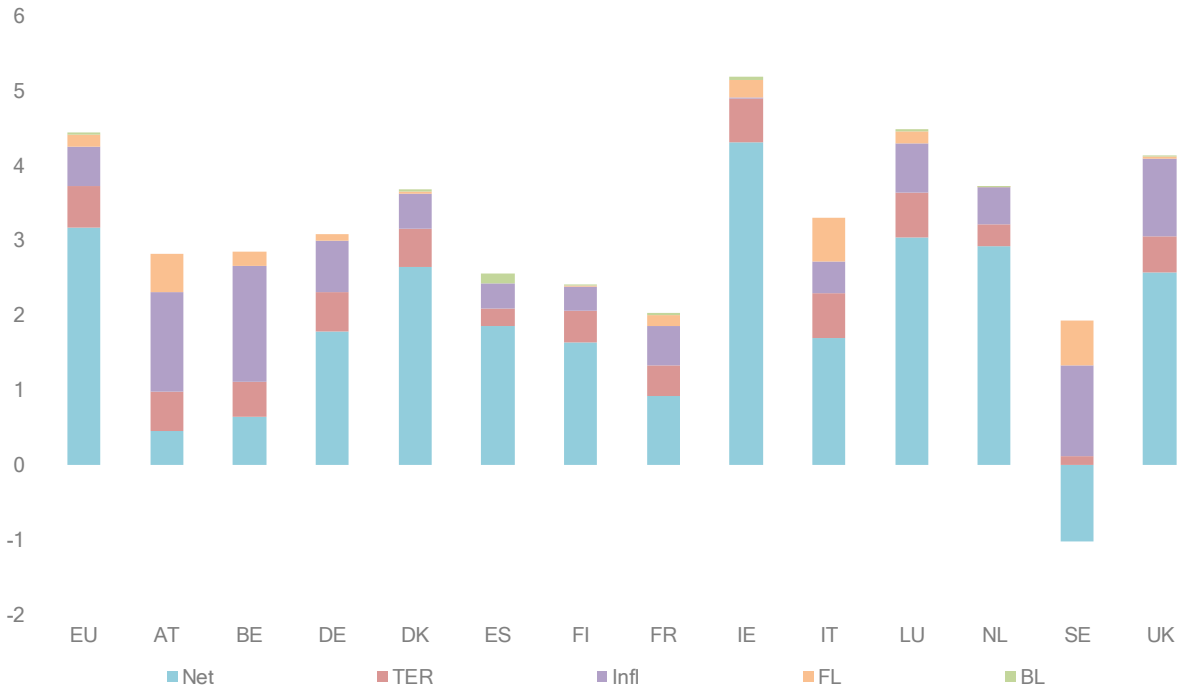
Bond UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 3Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.114

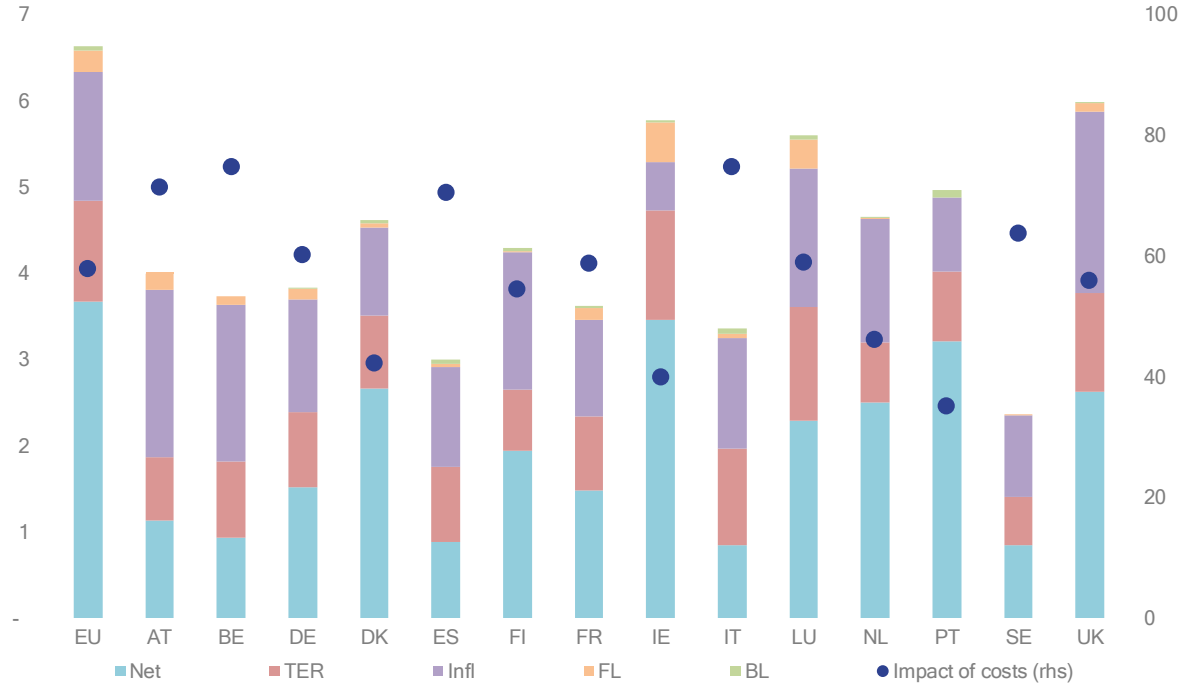
Bond UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 3Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 3Y horizon, %. PT and Other EU countries not reported. Impact of costs relative to annual gross returns by domicile and as EU aggregate (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.115

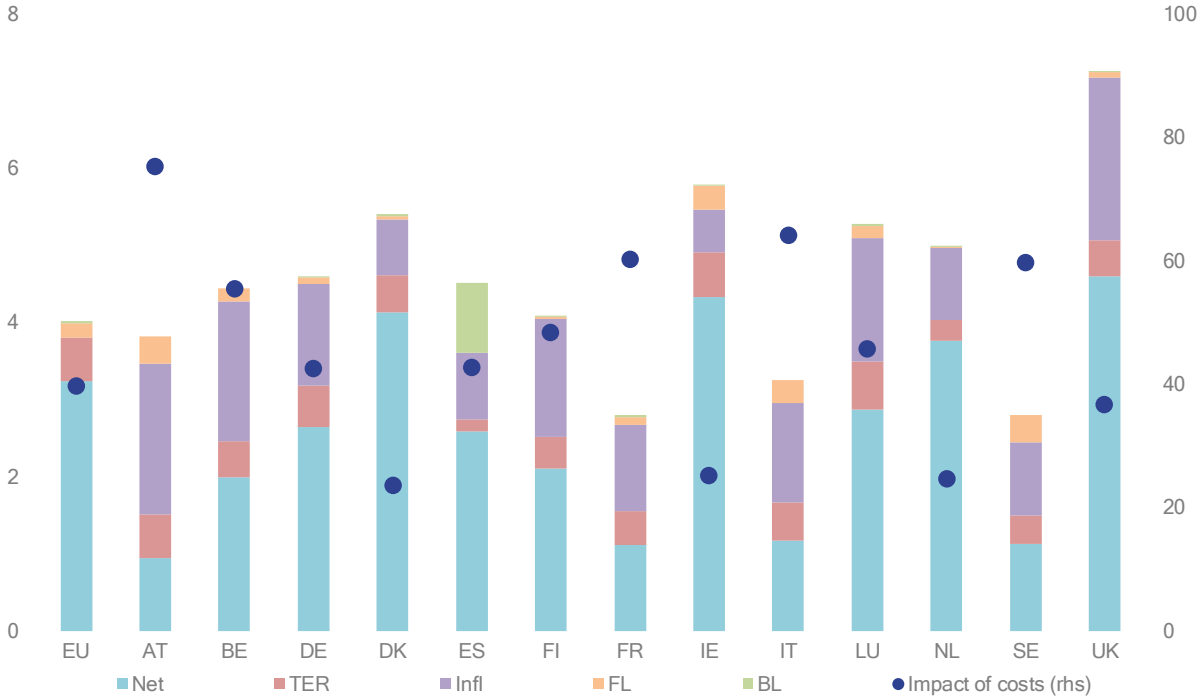
Bond UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 7Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.116

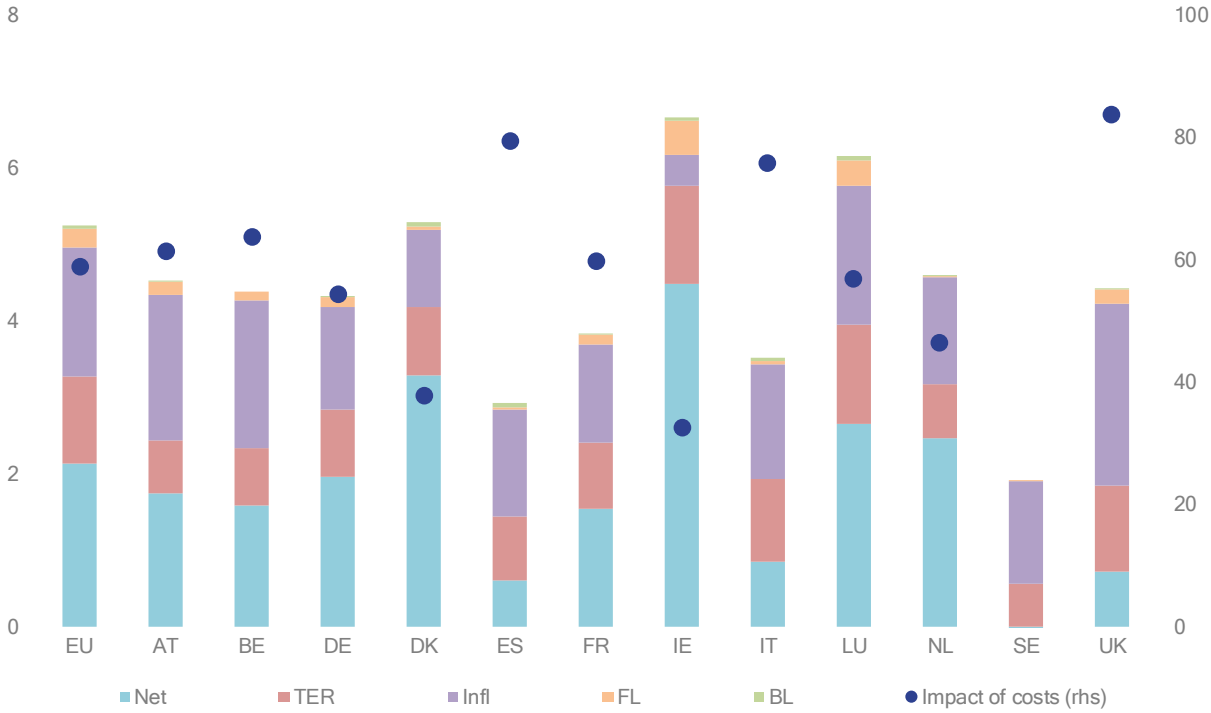
Bond UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 7Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 7Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.117

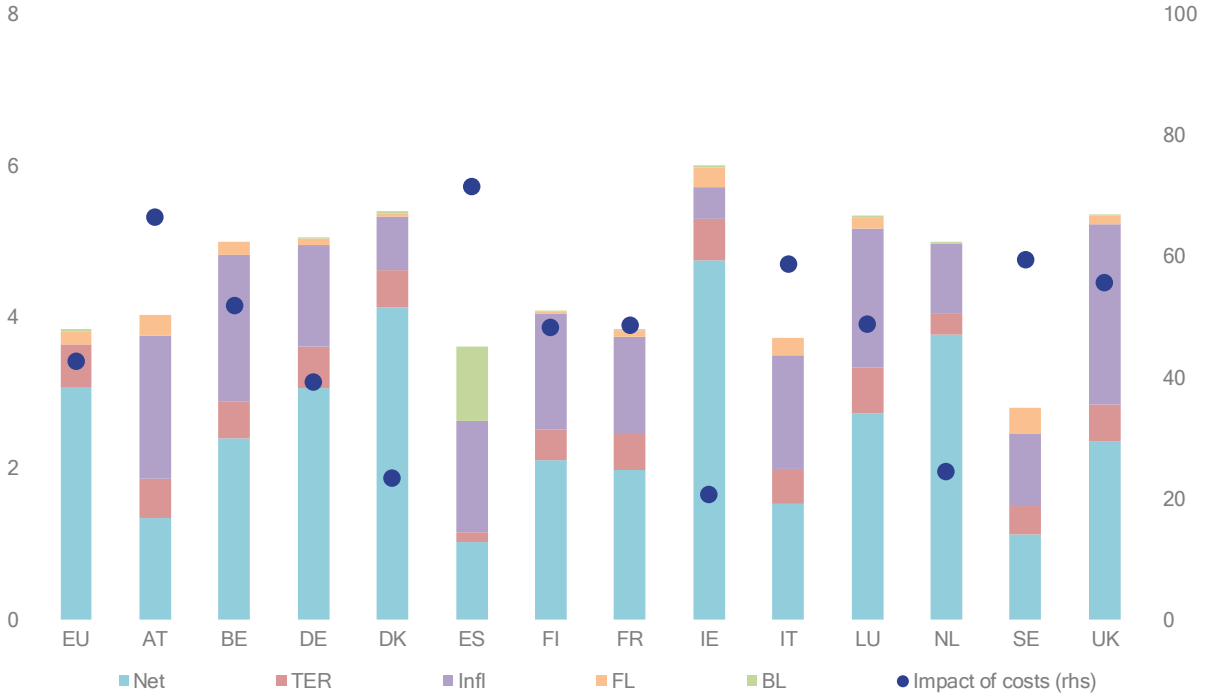
Bond UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 10Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon, %. FI, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.118

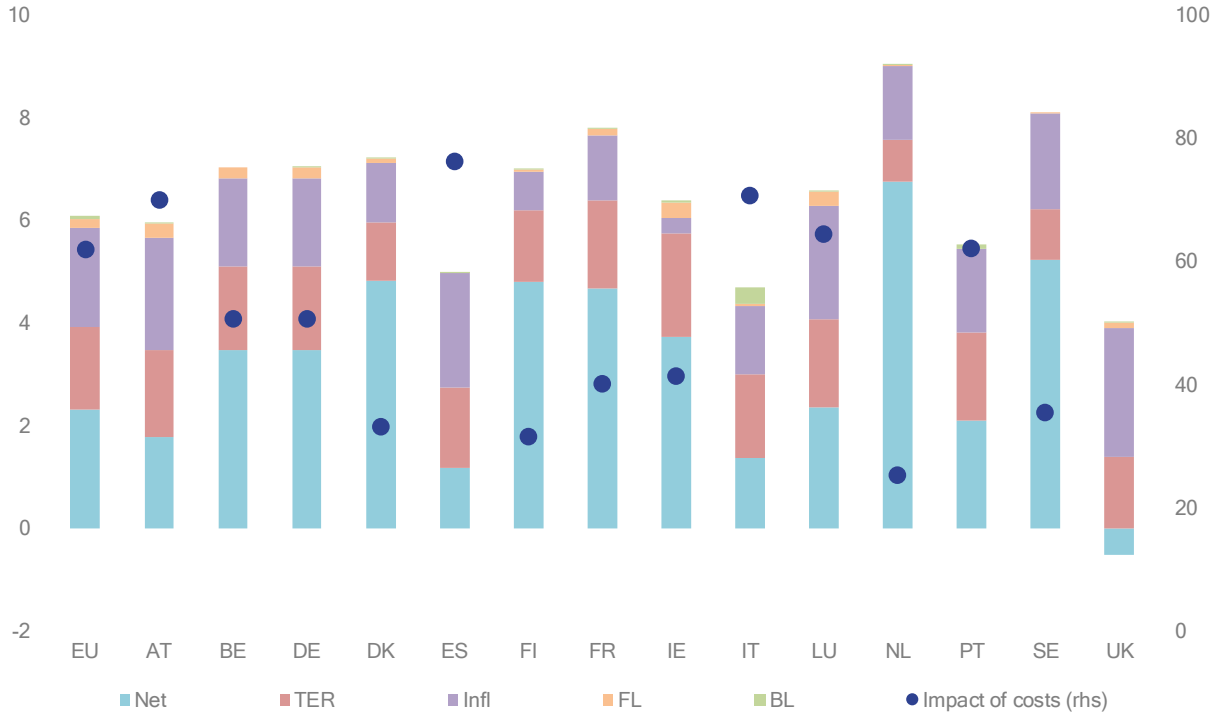
Bond UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 10Y horizon



Note: EU UCITS bond funds annual gross returns, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption fees (BL), institutional investors, by domicile, 10Y horizon, %. PT and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.119

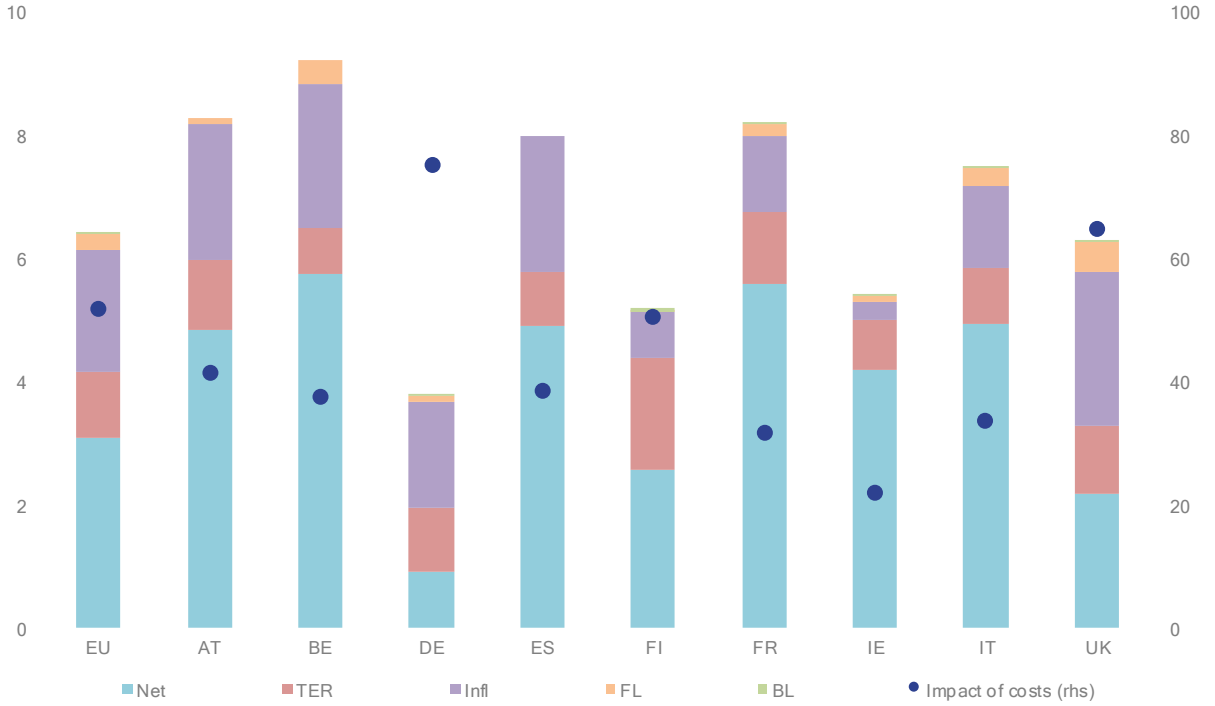
Mixed UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 1Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.120

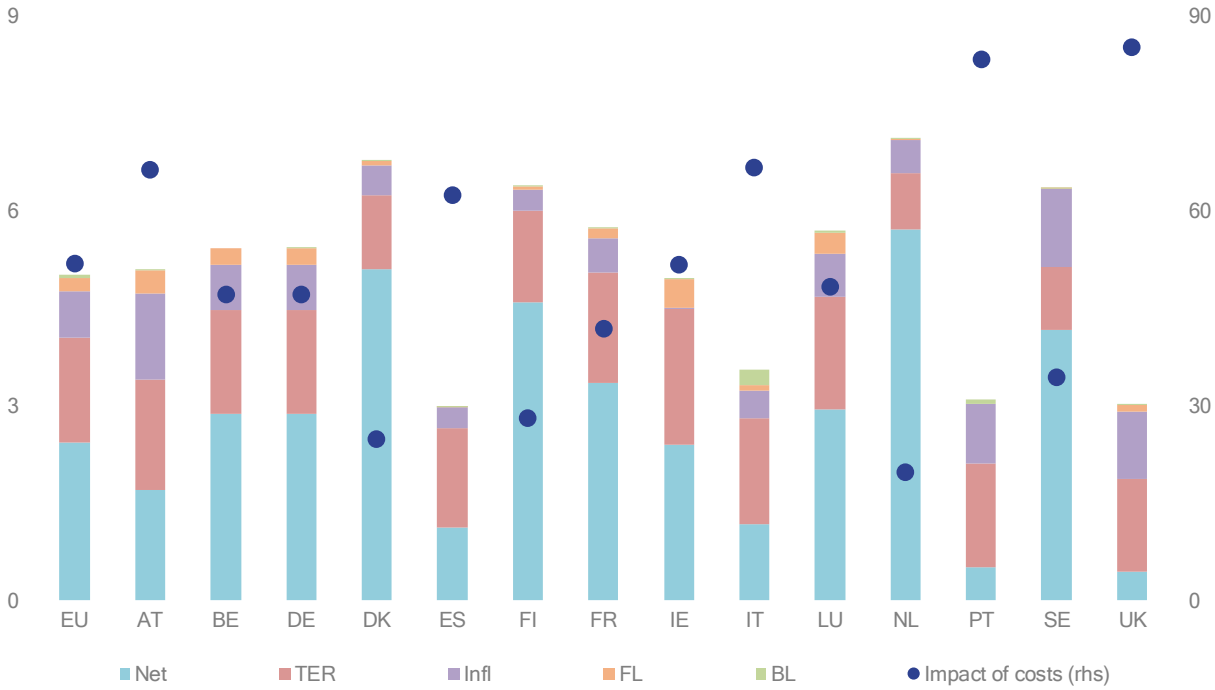
Mixed UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 1Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 1Y horizon, %. DK, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.121

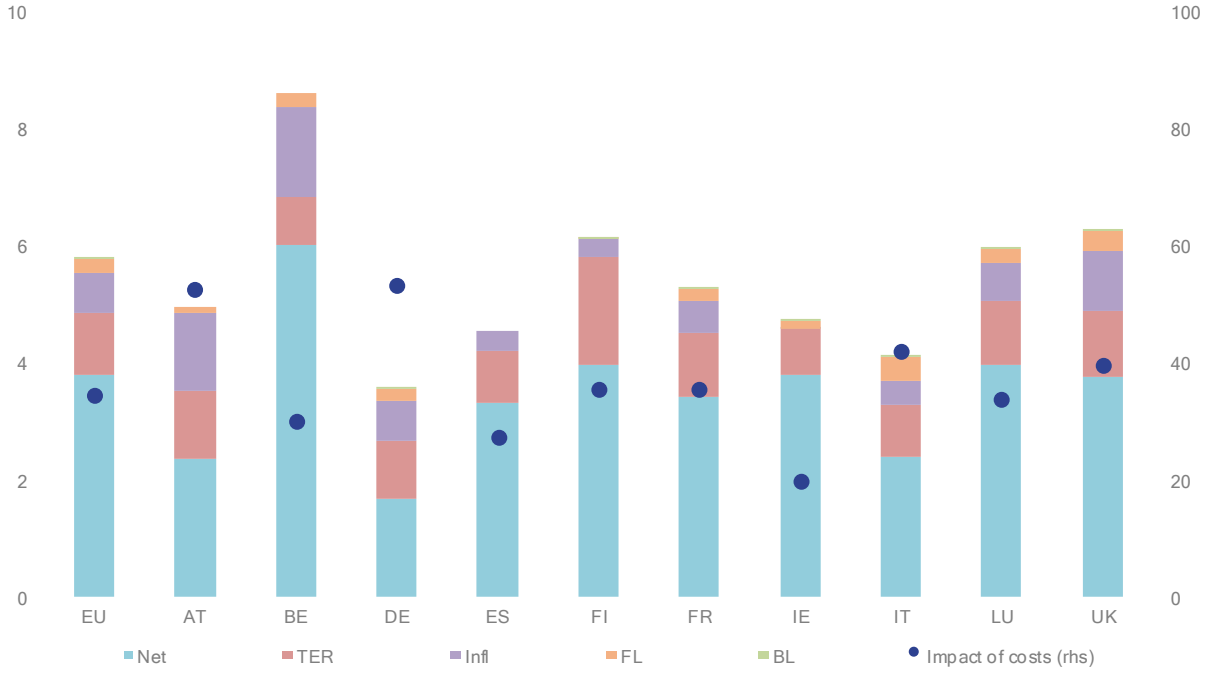
Mixed UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 3Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, (rhs), %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.122

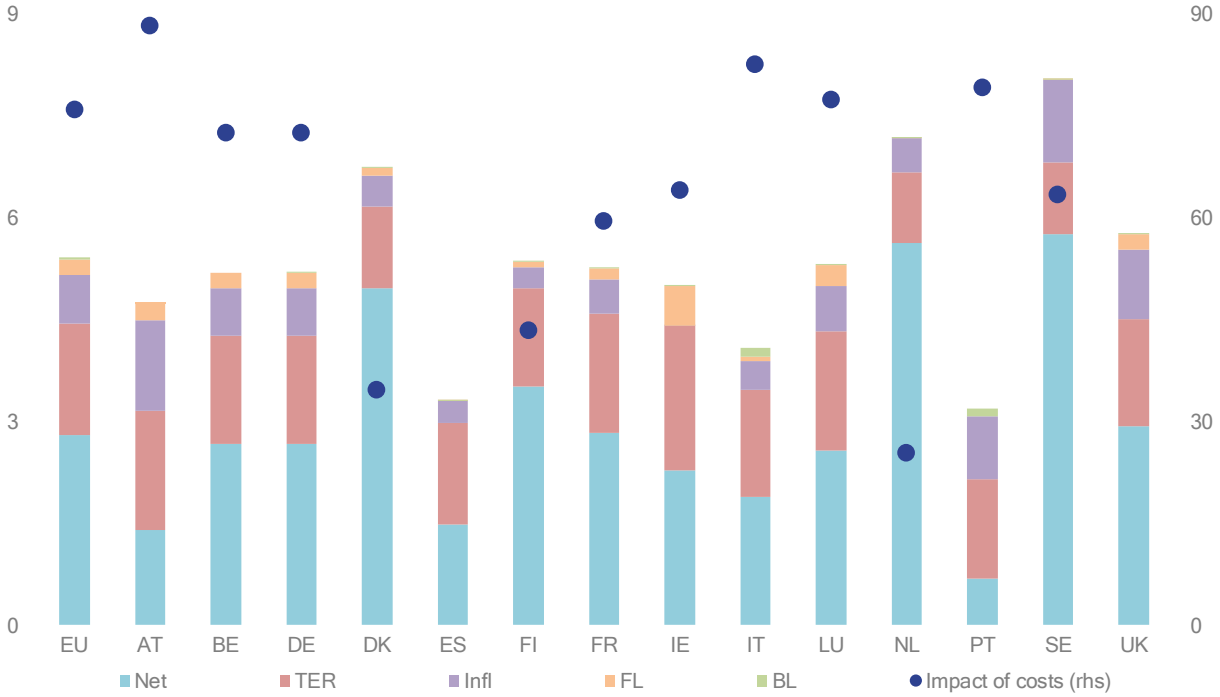
Mixed UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 3Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 3Y horizon, %. DK, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.123

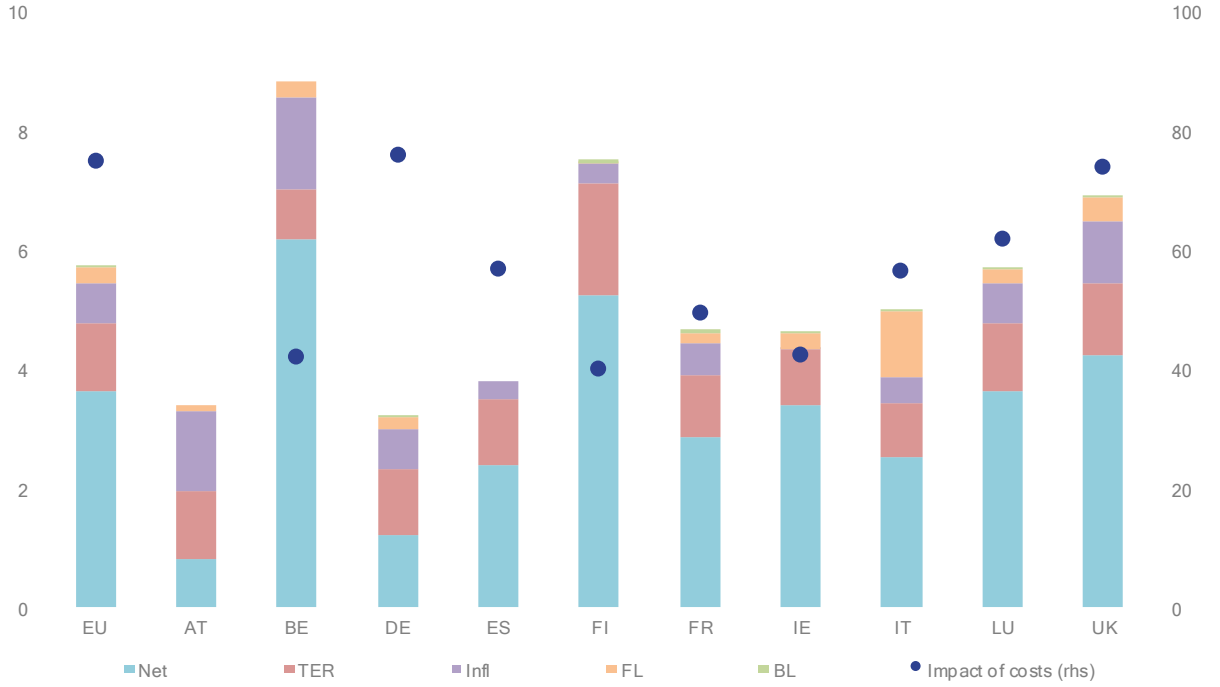
Mixed UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 7Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.124

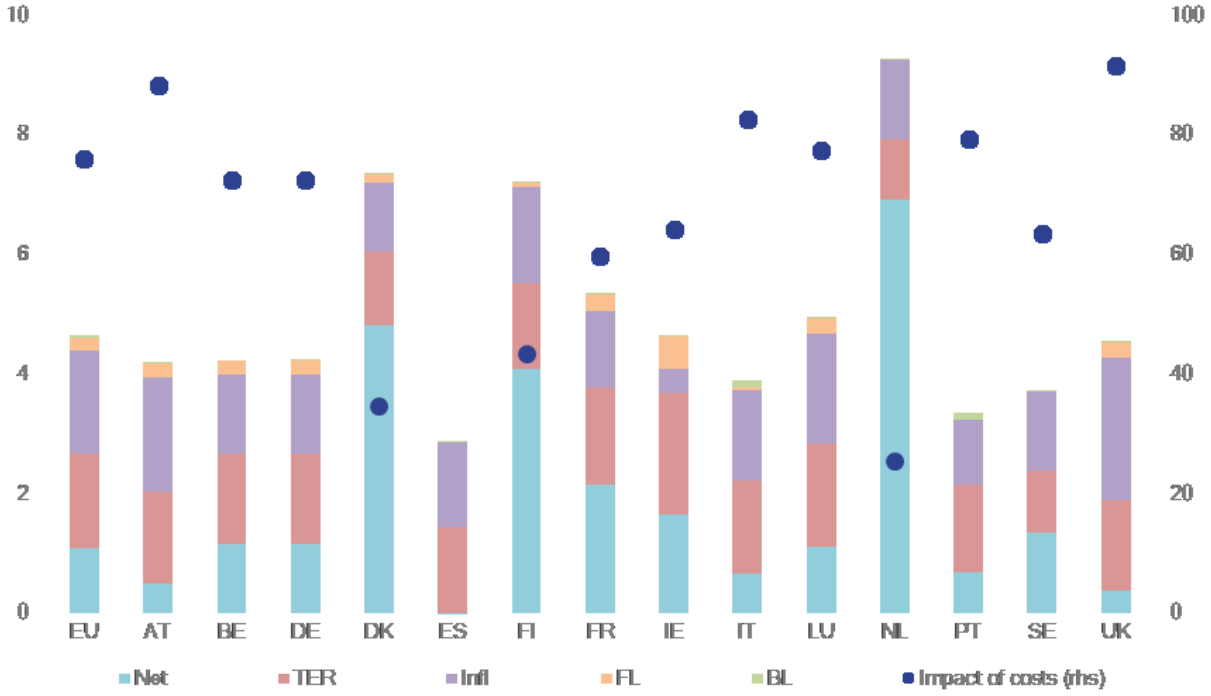
Mixed UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 7Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 7Y horizon, %. DK, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.125

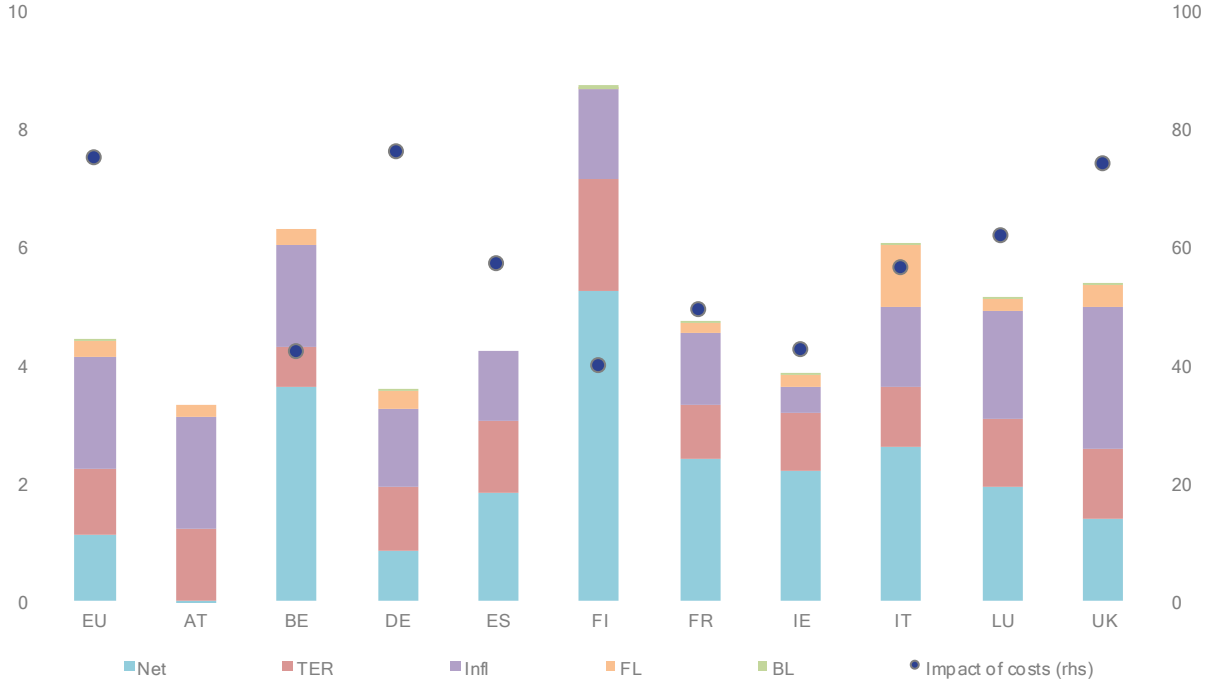
Mixed UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 10Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon, %. DK, FI, NL, PT and Other EU countries not reported. Impact of ongoing costs, subscription and redemption fees as share of gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.126

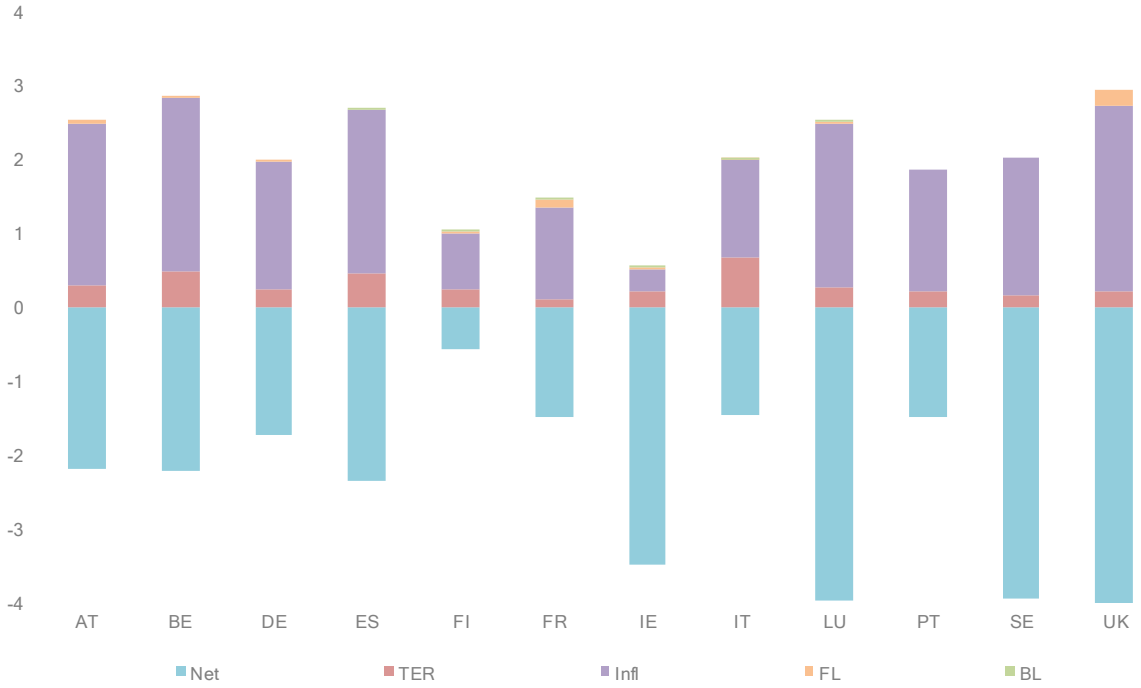
Mixed UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 10Y horizon



Note: EU UCITS mixed funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 10Y horizon, %. DK, NL, PT, SE and Other EU countries not reported. Impact of ongoing costs, inflation, subscription and redemption fees as share of annual gross returns (rhs), %. Impact not reported for those domiciles with returns close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.127

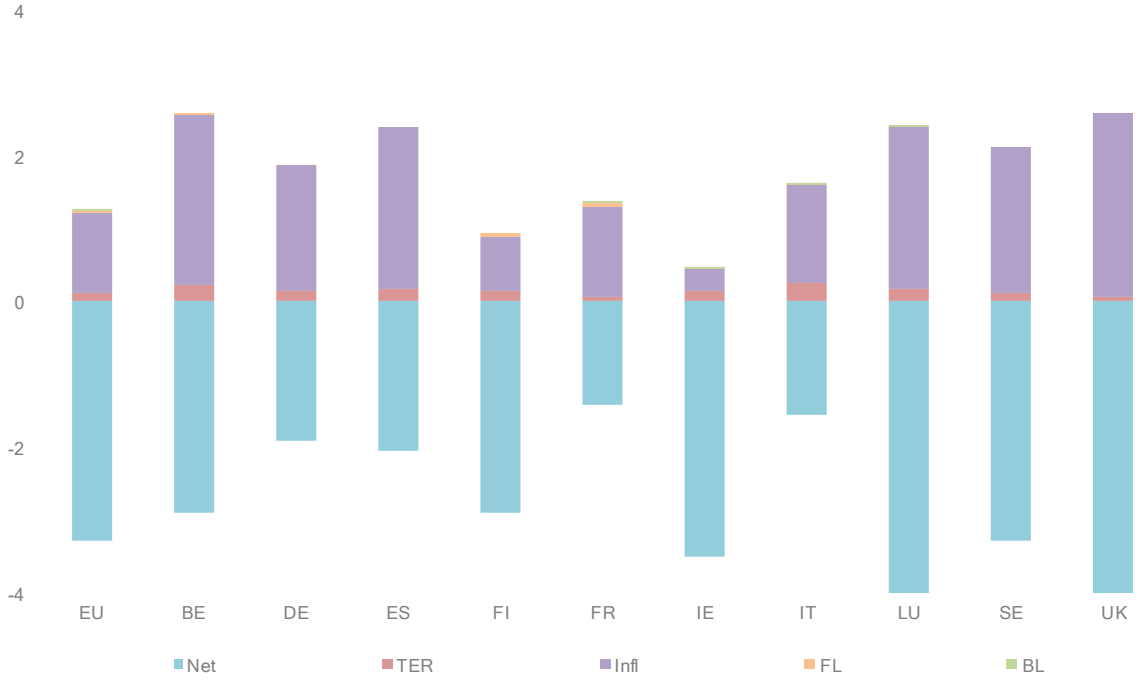
MMF UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 1Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by country, 1Y horizon,%. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, NL and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.128

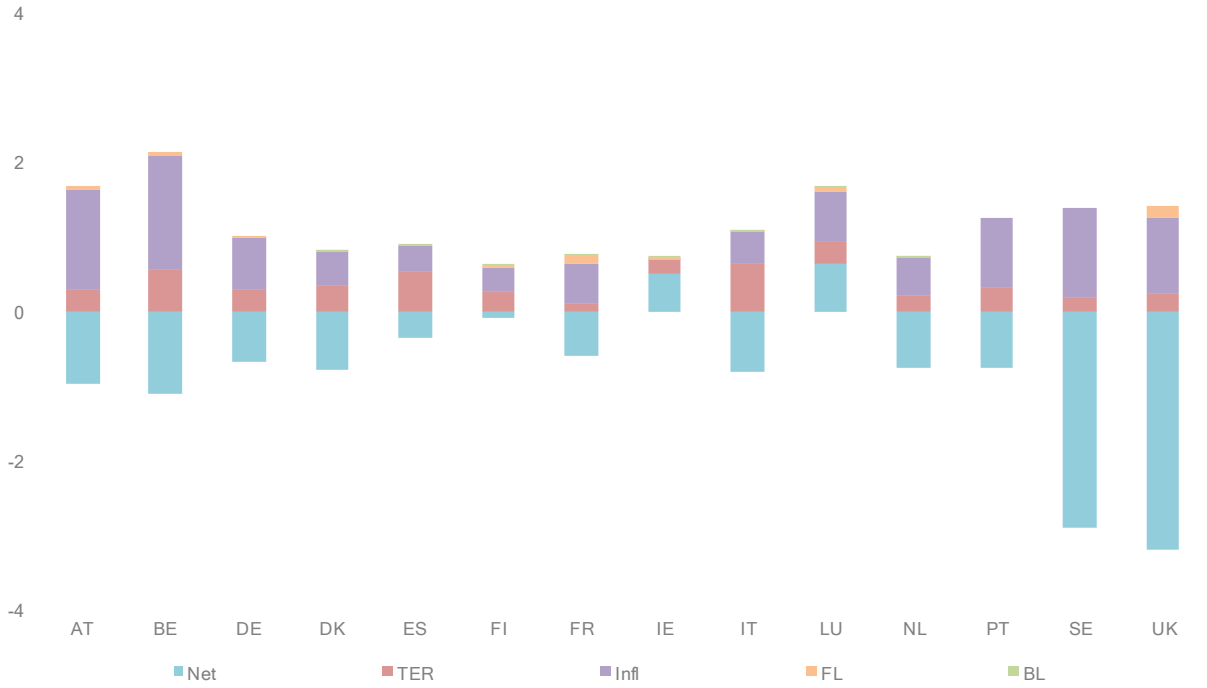
MMF UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 1Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by country, 1Y horizon,%. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. AT, DK, NL, PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.129

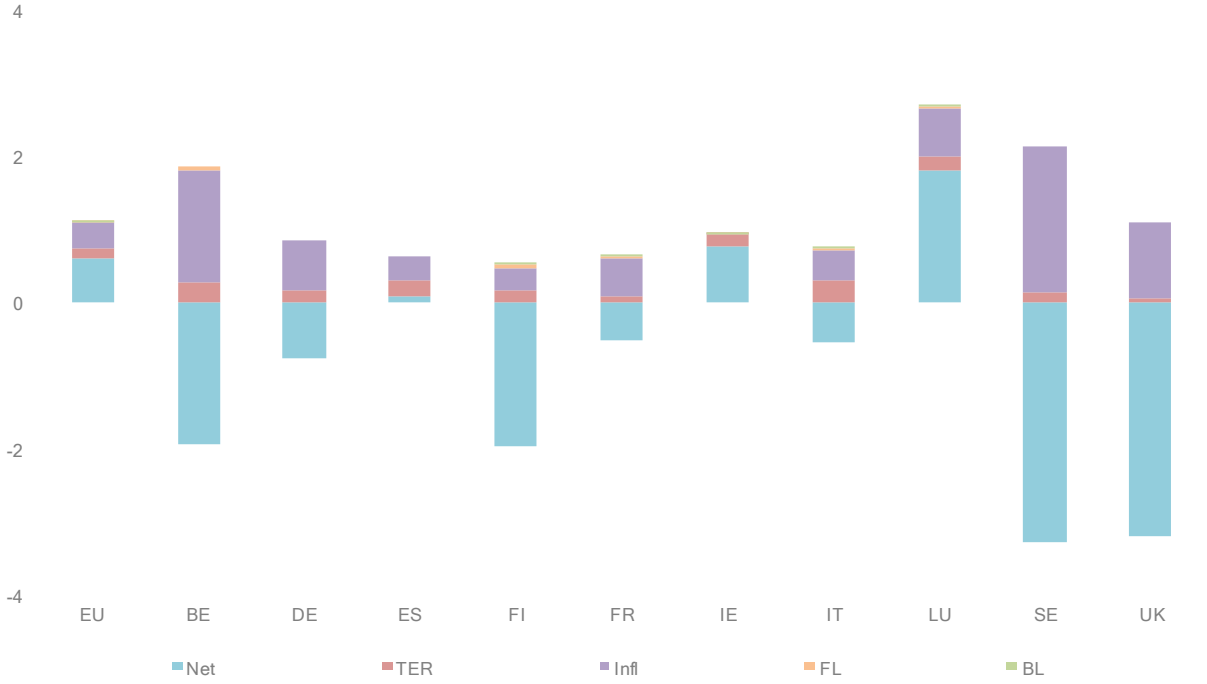
MMF UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 3Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by country, 3Y horizon,%. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, NL and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.130

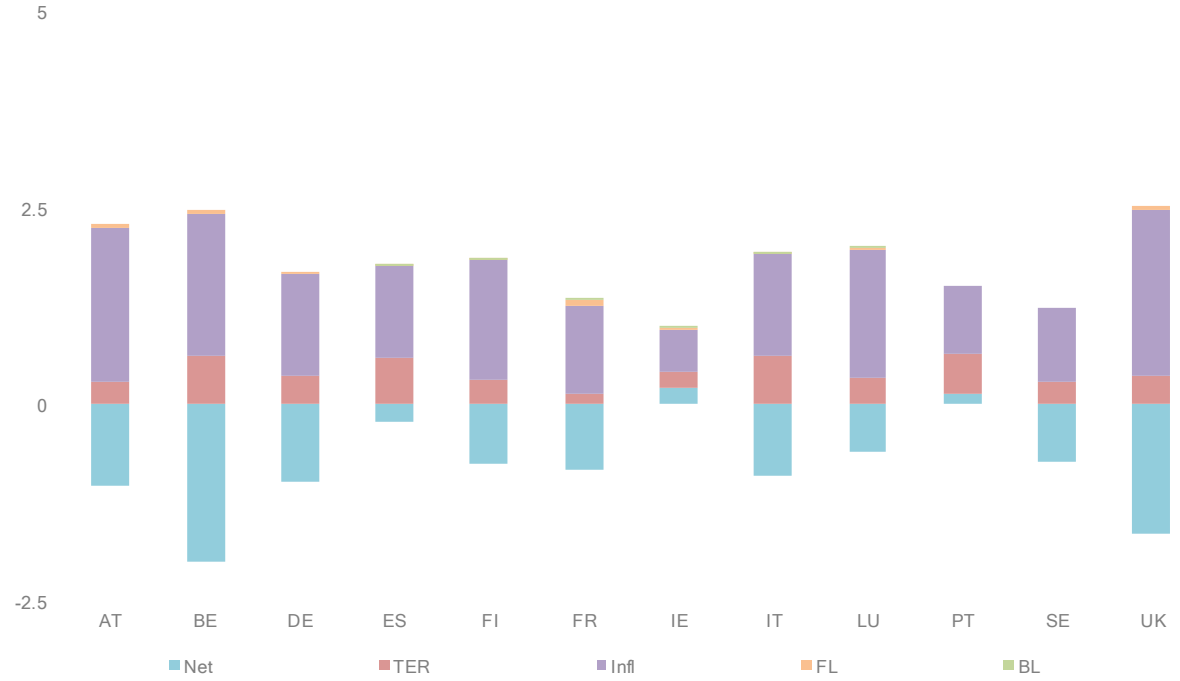
MMF UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 3Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by country, 3Y horizon,%. AT, DK, ES, NL, PT and Other EU countries not reported. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.131

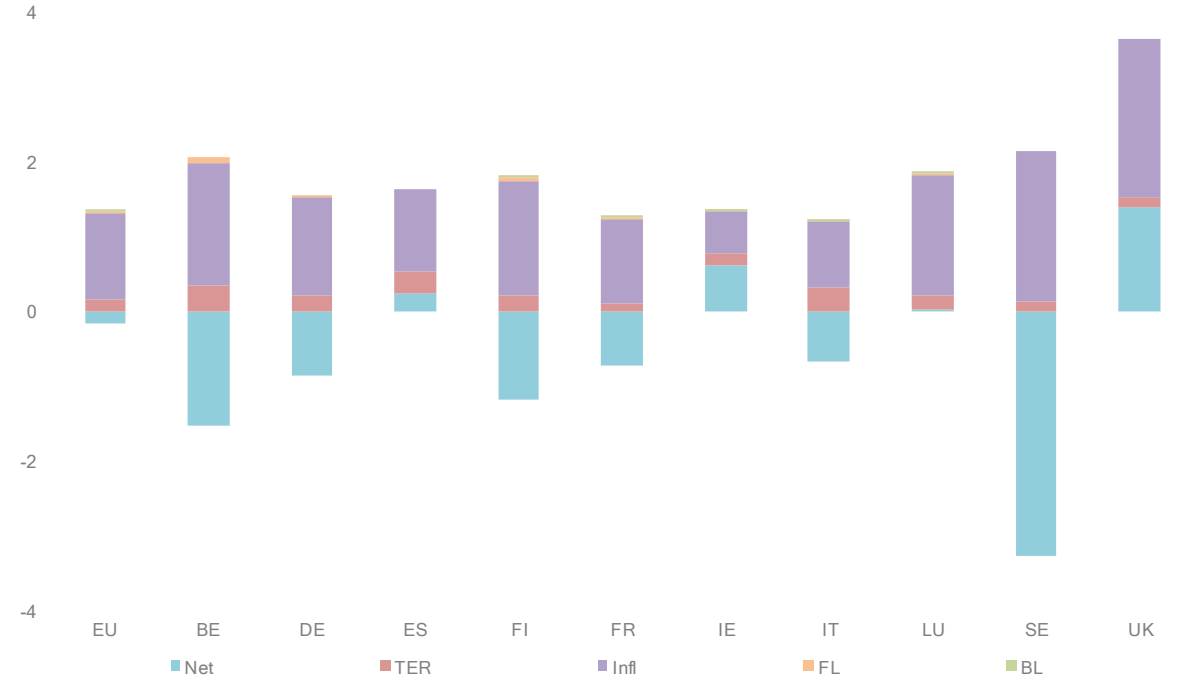
MMF UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 7Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by country, 7Y horizon,%. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, NL and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.132

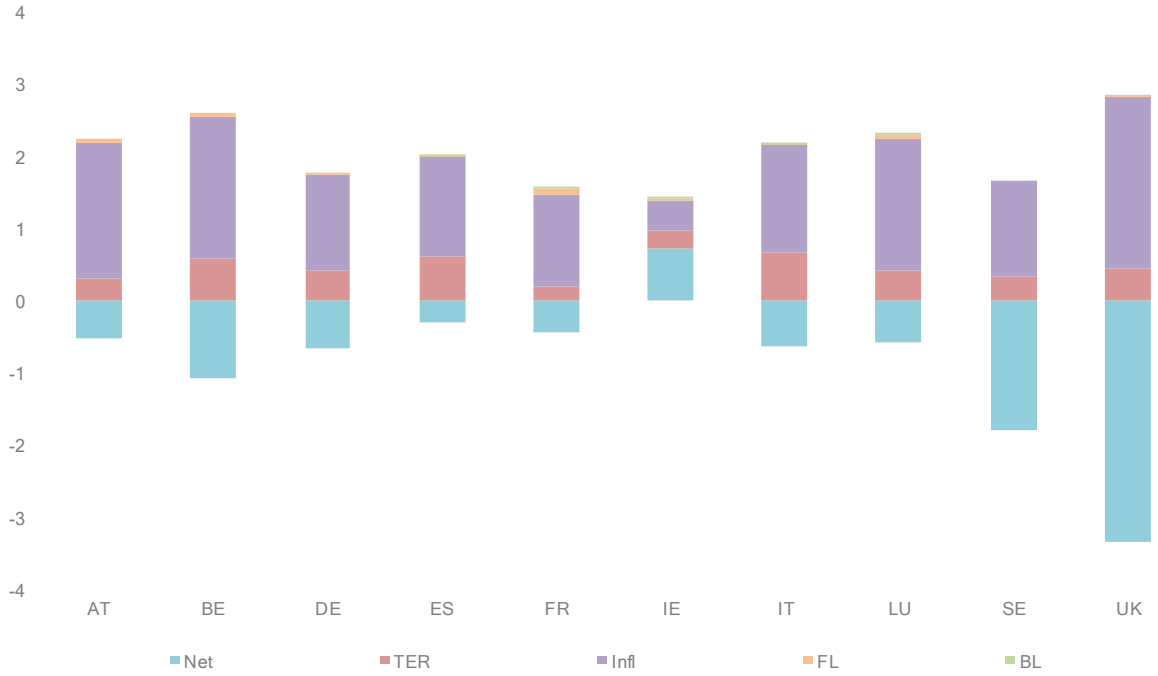
MMF UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 7Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by country, 7Y horizon,%. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. AT, DK, ES, NL, PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.133

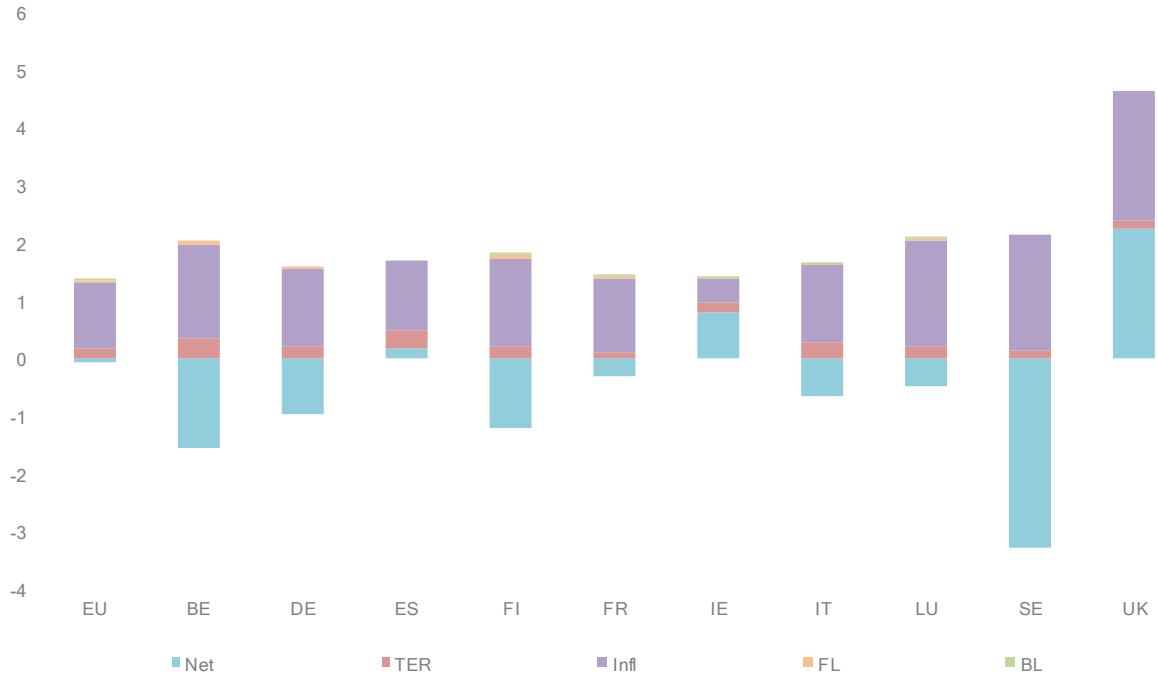
MMF UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 10Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by country, 10Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. DK, FI, NL, PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.134

MMF UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 10Y horizon



Note: EU UCITS money market funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by country, 10Y horizon, %. Returns reported in EUR, includes currency movements for non-EUR denominated MMFs. AT, DK, ES, NL, PT and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

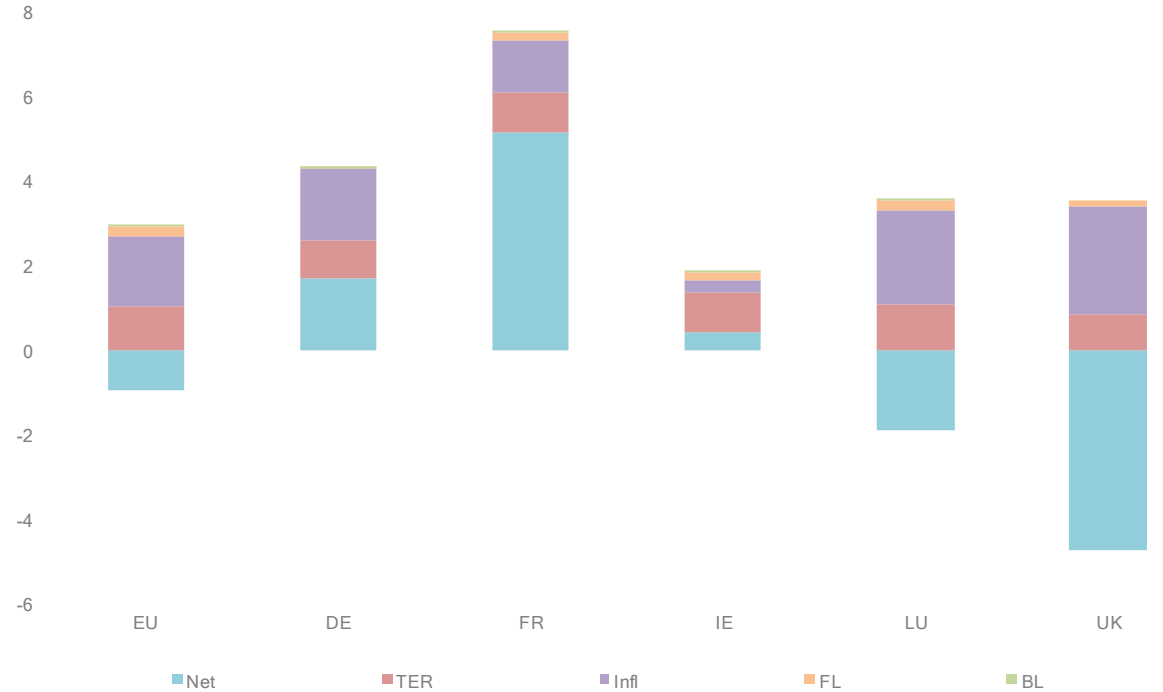
ASR-PC-S.135

Alternative UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 1Y horizon

Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y time horizon, %. DK, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.136

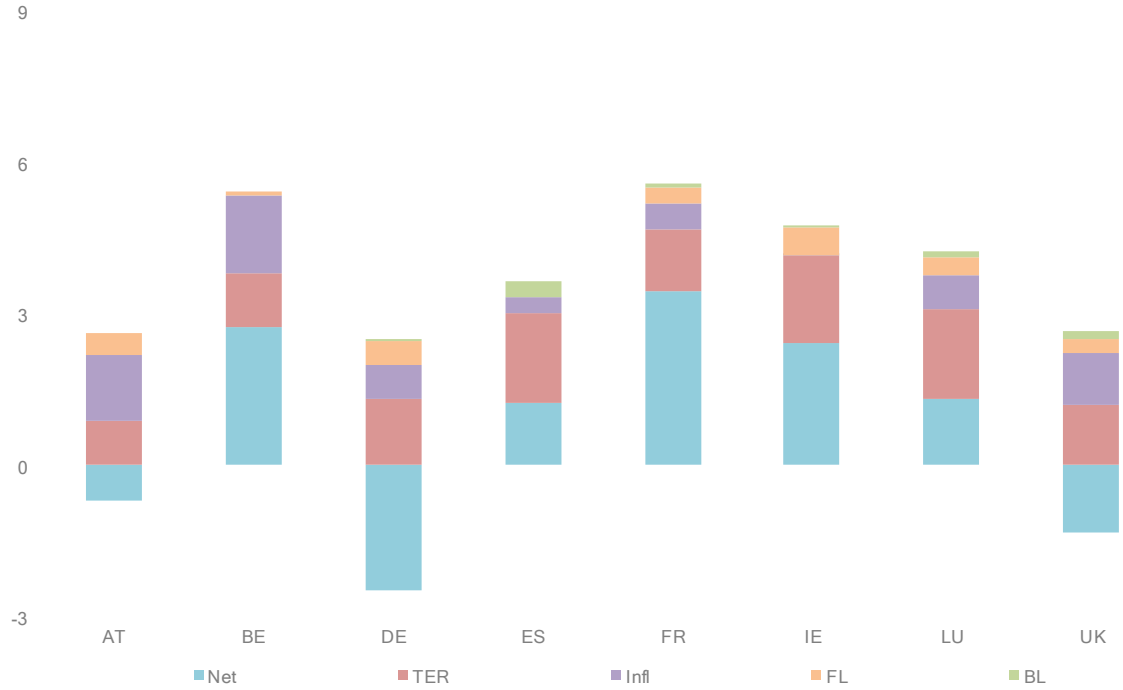
Alternative UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 1Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 1Y horizon, %. AT, BE, DK, ES, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.137

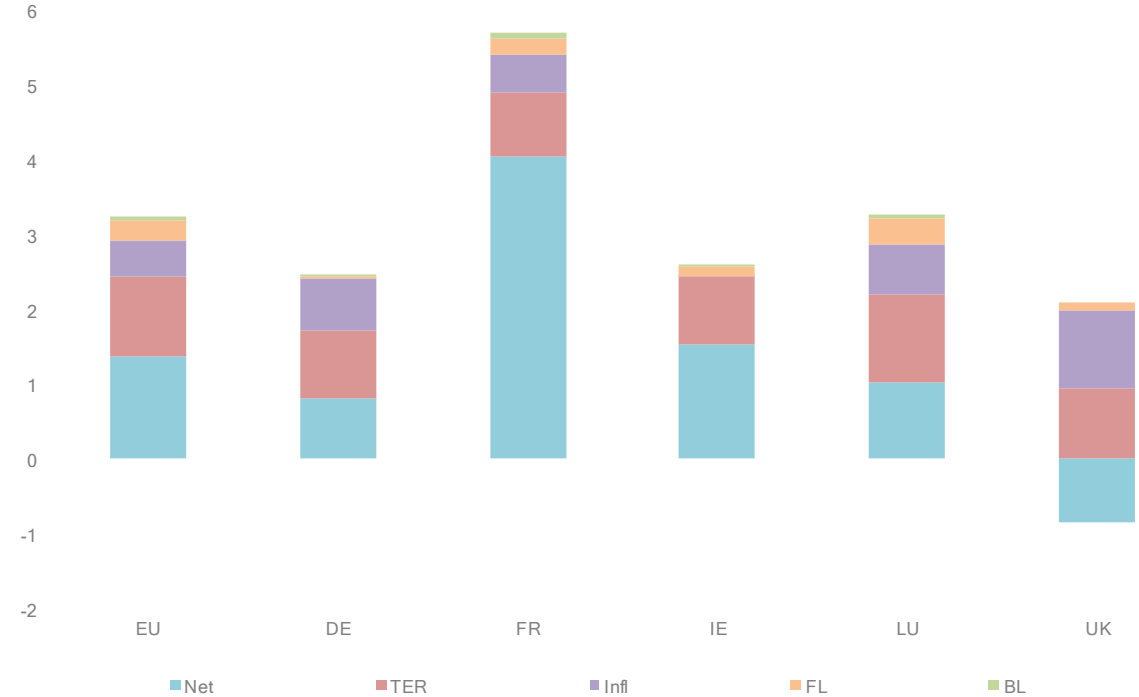
Alternative UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 3Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y time horizon, %. DK, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.138

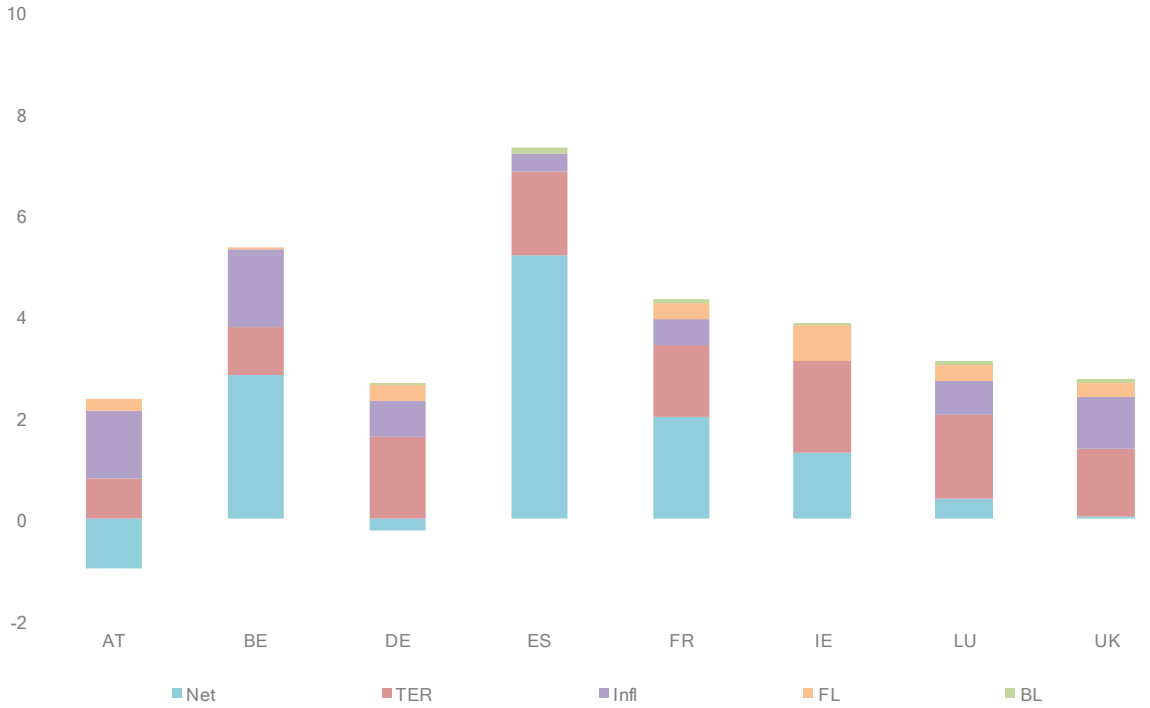
Alternative UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 3Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 3Y horizon, %. AT, BE, DK, ES, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.139

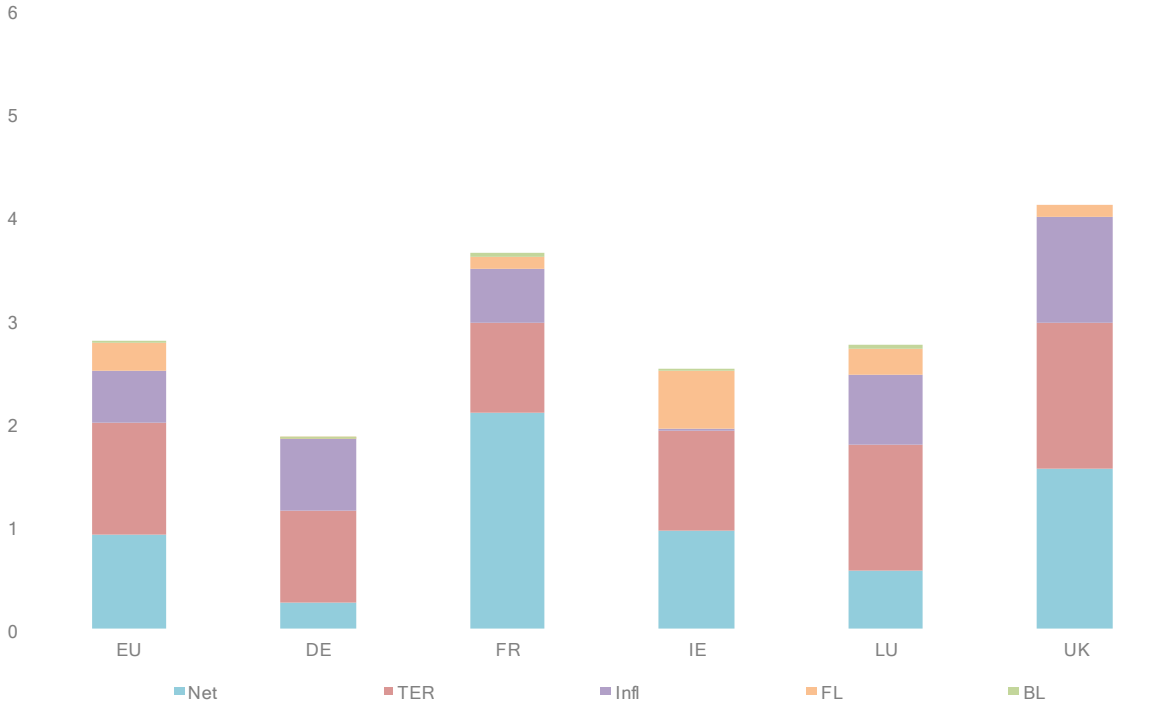
Alternative UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 7Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y time horizon, %. DK, FI, IT, NL PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as retruns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.140

Alternative UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 7Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 7Y horizon, %. AT, BE, DK, ES, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

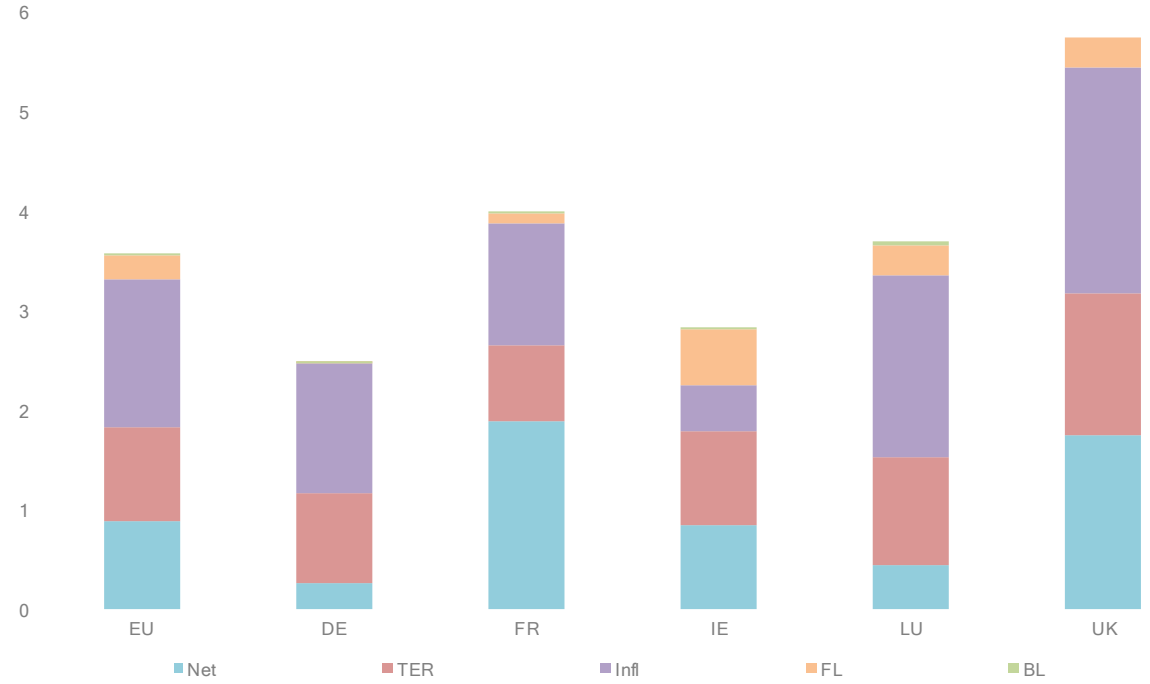
ASR-PC-S.141

Alternative UCITS gross performance and cost impact incl. inflation by domicile – retail investors – 10Y horizon

Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y time horizon, %. DK, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are close to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.142

Alternative UCITS gross performance and cost impact incl. inflation by domicile – institutional investors – 10Y horizon



Note: EU UCITS alternative funds annual gross returns, classified as net returns, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), institutional investors, by domicile, 10Y horizon, %. AT, BE, DK, ES, FI, IT, NL, PT, SE and Other EU countries not reported. Impact of costs relative to annual gross returns not reported as returns are to zero or negative for some domiciles.
Sources: Thomson Reuters Lipper, ESMA.

Gross and net performance by asset classes and domiciles

ASR-PC-S.143

Equity UCITS - gross and net performance and costs by country for different investment horizons

	10Y					7Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	5.73	3.60	1.95	0.00	0.18	8.86	6.58	2.09	0.00	0.18
BE	6.21	4.42	1.65	-	0.14	10.40	8.56	1.73	-	0.11
DE	7.60	5.85	1.59	0.00	0.16	11.57	9.76	1.66	0.00	0.15
DK	11.39	9.62	1.69	0.03	0.05	11.93	10.17	1.68	0.04	0.05
ES	6.21	3.95	2.06	0.20	0.00	9.77	7.52	2.12	0.14	0.00
FI	-	-	-	-	-	9.92	8.10	1.68	0.09	0.05
FR	6.35	4.35	1.83	0.02	0.14	10.13	8.05	1.95	0.02	0.12
IE	7.61	5.67	1.66	0.05	0.24	10.00	8.13	1.63	0.05	0.20
IT	6.10	3.84	2.22	0.02	0.02	9.64	7.30	2.30	0.02	0.02
LU	7.12	4.83	1.99	0.04	0.26	9.24	6.94	2.01	0.04	0.26
NL	6.27	5.02	1.19	0.03	0.03	10.55	9.35	1.12	0.03	0.05
PT	-	-	-	-	-	8.39	5.97	2.22	0.20	0.00
SE	10.70	9.53	1.15	0.00	0.02	12.04	10.76	1.26	0.00	0.01
UK	7.60	5.85	1.58	0.00	0.16	10.84	9.09	1.61	0.01	0.13
EU	7.34	5.36	1.77	0.03	0.19	10.22	8.23	1.79	0.03	0.17
	3Y					1Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	10.45	8.16	2.11	0.00	0.18	16.80	14.42	2.20	0.00	0.18
BE	10.11	8.27	1.73	-	0.11	12.97	11.08	1.77	-	0.12
DE	11.75	9.91	1.66	0.00	0.17	16.41	14.48	1.72	0.00	0.21
DK	12.92	11.10	1.73	0.04	0.05	15.60	13.69	1.80	0.06	0.04
ES	8.37	6.21	2.01	0.15	0.00	17.83	15.57	2.15	0.12	0.00
FI	12.15	10.43	1.59	0.08	0.04	16.28	14.52	1.64	0.09	0.03
FR	10.76	8.65	1.95	0.02	0.14	17.95	15.73	2.02	0.03	0.17
IE	11.59	9.80	1.59	0.04	0.15	16.80	15.00	1.61	0.05	0.15
IT	10.15	7.82	2.29	0.02	0.02	17.12	14.67	2.40	0.02	0.03
LU	11.03	8.79	1.96	0.05	0.23	16.32	14.04	2.01	0.04	0.22
NL	10.86	9.84	0.88	0.04	0.10	14.65	13.62	0.79	0.07	0.16
PT	7.57	5.23	2.16	0.18	0.00	18.29	15.77	2.36	0.16	0.00
SE	12.17	10.94	1.22	0.00	0.02	17.52	16.25	1.25	0.00	0.02
UK	8.93	7.32	1.50	0.01	0.11	13.55	11.92	1.49	0.01	0.13
EU	10.77	8.85	1.73	0.03	0.15	16.01	14.05	1.76	0.03	0.16

Note: EU UCITS equity fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. Aggregation by time horizon and country. For BE, BL not considered, see footnote 61 for details. FI, PT not reported at 10-year horizon. Other EU not reported.
Sources : Thomson Reuters Lipper, ESMA.

ASR-PC-S.144

Bond UCITS - gross and net performances and costs by country for different investment horizons

	10Y					7Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	4.51	3.64	0.70	0.00	0.16	4.00	3.09	0.73	0.00	0.19
BE	4.38	3.53	0.75	-	0.10	3.74	2.76	0.88	-	0.11
DE	4.31	3.30	0.88	0.00	0.12	3.83	2.83	0.87	0.00	0.13
DK	5.29	4.29	0.91	0.05	0.04	4.62	3.69	0.85	0.04	0.04
ES	2.93	2.00	0.85	0.06	0.02	3.00	2.04	0.88	0.05	0.03
FI	-	-	-	-	-	4.29	3.53	0.71	0.03	0.02
FR	3.84	2.82	0.87	0.02	0.13	3.62	2.60	0.86	0.03	0.14
IE	6.67	4.91	1.27	0.04	0.45	5.78	4.02	1.27	0.03	0.46
IT	3.52	2.34	1.09	0.05	0.04	3.37	2.14	1.12	0.07	0.04
LU	6.16	4.48	1.30	0.05	0.33	5.61	3.90	1.32	0.05	0.33
NL	4.59	3.86	0.71	0.01	0.01	4.66	3.94	0.70	0.02	0.01
PT	-	-	-	-	-	4.97	4.08	0.81	0.08	0.00
SE	1.84	1.27	0.56	0.00	0.01	2.36	1.80	0.56	0.00	0.00
UK	4.43	3.09	1.14	0.02	0.18	5.99	4.73	1.14	0.01	0.11
EU	5.25	3.83	1.14	0.04	0.24	5.13	3.68	1.17	0.04	0.25
	3Y					1Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	3.07	2.15	0.75	0.00	0.17	1.38	0.46	0.76	0.00	0.16
BE	2.38	1.24	1.02	-	0.12	1.36	0.27	1.02	-	0.08
DE	2.68	1.72	0.84	0.00	0.12	0.31	-0.58	0.80	0.00	0.09
DK	3.26	2.31	0.86	0.05	0.04	4.26	3.29	0.87	0.08	0.02
ES	1.65	0.68	0.88	0.05	0.04	0.98	0.06	0.81	0.07	0.03
FI	2.66	1.98	0.64	0.02	0.02	1.73	1.06	0.63	0.03	0.01
FR	2.56	1.53	0.83	0.04	0.17	2.76	1.71	0.84	0.02	0.20
IE	5.36	3.82	1.18	0.03	0.33	2.95	1.35	1.08	0.02	0.51
IT	2.64	1.33	1.15	0.11	0.05	2.56	1.21	1.16	0.13	0.06
LU	4.88	3.35	1.23	0.05	0.25	3.12	1.64	1.16	0.04	0.28
NL	3.10	2.50	0.57	0.03	0.00	-0.21	-0.83	0.60	0.02	0.00
PT	2.02	1.18	0.77	0.07	0.00	2.00	1.21	0.77	0.02	0.00
SE	-0.09	-0.61	0.52	0.00	0.00	-0.95	-1.46	0.50	0.00	0.00
UK	2.70	1.56	1.04	0.01	0.10	0.48	-0.64	0.99	0.01	0.12
EU	4.02	2.68	1.10	0.05	0.20	2.49	1.19	1.04	0.04	0.23

Note: EU UCITS bond fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. Aggregation by time horizon and country. For BE, BL not considered, see footnote 61 for details. FI, PT not reported at 10-year horizon. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.145

Mixed UCITS - gross and net performances and costs by country for different investment horizons

	10Y					7Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	4.17	2.39	1.56	0.00	0.23	5.36	3.36	1.75	0.00	0.25
BE	4.38	2.42	1.66	-	0.30	5.56	3.29	1.91	-	0.36
DE	4.24	2.50	1.50	0.00	0.24	5.82	3.98	1.61	0.00	0.24
DK	-	-	-	-	-	7.37	6.05	1.20	0.01	0.11
ES	2.79	1.31	1.45	0.03	0.00	4.15	2.64	1.49	0.01	0.00
FI	-	-	-	-	-	6.65	5.11	1.44	0.02	0.08
FR	5.33	3.44	1.63	0.01	0.27	5.86	3.95	1.75	0.01	0.16
IE	4.63	2.07	2.03	0.01	0.52	5.57	2.84	2.13	0.01	0.59
IT	3.89	2.17	1.55	0.11	0.06	4.96	3.17	1.58	0.14	0.07
LU	4.96	2.95	1.72	0.03	0.26	6.27	4.19	1.75	0.02	0.31
NL	-	-	-	-	-	8.13	7.06	1.05	0.01	0.01
PT	-	-	-	-	-	3.36	1.78	1.46	0.12	0.00
SE	3.72	2.68	1.03	0.00	0.00	7.77	6.71	1.06	0.00	0.00
UK	4.53	2.76	1.52	0.00	0.25	6.84	5.04	1.57	0.00	0.22
EU	4.64	2.81	1.59	0.03	0.21	6.22	4.32	1.65	0.03	0.22
	3Y					1Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	5.08	3.04	1.70	0.00	0.34	5.94	3.98	1.68	0.00	0.27
BE	4.91	2.52	2.07	-	0.31	7.03	4.78	2.13	-	0.12
DE	5.43	3.56	1.61	0.00	0.26	7.05	5.20	1.63	0.00	0.22
DK	6.79	5.56	1.14	0.01	0.07	7.22	5.98	1.15	0.01	0.08
ES	2.99	1.45	1.53	0.01	0.00	4.98	3.41	1.57	0.00	0.00
FI	6.40	4.92	1.40	0.01	0.06	7.01	5.56	1.41	0.01	0.04
FR	5.75	3.86	1.71	0.01	0.16	7.80	5.92	1.73	0.01	0.14
IE	4.96	2.40	2.10	0.02	0.44	6.39	4.04	2.02	0.02	0.31
IT	3.55	1.61	1.62	0.23	0.09	4.70	2.70	1.63	0.32	0.05
LU	5.70	3.61	1.74	0.03	0.32	6.59	4.57	1.72	0.03	0.27
NL	7.12	6.22	0.88	0.01	0.02	9.05	8.22	0.80	0.01	0.02
PT	3.09	1.44	1.59	0.06	0.00	5.54	3.74	1.72	0.08	0.00
SE	6.35	5.38	0.97	0.00	0.00	8.10	7.10	1.00	0.00	0.00
UK	3.03	1.48	1.43	0.01	0.11	3.48	2.00	1.39	0.00	0.09
EU	5.01	3.14	1.62	0.02	0.21	6.10	4.25	1.62	0.07	0.17

Note: EU UCITS mixed fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. Aggregation by time horizon and country. For BE, BL not considered, see footnote 61 for details. FI and PT not reported at 10-year horizon. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.146

MMF UCITS – gross and net performances and costs by country for different investment horizons

	10Y					7Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	1.73	1.39	0.29	0.00	0.05	1.26	0.92	0.29	0.00	0.05
BE	1.53	0.88	0.60	-	0.06	0.47	-0.19	0.62	-	0.04
DE	1.09	0.67	0.42	0.00	0.01	0.69	0.33	0.36	0.00	0.01
DK	-	-	-	-	-	-	-	-	-	-
ES	1.69	1.08	0.60	0.00	0.00	1.55	0.94	0.61	0.00	0.00
FI	-	-	-	-	-	1.11	0.78	0.31	0.00	0.02
FR	1.13	0.84	0.18	0.01	0.10	0.52	0.27	0.15	0.01	0.09
IE	1.42	1.13	0.25	0.01	0.03	0.98	0.78	0.19	0.01	0.01
IT	1.55	0.87	0.66	0.01	0.01	1.02	0.38	0.63	0.01	0.00
LU	1.73	1.25	0.42	0.02	0.04	1.42	1.01	0.35	0.02	0.04
NL	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	1.52	0.99	0.53	0.00	0.00
SE	-0.14	-0.48	0.34	0.00	0.00	0.51	0.21	0.30	0.00	0.00
UK	-0.49	-0.97	0.44	0.00	0.04	0.90	0.46	0.38	0.00	0.06
EU	1.15	0.73	0.36	0.02	0.04	0.70	0.35	0.28	0.02	0.04
	3Y					1Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	0.71	0.36	0.29	0.00	0.06	0.33	-0.01	0.28	0.00	0.06
BE	1.01	0.42	0.55	-	0.04	0.64	0.13	0.49	-	0.01
DE	0.31	0.02	0.28	0.00	0.02	0.24	-0.03	0.24	0.00	0.03
DK	-	-	-	-	-	-	-	-	-	-
ES	0.50	-0.03	0.53	0.00	0.00	0.31	-0.13	0.44	0.00	0.00
FI	0.51	0.22	0.26	0.01	0.02	0.45	0.19	0.23	0.00	0.03
FR	0.15	-0.10	0.11	0.02	0.13	-0.04	-0.24	0.09	0.01	0.10
IE	0.72	0.51	0.19	0.01	0.01	-2.95	-3.19	0.21	0.01	0.01
IT	0.26	-0.39	0.63	0.02	0.00	0.55	-0.15	0.66	0.04	0.00
LU	1.65	1.29	0.30	0.01	0.05	-1.45	-1.76	0.26	0.02	0.03
NL	-	-	-	-	-	-	-	-	-	-
PT	0.47	0.16	0.31	0.00	0.00	0.37	0.15	0.22	0.00	0.00
SE	-1.52	-1.69	0.17	0.00	0.00	-1.94	-2.10	0.15	0.00	0.00
UK	-1.81	-2.18	0.23	0.00	0.14	-3.29	-3.71	0.20	0.00	0.22
EU	0.13	-0.19	0.23	0.02	0.06	-1.17	-1.46	0.21	0.02	0.05

Note: EU UCITS money market fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. Aggregation by time horizon and country. For BE, BL not considered, see footnote 61 for details. FI and PT not reported at 10-year horizon. NL and Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.147

Alternative UCITS - gross and net performances and costs by country for different investment horizons

	10Y					7Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	3.88	2.91	0.78	0.00	0.19	2.02	0.97	0.79	0.00	0.26
BE	6.43	5.49	0.92	-	0.02	5.64	4.68	0.93	-	0.03
DE	1.83	-0.08	1.58	0.00	0.33	3.07	1.10	1.63	0.00	0.33
DK	-	-	-	-	-	-	-	-	-	-
ES	5.03	3.12	1.44	0.47	0.00	8.18	6.39	1.64	0.15	0.00
FI	-	-	-	-	-	-	-	-	-	-
FR	4.22	2.55	1.31	0.11	0.26	4.93	3.12	1.43	0.06	0.31
IE	5.45	2.96	1.81	0.02	0.67	4.42	1.89	1.80	0.02	0.71
IT	-	-	-	-	-	-	-	-	-	-
LU	3.50	1.65	1.49	0.06	0.29	4.06	2.03	1.64	0.05	0.35
NL	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-
SE	-	-	-	-	-	-	-	-	-	-
UK	4.49	2.84	1.36	0.07	0.22	3.84	2.15	1.34	0.09	0.26
EU	3.91	2.07	1.44	0.10	0.30	4.36	2.34	1.58	0.07	0.37
	3Y					1Y				
	Gross	Net	TER	BL	FL	Gross	Net	TER	BL	FL
AT	1.93	0.65	0.87	0.00	0.42	0.63	-0.53	0.80	0.00	0.36
BE	5.44	4.29	1.08	-	0.07	3.98	2.58	1.19	-	0.22
DE	0.00	-1.77	1.32	0.00	0.45	3.73	1.99	1.38	0.00	0.36
DK	-	-	-	-	-	-	-	-	-	-
ES	3.65	1.58	1.78	0.30	0.00	5.70	3.36	1.74	0.61	0.00
FI	-	-	-	-	-	-	-	-	-	-
FR	5.59	3.97	1.23	0.05	0.33	8.56	6.91	1.27	0.05	0.33
IE	4.77	2.42	1.77	0.05	0.53	4.11	1.70	1.65	0.06	0.70
IT	-	-	-	-	-	-	-	-	-	-
LU	4.25	1.98	1.79	0.10	0.38	3.96	1.69	1.82	0.12	0.33
NL	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-
SE	-	-	-	-	-	-	-	-	-	-
UK	1.34	-0.30	1.20	0.15	0.29	-0.52	-1.97	1.14	0.04	0.26
EU	4.21	2.05	1.66	0.10	0.40	4.17	2.00	1.66	0.10	0.41

Note: EU UCITS alternative fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. Aggregation by time horizon and country. For BE, BL not reported, see footnote 61 for details. DK, FI, IT, NL, PT, SE and Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

Gross and net performance by country, including inflation

ASR-PC-S.148

Equity UCITS - gross and net performances and costs by country for different investment horizons

	10Y						7Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	5.73	1.69	1.95	0.00	0.18	1.90	8.86	4.63	2.09	0.00	0.18	1.95
BE	6.21	2.47	1.65	-	0.14	1.94	10.40	6.74	1.73	-	0.11	1.82
DE	7.60	4.51	1.59	0.00	0.16	1.34	11.57	8.45	1.66	0.00	0.15	1.31
DK	11.39	8.61	1.69	0.03	0.05	1.01	11.93	9.14	1.68	0.04	0.05	1.03
ES	6.21	2.55	2.06	0.20	0.00	1.40	9.77	6.36	2.12	0.14	0.00	1.16
FI	-	-	-	-	-	-	9.92	6.57	1.68	0.09	0.05	1.53
FR	6.35	3.07	1.83	0.02	0.14	1.29	10.13	6.94	1.95	0.02	0.12	1.11
IE	7.61	5.25	1.66	0.05	0.24	0.42	10.00	7.58	1.63	0.05	0.20	0.56
IT	6.10	2.34	2.22	0.02	0.02	1.50	9.64	6.01	2.30	0.02	0.02	1.29
LU	7.12	3.00	1.99	0.04	0.26	1.83	9.24	5.33	2.01	0.04	0.26	1.61
NL	6.27	3.60	1.19	0.03	0.03	1.42	10.55	7.92	1.12	0.03	0.05	1.43
PT	-	-	-	-	-	-	8.39	5.10	2.22	0.20	0.00	0.87
SE	10.70	8.13	1.15	0.00	0.02	1.33	12.04	9.79	1.26	0.00	0.01	0.96
UK	7.60	3.47	1.58	0.00	0.16	2.38	10.84	6.99	1.61	0.01	0.13	2.10
EU	7.34	3.63	1.77	0.03	0.19	1.73	10.22	6.7	1.79	0.03	0.17	1.53
	3Y						1Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	10.45	6.83	2.11	0.00	0.18	1.33	16.80	12.22	2.20	0.00	0.18	2.20
BE	10.11	6.73	1.73	-	0.11	1.54	12.97	8.73	1.77	-	0.12	2.35
DE	11.75	9.22	1.66	0.00	0.17	0.69	16.41	12.75	1.72	0.00	0.21	1.73
DK	12.92	10.63	1.73	0.04	0.05	0.47	15.60	12.54	1.80	0.06	0.04	1.15
ES	8.37	5.88	2.01	0.15	0.00	0.33	17.83	13.34	2.15	0.12	0.00	2.23
FI	12.15	10.12	1.59	0.08	0.04	0.32	16.28	13.77	1.64	0.09	0.03	0.75
FR	10.76	8.14	1.95	0.02	0.14	0.52	17.95	14.48	2.02	0.03	0.17	1.25
IE	11.59	9.80	1.59	0.04	0.15	0.01	16.80	14.70	1.61	0.05	0.15	0.30
IT	10.15	7.40	2.29	0.02	0.02	0.43	17.12	13.35	2.40	0.02	0.03	1.33
LU	11.03	8.13	1.96	0.05	0.23	0.67	16.32	11.82	2.01	0.04	0.22	2.23
NL	10.86	9.34	0.88	0.04	0.10	0.50	14.65	12.17	0.79	0.07	0.16	1.45
PT	7.57	4.31	2.16	0.18	0.00	0.93	18.29	14.12	2.36	0.16	0.00	1.65
SE	12.17	9.73	1.22	0.00	0.02	1.22	17.52	14.38	1.25	0.00	0.02	1.88
UK	8.93	6.29	1.50	0.01	0.11	1.03	13.55	9.39	1.49	0.01	0.13	2.52
EU	10.77	8.15	1.73	0.03	0.15	0.70	16.01	12.17	1.76	0.03	0.16	1.88

Note: EU UCITS equity fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL), redemption (BL) fees, and inflation, ppt. Aggregation by time horizon and country. For BE, BL not considered, see footnote 61 for details. FI and PT not reported at 10-year horizon. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.149

Bond UCITS - gross and net performances and costs by country for different investment horizons

	10Y						7Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	4.51	1.74	0.70	0.00	0.16	1.90	4.00	1.14	0.73	0.00	0.19	1.95
BE	4.38	1.58	0.75	-	0.10	1.94	3.74	0.93	0.88	-	0.11	1.82
DE	4.31	1.96	0.88	0.00	0.12	1.34	3.83	1.52	0.87	0.00	0.13	1.31
DK	5.29	3.28	0.91	0.05	0.04	1.01	4.62	2.66	0.85	0.04	0.04	1.03
ES	2.93	0.60	0.85	0.06	0.02	1.40	3.00	0.88	0.88	0.05	0.03	1.16
FI	-	-	-	-	-	-	4.29	1.94	0.71	0.03	0.02	1.53
FR	3.84	1.54	0.87	0.02	0.13	1.29	3.62	1.49	0.86	0.03	0.14	1.11
IE	6.67	4.49	1.27	0.04	0.45	0.42	5.78	3.46	1.27	0.03	0.46	0.56
IT	3.52	0.84	1.09	0.05	0.04	1.50	3.37	0.85	1.12	0.07	0.04	1.29
LU	6.16	2.65	1.30	0.05	0.33	1.83	5.61	2.29	1.32	0.05	0.33	1.61
NL	4.59	2.46	0.71	0.01	0.01	1.42	4.66	2.50	0.70	0.02	0.01	1.43
PT	-	-	-	-	-	-	4.97	3.21	0.81	0.08	0.00	0.87
SE	1.84	-0.06	0.56	0.00	0.01	1.33	2.36	0.85	0.56	0.00	0.00	0.95
UK	4.43	0.71	1.14	0.02	0.18	2.38	5.99	2.63	1.14	0.01	0.11	2.10
EU	5.25	2.13	1.14	0.04	0.24	1.70	5.13	2.17	1.17	0.04	0.25	1.50
	3Y						1Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	3.07	0.81	0.75	0.00	0.17	1.33	1.38	-1.74	0.76	0.00	0.16	2.20
BE	2.38	-0.31	1.02	-	0.12	1.54	1.36	-2.08	1.02	-	0.08	2.35
DE	2.68	1.03	0.84	0.00	0.12	0.69	0.31	-2.31	0.80	0.00	0.09	1.73
DK	3.26	1.85	0.86	0.05	0.04	0.47	4.26	2.14	0.87	0.08	0.02	1.15
ES	1.65	0.34	0.88	0.05	0.04	0.33	0.98	-2.16	0.81	0.07	0.03	2.23
FI	2.66	1.66	0.64	0.02	0.02	0.32	1.73	0.31	0.63	0.03	0.01	0.75
FR	2.56	1.01	0.83	0.04	0.17	0.52	2.76	0.46	0.84	0.02	0.20	1.25
IE	5.36	3.81	1.18	0.03	0.33	0.01	2.95	1.05	1.08	0.02	0.51	0.30
IT	2.64	0.91	1.15	0.11	0.05	0.42	2.56	-0.11	1.16	0.13	0.06	1.33
LU	4.88	2.68	1.23	0.05	0.25	0.67	3.12	-0.59	1.16	0.04	0.28	2.23
NL	3.10	2.00	0.57	0.03	0.00	0.50	-0.21	-2.28	0.60	0.02	0.00	1.45
PT	2.02	0.26	0.77	0.07	0.00	0.93	2.00	-0.44	0.77	0.02	0.00	1.65
SE	-0.09	-1.83	0.52	0.00	0.00	1.22	-0.95	-3.33	0.50	0.00	0.00	1.88
UK	2.70	0.52	1.04	0.01	0.10	1.03	0.48	-3.16	0.99	0.01	0.12	2.53
EU	4.02	2.05	1.10	0.05	0.19	0.63	2.49	-0.68	1.19	0.04	0.23	1.86

Note: EU UCITS bond fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL), redemption (BL) fees and inflation, ppt. Aggregation by time horizon and country. For BE, BL not considered, see footnote 61 for details. FI and PT not reported at 10-year horizon. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.150

Mixed UCITS - gross and net performances and costs by country for different investment horizons

	10Y						7Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	4.17	0.48	1.56	0.00	0.23	1.90	5.36	1.40	1.75	0.00	0.25	1.95
BE	4.38	0.48	1.66	-	0.30	1.94	5.56	1.47	1.91	-	0.36	1.82
DE	4.24	1.16	1.50	0.00	0.24	1.34	5.82	2.67	1.61	0.00	0.24	1.31
DK	-	-	-	-	-	-	7.37	4.97	1.20	0.01	0.11	1.08
ES	2.79	-0.09	1.45	0.03	0.00	1.40	4.15	1.49	1.49	0.01	0.00	1.16
FI	7.22	4.08	1.44	0.02	0.08	1.60	6.65	3.52	1.44	0.02	0.08	1.53
FR	5.33	2.15	1.63	0.01	0.27	1.29	5.86	2.84	1.75	0.01	0.16	1.11
IE	4.63	1.65	2.03	0.01	0.52	0.42	5.57	2.29	2.13	0.01	0.59	0.56
IT	3.89	0.67	1.55	0.11	0.06	1.50	4.96	1.89	1.58	0.14	0.07	1.29
LU	4.96	1.12	1.72	0.03	0.26	1.83	6.27	2.58	1.75	0.02	0.31	1.61
NL	-	-	-	-	-	-	8.13	5.63	1.05	0.01	0.01	1.43
PT	-	-	-	-	-	-	3.36	0.91	1.46	0.12	0.00	0.87
SE	3.72	1.35	1.03	0.00	0.00	1.33	7.77	5.76	1.06	0.00	0.00	0.95
UK	4.53	0.38	1.52	0.00	0.25	2.38	6.84	2.93	1.57	0.00	0.22	2.10
EU	4.64	1.09	1.59	0.03	0.21	1.72	6.22	2.81	1.65	0.03	0.22	1.52
	3Y						1Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	5.08	1.71	1.70	0.00	0.34	1.33	5.94	1.78	1.68	0.00	0.27	2.20
BE	4.91	0.98	2.07	-	0.31	1.54	7.03	2.42	2.13	-	0.12	2.35
DE	5.43	2.87	1.61	0.00	0.26	0.69	7.05	3.47	1.63	0.00	0.22	1.73
DK	6.79	5.10	1.14	0.01	0.07	0.47	7.22	4.83	1.15	0.01	0.08	1.15
ES	2.99	1.12	1.53	0.01	0.00	0.33	4.98	1.18	1.57	0.00	0.00	2.23
FI	6.40	4.60	1.40	0.01	0.06	0.32	7.01	4.81	1.41	0.01	0.04	0.75
FR	5.75	3.34	1.71	0.01	0.16	0.52	7.80	4.67	1.73	0.01	0.14	1.25
IE	4.96	2.39	2.10	0.02	0.44	0.01	6.39	3.74	2.02	0.02	0.31	0.30
IT	3.55	1.18	1.62	0.23	0.09	0.43	4.70	1.38	1.63	0.32	0.05	1.33
LU	5.70	2.94	1.74	0.03	0.32	0.67	6.59	2.35	1.72	0.03	0.27	2.23
NL	7.12	5.72	0.88	0.01	0.02	0.50	9.05	6.77	0.80	0.01	0.02	1.45
PT	3.09	0.51	1.59	0.06	0.00	0.93	5.54	2.09	1.72	0.08	0.00	1.65
SE	6.35	4.16	0.97	0.00	0.00	1.22	8.10	5.23	1.00	0.00	0.00	1.88
UK	3.03	0.44	1.43	0.01	0.11	1.03	3.48	-0.53	1.39	0.00	0.09	2.53
EU	5.01	2.43	1.62	0.05	0.21	0.71	6.10	2.32	1.62	0.07	0.17	1.93

Note: EU UCITS mixed fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL), redemption (BL) fees and inflation. For BE, BL not considered, see footnote 61 for details. FI, NL and PT not reported at 10-year horizon. Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.151

MMF UCITS – gross and net performances and costs by country for different investment horizons

	10Y						7Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	1.73	-0.52	0.29	0.00	0.05	1.90	1.26	-1.04	0.29	0.00	0.05	1.95
BE	1.53	-1.07	0.60	-	0.06	1.94	0.47	-2.00	0.62	-	0.04	1.82
DE	1.09	-0.67	0.42	0.00	0.01	1.34	0.69	-0.99	0.36	0.00	0.01	1.31
DK	-	-	-	-	-	-	0.02	-1.04	0.35	0.00	0.00	0.72
ES	1.69	-0.32	0.60	0.00	0.00	1.40	1.55	-0.22	0.61	0.00	0.00	1.16
FI	-	-	-	-	-	-	1.11	-0.75	0.31	0.00	0.02	1.53
FR	1.13	-0.45	0.18	0.01	0.10	1.29	0.52	-0.84	0.15	0.01	0.09	1.11
IE	1.42	0.72	0.25	0.01	0.03	0.42	0.98	0.22	0.19	0.01	0.01	0.56
IT	1.55	-0.63	0.66	0.01	0.01	1.50	1.02	-0.91	0.63	0.01	0.00	1.29
LU	1.73	-0.58	0.42	0.02	0.04	1.83	1.42	-0.60	0.35	0.02	0.04	1.61
NL	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	1.52	0.13	0.53	0.00	0.00	0.87
SE	-0.14	-1.81	0.34	0.00	0.00	1.33	0.51	-0.74	0.30	0.00	0.00	0.95
UK	-0.49	-3.35	0.44	0.00	0.04	2.38	0.90	-1.64	0.38	0.00	0.06	2.10
EU	1.15	-0.70	0.36	0.02	0.04	1.43	0.70	-0.90	0.28	0.02	0.04	1.25
	3Y						1Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	0.71	-0.97	0.29	0.00	0.06	1.33	0.33	-2.21	0.28	0.00	0.06	2.20
BE	1.01	-1.12	0.55	-	0.04	1.54	0.64	-2.22	0.49	-	0.01	2.35
DE	0.31	-0.68	0.28	0.00	0.02	0.69	0.24	-1.75	0.24	0.00	0.03	1.73
DK	0.01	-0.78	0.33	0.00	0.00	0.47	-0.01	-1.50	0.33	0.00	0.00	1.15
ES	0.50	-0.36	0.53	0.00	0.00	0.33	0.31	-2.36	0.44	0.00	0.00	2.23
FI	0.51	-0.10	0.26	0.01	0.02	0.32	0.45	-0.56	0.23	0.00	0.03	0.75
FR	0.15	-0.62	0.11	0.02	0.13	0.52	-0.04	-1.49	0.09	0.01	0.10	1.25
IE	0.72	0.50	0.19	0.01	0.01	0.01	-2.95	-3.49	0.21	0.01	0.01	0.30
IT	0.26	-0.82	0.63	0.02	0.00	0.43	0.55	-1.47	0.66	0.04	0.00	1.33
LU	1.65	0.62	0.30	0.01	0.05	0.67	-1.45	-3.99	0.26	0.02	0.03	2.23
NL	-	-	-	-	-	-	-	-	-	-	-	-
PT	0.47	-0.77	0.31	0.00	0.00	0.93	0.37	-1.50	0.22	0.00	0.00	1.65
SE	-1.52	-2.91	0.17	0.00	0.00	1.22	-1.94	-3.97	0.15	0.00	0.00	1.88
UK	-1.81	-3.22	0.23	0.00	0.14	1.03	-3.29	-6.24	0.20	0.00	0.22	2.53
EU	0.13	-0.68	0.23	0.02	0.06	0.50	-1.17	-2.92	0.21	0.02	0.05	1.46

Note: EU UCITS money market fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL), redemption (BL) fees and inflation, ppt. For BE, BL not considered, see footnote 61 for details. DK, FI and PT not reported at 10-year horizon. NL and Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

ASR-PC-S.152

Alternative UCITS – gross and net performances and costs by ountry for different investment horizons

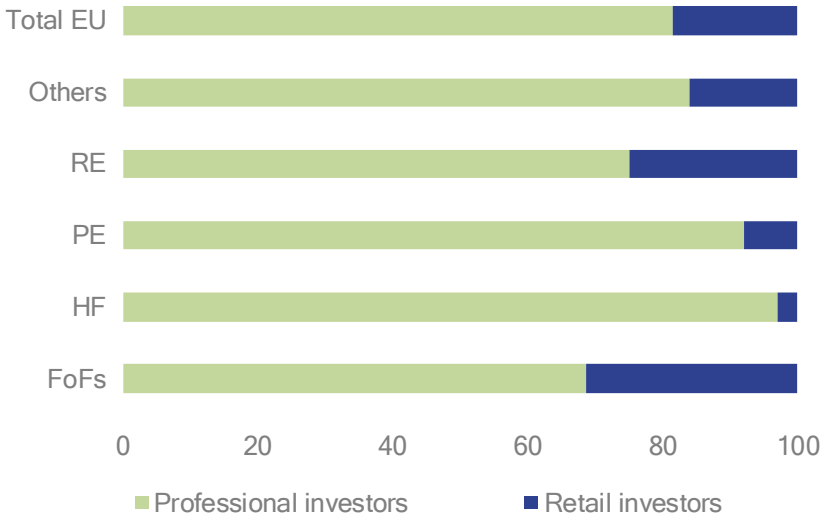
	10Y						7Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	3.88	1.01	0.78	0.00	0.19	1.90	2.02	-0.98	0.79	0.00	0.26	1.95
BE	6.43	3.55	0.92	-	0.02	1.94	5.64	2.86	0.93	-	0.03	1.82
DE	1.83	-1.42	1.58	0.00	0.33	1.34	3.07	-0.21	1.63	0.00	0.33	1.31
DK	-	-	-	-	-	-	-	-	-	-	-	-
ES	5.03	1.72	1.44	0.47	0.00	1.40	8.18	5.23	1.64	0.15	0.00	1.16
FI	-	-	-	-	-		-	-	-	-	-	-
FR	4.22	1.26	1.31	0.11	0.26	1.29	4.93	2.01	1.43	0.06	0.31	1.11
IE	5.45	2.62	1.81	0.02	0.67	0.42	4.42	1.33	1.80	0.02	0.71	0.56
IT	-	-	-	-	-	-	-	-	-	-	-	-
LU	3.50	-0.18	1.49	0.06	0.29	1.83	4.06	0.42	1.64	0.05	0.35	1.61
NL	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-	-	-
SE	-	-	-	-	-	-	-	-	-	-	-	-
UK	4.49	0.47	1.36	0.07	0.22	2.38	3.84	0.05	1.34	0.09	0.26	2.10
EU	3.91	0.42	1.44	0.10	0.30	1.65	4.36	0.92	1.58	0.07	0.37	1.42
	3Y						1Y					
	Gross	Net	TER	BL	FL	INFL	Gross	Net	TER	BL	FL	INFL
AT	1.93	-0.69	0.87	0.00	0.42	1.33	0.63	-2.73	0.80	0.00	0.36	2.20
BE	5.44	2.74	1.08	-	0.07	1.54	3.98	0.23	1.19	-	0.22	2.35
DE	0.00	-2.47	1.32	0.00	0.45	0.69	3.73	0.27	1.38	0.00	0.36	1.73
DK	-	-	-	-	-	-	-	-	-	-	-	-
ES	3.65	1.24	1.78	0.30	0.00	0.33	5.70	1.13	1.74	0.61	0.00	2.23
FI	-	-	-	-	-	-	-	-	-	-	-	-
FR	5.59	3.46	1.23	0.05	0.33	0.52	8.56	5.66	1.27	0.05	0.33	1.25
IE	4.77	2.41	1.77	0.05	0.53	0.01	4.11	1.40	1.65	0.06	0.70	0.30
IT	-	-	-	-	-	-	-	-	-	-	-	-
LU	4.25	1.32	1.79	0.10	0.38	0.67	3.96	-0.53	1.82	0.12	0.33	2.23
NL	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-	-	-
SE	-	-	-	-	-	-	-	-	-	-	-	-
UK	1.34	-1.33	1.20	0.15	0.29	1.03	-0.52	-4.49	1.14	0.04	0.26	2.53
EU	4.21	1.50	1.66	0.10	0.40	0.55	4.17	0.29	1.66	0.10	0.41	1.71

Note: EU UCITS alternative fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL), redemption (BL) fees and inflation, ppt. Aggregation by time horizon and country. For BE, BL not considered, see footnote 61 for details. DK, FI, IT, NL, PT, SE and Other EU countries not reported.
Sources: Thomson Reuters Lipper, ESMA.

Retail AIFs

ASR-PC-S.153

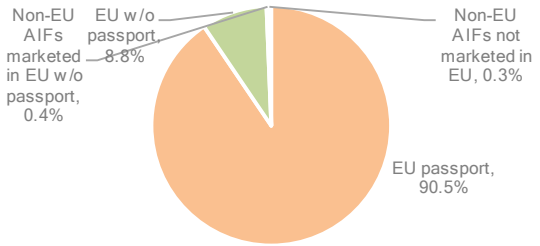
AIF NAV by type of client



Note: NAV of AIFs by type of client reported, end of 2017 under the AIFMD, in %.
FoFs = fund of funds; HF = hedge funds; PE = private equity; RE = real estate.
Sources:National Competent Authorities, ESMA

ASR-PC-S.154

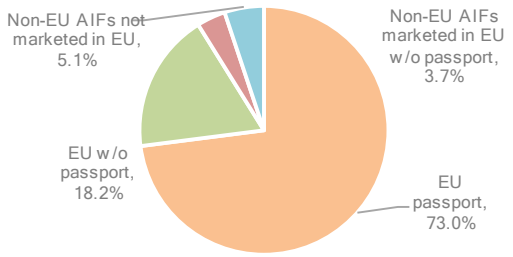
AIFMD passport by NAV – retail investors



Note: NAV of retail AIFs by manager's access to AIFMD passport, end 2017, %. Authorised EU AIFMs access AIFMD passport or market non-EU AIFs to professional investors w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights.
Sources: National Competent Authorities, ESMA

ASR-PC-S.155

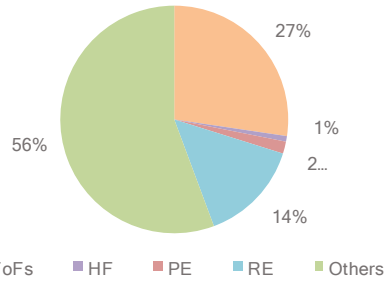
AIFMD passport by NAV – professional investors



Note: NAV of retail AIFs by manager's access to AIFMD passport, end 2017, %. Authorised EU AIFMs access AIFMD passport or market non-EU AIFs to professional investors w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights.
Sources: National Competent Authorities, ESMA

ASR-PC-S.156

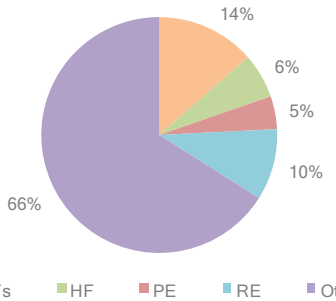
NAV by AIF type – retail investors



Note: Share of NAV of AIF by type, retail clients, end 2017, in %. Reporting according to the AIFMD. AIFs managed by authorised and registered managers.
Sources:National Competent Authorities, ESMA

ASR-PC-S.157

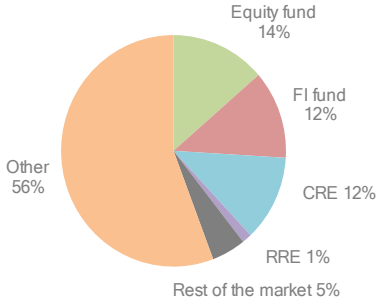
NAV by AIF type – professional investors



Note: Share of NAV of AIF type, professional clients, end of 2017, in %. Reporting according to AIFMD. AIFs managed by authorised and registered managers.
Sources:National Competent Authorities, ESMA

ASR-PC-S.158

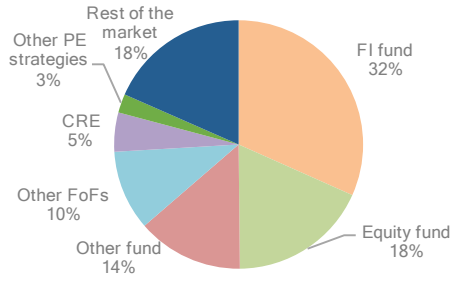
NAV by AIF strategy – retail investors



Note: Share of NAV by investment strategy, end of 2017 retail clients, reported under AIFMD, in %. FI = Fixed Income; CRE = Commercial Real Estate; RRE; Residential Real; Estate.
Sources:National Competent Authorities, ESMA

ASR-PC-S.159

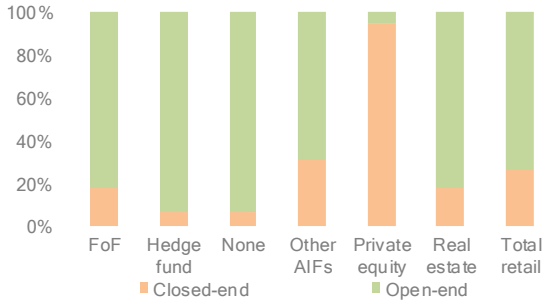
NAV by AIF strategy – professional investors



Note: Share of NAV by investment strategy, end of 2017 professional clients, reported under AIFMD, in %. FI = Fixed Income; CRE = Commercial Real Estate; PE= Private Equity.
Sources:National Competent Authorities, ESMA

ASR-PC-S.160

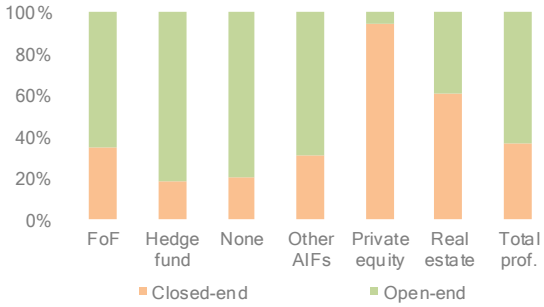
Redemption rights – retail investors



Note: NAV of AIF by redeption rights offered to retail investors, end of 2017, in %, reporting according to AIFMD. AIFs managed by authorised and registered AIFMs. Sources: National Competent Authorities, ESMA

ASR-PC-S.161

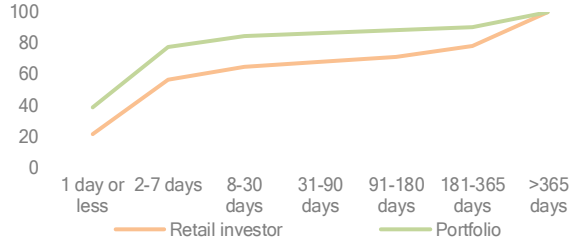
Redemption rights – professional investors



Note: : NAV of AIF by redeption rights offered to professional investors, end of 2017, in %, reporting according to AIFMD. AIFs managed by authorised and registered AIFMs. Sources: National Competent Authorities, ESMA

ASR-PC-S.162

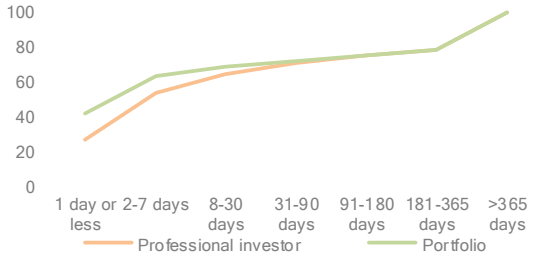
Portfolio and investor liquidity – retail investors



Note: AIFs portfolio and investor liquidity profiles, retail investors. The portfolio liquidity profile is determined by the percentage of the fund portfolios that can be liquidated within the period specified on the horizontal axis. The retail investor liquidity profile reflects the shortest period at which the fund could be withdrawn or investors could receive redemption payments.
Sources: National Competent Authorities, ESMA.

ASR-PC-S.163

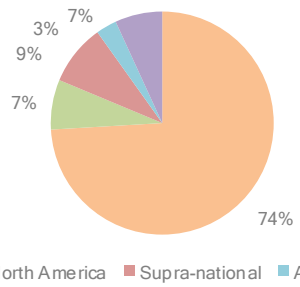
Portfolio and investor liquidity – professional investors



Note: AIFs portfolio and investor liquidity profiles, professional investors. The portfolio liquidity profile is determined by the percentage of the fund portfolios that can be liquidated within the period specified on the horizontal axis. The professional investor liquidity profile reflects the shortest period at which the fund could be withdrawn or investors could receive redemption payments.
Sources: National Competent Authorities, ESMA

ASR-PC-S.164

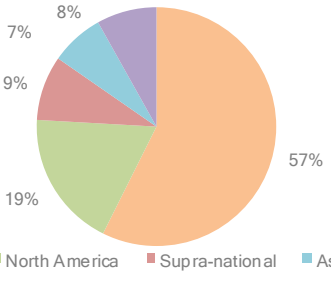
Regional investment focus – retail investors



Note: NAV of AIFs by regional investment focus, retail clients, end of 2017, in %, reporting according to the AIFMD. AIFs managed by authorised and registered AIFMs. Sources: National Competent Authorities, ESMA.

ASR-PC-S.165

NAV by regional investment focus - professional investors

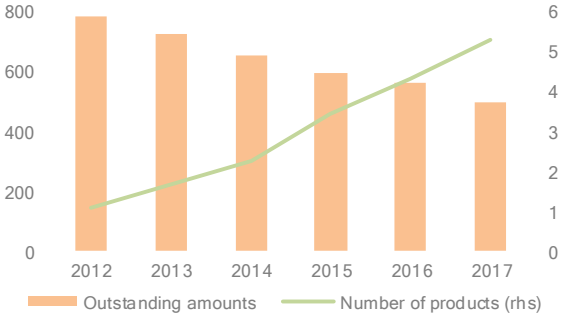


Note: : NAV of AIFs by regional investment focus, professional clients, end of 2017, in %, reporting according to the AIFMD. AIFs managed by authorised and registered AIFMs. Sources: National Competent Authorities, ESMA.

Structured retail products

ASR-PC-S.166

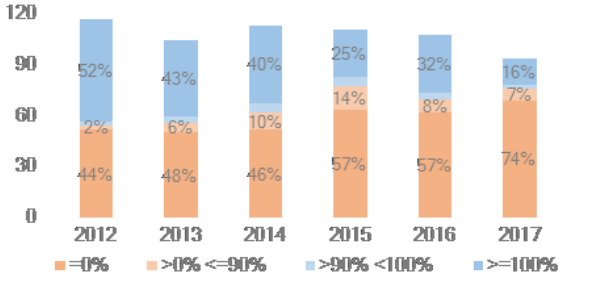
SRPs outstanding



Note: Outstanding amounts, EUR bn. Number of products, in million.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.167

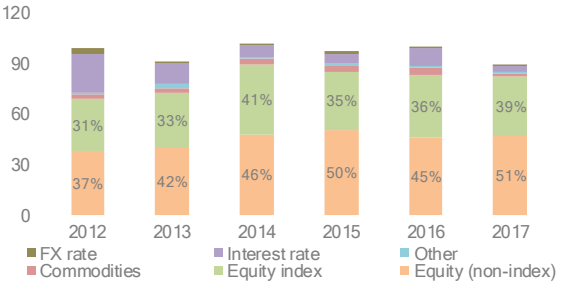
Significant decline in capital protection SRPs



Note: Volumes of structured products sold to retail investors by level of capital protection, EUR bn and expressed as percentages of total.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.168

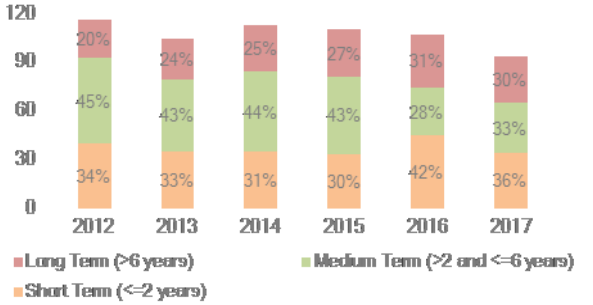
Sales by asset class



Note: Volumes of structured products sold to retail investors by asset class, EUR bn. Percentage of total annual volumes presented for selected asset classes. Number of products sold, in thousand.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.169

Sales by term



Note: Annual volumes of structured products sold to retail investors by investment term, EUR bn and expressed as percentages of total.
Sources: StructuredRetailProducts.com, ESMA.

List of abbreviations

AIF	Alternative Investment Fund
AIFM	Alternative Investment Fund Manager
AIFMD	Alternative Investment Fund Managers Directive
AMF	Autorité des marches financiers
ASR	Annual Statistical Report
AuM	Assets under Management
BaFin	Bundesanstalt für Finanzdienstleistungsaufsicht
BIS	The Bank of International Settlements
BL	Redemption fees (back loads)
BPS	Basis points
CESR	Committee of European Securities Regulators
CONSOB	Commissione Nazionale per le Società e la Borsa
CSSF	Commission de Surveillance du Secteur Financier
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
EFAMA	European Fund and Asset Management Association
EIOPA	European Insurance and Occupational Pensions Authority
ESMA	European Securities and Markets Authority
ESAs	European Supervisory Authorities
ESRB	European Systemic Risk Board
ETF	Exchange Traded Fund
ESAs	European Supervisory Authorities
ETF	Exchange Traded Fund
EU	European Union
FCA	Financial Conduct Authority
FL	Subscription fees (front loads)
FMA	Financial Market Authority
FSMA	Financial Services and Markets Authority
HCMC	Hellenic Capital Market Commission
IDD	Insurance Distribution Directive
IORP	Directive on the activities and supervision of institutions for occupational retirement provision
KID/KIID	Key Information Document
MiFID	Markets in Financial Instruments Directive
MiFIR	Markets in Financial Instruments Regulation
MMF	Money Market Fund
NAV	Net Asset Value
NCA	National Competent Authority
PRIIPs	Packaged retail investment and insurance products
PPT	Percentage points
RTS	Regulatory Technical Standards
SRP	Structured Retail Product
TER	Total Expense Ratio
TRV	Trend Risk and Vulnerabilities
UCITS	Undertaking for Collective Investment in Transferable Securities

Countries abbreviated according to ISO standards except for Greece (GR) and United Kingdom (UK)
Currencies abbreviated according to ISO standards