8 February 2023
ESMA50-165-2391

ESMA Market Report

EU MMF market 2023

ESMA Market Report on EU MMF market
2023

ISBN 978-92-95202-78-8, DOI 10.2856/725430, ISSN 2811-6917, EK-04-23-022-EN-N
European Securities and Markets Authority (ESMA)
Economics, Financial Stability and Risk Department
201-203 Rue de Bercy
FR-75012 Paris
risk.analysis@esma.europa.eu

Table of Contents

Editorial

Dear Reader –

With this edition, we present our first Market Report on EU Money Market Funds.

Money Market Funds (MMFs) play a crucial role in the financial system by providing short-term finance to financial institutions, corporations and governments, contributing to the financing of the economy in the European Union. MMFs are short-term cash management tools characterised by a high degree of liquidity, diversification and stability of value of the principal invested, combined with a market-based yield. They represent a crucial link bringing together demand for and supply of short-term funding.

The 2007-2008 Global Financial Crisis highlighted the systemic dimension of MMFs, as they could be vulnerable to stressed market conditions and amplify risks throughout the financial system, prompting various regulatory changes. In the European Union, the Money Market Fund Regulation (MMFR) lays down rules regarding the operation of MMFs, in particular on the portfolio composition, to make them more resilient and limit contagion channels. The MMFR establishes common rules aiming at harmonising prudential requirements and ensuring a high level of protection for investors so that European MMFs remain a reliable cash management tool able to satisfy the needs of markets and investors. Based on Art. 37 of the MMFR, National Competent Authorities and ESMA collect a wide range of data on MMFs, including an unprecedented level of detailed information on the characteristics of assets held by MMFs, their investments and liabilities, allowing authorities to inform their supervisory activity.

The intense stress experienced by MMFs in March 2020, at the onset of the COVID-19 crisis, has shown the importance of monitoring trends and developments in the sector. This Report provides, for the first time, a comprehensive market-level view of EU MMFs, based on the information reported by managers. Its primary objective is to contribute to our systemic risk assessment work at ESMA, supplementing the ESMA Report on Trends, Risks and Vulnerabilities, through which we will continue to monitor developments and risks, as well as other ESMA Market Reports such as the EU Alternative Investment Fund Report. In doing so, this Report also aims at informing our regulatory assessment of MMFs and contributing to supervisory convergence.

The Report is organised as follows. First, the chapter on market monitoring provides an overview of the structure of the European MMF sector. Second, the chapter on asset allocation and portfolio rules is dedicated to the analysis of MMF activities and trends, building on the indicators developed for risk monitoring. Third, the chapter on ownership and liability shed lights on the holder structure of European MMFs. Finally, the section on data reporting gives an overview of the reporting framework and provides insights over the statistical work done jointly by ESMA and National Competent Authorities to ensure completeness and accuracy of the supervisory data collection.

With this first edition we are still exploring and analysing data collected under MMFR. While this Report benefits from an already high level of reporting completeness, future editions will aim to include more extensive data coverage and a broader set of structural and risk indicators. To this end, and to help us improve our reporting, we welcome any feedback and suggestions to risk.analysis@esma.europa.eu.

Operationalising the data collection and use of MMFR data has been a challenging task for IT experts, statisticians and economist across the institutions involved in Money Market Funds' supervision in Europe. We thank all colleagues in our community, especially in National 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 work with a wider audience, and we hope that our report will contribute to the understanding of the risks related to EU money market fund market.

Executive Summary

EU MMF market: Money Market Funds (MMFs) are open-end collective investment funds that invest primarily in short-term instruments and aim to offer returns in line with money market rates and/or to preserve the value of the investment. MMFs play a central role in the financial system by bringing together the demand for and supply of short-term funding. The EU MMF universe covers different regulatory types of funds, either authorised under the UCITS Directive or qualifying as alternative investment funds (AIFs), and investing in short-term and high-quality assets. Based on data collected by National Competent Authorities (NCAs) and ESMA under Art. 37 of the Money Market Fund Regulation (MMFR), EU MMFs held EUR 1.44tn in assets at the end of 2021. By MMF types, Low-volatility NAV (LVNAV) MMFs account for 46% of the total assets, followed by Variable NAV (VNAV) MMFs (42%) and Constant NAV (CNAV) MMFs (12%). Most of EU MMFs (89%) are domiciled in one of the three following jurisdictions: France, Luxembourg and Ireland. All MMFs domicile in France are of the VNAV type and almost exclusively denominated in EUR. MMFs in Luxembourg and Ireland are mainly in non-EU currencies and set up mostly as CNAVs and LVNAVs. MMFs authorised in other EU jurisdictions are VNAVs denominated in other EU domestic currencies and account only for a small fraction of assets. The EU MMF industry shows a high degree of concentration as the 20 largest MMFs of each type hold close to 80% of total MMF assets.

Asset allocation and portfolio indicators: For each MMF type, the MMFR details the eligible assets, the diversification rules and the investment limits. The portfolio structure of EU MMFs has three main pillars – exposures to credit institutions, non-financials and government debt – and remains relatively stable over time. EU MMFs are mainly exposed to the financial sector. On average, between March 2020 and June 2022, exposures to credit institutions amount globally to around 60% of total assets, including 42% in money market instruments (MMIs) issued by banks and 17% in deposits. Instruments issued by non-financials represent 10% of the MMIs in MMF portfolios (6% of total assets) and are mainly concentrated in VNAVs. Most of the government debt exposure of EU MMFs is towards non-EU sovereigns (EUR 119bn at the end of 2021, 74% of sovereign exposure). LVNAVs have increased their share of government bonds from March to December 2020 and then slowly readjusted their portfolios to the pre-COVID composition. The share of daily and weekly liquid assets remained above the regulatory minimum and increased markedly for CNAVs together with their reliance on reverse repurchase agreements. Since 3Q21 EU MMFs significantly reduced the interest rate risk sensitivity of their portfolios, measured as the weighted average maturity of assets (WAM), to improve resilience to a rate rise. Across the different types, most EU MMFs appear to be more conservative when compared with the regulatory maximum limits for the measure of liquidity ad credit risk, computed as weighted average liquidity of the portfolio (WAL).

Ownership and liabilities: Professional investors hold more than 90% of EU MMFs. They account for 95% of the NAV for CNAVs and 99% for LVNAVs. The share of retail investors is higher for VNAVs, with respectively 13% for short-term and 12% for standard VNAVs. This is driven by VNAVs domiciled in France, where retail clients account for 12% of NAV. Non-EU investors are dominant in Luxembourg and Ireland. Reflecting the importance of MMFs in non-EU currencies, non-EU investors account for 77% of the NAV of Irish MMFs (including 60% from the UK) and 63% for Luxembourg (including 30% from the UK and 10% from the US). In contrast, EU investors hold around 94% of NAV in France, with 76% being from domestic investors. Financial corporations are the main unitholders of MMF shares across regulatory types (70% of NAV). Insurances, pension funds and banks account together for 25% of NAV. Other financial institutions, a category that includes collective investment undertakings (CIUs), have the highest equity interest in MMFs with 45% of NAV. Between December 2021 and March 2022 MMFs experienced substantial outflows which are not fully explained by their performance or seasonal factors. These outflows were partially driven by investor expectations over an increase in interest rates and a turning investor sentiment away from fixed income instruments in general. This trend reverted in 4Q22, when MMFs registered 11% inflows .[1]

[1] This report covers the period spanning from March 2020 to June 2022. This excludes development occurring in 2H22. In particular, inflows in 4Q22 differed substantially across MMFs denominated in the major currencies. After being exposed to the stress affecting the Gilt market that followed at the end of on September 2022, GBP MMFs received nearly 30% inflows following the intervention of Bank of England. Overall, GBP MMFs recorded inflows of 20% in 2H22, before EUR MMFs (11%) and USD MMFs (5%). See TRV 2023 1.

Essential statistics

	CNAV	LVNAV	VNAV			Total EU
			Short-term	Standard	Sub-total	
Size						
Number of funds (Absolute number)	30	84	119	246	365	**479**
of which under UCITSD (Absolute number)	*19*	*84*	*101*	*136*	*237*	***340***
MMF with NAV below< EUR 100mn (Absolute number)	4	5	27	87	114	**123**
Number of managers (Absolute number)	18	26	51	95	146	**124**
Total assets (EUR bn)	169	675	185	431	616	**1460**
of which in EUR *(% of assets)*	*0%*	*18%*	*71%*	*93%*	*62%*	*45%*
Portfolio concentration (Average share of top-3 issuers, in %)	35%	10%	14%	18%	16%	**19%**
Exposures and portfolio holdings						
Government bond (% of assets)	52%	5%	6%	7%	6%	**11%**
Bank MMI (% of total assets)	1%	51%	47%	50%	49%	**44%**
Other MMI (% of total assets)	5%	10%	23%	19%	20%	**15%**
MMF (% of assets)	0%	0%	1%	6%	5%	**2%**
Repurchase agreement (% of total assets)	34%	11%	4%	3%	4%	**10%**
Deposit and ancillary liquid assets (% of total assets)	8%	19%	18%	14%	15%	**16%**
Derivative and securitisation (% of total assets)	0%	4%	1%	1%	1%	**2%**
Portfolio indicators						
Daily liquid assets (DLA) (% of asset)	35%	26%	25%	18%	-	**-**
Weekly liquid assets (WLA) (% of NAV)	53%	50%	40%	29%	-	**-**
Weighted average maturity (WAM) (Average days)	35	41	40	76	-	**-**
Weighted average life (WAL) (Average days)	40	50	59	129	-	**-**
Ownership						
Insurance and pension fund (% of NAV)	1%	10%	18%	26%	24%	**15%**
Monetary Financial Institutions (MFIs) (% of NAV)	17%	13%	4%	6%	5%	**10%**
Non-financial (% of NAV)	18%	24%	13%	26%	22%	**23%**
Other financial (% of NAV)	58%	50%	48%	29%	35%	**45%**
Other investors (% of NAV)	5%	3%	14%	10%	11%	**7%**
Unknown (% of NAV)	1%	0%	3%	2%	3%	**1%**
Domicile of investors						
EU investor (% of NAV)	11%	25%	65%	90%	82%	**47%**
Non-EU investor (% of NAV)	89%	75%	35%	10%	18%	**53%**

Note: All values refer to authorised MMFs reported to ESMA by National Competent Authorities (NCAs), end of year 2021. Exposures and portfolio holding: Securitisation includes asset backed commercial papers; Other MMI includes: MMIs issued by non-financials, other financials and public institutions. MFI: Monetary financial institution. Other financial includes collective investment undertakings; other investor includes government and household. Number of unique managers reported in Total EU.
Sources: MMFR database, National Competent Authorities, ESMA.

Market monitoring

EU MMF market overview

Summary

The EU Money Market Fund (MMF) universe covers different regulatory types of funds, either authorised under the UCITS Directive or qualifying as alternative investment funds (AIFs), and investing in short-term and high-quality assets. Based on MMFR data, EU MMFs had EUR 1.44tn in assets at the end of 2021. Low-volatility NAV (LVNAV) MMFs account for 46% of the total assets, followed by Variable NAV (VNAV) MMFs (42%) and Constant NAV (CNAV) MMFs (12%). Most EU MMFs (88%) are domiciled in either France, Luxembourg or Ireland. All French MMFs are of the VNAV type and almost exclusively denominated in EUR. MMFs in Luxembourg and Ireland are mainly in non-EU currencies and set up mostly as CNAVs and LVNAVs. Finally, MMFs authorised in all remaining EU jurisdictions are VNAVs denominated in EU domestic currencies (non-EUR) and account only for a small fraction of assets. The EU MMF industry shows a high degree of concentration as the 20 largest MMFs of each type hold close to 80% of total MMF assets.

Introduction

Money Market Funds (MMFs) are open-end collective investment funds that invest primarily in short-term instruments and aim to maintain stable, or near stable, share prices. MMFs play a central role in the financial system by bringing together the demand for and supply of short-term funding. They invest in short-term debt instruments issued by different types of institutions and organizations, such as financial and non-financial corporate entities, sovereign governments, national agencies, as well as supranational bodies. Thus, MMFs are characterised by their short maturities and low credit risk. The provision of short-term funding through MMFs is an essential source of financing for these entities, complementing traditional bank financing through loans. On the other side, MMFs are to a large extent used by investors as cash management vehicles. Normally, MMFs provide daily redemption, diversification and stability of value (low fluctuation of MMF share values) and remunerate investors with market yields. In comparison, direct investment in money market instruments such as Commercial Papers (CPs) or Certificates of Deposit (CDs) offers less liquidity and requires an expensive infrastructure such as internal credit assessment or internal trading desks.

During the Global Financial Crisis of 2007-2008, US and European MMFs faced acute stress due to their exposures to commercial paper backed by assets related to subprime borrowers (Asset-Backed Commercial Paper). Following Lehman's collapse, MMFs saw a surge in outflows and in the US, the central bank launched a range of facilities to support MMFs and money markets.

In the aftermath of the crisis, important regulatory reforms took place to reduce vulnerabilities and increase the resilience of MMFs. In the EU, the Money Market Fund Regulation (MMFR), which entered into force in 2017, provides for a range of regulatory requirements aiming to improve MMFs' ability to weather stressed market conditions. Under art. 37 of MMFR, MMF managers are required to report detailed information on assets and liabilities of each managed MMF to the relevant National Competent Authority (NCA) and ESMA.[2]

The intense stress experienced by MMFs in March 2020, at the onset of the COVID-19 crisis, has shown the importance of monitoring trends and developments in the EU MMF sector.

Definition of MMFs

The Regulation EU2017/1131 (MMFR) applies to investment funds established, managed or marketed in the EU fulfilling the following requirements[3]:

- authorised or having requested authorisation as a UCITS or qualifying as AIFs;
- investing in short-term assets;

[2] For an overview of the reporting framework established by MMFR see the section at page 28.

[3] Art. 1 Regulation EU2017/1131 (MMFR).

— having distinct or cumulative objectives offering returns in line with money market rates or preserving the value of the investment.[4]

Asset management companies will then continue to be regulated by either the UCITS or AIFM Directive, as applicable, and managers (and funds) falling within the scope of the MMFR will have to comply with its additional level of MMF-specific rules.

The MMFR establishes three regulatory types of MMFs, which may be further distinguished into two categories, short-term and standard.

— **CNAV.** Public debt Constant Net Asset Value (CNAV) MMFs are short-term vehicles that must invest at least 99.5 % of their assets in government debt, repo collateralised by government debt or cash.[5] CNAVs offer redemption and subscription of their shares at par value, as they are allowed to use the amortised cost method, but they are still required to calculate their mark-to-market NAV;

— **LVNAV.** Low Volatility Net Asset Value (LVNAV) MMFs can invest in a broader range of assets than CNAVs, including CPs and CDs, deposits and other short-term assets. LVNAVs are short-term MMFs offering a constant NAV, also using the amortised cost method,[6] and their shares are purchased or redeemed at a constant price as long as the value of the underlying assets does not deviate by more than 0.2% (20bps) from par;[7]

— **VNAV.** Variable Net Asset Value (VNAV) MMFs can invest in a range of money market instruments (MMIs), including government debt, CP or CDs and they mark-to-market their NAV. Hence, VNAV shares can be redeemed at their market value by investors. VNAVs can be either short-term or standard, with the latter type having the possibility to invest in assets of much longer maturity.

LVNAV and VNAV MMFs are often referred to as *private debt* MMFs as opposed to CNAVs, that are instead labelled *public* as mainly invested in sovereign instruments.

SR-MMF.1

MMF regulatory reforms

In view of the forthcoming scheduled revision of the MMFR and following the acute stress observed among EU and US MMFs in March 2020, a range of policy initiatives have taken place to mitigate vulnerabilities in this sector.

At the global level, the Financial Stability Board has published recommendations to enhance MMF resilience.[8] The final report calls for reforms to reduce the likelihood of destabilising redemptions by: (a) imposing on redeeming investors the costs of their redemptions (for example through swing pricing or redemption fees); and/or (b) requiring tools to absorb losses (such as capital buffers). Threshold effects should also be reduced by: (a) decoupling the use of fees and gates from the breach of regulatory requirements; and (b) removing stable NAV. The report also suggests options to reduce the impact of large redemptions by reducing liquidity transformation (for example through limits on eligible assets or additional liquidity requirements). The FSB also discusses measures such as enhanced stress testing and reporting.

In the EU, the ESRB has recommended that LVNAVs should have a floating NAV and that private debt MMFs, including mandatory sovereign holdings, should be subject to higher liquidity requirements.[9] ESMA has provided an Opinion to the European Commission in early 2022, as part of the MMF regulation review.[10] The Opinion seeks to address threshold effects by (a) removing the use of amortized costs for LVNAVs and (b) decoupling regulatory thresholds from the use of liquidity management tools. In addition, liquidity issues would be mitigated by (a) ensuring mandatory availability of at least one LMT and (b) enlarging the definition of liquid assets and allowing those assets to be used as buffers in times of stress.

MMFs in the EU

As of December 2021, 479 MMFs have been authorised in 13 jurisdictions (SR-MMF.2).[11] Most of MMFs operating in the EU are concentrated in three jurisdictions: France (192, 40%), Luxembourg (133, 27%) and Ireland (110, 22%) are home of 90% of the MMFs operating in the

4 As specified by recital 16 of MMFR, the objective of preserving the value of the investment is not to be understood to be a capital guarantee promised by an MMF but as an aim that a UCITS or AIF seeks to pursue. A decrease in value of the investments does not imply that the collective investment undertaking has changed its objective of preserving the value of an investment.

5 See art. 2(11) and 17(7) MMFR. Recital 45 of MMFR also indicates explicitly that public debt CNAV MMFs have the objective of preserving the capital of the investment while ensuring a high degree of liquidity.

6 LVNAV MMFs may use the amortised cost method to value assets with a residual maturity of up to 75 days when the difference between the market value of an asset and its amortised cost does not deviate by more than 0.10%.

7 If the mark-to-market NAV of LVNAVs deviates more than 20 bps from the constant NAV, the following redemption or subscription shall be undertaken at mark-to-market NAV.

8 FSB, Policy Proposals to Enhance Money Market Fund Resilience, Final report, October 2021.

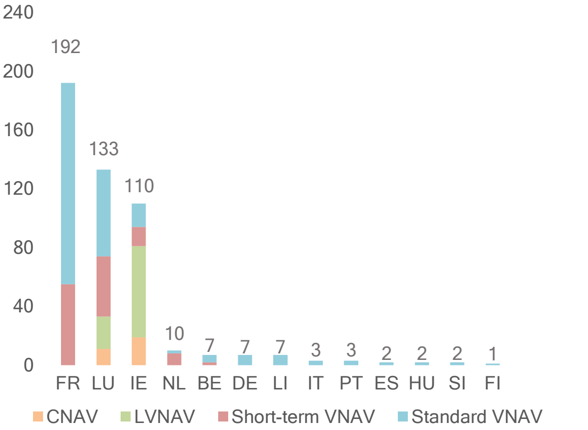
9 ESRB, Recommendation of the European Systemic Risk Board of 2 December 2021 on reform of money market funds (ESRB/2021/9)

10 ESMA, Final report - Opinion on the review of the Money Market Fund Regulation, 2022.

11 Greece's competent authority has authorised 7 MMF included in the ESMA register but has not setup a reporting under article 37. See section on "MMF Data reporting" at page 28.

EU. In all other Member States with MMFs, 10 or less MMFs are authorised. VNAVs are the only type available in all jurisdictions.

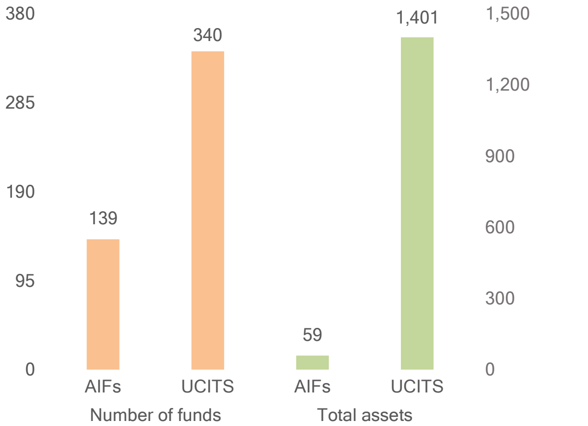
SR-MMF.2
Distribution of EU MMFs end-2021
Most EU MMFs domiciled in France



Note: Number of MMF by type and domicile at the end of 2021. Number on top of bars represent the total number of MMF per jurisdiction.
Sources: MMFR Register, NCAs, ESMA

The vast majority of MMFs is authorised as UCITS (SR-MMF.3). Those qualifying as AIFs amount only to EUR 59bn (4% of assets) and are, on average, smaller (EUR 0.5bn) than MMFs authorised also under UCITS (EUR 4.1bn).

SR-MMF.3
Regulatory framework
Dominance of UCITS



Note: Number of funds at the end of 2021 and total assets by legal framework (rhs) in EUR bn.
Sources: MMFR database, NCAs, ESMA

EU MMF market: EUR 1.4tn assets

The EU MMF industry is diverse across types and currencies. At the end of December 2021, the size of EU MMFs amounted to EUR 1442bn, spread across MMF regulatory types.[12]

MMF distribution: In terms of cross-country distribution, MMFs domiciled in France, Ireland and Luxembourg constitute almost entirely the EU market with 99% of assets (SR-MMF.4).

MMFs domiciled in Ireland accounts for 42% of MMF assets (EUR 602bn), mainly concentrated in LVNAVs and CNAVs, while in Luxembourg (29% of MMF assets) assets are more spread across MMF types and currencies. French MMFs are only of the VNAV type and account for 27% of the EU market. The differences in the three main jurisdictions may be partly explained by historical factors, different investor demand or the accounting treatment of MMFs.[13] MMFs domiciled in other EU jurisdictions represent instead only 1% of the EU market.

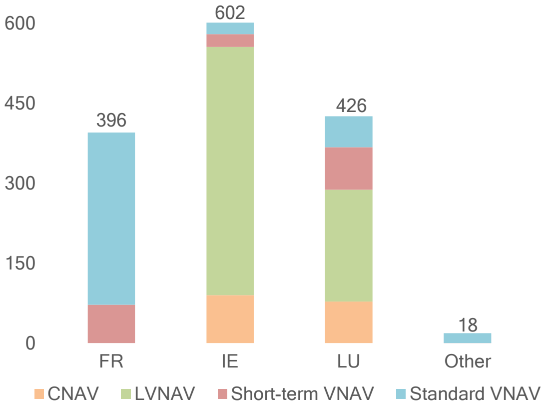
Private debt MMFs account for the largest share of assets, with LVNAVs amounting to EUR 675bn and VNAVs to EUR 616bn, 46% and 42% of total assets respectively (SR-MMF.5).

Public debt CNAVs amount only to 12% of total assets. Overall, more than half by assets of EU MMFs (59%) offer redeemability at par (CNAVs and LVNAVs).

[12] Reporting frequencies are either quarterly or yearly depending on the NAV of the MMF. The full-scale data covering the entire EU MMF market are thus available at the end of the year. The vast majority of MMF reports on a quarterly basis, and those filing their reports on a yearly basis represent 0.2% of total NAV at the end of 2021. The size of the industry is then assessed at the end of the year to have the highest degree of completeness. Details on the completeness of MMF reporting under art. 37 are provided in section at page 28.

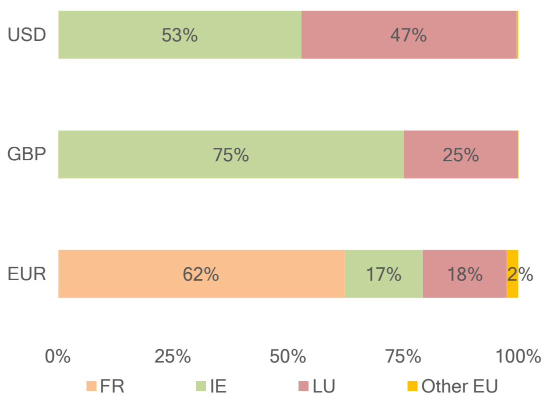
[13] In France, shares in VNAV MMFs are presumed to be considered cash equivalent (AMF, 2018) under International Accounting Standard 7, provided that MMFs are used as a short-term cash management vehicle rather than as an investment. See more in detail AMF (2018).

SR-MMF.4
Total assets of EU MMFs end-2021
Three main jurisdictions



Note: MMF assets by regulatory type and domicile, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

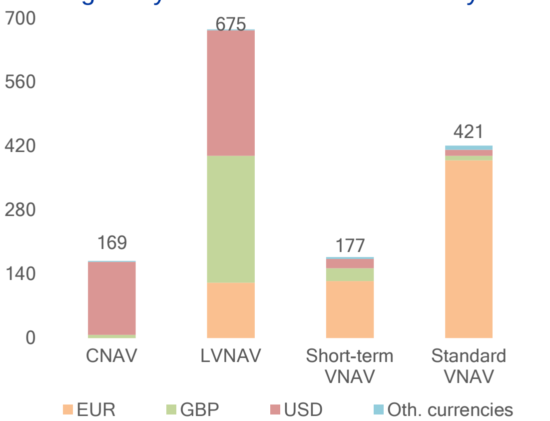
SR-MMF.6
EU MMFs' base currency
Most EUR MMFs domiciled in France



Note: : MMF assets by domicile and currency, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

Currency: Non-EU currency MMFs amount to 54% of total assets, with 32% for USD and 22% for GBP. EUR denominated MMFs account for 45% of total MMF assets (EUR 653bn), driven by standard VNAVs. The share of MMF by domicile and currency indicates that France accounts for 62% of EUR MMF assets (EUR 406bn; SR-MMF.6 and SR-MMF.8). The remaining 1% is in MMFs denominated in other EU domestic currencies.

SR-MMF.5
Total assets of EU MMFs end-2021
Heterogeneity in terms of asset currency



Note: MMF assets by regulatory type and currency, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

In contrast with non-EU currencies, EUR MMFs offer mainly a floating NAV as 20% are short-term and 61% are standard VNAVs. The market for USD and GBP MMFs is exclusively domiciled in Ireland and Luxembourg (SR-MMF.8, SR-MMF.10).

Market concentration

The EU MMF industry displays a high degree of concentration in a limited number of large funds. (SR-MMF.12). The 20 largest MMFs of each type combined (17% of the authorised MMFs) hold close to 80% of total assets (SR-MMF.7).

SR-MMF.7
Market concentration
Highly concentrated industry

MMF type	Largest 5	Largest 10	Largest 20
CNAV	84%	93%	100%
LVNAV	42%	61%	82%
Short-term VNAV	31%	51%	73%
Standard VNAV	33%	51%	69%
All MMFs	43%	60%	79%

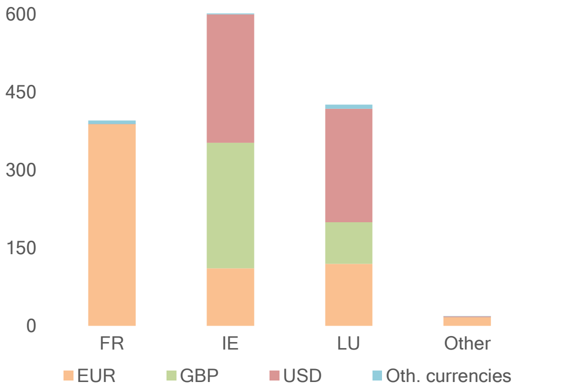
Note: Share of assets held by the largest 5, 10 and 20 MMFs of each type.
Sources: MMFR database, NCAs, ESMA.

At single jurisdiction level, the concentration is even higher (SR-MMF.89, SR-MMF.10, SR-MMF.10). In Luxembourg and France, the largest 20 standard VNAVs account for more than 85% of MMF size. Similarly, the top 20 LVNAVs authorised in Ireland and Luxembourg manage around 90% of the total managed assets.

Key indicators

SR-MMF.8

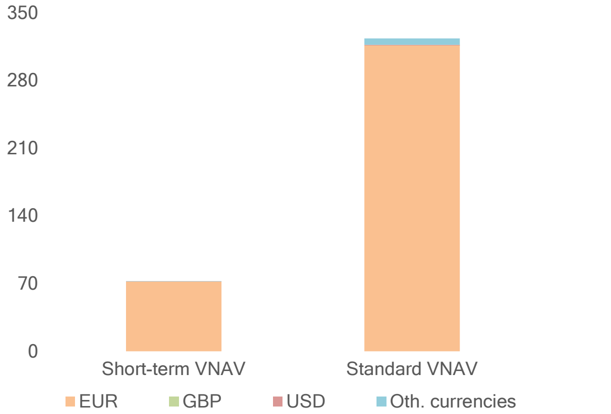
Diversity by base currency and domicile



Note: MMF assets by domicile and currency, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.9

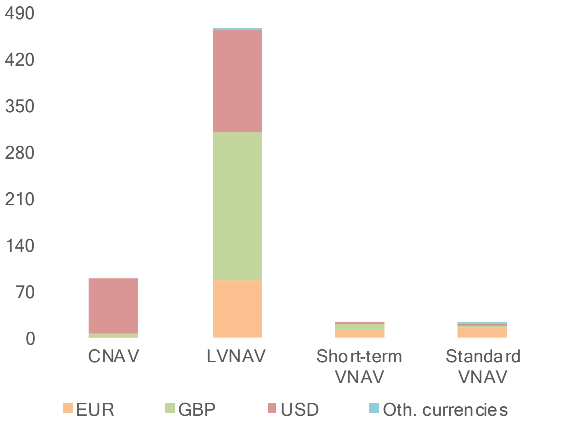
Dominance of EUR VNAVs in France



Note: Assests of French domiciled MMFs by regulatory type and currency, end of 2021, in EUR bn.

SR-MMF.10

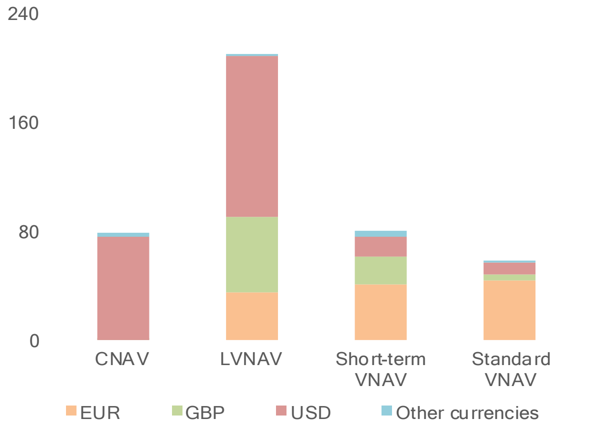
Majority of GBP and USD MMF in Ireland



Note: Assets of Irish domiciled MMFs by regulatory type and currency, end of 2021, in EUR bn.

SR-MMF.11

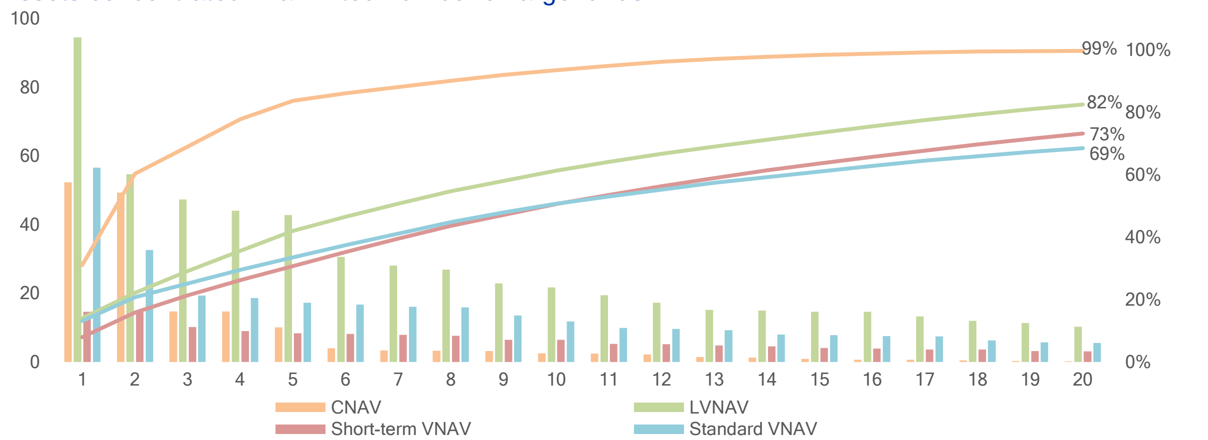
Luxembourg MMFs mostly invested in USD



Note: Assets of Luxembourg domiciled MMFs by regulatory type and currency, end of 2021, in EUR bn.

SR-MMF.12

Assets concentrated in a limited number of large funds



Note: Assets and concentration of EU MMFs bu regulatory type, end of 2021, in EUR bn (lhs) and % (rhs).
Sources: MMFR database, NCAs, ESMA.

MMF assets: Allocation and portfolio indicators

Summary

For each MMF type, the MMFR details the eligible assets, the diversification rules and the investment limits. The portfolio structure of EU MMFs has three main pillars – exposures to credit institutions, non-financials and government debt – and remains relatively stable over time. EU MMFs are mainly exposed to the financial sector. On average, between March 2020 and June 2022, exposures to credit institutions amount globally to around 60% of total assets, including 42% in money market instruments (MMIs) issued by banks, 17% in deposits. Instruments issued by non-financial represent 10% of the MMIs in MMF portfolios (6% of total assets) and are mainly concentrated in VNAVs. Most of the government debt exposure of EU MMFs is towards non-EU sovereigns (EUR 119bn at the end of 2021, 74% of sovereign exposure). LVNAVs have increased their share of government bonds from March to December 2020 and then slowly readjusted their portfolios to the pre-COVID composition. The share of daily and weekly liquid assets remained above the regulatory minimum and increased markedly for CNAVs together with their reliance on reverse repurchase agreements. Since 3Q21 EU MMFs significantly reduced the interest rate risk sensitivity of their portfolios, measured as the weighted average maturity of assets (WAM), to improve resilience to a hike in rates in a context of rising inflation. Across the different types, most EU MMFs appear to be more conservative when compared with the regulatory maximum limits for the measure of liquidity ad credit risk, computed as weighted average liquidity of the portfolio (WAL).

Eligible assets

The MMFR clearly identifies six categories of assets that are eligible for investment by MMFs and the conditions under which they are eligible:

— Money Market Instruments (MMIs), meaning instruments normally dealt in the money market and including treasury and local authority bills, certificates of deposits, commercial papers, bankers' acceptances, and medium- or short-term notes;[14]

— Securitisations and Asset-Backed Commercial Paper (ABCP);[15]

— Deposits with credit institutions and ancillary liquid assets, such as cash in a bank account accessible at any time;[16]

— Financial derivatives instruments, only for the purpose of hedging interest rate and currency risk and only having interest rates, foreign exchange rates, currencies or indices representing those categories as an underlying;

— Repurchase (repo) agreements and reverse repo agreements;[17] [18]

— Units or shares in other MMFs.

EU MMFs can engage in reverse repos to invest excess cash on a very short-term basis only if positions are fully collateralised and the collateral provided does not display a high correlation with the performance of the counterparty, so to avoid a negative impact in the event of default of the counterparty. The provisions on the use of

[14] MMIs are financial instruments but do not always qualify as transferable securities. See Art. 50(h) UCITSD and Section C of Directive 2014/65/EU (MiFID II).

[15] Due to the fact that during the financial crisis certain securitisations were particularly unstable, quality criteria are imposed on securitisations and ABCPs so that only those well performing should be eligible. The detailed set of characteristics that securitisations and ABCPs have to respect are laid down by Art. 11 MMFR.

[16] According to recital 22 of MMFR, the holding of such ancillary liquid assets could be justified, inter alia, in order to cover current or exceptional payments, in the case of sales, for the time necessary to reinvest in other eligible assets. Recital 24 further specifies that MMFs can invest in deposits to the extent that it is possible to withdraw the money at any time.

[17] A repo consists of transferring securities in return for a transfer of cash (for a relatively short period, generally one day) and then carrying out the reverse transfers plus the payment of interest on the cash deposit.

[18] Other portfolio management techniques like securities lending and borrowing, should not be used by an MMF as they are likely to impinge on achieving the investment objectives of the MMF (recital 27 MMFR).

financial derivatives instead ensure that those instruments, either traded on a regulated market or over the counter (OTC), are used only as a complement to the strategy of an MMF and not as the main tool for achieving the fund's objectives.

A summary of the main rules on eligible assets, the maturities of assets, liquidity, diversification is shown in SR-MMF.13. The analysis of MMFs' portfolios and activities is based on quarterly data to best capture trends and developments in the industry. [19]

Portfolio composition

Given the detailed prescriptions in terms of eligible assets, conditions of use and portfolio rules provided by the MMFR, when considering all regulatory types, the portfolio structure of EU MMFs is overall stable over time (SR-MMF.14)

SR-MMF.13

Overview of investment and portfolio rules

	Short-term MMFs			Standard MMFs
	CNAV	LVNAV	Short-term VNAV	Standard VNAV
Eligible assets for investment	99.5% government assets, cash or reverse repo backed by government assets.	MMIs, certain securitisations or ABCP, instantly accessible deposits, short-dated reverse repo, other short-term MMFs, currency and interest derivatives		MMIs, certain securitisations or ABCP, instantly accessible deposits, short-dated reverse repo, other MMFs, currency and interest derivatives
Minimum daily liquidity (DLA)	10%	10%	7.5%	7.5%
Minimum weekly liquidity (WLA)	30%	30%	15%	15%
Weekly liquidity eligible assets	MMIs issued or guaranteed by public bodies which are highly liquid, can be redeemed and settled within 1 working day, and have a residual maturity <190 days up to a limit of 17.5%		MMIs and, other MMFs up to a limit of 7.5%, provided that instruments can be redeemed and settled within 5 working days	
Max asset maturity		397 days		2 years, with 397 days max to next interest rate reset
Max weighted average maturity (WAM)		60 days		6 months
Max weighted average life (WAL)		120 days		12 months
Valuation methodology[20]	Amortised cost	Amortised cost for instruments with residual maturity < 75 days; mark-to-market / mark-to-model for instruments >75 days	Mark-to-market / mark-to-model only	

Note: Summary of main investment criteria for eligible assets and portfolio rules for short-term and standard MMFs as established in MMFR.
Sources: MMF Regulation, ESMA.

Between March 2020 and June 2022, repos, deposits and ancillary liquid assets account on average for 28% of total exposures (17% deposits, 11% repos) (SR-MMF.16). Over the same period, financial derivatives exposure is negligible (< 0.5%), while structured products and shares of other MMFs are both around 2% of assets.

MMIs represent the largest type of investment (almost 70% of total exposure), but their allocation across instrument types changes over time in response to market events and macroeconomic conditions (SR-MMF.15). Instruments issued by credit institutions (very likely commercial papers and certificates of deposit[21]) are an example. Over the period from

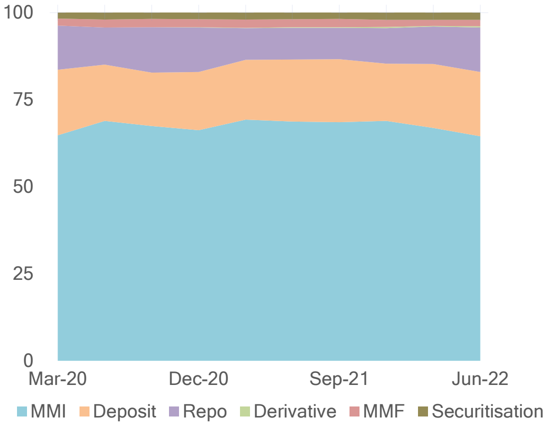
19 Details on the completeness of MMF reporting under Art. 37 are provided in section at page 28.

20 The mark-to-model valuation method can be adopted where the use of mark-to-market method is not possible or where market data is not of sufficient quality.

21 The reporting template included in the Commission Implementing Regulation (EU) 2018/708 and filed by asset management companies on behalf of their managed MMFs does not allow to distinguish between commercial papers, certificate of the deposits or other types of MMIs issued by credit institutions.

March 2020 to June 2022 they represent on average 62% of all MMIs (~42% of total assets) (SR-MMF.17). Exposure to MMIs however varies over time, as it decreased in 2020, from 63% in March 2020 to 57% in December 2020, increasing again to 68% in June 2022.

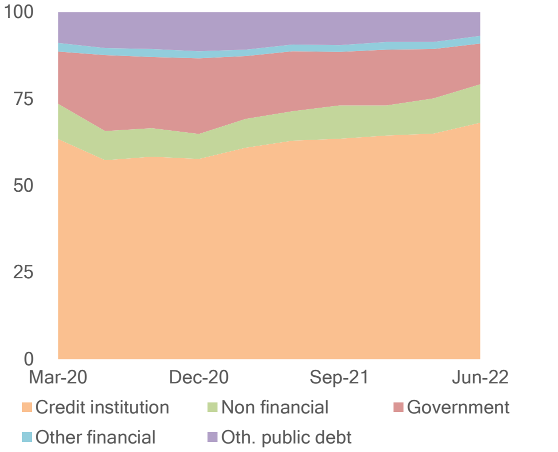
SR-MMF.14
MMF holdings
Relevant share of deposits and repos



Note: Breakdown of assets held by MMFs, in %. Securitisation includes ABCP.
Sources: MMFR database, NCAs, ESMA.

The share of government bonds shows an opposite pattern, moving from 15% in March 2020 to 22% of total MMI exposure end 2020, then decreasing to 14% in June 2022. Exposure to non-financial corporates is overall limited and represent a stable 10% of the MMIs in MMF portfolios.

SR-MMF.15
Money market instruments
Mainly exposed to financial sector



Note: Breakdown of money market instruments held by MMFs, in %.
Sources: MMFR database, Eikon, NCAs, ESMA.

Differences in portfolio structure and asset allocation emerge clearly when looking in detail at the different regulatory types (SR-MMF.16 and SR-MMF.17).

SR-MMF.16
Portfolio structure
Average composition of MMFs' portfolios

MMF type	Deposits	Deriva-tives	MMFs	MMIs	Repo	Struc-tured products
CNAV	7.5%			59.7%	32.7%	
LVNAV	21.3%			63.6%	11.5%	3.6%
VNAV	15.9%	0.4%	5.2%	74.3%	3.7%	0.6%
All MMFs	17.3%	0.2%	2.1%	67.4%	11%	1.9%

Note: Average portfolio composition of EU MMFs. Data reported in each quarter from March 2020 to June 2022. Deposit includes ancillary liquid assets. Repo includes both repurchase and reverse repurchase agreements.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.17
MMIs
Average allocation of MMIs in MMFs' portfolios

MMF type	Credit institution	Non-financial	Govt. bond	Other financial	Other public debt
CNAV	3.6%		89.1%		7.4%
LVNAV	76.1%	2.4%	7.5%	1.0%	13%
VNAV	62.9%	17.6%	9.1%	3.7%	6.7%
All MMFs	62.2%	9%	17.2%	2.1%	9.5%

Note: Average allocation of money market instruments of EU MMFs. Data reported each quarter from March 2020 to June 2022.
Sources: MMFR database, NCAs, ESMA.

CNAV MMFs

In line with the investment rules set by the MMFR, CNAVs invest almost exclusively in government bonds and (reverse) repos (SR-MMF.29 and SR-MMF-S.19). On average, only 7.5% of their portfolios is in deposits and ancillary liquid assets (SR-MMF.156). The domicile of the credit institutions where CNAVs have their deposits and ancillary liquidity remain instead mostly unknown[22] (more than 80%), and only a fraction is reported as EU banks (SR-MMF.33).

CNAV MMFs significantly reduced their government bond holdings, from 62% of total assets in June 2021 to 32% in June 2022, amid expectations of interest rate rises. Over the same

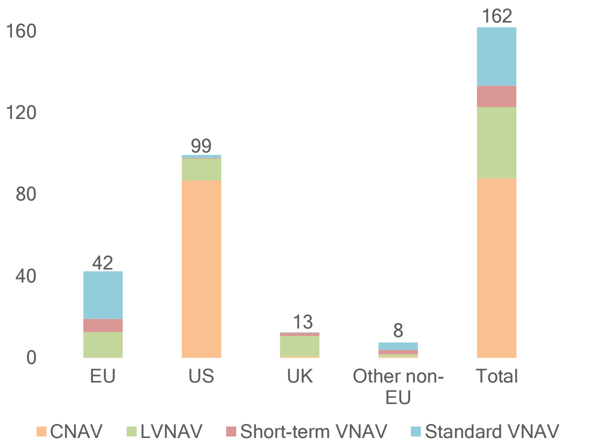
[22] Based on art. 12 MMFR, a deposit with a credit institution is eligible for investment by an MMF if the credit institution has its registered office in a Member State or, where the credit institution has its registered office in a third country, it is subject to prudential rules considered equivalent to those laid down in Union law.

time, they have significantly increased their repo activity.

By volume, more than 70% of repos and reverse repos are with counterparties domiciled in non-EU jurisdictions, around 50% in US and only 10% in EU (SR-MMF.20). US government debt accounts almost entirely for their sovereign holdings, which amounted to EUR 88bn at the end of 2021 (SR-MMF.18).

CNAVs' portfolios are characterized by concentrated holdings in sovereign issuers (mostly US). Half of the 20 largest CNAVs have 100% of their total exposures towards only 2 issuers (SR-MMF.35).[23]

SR-MMF.18
Government bonds
Mainly exposed to non-EU government bonds



Note: Exposure to government debt, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

LVNAV MMFs

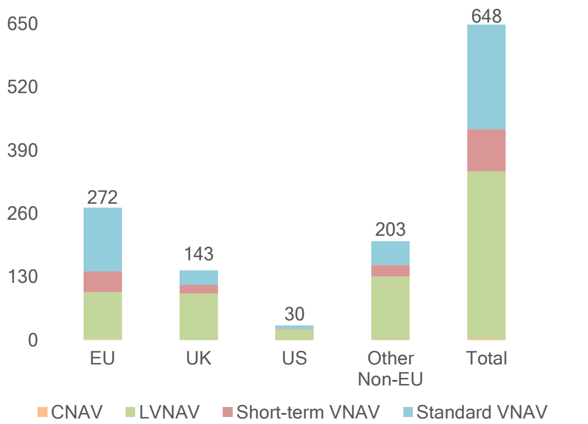
On average, exposures to credit institutions amount to 70% for LVNAVs when considering bank instruments and deposits (SR-MMF.16 and SR-MMF.17).

The share of government bonds in LVNAVs' portfolios has increased by nearly five times from March to December 2020, reaching 14% of the total MMIs and accompanied by an increased reliance on repo activity, to the detriment of assets issued by credit institutions (SR-MMF.29). Over 2021 and the first half of 2022, LVNAVs readjusted their portfolios to the pre-COVID composition of early 2020. The relative exposure to other types of MMIs (i.e., other financials, non-financials and other type of public debt) remained constant over time.

In terms of geographical distribution of assets, EU government debt accounts for 36% of LVNAVs exposure to government bonds at the end of 2021 (EUR 12.7bn; SR-MMF.18), while around 60% is UK and US sovereigns (EUR 10.1bn and 10.6bn respectively). The share of instruments from EU credit institutions is 28% of all bank assets (EUR 97bn) at the end of 2021 (28% for UK, 38% for banks from other non-EU countries;[24] SR-MMF.19). Most of their repos (80% by total repo volume) are with counterparties domiciled outside the EU (SR-MMF.20).

Among the different MMF types, LVNAVs appear to be the less concentrated toward single issuers. In the largest 20 EU LVNAV funds, the three main issuers account on average for around 20% of their portfolios (SR-MMF.37).

SR-MMF.19
Credit institutions
Large exposures to non-EU banks



Note: Exposure to MMIs issued by EU and non-EU credit institutions, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

VNAV MMFs

VNAVs' portfolio structure remained stable over time (SR-MMF.31). Their exposures to credit institutions via MMIs and deposits is on average, respectively, around 47% and 16% of their total assets (SR-MMF.16 and SR-MMF.17).[25] Non-financial corporates exposures amount at the end

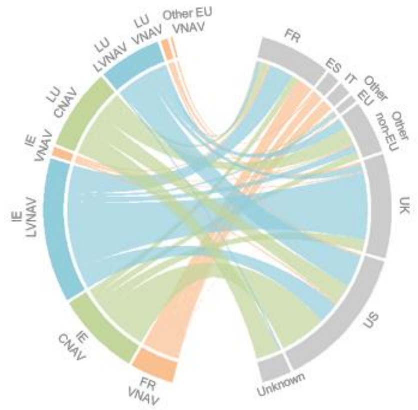
[23] While art. 18 MMF establishes that MMFs cannot hold more than 10% of instruments issued by a single body, holdings in MMIs issued or guaranteed by public bodies are excluded from this concentration limits.

[24] These credit institutions are mostly domiciled in Canada and Australia.

[25] The exposure of VNVAs to MMIs issued by credit institution is around 47% of total assets, that is 62.9% of their investment in MMIs, which amounts to 74.3% of total assets.

of 2021 to only EUR 87bn (6% of total assets) and are mainly concentrated in VNAVs (EUR 78bn or 18% of VNAVs MMIs). Repurchase agreements represent only ~4% of their portfolio, the lowest share among different MMF types. In line with asset eligibility rules, 5% of their investment is in other MMFs. With respect to the other types of MMFs, VNAVs normally have a lower share of government debt, on average 9% of the MMIs and 7% of the assets. In contrast to other MMF types the majority of government debt holdings are EU instruments, more than 75% of their government debt exposure at the end of 2021 (EUR 30bn; SR-MMF.18). Similarly, the majority of bank assets held by VNAV MMFs (~60%, EUR 173bn at the of 2021) is issued by EU domiciled credit institutions. 16% of bank assets are from the UK, 26% from other non-EU countries (SR-MMF.19).

SR-MMF.20
Repurchase agreements
Non-EU counterparties for most of repos



Note: Domicile of repo and reverse repo counterparties by MMF domicile and jurisdiction, end of 2021. Flows are proportional to total exposure.
Sources: MMFR database, NCAs, ESMA.

Portfolio indicators

Daily and weekly liquid assets

Under the MMFR, EU MMFs should meet regulatory requirements concerning the liquidity of fund assets. MMFs need to hold on an ongoing basis a minimum share of daily (DLA) and weekly (WLA) liquid assets, which correspond approximately to assets maturing within one or five business days (SR-MMF.21).[26] The regulatory minimum and the assets admitted in the DLA and the WLA then vary depending on the type of MMF (SR-MMF.13).

SR-MMF.21
Daily and weekly MMF liquidity requirements: DLA and WLA

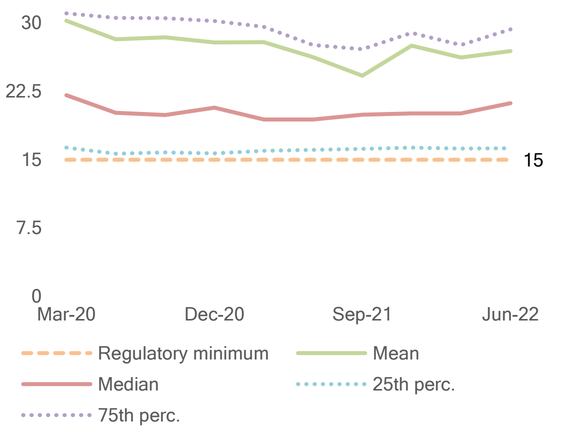
The Daily Liquid Assets (DLA) and Weekly Liquid Assets (WLA) requirements aim at ensuring a minimum level of liquid assets available in all MMFs. According to recital 38 of the MMFR, these liquidity buffers help MMFs strengthening their ability to face redemptions and prevent their assets from being liquidated at heavily discounted prices.

The DLA should comprise assets such as cash, instruments maturing within one working day and reverse repos. Similarly, as a general principle, the WLA should include assets such as cash, instruments maturing within one week and reverse repos.

Public debt CNAVs and LVNAVs are allowed to consider in the calculation of the weekly liquidity requirements also a limited percentage of government guaranteed instruments maturing in 190 days that can be settled within one working day. VNAVs can instead consider in the WLA a limited portion of units of eligible MMFs, provided they can be settled within five working days. The proportions of DLA and WLA should be calculated based on the legal redemption date of the assets, taking into account the possibility to terminate a contract on a short-term basis can be taken into consideration.[27] For different MMF types, these limits are summaried in table SR-MMF.13.

Overall, liquid assets remained above the regulatory minimum. For standard VNAVs, the median DLA and WLA have remained at levels of around 12% and 25% (above 19% and 30% for short-term VNAVs, SR-MMF-S.49 and SR-MMF-S.53), that is constantly above the daily and weekly regulatory minimum of respectively 7.5% and 15% (SR-MMF.35 and SR-MMF.22).

SR-MMF.22
Weekly liquid assets for VNAVs
Decline up to 2021, rebounding afterwards



Note: WLA of standard VNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

---

[26] See art. 24 and art. 25 MMFR.

[27] For instance, if a reverse repurchase agreement can be terminated by giving prior notice of one working day, it should count as a daily maturing asset. Cash that can be from a deposit account with one working day prior notice, it should count as a daily maturing asset. Similar principles apply to financial instrument embedding a put option.

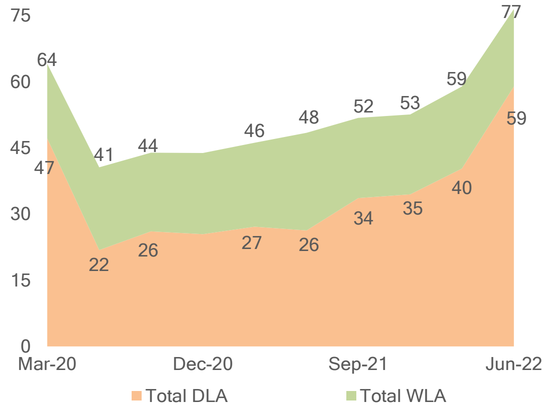
Similar observations apply to LVNAVs, where the median DLA and WLA are steadily around 30% and 50%, 20 percentage points above regulatory requirements of respectively 10% and 30% (SR-MMF-S.47 and SR-MMF-S.51).

CNAV DLA and WLA show an upward trend starting at the end of 2020 (SR-MMF-S.47 and SR-MMF.35), in line with the higher share of repo transactions. This is reflected also in the total amount of daily and weekly liquid assets available to CNAVs (SR-MMF.23), which dropped by more than 20 percentage points in March 2020 and steadily increased since then to reach 59% and 77% of their size respectively. For the other MMF types, the total DLA and WLA remains overall stable (SR-MMF-S.35, SR-MMF-S.37, SR-MMF-S.37).

SR-MMF.23

Total daily and weekly liquid assets for CNAVs

Increasing since March 2020



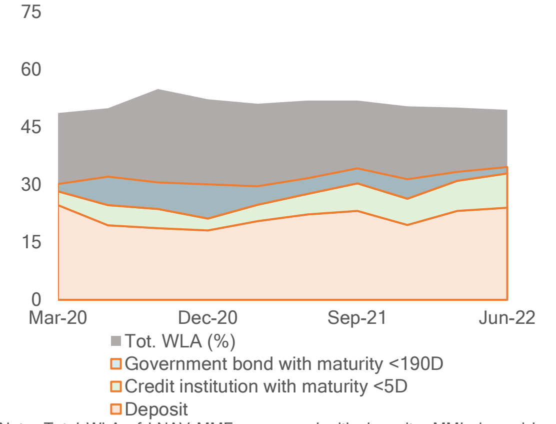
Note: Total DLA and WLA of CNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

For LVNAV and VNAV MMFs, deposits and government securities play a key role to maintain appropriate levels of liquid assets and meet the WLA requirements.[28] Deposits and ancillary liquid assets alone represent half of the total LVNAV and VNAV WLAs (SR-MMF.24, SR-MMF.33 and SR-MMF-S.41). At the onset of the COVID-19 crisis, private debt MMFs increased the share of government securities eligible for the calculation of the WLA. In line with the portfolio adjustments discussed above, amidst the pandemic LVNAVs and VNAVs reduced their exposure to bank instruments eligible for WLA purposes.

SR-MMF.24

Characteristics of WLA assets

Deposits and MMIs in LVNAVs' WLA



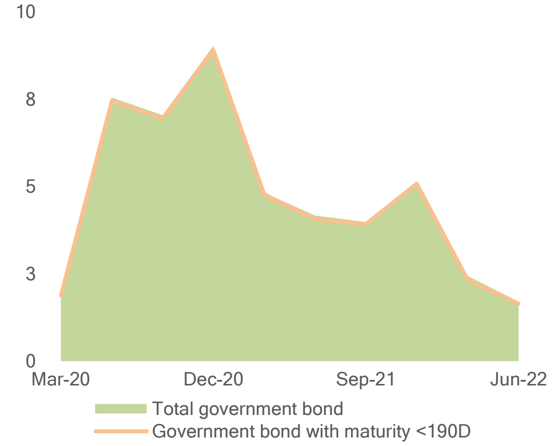
Note: Total WLA of LNAV MMFs compared with deposits, MMIs issued by credit institutions maturing in 5 days and government bonds maturing 190 days, in % of total assets.
Sources: MMR database, NCAs, ESMA.

In the case of LVNAs, all government securities available mature within 190 days and thus can be considered for inclusion in their weekly liquid buffer (SR-MMF.25).

SR-MMF.25

Government securities in WLA

All government debt in LVNAVs eligible for WLA



Note: LVNAV MMFs' investment in government bond, in % of total assets.
Sources: MMFR database, NCAs, ESMA.

Weighted average maturity and weighted average life

To reduce the portfolio risk of MMFs, the MMFR imposes maturity limitations, providing for maximum weighted average maturity (WAM) and

[28] The data reporting established under art. 37 MMFR does not foresee the possibility to identify directly those assets included in the DLA and the WLA. The only characteristic that can be used to understand whether a money market instrument is eligible for the DLA and the WLA is its maturity. Differently, in the Form N-MFP, adopted by the US Securities and Exchange Commission to report information about the MMF and its portfolio holdings, allows to discriminate the instruments considered in the daily and weekly liquid buffer.

weighted average life (WAL).[29] WAM is used as a measure of the sensitivity to interest rate changes. MMFs can increase (reduce) their WAM by investing in instruments with longer (shorter) maturities or through the investment in floating-rate notes with coupons that reflect changes in interest rates. Similarly, the WAL reflects the sensitivity of a MMF to changes in liquidity and credit risk. The key drivers of MMF WAM and WAL targets are the liquidity needs of the fund, the availability of underlying investment maturities, and the interest rate and yield curve outlook. The higher the value of WAM and WAL, the greater the sensitivity to changes in measured risk factors (SR-MMF.26).

SR-MMF.26

MMF asset maturity requirements: WAM and WAL

The MMFR placed rigorous restrictions on the risk that MMF portfolios can take by limiting factors such as the Weighted Average Maturity (WAM) and Weighted Average life (WAL) of each portfolio.

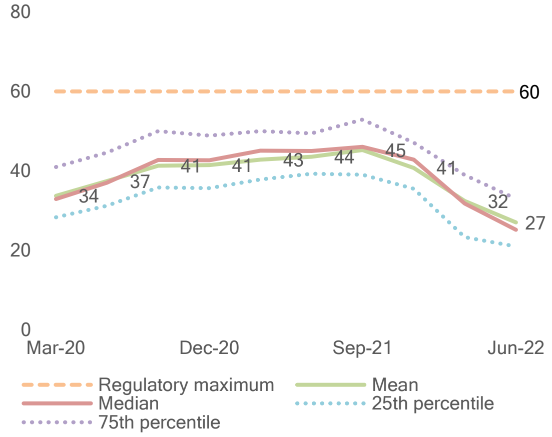
According to CESR Guidelines,[30] the WAM is the average length of time to maturity of all securities in the MMF weighted to reflect the relative holdings in each instrument, assuming that the maturity of a floating rate instrument is the time remaining until the next interest rate reset to the money market rate, rather than the time remaining before the principal value of the security must be repaid.[31] WAM is then used to measure the sensitivity of an MMF to changing money market interest rates. Differently from the calculation of WAM, the calculation of WAL is only based on the residual maturity until legal redemption, since that is the only date on which the asset management company can reasonably expect that the instrument will have been reimbursed, disregarding interest and not discounting. In practice, the main difference between WAL and WAM is how floating rate notes are treated.[32] WAL is used to measure the credit risk and limit the liquidity risk of an MMF's portfolio: the longer the reimbursement of the principal is postponed, the higher the credit and liquidity risks.

Standard and short-term MMFs have different WAM and WAL limits. Short-term MMFs have the objective of offering money market rate returns while ensuring the highest possible level of safety for the investors. The imposition of short WAM and WAL would then maintain the duration risk and credit risk of short-term MMFs at low levels. Standard MMFs have instead the objective of offering returns slightly higher than money market returns, and they therefore can invest in assets with longer maturity. Standard MMFs are then permitted to employ extended limits for the overall portfolio risk. For different MMF types, these limits are summaried in table SR-MMF.13.

Between 3Q21 and 2Q22, EU MMFs significantly reduced the WAM of their portfolios to lower interest rate risk (on average, from 38 days to 23 for CNAVs, 45 days to 27 for LVNAVs, 47 days to 30 for short-term VNAVs, 81 days to 57 for standard VNAVs) and improve resilience to a rate rise (SR-MMF.27, SR-MMF-S.59, SR-MMF.39, SR-MMF-S.61).

SR-MMF.27

WAM for LVNAVs
Decreasing interest rate risk



Note: Weighted average portfolio maturity (WAM) of LVNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

As a consequence of the higher repo activity, CNAVs reduced their exposure to credit and liquidity risk (SR-MMF.28). The other short-term and standard VNAVs maintained a stable WAL (SR-MMF-S.55, SR-MMF-S.57, SR-MMF.39). Across the different types, most MMFs appear to be more conservative when compared with the regulatory maximum. For standard VNAVs, the median WAL has remained between 120 and 140 days below the maximum 360 days allowed. For short-term MMFs, the distance from the 120 days limit varies between 80 days on average for CNAVs and 60 days for short-term VNAVs.

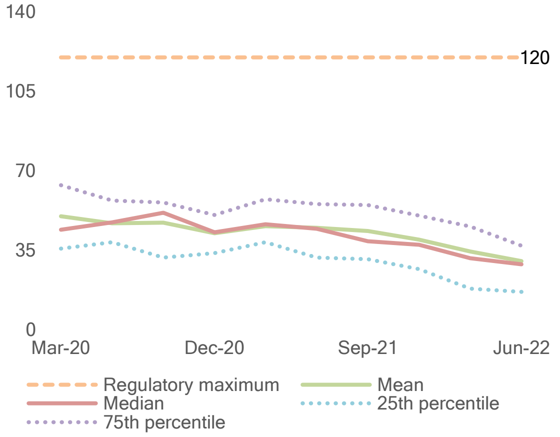
[29] The weighted average maturity (WAM) and weighted average life (WAL) are defined in art. 2 of MMFR.

[30] See Guidelines on a common definition of European money market funds (CESR/10-049). These same indications for the calculation of WAL and WAM measures are reflected in the definitions provided by MMFR.

[31] When determining the WAM, managers of MMFs should take into account the impact of all different assets eligible to MMFs investment, including financial derivatives, deposits, repos and reverse repos, and reflect their effect on the interest rate risk of the MMF.

[32] Contrary to the WAM, the calculation of the WAL for floating rate securities and structured financial instruments does not permit the use of interest rate reset dates and instead only uses a financial instrument's stated final maturity.

SR-MMF.28
WAL for CNAVs
Limited sensitivity to credit and liquidity risk

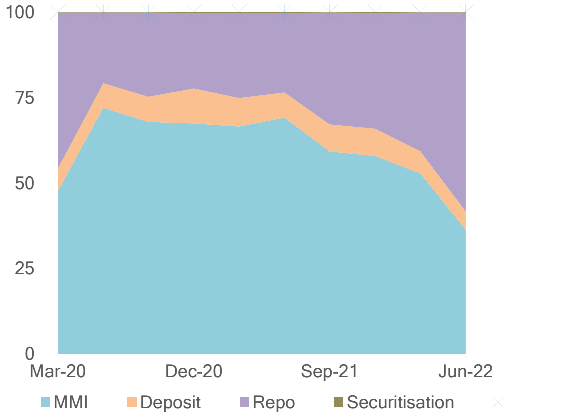


Note: Weighted average portfolio liquidity (WAL) of CNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

Key indicators

SR-MMF.29

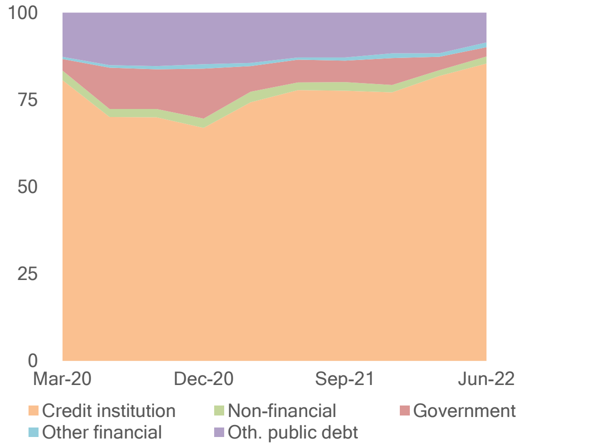
CNAVs shifting to repos



Note: Breakdown of assets held by CNAV MMFs, in %. Securitisation includes ABCP.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.30

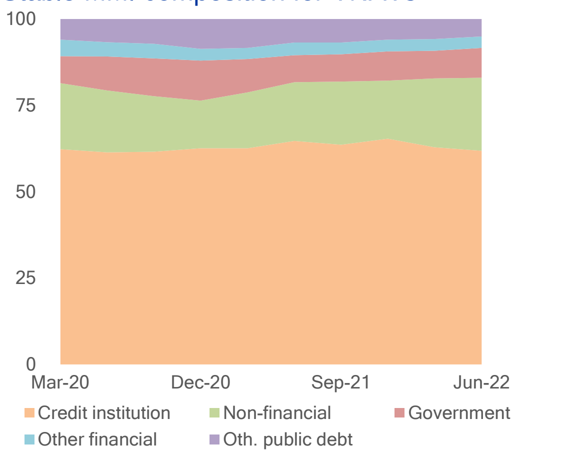
LVNAVs moving back to bank assets



Note: Breakdown of money market instruments held by LVNAV MMFs, in %.
Sources: MMFR database, Eikon, NCAs, ESMA.

SR-MMF.31

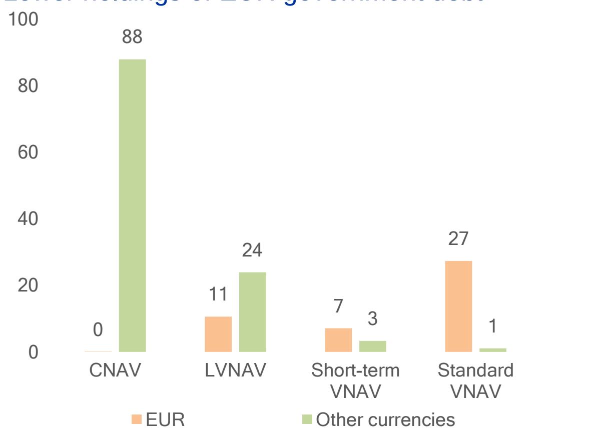
Stable MMI composition for VNAVs



Note: Breakdown of money market instruments held by VNAV MMFs, in %.
Sources: MMFR database, Eikon, NCAs, ESMA.

SR-MMF.32

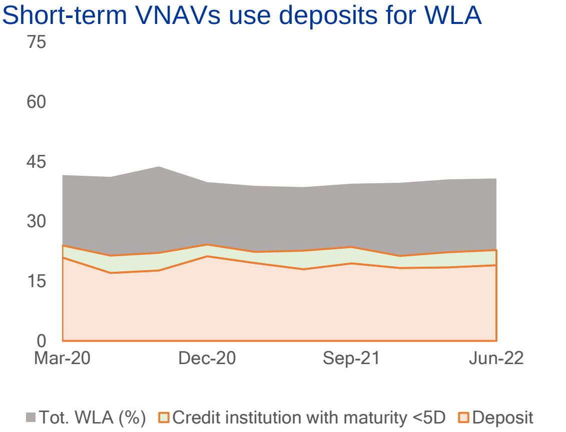
Lower holdings of EUR government debt



Note: Exposure to government debt denominated in EUR and other currencies by regulatory type, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.33

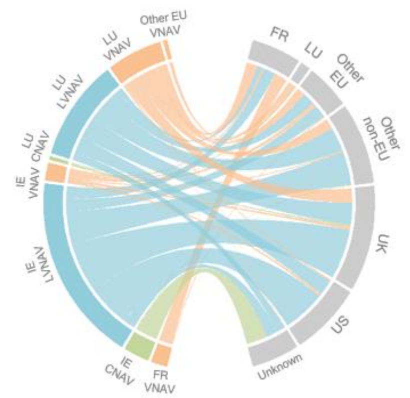
Short-term VNAVs use deposits for WLA



Note: Total WLA of short-term VNAV MMFs compared with deposits, MMIs issued by credit institutions maturing in 5 days, in % of total assets.
Sources: MMR database, NCAs, ESMA.

SR-MMF.34

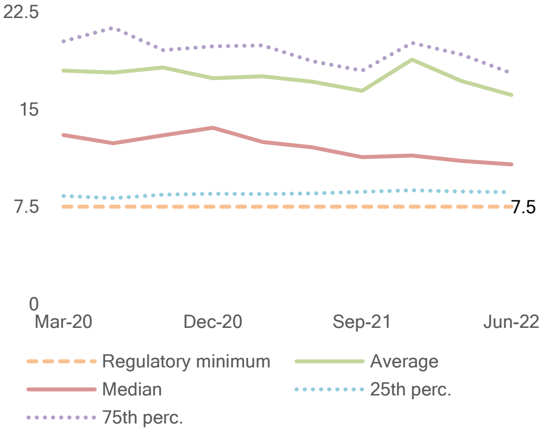
Most of LVNAVs and CNAVs deposits in UK and US



Note: Domicile of deposits and ancillary liquid assets by MMF type and jurisdiction, end of 2021. Flows are proportional to total exposure.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.35

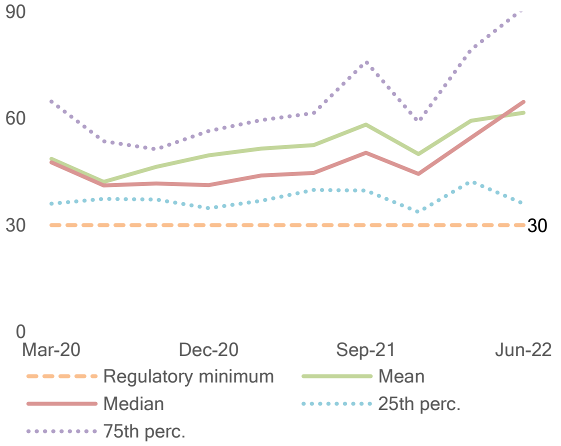
Standard VNAVs steadily above min DLA



Note: Daily liquid assets (DLA) of standard VNAV MMFs, in % ot total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.36

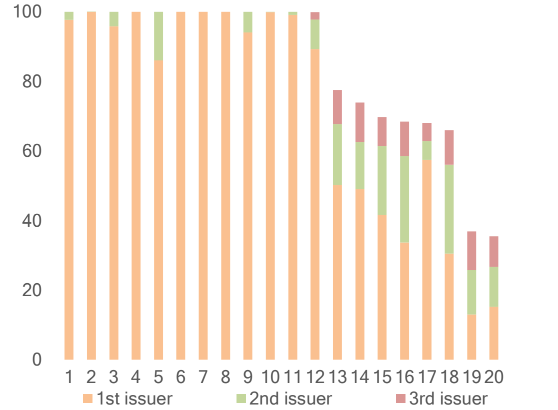
WLA improving in CNAVs



Note: WLA of CNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.37

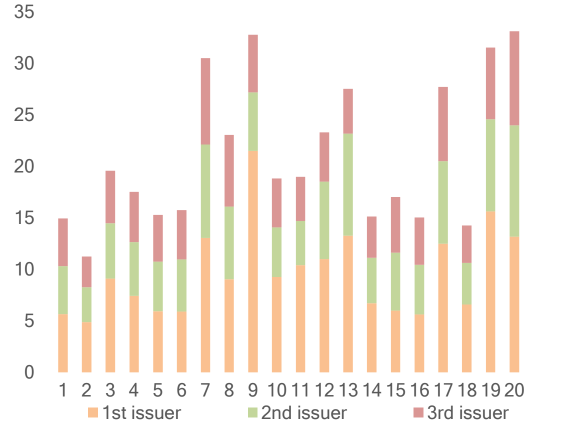
CNAVs concentrated over single issuers



Note: Portfolio exposure to single issuers of money market instruments, securitised instruments and counterparties of deposits for the 20 largest CNAV MMFs, end of 2021, in % of total assets.
Sources: MMFR database, NCAs, ESMA

SR-MMF.38

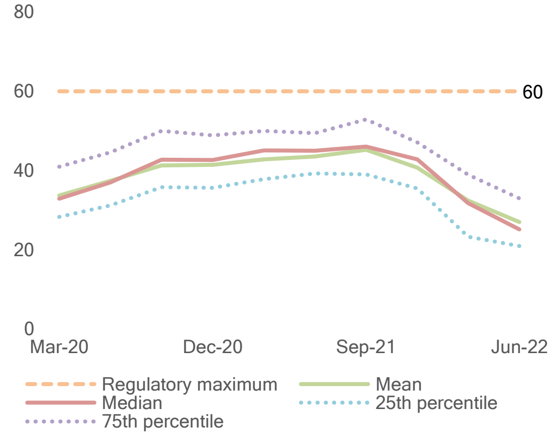
Top 20 LVNAV portfolios more diversified



Note: Portfolio exposure to single issuers of money market instruments, securitised instruments and counterparties of deposits for the 20 largest LVNAV MMFs, end of 2021, in % of total assets.
Sources: MMFR database, NCAs, ESMA

SR-MMF.39

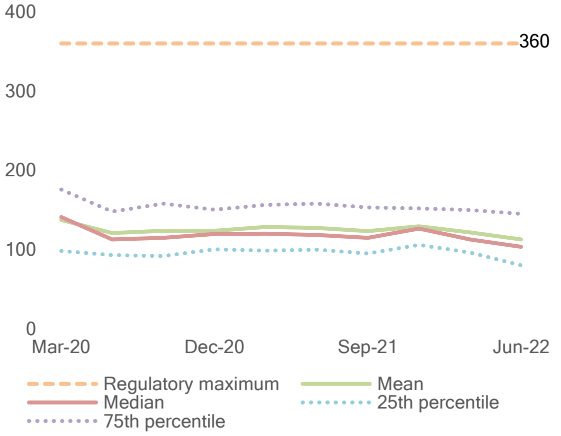
LVNAVs reducing interest rate sensitivity



Note: Weighted average portfolio maturity (WAM) of LVNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

SR-MMF.40

Standard VNAVs conservative on credit risk



Note: Weighted average portfolio liquidity (WAL) of standard VNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

MMF liabilities: Fund share ownership and fund flows

Summary

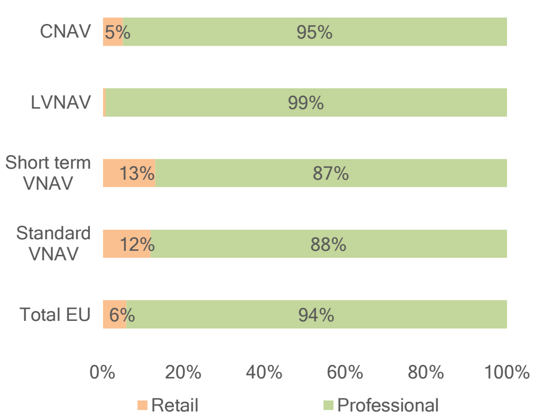
Professional investors hold more than 90% of EU MMFs. They account for 95% of the NAV for CNAVs and 99% for LVNAVs. The share of retail investors is higher for VNAVs, with respectively 13% for short-term and 12% for standard VNAVs. This is driven by VNAVs domiciled in France, where retail clients account for 12% of NAV. Non-EU investors are dominant in Luxembourg and Ireland. Reflecting the importance of MMFs EU-domiciled in non-EU currencies, non-EU investors account 77% of the NAV of Irish MMFs (including 60% from the UK) and 63% for Luxembourg (including 30% from the UK and 10% from the US). In contrast, EU investors hold around 94% of NAV in France, with 76% being domestic investors. Financial corporations are the main unitholders of MMF shares across regulatory types (70% of NAV). Insurances, pension funds and banks account together for 25% of NAV. Other financial institutions, a category that includes collective investment undertakings (CIUs), have the highest equity interest in MMFs with 45% of NAV. Between December 2021 and March 2022 MMFs experienced substantial outflows which are not fully explained by their performances or seasonal factors. These outflows were partially driven by investor expectation over an increase in interest rates and a turning investor sentiment away from fixed income instruments in general.

Investor structure

Professional investors hold more than 90% of EU MMFs, with a limited role on the part of retail investors. Professional investors account for 95% of the NAV for CNAV and 99% for LVNAVs (SR-MMF.41). For VNAVs, the share of retail investors is higher and above 10% for both short-term and standard VNAVs.

In Ireland and Luxembourg, direct participation of retail investors plays a marginal role. Ireland has almost no retail investors, while in Luxembourg the share of retail investors amounts to 9% of NAV, mainly in VNAVs (SR-MMF.42). The share of retail investors in French domiciled MMFs is higher than in the other main jurisdictions (12% of NAV) due to the presence of employee saving schemes.

SR-MMF.41
Investor type
Predominantly institutional investors



Note: Share of NAV by investor type, end of 2021, in % of NAV.
Sources: MMFR database, NCAs, ESMA.

Domicile of investors: Third-country, non-EU investors hold a particularly high share of MMF shares in Ireland and Luxembourg (SR-MMF.47 and SR-MMF.48). Reflecting the importance of EU-domiciled MMFs in non-EU currencies, non-EU investors account for more than 77% of the NAV of Irish MMFs (including 60% from the UK and 10% from the US) and 63% for Luxembourg (30% from the UK and 17% from the US).

SR-MMF.42
Type of investors
Limited direct retail participation

MMF type		CNAV	LVNAV	VNAV
FR	Retail	-	-	12%
	Professional	-	-	88%
IE	Retail	1%	1%	-
	Professional	99%	99%	100%
LU	Retail	10%	1%	15%
	Professional	90%	99%	85%
Other EU	Retail	-	-	17%
	Professional	-	-	83%

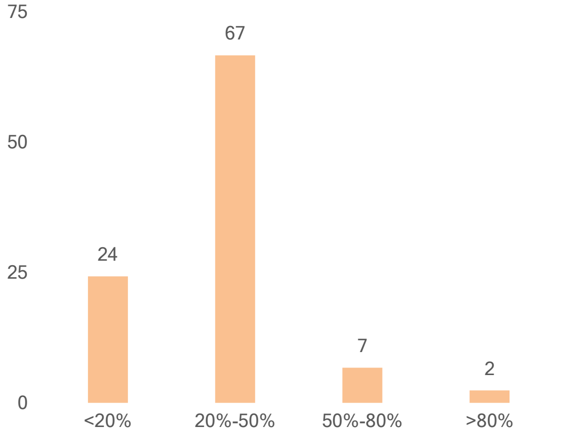
Note: Share of retail and professional investor by domicile and regulatory type of MMFs, end of 2021, in % of NAV.
Sources: MMFR database, NCAs, ESMA.

The presence of non-EU investors is even higher for CNAVs, amounting to 89% of NAV in Ireland (with 37% from US and 37% from UK) and 81% in Luxembourg (38% from US and 19% from UK). In contrast, around to 94% of the French domiciled MMF shares are owned by EU investors, with 76% being domestic investors (compared with 11% and 5% of MMFs authorised in Luxembourg and Ireland respectively), while their non-EU investors represent only 6% of NAV (SR-MMF.46). MMFs authorised in Luxembourg have the largest share of non-EU investors (25% compared with 17% for French and 16% for Irish MMFs).

Investor type: Financial institutions are the main unitholders of MMF shares across all regulatory types. Insurances, pension funds and monetary financial institutions (MFI) account together for 25% of the total NAV (31% in France, 17% in Luxembourg and 26% in Ireland). Other financial institutions, including collective investment undertakings, account overall for 45% of the NAV (26% in France, more than half in Ireland and Luxembourg). Non-financial corporates hold a 23% equity interest in EU MMFs. They have a higher share notably among investors in Luxembourg LVNAVs, where they hold around 30% of fund shares (SR-MMF.49, SR-MMF.50, SR-MMF.51).

Ownership concentration: EU MMFs are not characterized by a high ownership concentration. CNAVs with largest 5 investors holding at least 50% of the shares, represent on aggregate only 18% of NAV (SR-MMF-S.71). VNAVs appear slightly more concentrated as funds where the 5 investors with the largest equity interest hold at least 50% of units amount to 32% of NAV (SR-MMF-S.73). LVNAVs display the lower degree of ownership concentration as MMFs with top 5 investors holding more than 50% shares sum up to less than 10% of their total NAV (SR-MMF.43).

SR-MMF.43
Top 5 beneficial investors in LVNAVs
Less concentrated ownership for LVNAVs

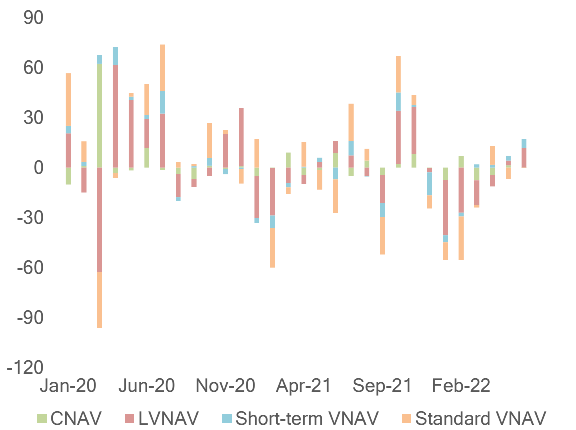


Note: NAV of LVNAV MMFs by investor concentration (top 5 investors), end of 2021, in %.
Sources: MMFR database, NCAs, ESMA.

Flows and returns

MMF flows are normally driven by the liquidity needs of institutional investors, other investment funds and corporate institutions that use MMFs as a cash management tool. Towards the end of 4Q21 and 1Q22, MMFs experienced substantial outflows (EUR -126 bn across all MMF types; SR-MMF.44).

SR-MMF.44
MMF net flows
Recent outflows for LVNAVs and VNAVs

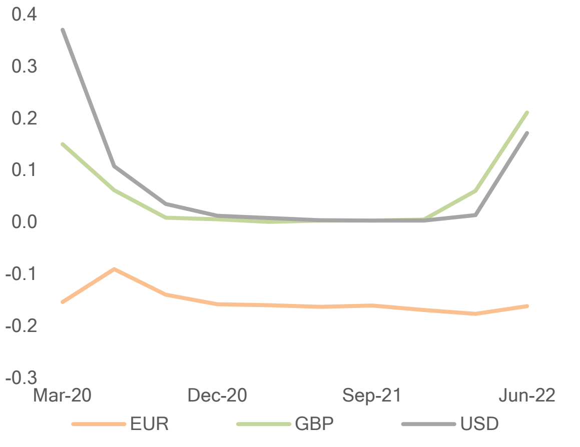


Note: Monthly net flows of MMFs, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

For the different MMF types, net outflows exceeded those experienced in March 2020 (-96

EUR bn) but were less abrupt.[33] However, neither poor performance nor seasonal factors fully explain the outflows from MMFs between December 2021 and March 2022. Returns of MMFs denominated in USD and GBP remained very close to zero since 3Q20 with GBP MMFs rebounding faster than USD MMFs following the respective rises in policy rates. EUR denominated MMFs remained instead below zero, around -0.2% (SR-MMF.45, SR-MMF-S.77, SR-MMF-S.79, SR-MMF-S.80). So, while MMFs can benefit from a flight to quality during uncertain market conditions, outflows at the beginning of 2022 were partly driven by the expected increase in rates as investors turned away from fixed-income funds in general.[34] As explained in the previous section, MMFs were able to meet redemptions because their portfolios had high levels of liquid assets and low maturity. This trend reverted in 4Q22, when MMFs registered 11% inflows .[35]

SR-MMF.45
Performance of LVNAV
Performance rebound for USD and GBP



Note: 3-months asset-weighted average returns for LVNAV MMFs by currency, in %.
Sources: MMFR database, NCAs, ESMA

[33] Based on data reported under art. 37 of MMFR, at the onset of the COVID-19 pandemic period CNAVs and short-term VNAVs benefited from net inflows (+68 EUR bn).

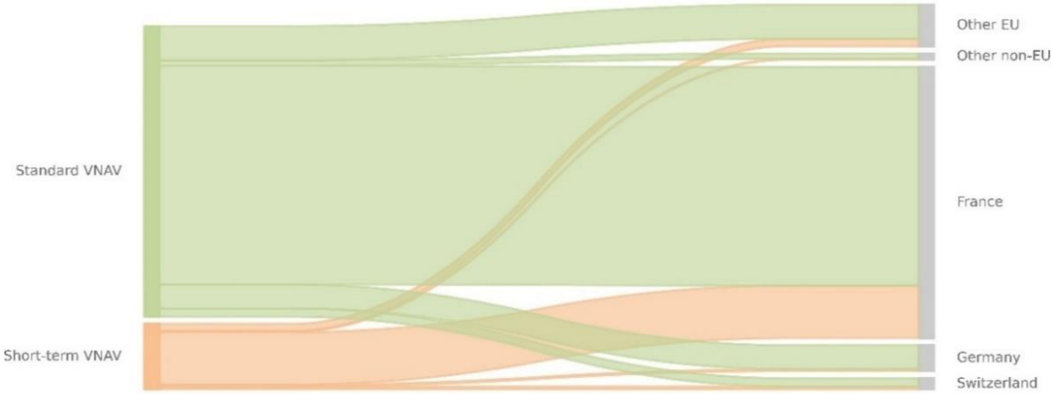
[34] See ESMA TRV 2 2022.

[35] This report covers the period spanning from March 2020 to June 2022. This excludes development occurring in 2H22. In particular, inflows in 4Q22 differed substantially across MMFs denominated in the major currencies. After being exposed to the stress affecting the Gilt market that followed at the end of on September 2022, GBP MMFs received nearly 30% inflows following the intervention of Bank of England. Overall, GBP MMFs recorded inflows of 20% in 2H22, before EUR MMFs (11%) and USD MMFs (5%). See TRV 2023 1.

Key indicators: Investor structure by country

SR-MMF.46

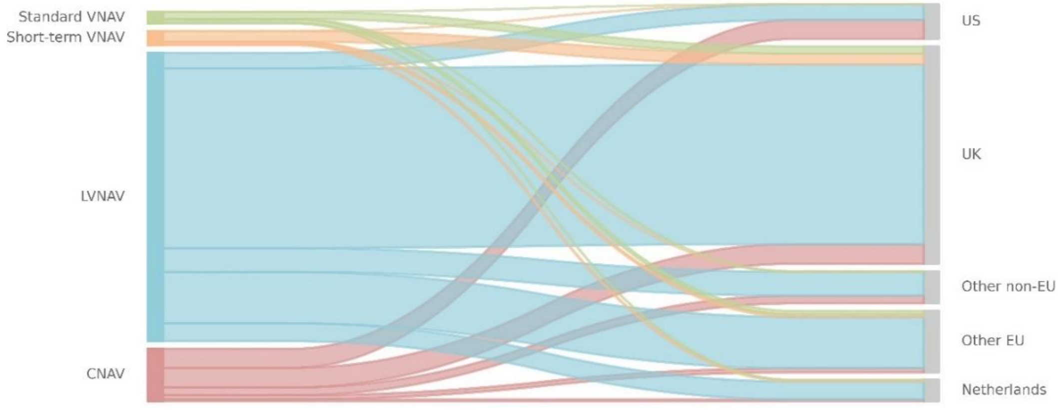
French MMFs: High share of domestic investors



Note: Domicile of French MMF's investors, end of 2021. Flows are proportional to NAV held by investors.
Sources: MMFR data base, NCAs, ESMA.

SR-MMF.47

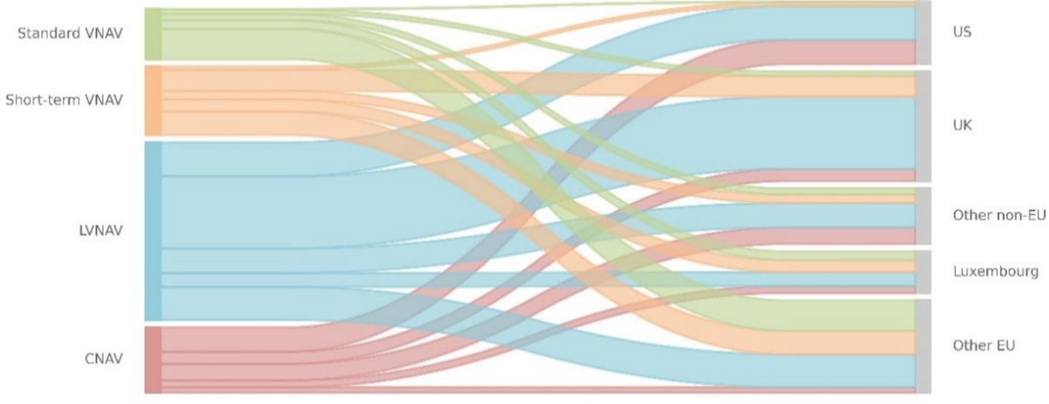
Irish MMFs: Strong non-EU third country investments



Note: Domicile of Irish MMFs' investors, end of 2021. Flows are proportional to NAV held by investors.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.48

Luxembourg MMFs: Comparatively varied structure of MMF shareholders

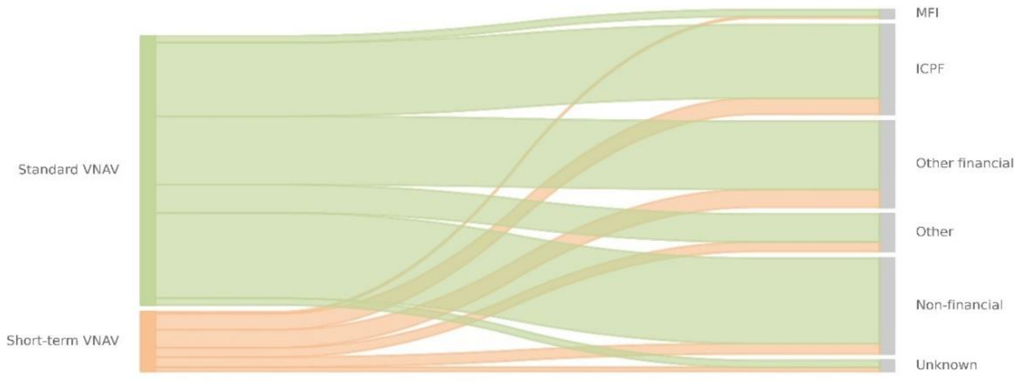


Note: Domicile of Luxembourg MMF's investors, end of 2021. Flows are proportional to NAV held by investors.
Sources: MMFR data base, NCAs, ESMA.

Key indicators: Investor structure by entity type

SR-MMF.49

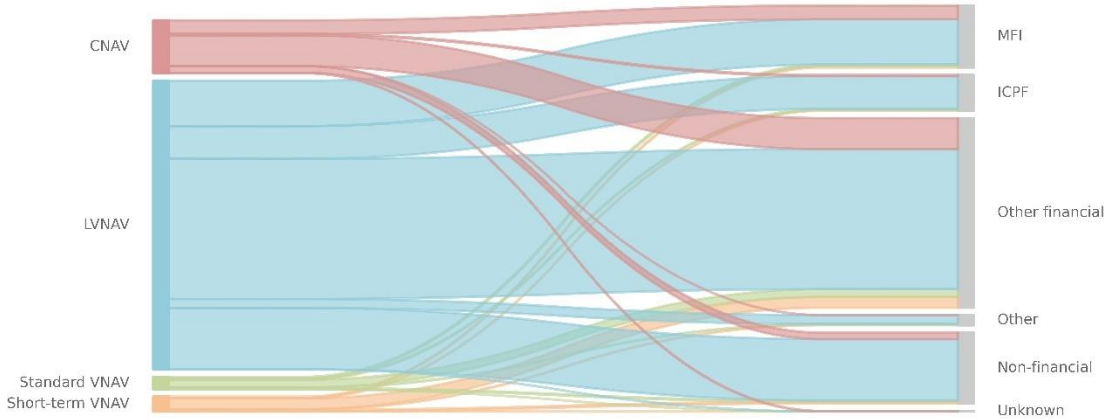
Holder structure of French MMFs



Note: Holder structure of French MMFs, end of 2021. Flows are proportional to NAV held by investors. MFI: Monetary financial institutions (including MMFs); ICPF: Insurance corporations and pension funds; Other: Government and household; Other financial includes non-MMF CIUs.
Sources: MMFR data base, NCAs, ESMA.

SR-MMF.50

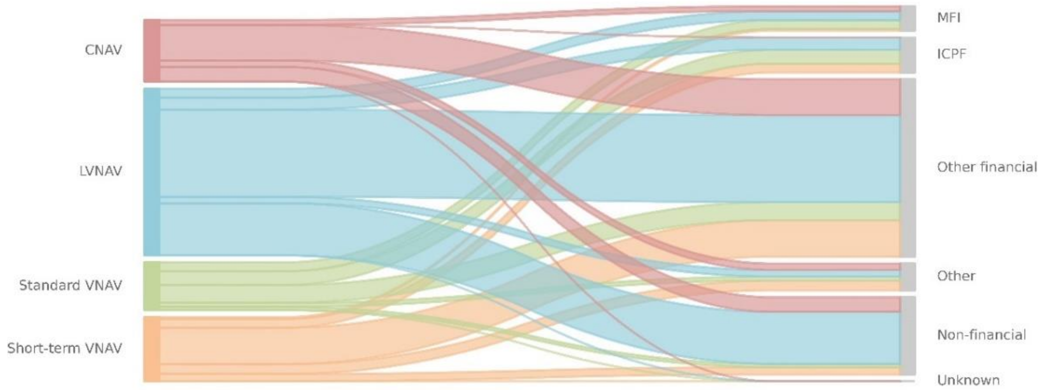
Holder structure of Irish MMFs



Note: Holder structure of Irish MMFs, end of 2021. Flows are proportional to NAV held by investors. MFI: Monetary financial institutions (including MMFs); ICPF: Insurance corporations and pension funds; Other: Government and household; Other financial includes non-MMF CIUs.
Sources: MMFR database, NCAs, ESMA.

SR-MMF.51

Holder structure of Luxembourg MMFs



Note: Holder structure of Luxembourg MMFs, end of 2021. Flows are proportional to NAV held by investors. MFI: Monetary financial institutions (including MMFs); ICPF: Insurance corporations and pension funds; Other: Government and household; Other financial includes non-MMF CIUs.
Sources : MMFR database, NCAs, ESMA.

Statistical methods

MMFR data reporting

Summary

Article 37 of MMFR introduces a set of information to be reported by MMF managers to National Competent Authorities (NCAs) and ESMA. These data shall be reported on a quarterly basis for funds with total assets above EUR 100mn and on a yearly basis for funds below such thresholds. Overall, the completeness of reporting reaches 95% of active funds reporting at the end of 2020 and 2021. Funds reporting on a yearly basis only represent around 0.2% of the total net assets reported at the end of the year. Overall, quality of the data can be considered satisfactory. However, some issues in the reporting persists, mainly pertaining to the classification of issuers of money market instruments.

Reporting obligation

The MMF Regulation introduces a reporting obligation for competent authorities and for managers of MMFs authorised in the EU to NCAs and to ESMA. The ESMA public register of authorised MMF includes information on the manager of the fund, the competent authority and whether the fund is a short-term or standard MMF.[36] The register became operational in 3Q18.

Article 37 of MMFR indicates the type of information that MMF managers have to report to the competent authorities and ESMA and defines the reporting frequency. The reporting frequency is quarterly for funds with total assets above EUR 100mn and annual for funds below this threshold. Information to be reported includes:

- The type and characteristics of the MMF;
- Portfolio indicators such as total value of assets, NAV, WAM, WAL, maturity breakdown, liquidity and yield;
- the results of stress tests (carried out in accordance with article 28 of the Regulation) and, where applicable, the proposed action plan;
- information on assets held in the MMF portfolio, including:
  - the characteristics of each asset, such as name, country, issuer category, risk or maturity, and the outcome of the internal credit quality assessment procedure;
  - the type of asset, including details of the counterparty in the case of derivatives and repos or reverse repos;
- information on the liabilities of the MMF, including:
  - the country where the investor is established;
  - the investor category;
  - subscription and redemption activity

For LVNAV MMF managers there are additional reporting requirements, including:

- Every event in which the price of an asset valued by amortised cost method deviates from the price valued by mark-to-market or mark-to-model valuations by more than 10bps;
- Every event in which the constant NAV deviates by more than 20bps from the valuation foreseen in the regulation.
- The measures taken by the board regarding compliance with weekly liquidity thresholds.

ESMA has developed Implementing Technical Standards[37] which include the reporting template for managers. The information is collected in a central database maintained by ESMA which is also accessible for the European Central Bank for statistical purposes.

The reporting started in 4Q20, with information included from 1Q20. ESMA has developed guidelines that apply to competent authorities,

[36] Art. 4 of MMFR details authorisation process for MMFs. The ESMA public register become operational in 3Q18.

[37] Commission Implementing Regulation (EU) 2018/708.

MMFs and managers of MMFs within the meaning of the MMF Regulation.[38] The objective of the guidelines is to establish consistent, efficient, and effective supervisory practices and to ensure the common, uniform, and consistent application of Art. 37 of the MMFR and the Implementing Regulation. In particular, the guidelines provide guidance on the content of the fields of the reporting template included in the Annex of the Implementing Technical Standards by establishing formats, definitions and clarifications.

Scope of the reporting

Authorisations of MMFs started after the entry into force of MMFR in 3Q18, with the majority of authorisations in 1Q19 according to the notifications received in ESMA register.

Table SR-MMF.52 reports the number of active funds in each quarter according to the ESMA register and the number of funds reporting in the ESMA database.

SR-MMF.52
Active MMFs in ESMA's register

	Authorised	Withdrawn	Active funds	Reporting in the system
3Q18	16	0	16	-
4Q18	39	0	55	-
1Q19	227	0	282	-
2Q19	129	2	409	-
3Q19	106	2	513	-
4Q19	26	1	538	-
1Q20	5	11	532	438
2Q20	2	3	531	438
3Q20	3	10	524	438
4Q20	2	16	510	502
1Q21	5	8	507	421
2Q21	2	6	503	413
3Q21	4	12	495	405
4Q21	8	13	490	479
1Q22	1	5	486	401
2Q22	7	10	483	404

Note: MMF authorisations and withdrawals notified by NCAs in ESMA register and number of funds reporting in the system per quarter.

The EUR 100mn threshold discussed above implies that all funds shall report the information at least at the end of each reporting year but the sample composition in each quarter may change not only because of new authorisations and withdrawals in the quarter but also as a consequence of a change in the NAV, with funds becoming subject to a quarterly reporting obligation or funds becoming exempted when their NAV is above or below the threshold. In each case, funds below threshold funds have the possibility to always report on a quarterly basis. Overall, funds that report on a yearly basis account for 0.2% of total net assets at the end of 2021.

The reporting completeness at the end of the year – measured as number of funds reporting in the system over the total active funds in the quarter reported in the register – is around 95% at the end of 2020 and 2021.

Quality of MMFR data

ESMA together with the NCAs are actively engaged to assess, monitor, and enhance the quality of MMFR data. Overall, the quality of MMFR data can be considered satisfactory.

First, MMFR reporting shares many similarities with AIFMD reporting. This allowed to leverage on the experience of the AIFMD reporting and overcome challenges that arose in the use of the latter.

Secondly, ESMA has developed validation rules with which MMFR reports have to comply. Validation rules, which apply to both content and format, prevent reports with poor quality to be accepted by the system, hence guaranteeing good quality of data validated by the system.

Moreover, the reporting template includes consolidated reporting standards for the identification of entities and instruments, such as Legal Entity Identifiers, ISIN and CFI codes. These standards allow for a greater interconnection with other reporting regimes and commercial databases and provide the possibility of cross-checking the information reported with other sources.

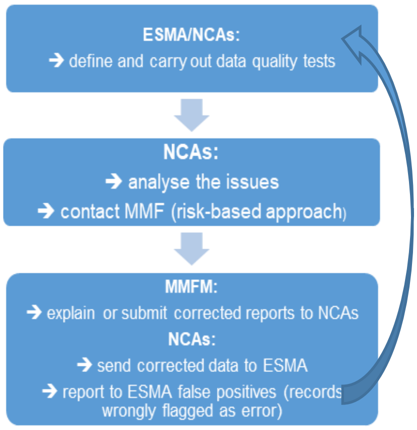
Finally, the relatively small number of MMF allows for a better identification of data reporting issues and an easier resolution of these.

ESMA and the competent authorities have developed a framework to consistently monitor the quality of the data, take remedial actions to resolve observed shortcomings and promote supervisory convergence. The data quality work consists of a series of data quality tests to

[38] The ESMA Guidelines on the reporting to competent authorities under Art. 37 of the MMFR have been published in June 2020.

detect flaws in the data alongside different data quality dimensions. When an issue is detected, ESMA transmits the information to the NCAs, that investigate the issue, eventually follow up with the reporting managers (SR-MMF.53).

SR-MMF.53
Data correction cycle
Handling reporting issues



Note: Data correction cycle provided by the data quality framework developed and executed by ESMA and NCAs.

The framework has proved to be effective in addressing issues and enhance the quality of the reporting data. Few reporting records fail the data quality checks implemented and most of the issues identified have been addressed either with a resubmission by the manager or flagging them as false positive. The framework has contributed to increase the timeliness of reporting, reducing the lag of reporting in the system. Moreover, it has proven to be effective in detecting and addressing anomalous values in reporting, in particular for portfolio indicators and liabilities reporting.

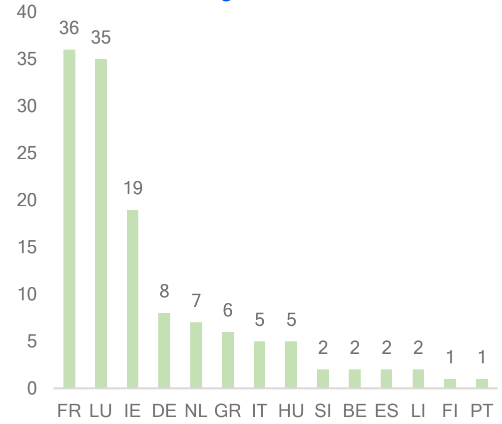
Overall, MMFR data respect the reporting standards defined in the reporting template included in the Implementing Regulation EU2018/708 and are aligned to the instructions provided in the ESMA Guidelines on the reporting to competent authorities under Article 37 of the MMFR. Nevertheless, incongruences may be detected looking at the identification and classification of MMIs. In particular, the sector of the issuer of MMIs appears in some cases erroneously indicated. Reporting entities shall classify the issuers of assets in their portfolio according to pre-defined categories provided in the reporting template. As global players, EU MMFs invest in assets issued by government, public and private organisations of very diverse origins and types. Considering the extensive detail of information requested to mangers of MMFs assets, the indication of the sector of the issuer is subject to operational errors, especially in the case of non-EU assets. Using the identifiers provided for each asset, of the analysis of data quality allows one side to cross-check the sectorial categories and the type of assets with several commercial sources and, on the other side, to ensure a consistent treatment of information across reporting entities and over time.[39]

[39] In the Opinion on the review of the MMF Regulation published in February 2022, ESMA suggested some changes to the reporting framework, including the frequency, contents of data reported, additional ad-hoc reporting in times of crisis.

MMF statistics

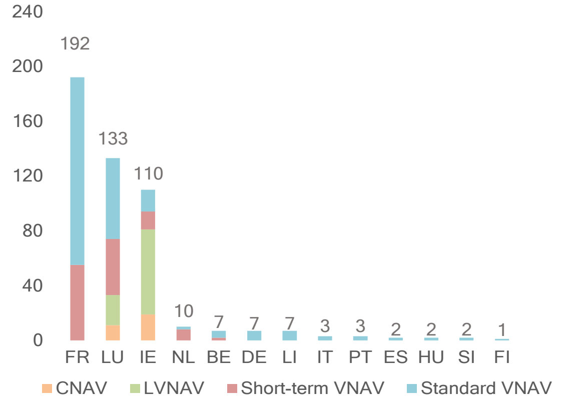
EU MMF market overview

SR-MMF-S.1
Number of MMF managers



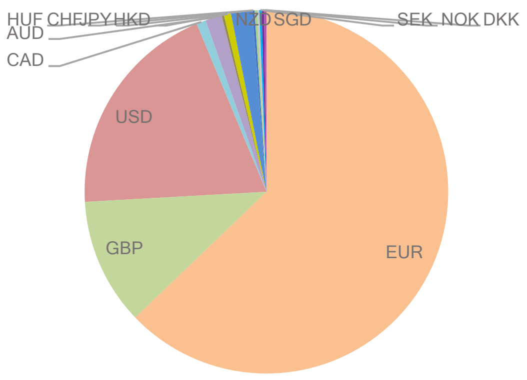
Note: Number of managers of MMFs at the end of 2021 by domicile.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.2
Number of MMFs



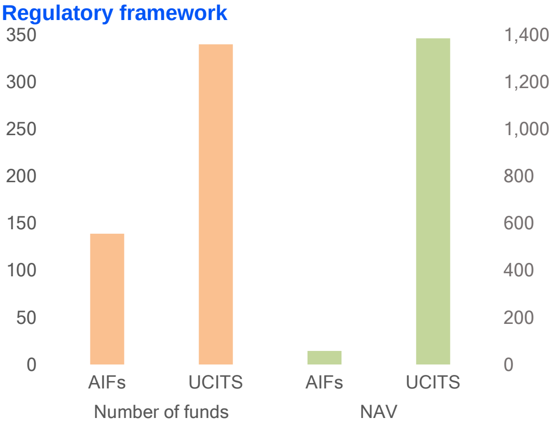
Note: Number of MMF by type and domicile at the end of 2021. Number on top of bars represent the total number of MMF per jurisdiction.
Sources: MMFR Register, NCAs, ESMA

SR-MMF-S.3
Base currencies



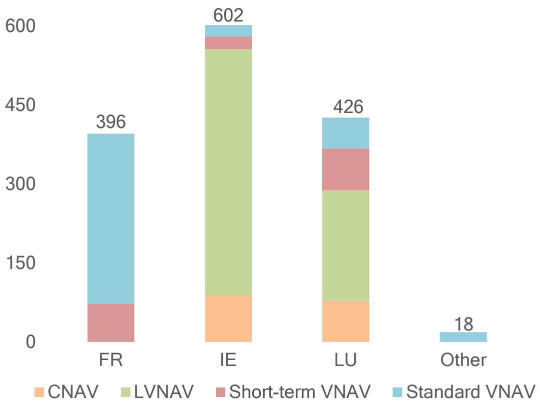
Note: Number of funds active at the end of 2021 by base currency of the fund.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.4
Regulatory framework



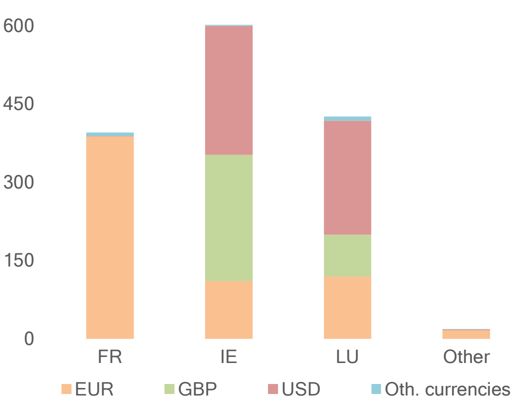
Note: Number of active funds at the end of 2021 by legal framework and NAV by legal framework (rhs) in EUR bn.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.5
Assets by type and domicile



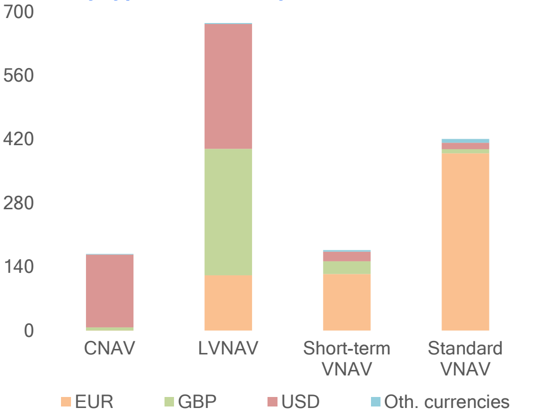
Note: MMF assets by regulatory type and domicile, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.6
Assets by domicile and currency



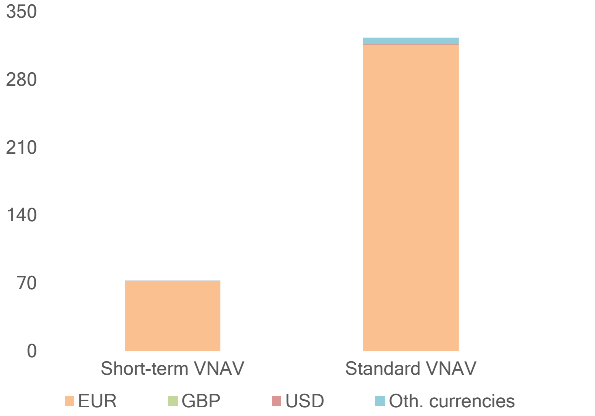
Note: MMF assets by domicile and currency, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.7
Assets by type and currency



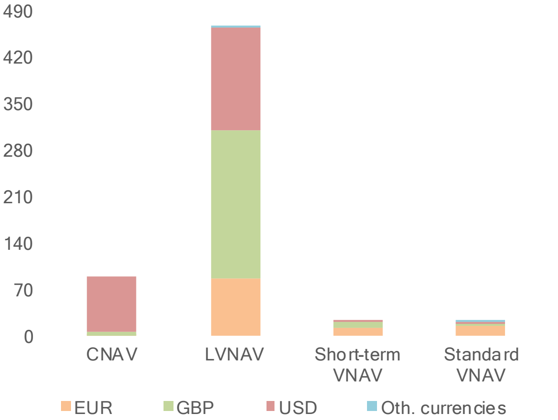
Note: MMF assets by regulatory type and currency, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.8
Assets of French domiciled MMFs



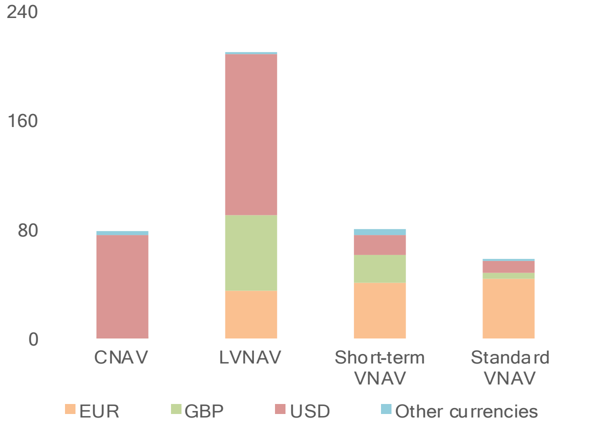
Note: Assests of French domiciled MMFs by regulatory type and currency, end of 2021, in EUR bn.

SR-MMF-S.9
Assets of Irish domiciled MMFs



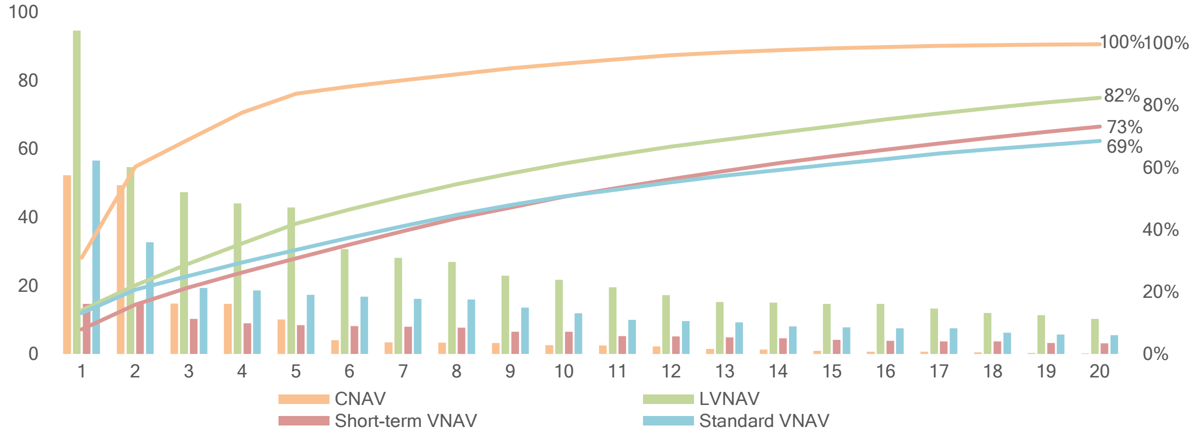
Note: Assets of Irish domiciled MMFs by regulatory type and currency, end of 2021, in EUR bn.

SR-MMF-S.10
Assets of Luxembourg domiciled MMFs



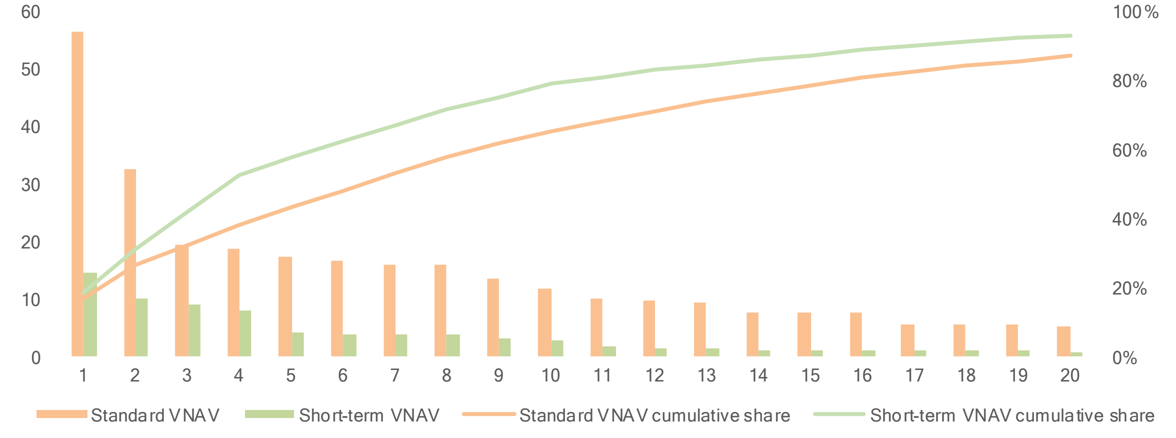
Note: Assets of Luxembourg domiciled MMFs by regulatory type and currency, end of 2021, in EUR bn.

SR-MMF-S.11
Concentration of EU MMFs



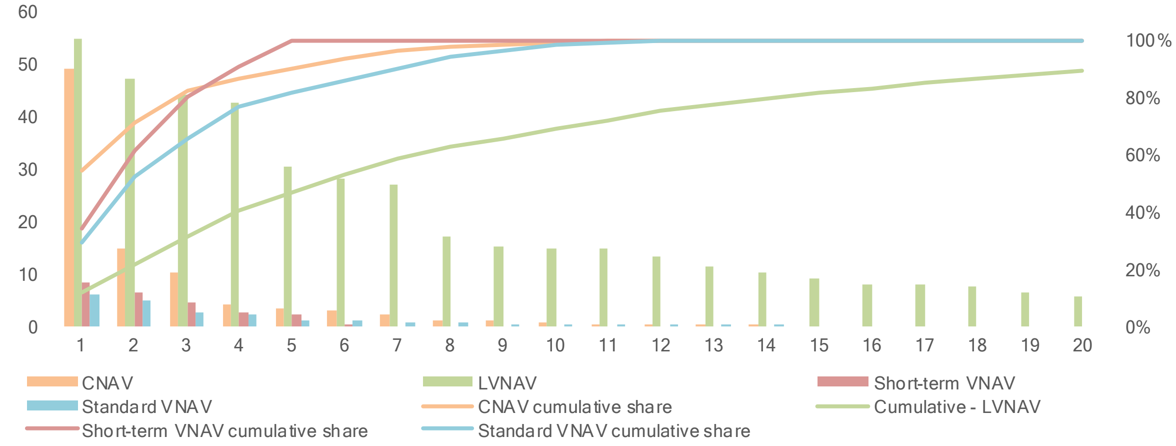
Note: Assets and concentration of EU MMFs bu regulatory type, end of 2021, in EUR bn (lhs) and % (rhs).
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.12
Concentration of French domiciled MMFs



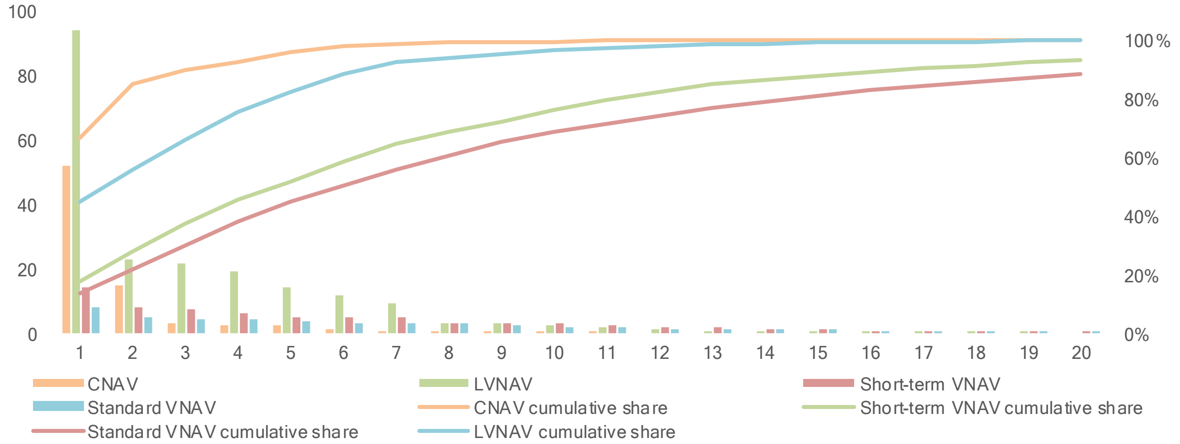
Note: Assets and concentration of French domiciled MMFs bu regulatory type, end of 2021, in EUR bn (lhs) and % (rhs).
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.13
Concentration of Irish domiciled MMFs



Note: : Assets and concentration of Irish domiciled MMFs by regulatory type, end of 2021, in EUR bn (lhs) and % (rhs).
Sources: MMFR database, NCAs, ESMA.

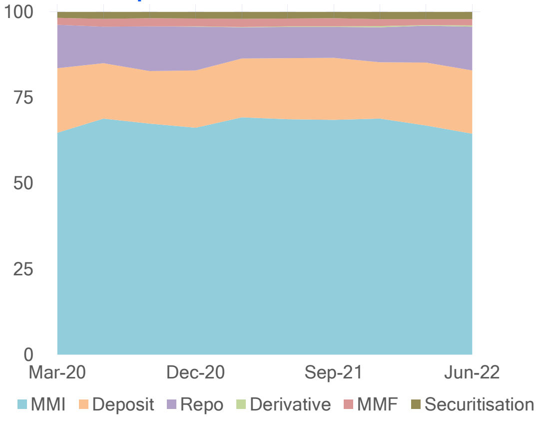
SR-MMF-S.14
Concentration of Luxembourg domiciled MMFs



Note: Assets and concentration of Luxembourg domiciled MMFs bu regulatory type, end of 2021, in EUR bn (lhs) and % (rhs).
Sources: MMFR database, NCAs, ESMA.

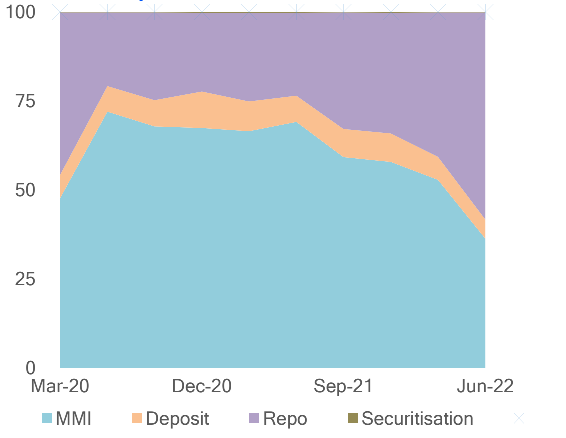
MMF assets: Allocation

SR-MMF-S.15
Portfolio composition of EU MMFs



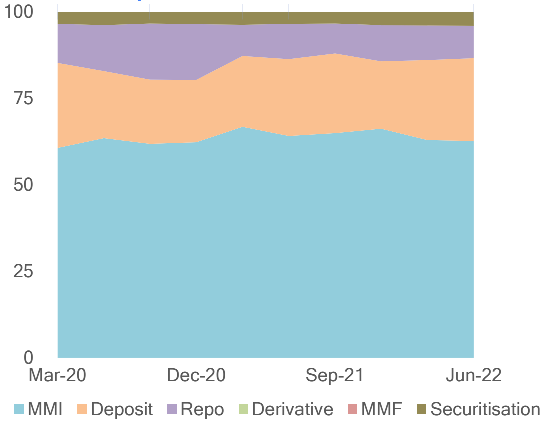
Note: Breakdown of assets held by MMFs, in %. Securitisation includes ABCP.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.16
Portfolio composition of EU CNAVs



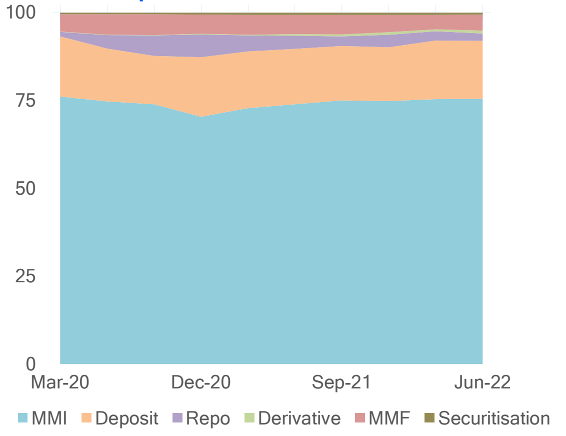
Note: Breakdown of assets held by CNAV MMFs, in %. Securitisation includes ABCP.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.17
Portfolio composition of EU LVNAVs



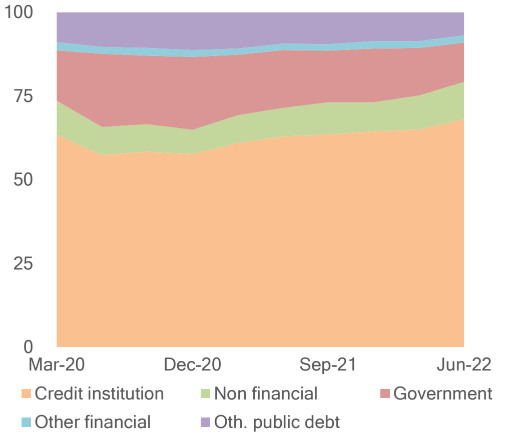
Note: Breakdown of assets held by LVNAV MMFs, in %. Securitisation includes ABCP.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.18
Portfolio composition of EU VNAVs



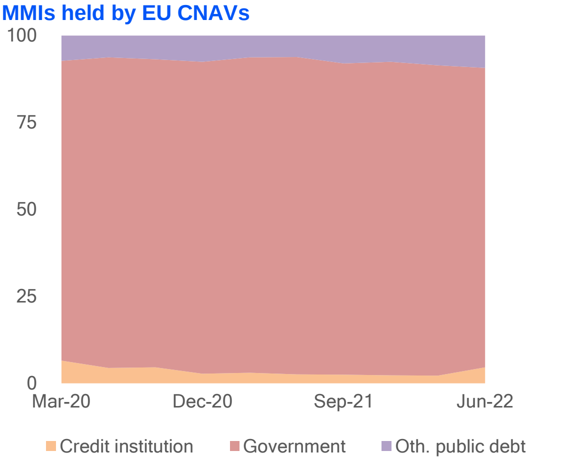
Note: Breakdown of assets held by VNAV MMFs, in %. Securitisation includes ABCP.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.19
MMIs held by EU MMFs



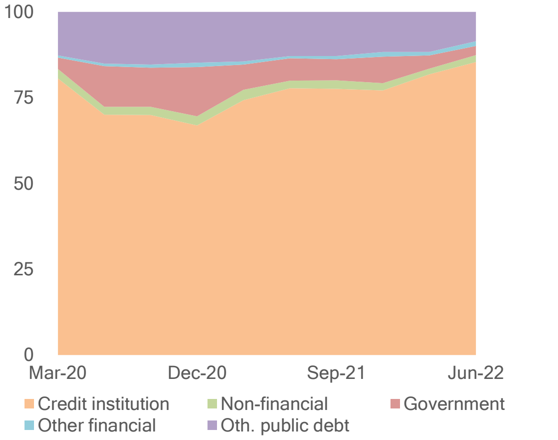
Note: Breakdown of money market instruments held by MMFs, in %.
Sources: MMFR database, Eikon, NCAs, ESMA.

SR-MMF-S.20
MMIs held by EU CNAVs



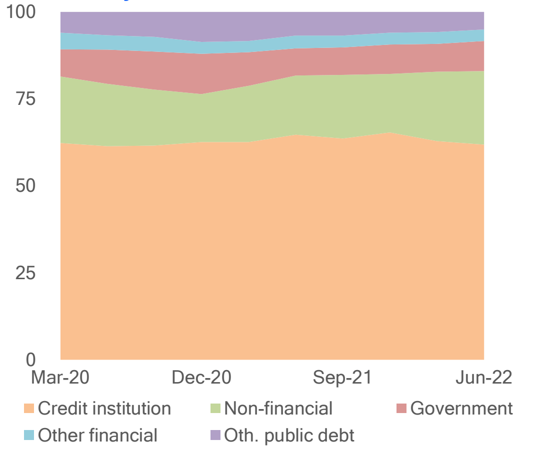
Note: Breakdown of money market instruments held by CNAV MMFs, in %.
Sources: MMFR database, Eikon, NCAs, ESMA.

SR-MMF-S.21
MMIs held by EU LVNAVs



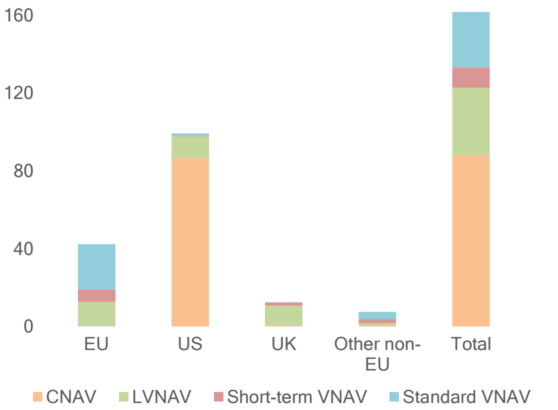
Note: Breakdown of money market instruments held by LVNAV MMFs, in %.
Sources: MMFR database, Eikon, NCAs, ESMA.

SR-MMF-S.22
MMIs held by EU VNAVs



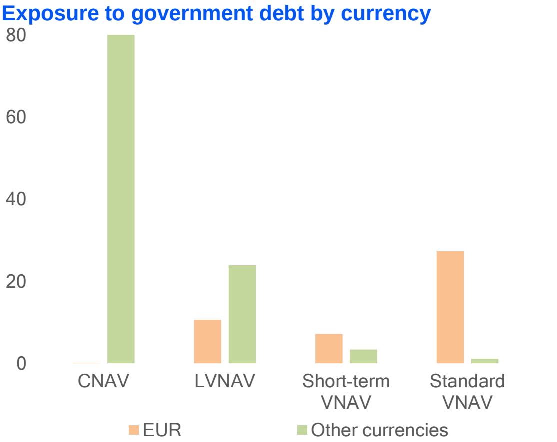
Note: Breakdown of money market instruments held by VNAV MMFs, in %.
Sources: MMFR database, Eikon, NCAs, ESMA.

SR-MMF-S.23
Exposure to government debt by issuer country



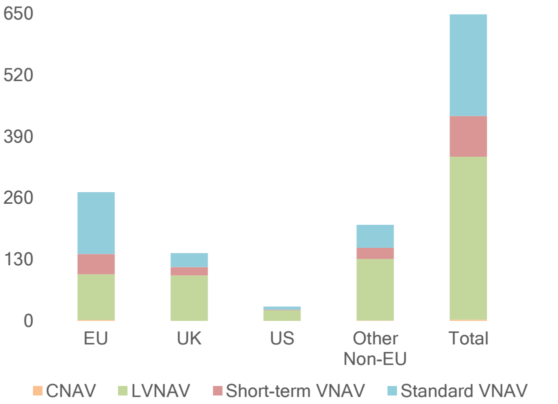
Note: Exposure to government debt, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.24
Exposure to government debt by currency



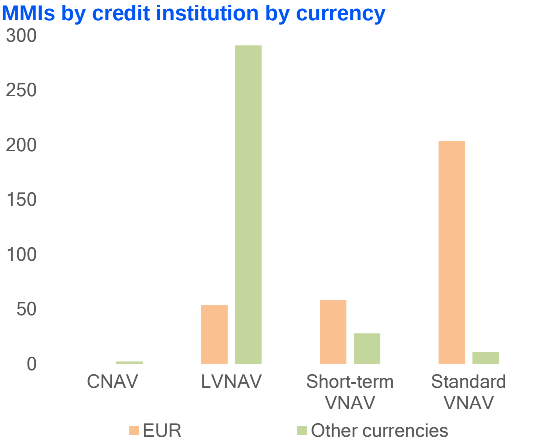
Note: Exposure to government debt denominated in EUR and other currencies by regulatory type, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.25
Exposure to credit institution by issuer country



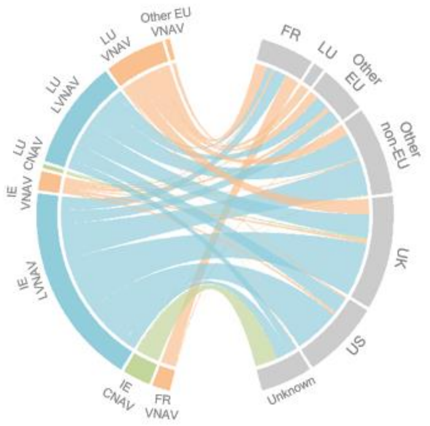
Note: Exposure to MMIs issued by EU and non-EU credit institutions, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.26
MMIs by credit institution by currency



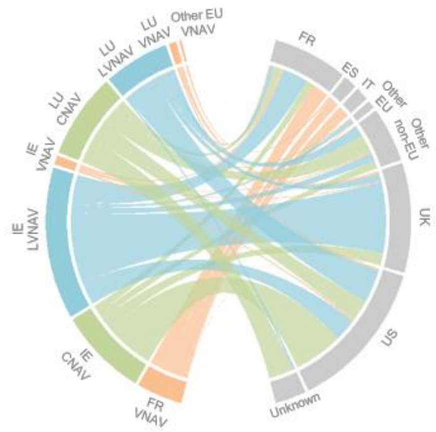
Note: Exposure to MMIs issued by credit institutions denominated in EUR and other currencies, end of 2021, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.27
Domicile of deposits and ancillary liquid assets



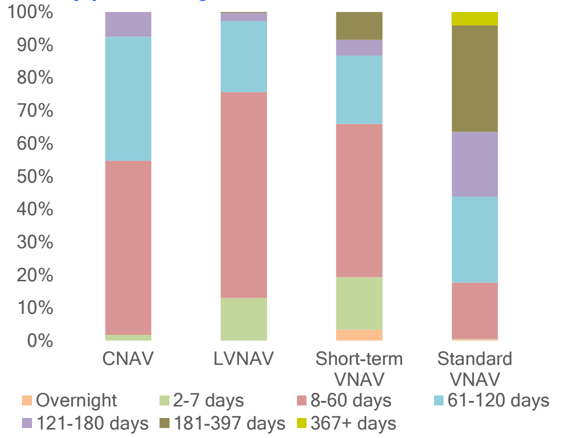
Note: Domicile of deposits and ancillary liquid assets by MMF type and jurisdiction, end of 2021. Flows are proportional to total exposure.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.28
Domicile of repo counterparties



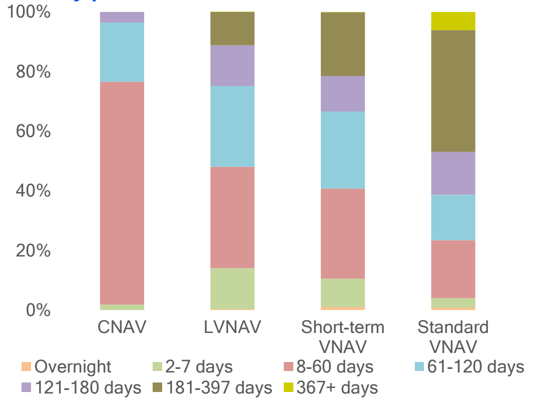
Note: Domicile of repo and reverse repo counterparties by MMF domicile and jurisdiction, end of 2021. Flows are proportional to total exposure.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.29
Maturity profile for government debt



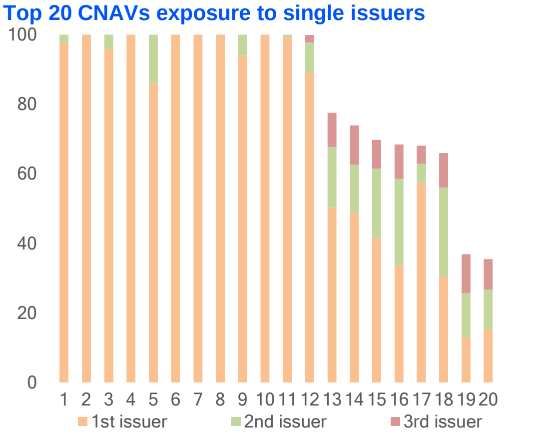
Note: Residual maturities for money market instrument issued by govenments by type of MMF at the end of 2021, in %.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.30
Maturity profile for bank MMIs



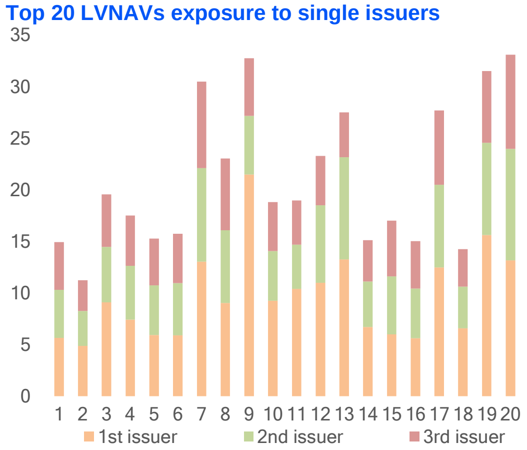
Note: Residual maturities for money market instrument issued by credit institutions by type of MMF at the end of 2021, in %.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.31
Top 20 CNAVs exposure to single issuers



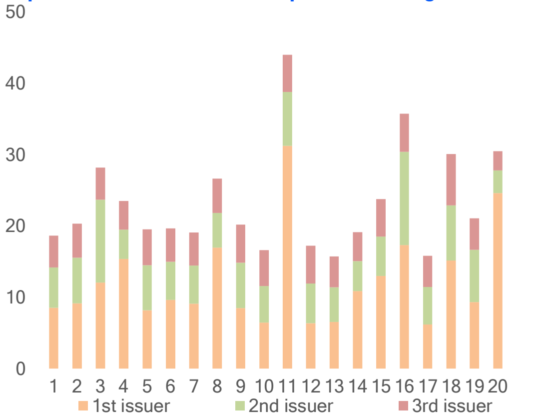
Note: Portfolio exposure to single issuers of money market instruments, securitised instruments and counterparties of deposits for the 20 largest CNAV MMFs, end of 2021, in % of total assets.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.32
Top 20 LVNAVs exposure to single issuers



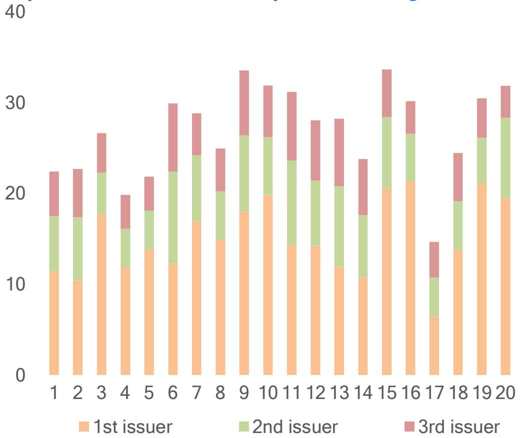
Note: Portfolio exposure to single issuers of money market instruments, securitised instruments and counterparties of deposits for the 20 largest LVNAV MMFs, end of 2021, in % of total assets.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.33
Top 20 short-term VNAVs exposure to single issuers



Note: Portfolio exposure to single issuers of money market instruments, securitised instruments and counterparties of deposits for the 20 largest Short-term VNAV MMFs, end of 2021, in % of total assets.
Sources: MMFR database, NCAs, ESMA

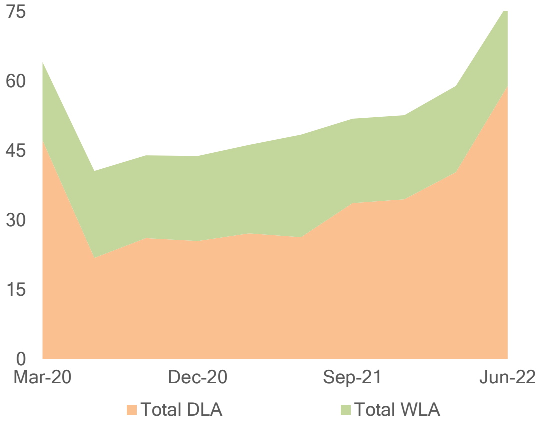
SR-MMF-S.34
Top 20 standard VNAVs exposure to single issuers



Note: Portfolio exposure to single issuers of money market instruments, securitised instruments and counterparties of deposits for the 20 largest Standard VNAV MMFs, end of 2021, in % of total assets.
Sources: MMFR database, NCAs, ESMA

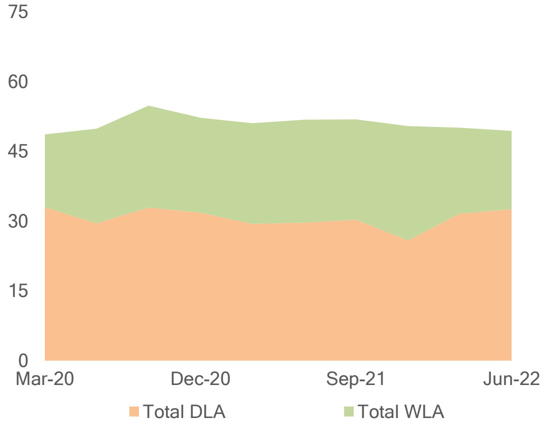
MMF assets: Portfolio indicators

SR-MMF-S.35
Total DLA and WLA of CNAV MMFs



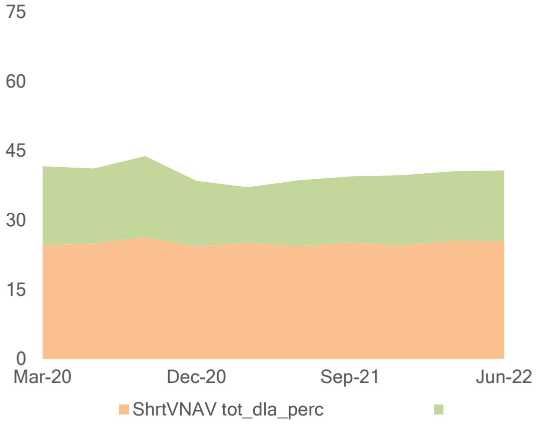
Note: Total DLA and WLA of CNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.36
Total DLA and WLA of LVNAV MMFs



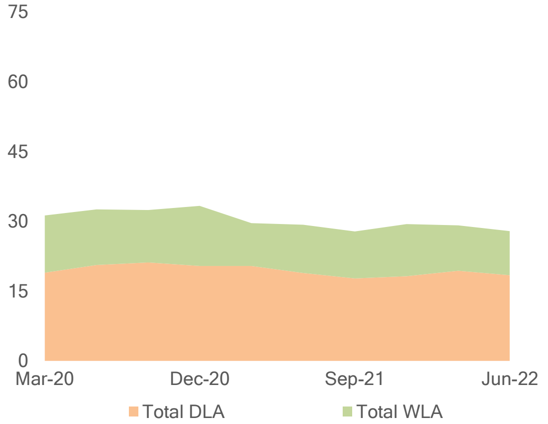
Note: Total DLA and WLA of LVNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.37
Total DLA and WLA of short-term VNAV MMFs



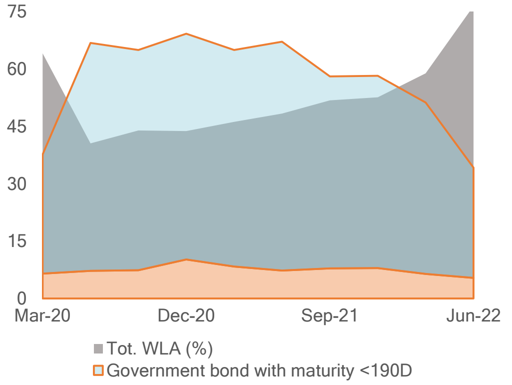
Note: Total DLA and WLA of short-term VNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.38
Total DLA and WLA of standard VNAV MMFs



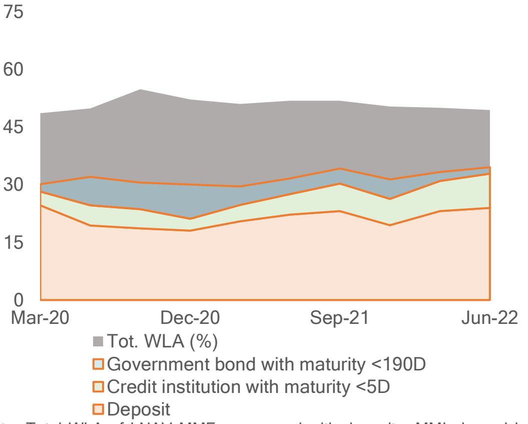
Note: Total DLA and WLA of standard VNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.39
Characteristics of CNAVs' WLA assets



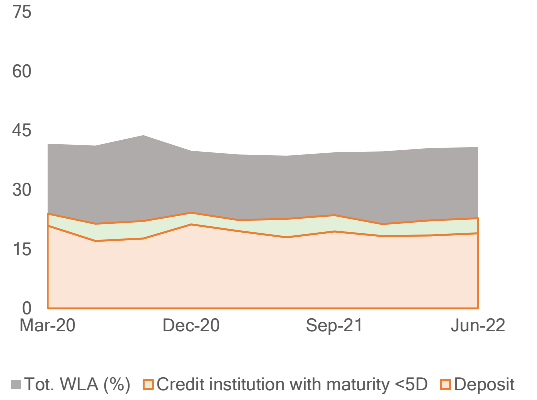
Note: Total WLA of CNAV MMFs compared with deposits, MMIs issued by credit institutions maturing in 5 days and government bonds maturing 190 days, in % of total assets.
Sources: MMR database, NCAs, ESMA.

SR-MMF-S.40
Characteristics of LVNAVs' WLA assets



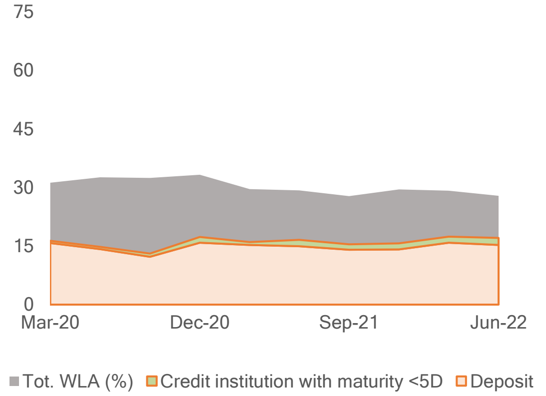
Note: Total WLA of LNAV MMFs compared with deposits, MMIs issued by credit institutions maturing in 5 days and government bonds maturing 190 days, in % of total assets.
Sources: MMR database, NCAs, ESMA.

SR-MMF-S.41
Characteristics of short-term VNAVs' WLA assets



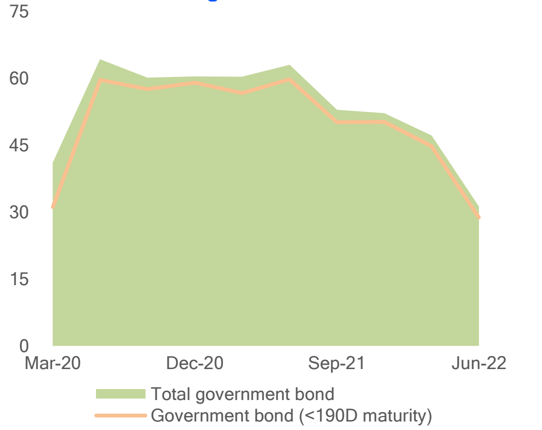
Note: Total WLA of short-term VNAV MMFs compared with deposits, MMIs issued by credit institutions maturing in 5 days, in % of total assets.
Sources: MMR database, NCAs, ESMA.

SR-MMF-S.42
Characteristics of standard VNAVs' WLA assets



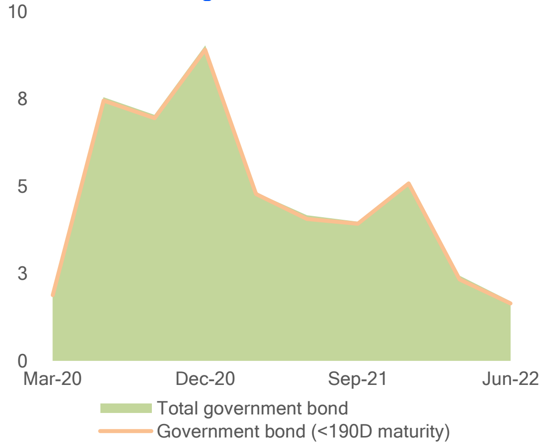
Note: Total WLA of standard VNAV MMFs compared with deposits, MMIs issued by credit institutions maturing in 5 days and government bonds maturing 190 days, in % of total assets.
Sources: MMR database, NCAs, ESMA.

SR-MMF-S.43
Government bond eligible in CNAVs' WLA



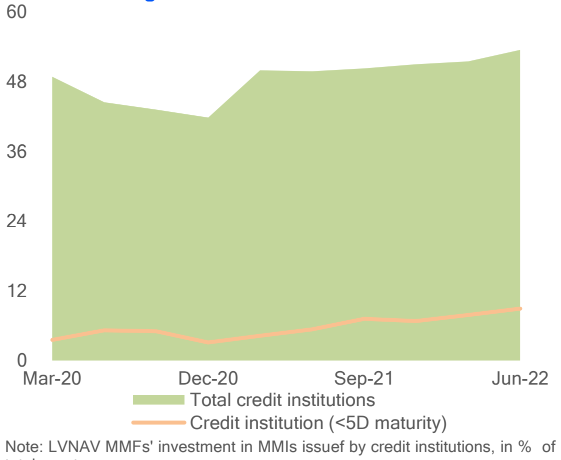
Note: CNAV MMFs' investment in government bond, in % of total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.44
Government bond eligible in LVNAVs' WLA



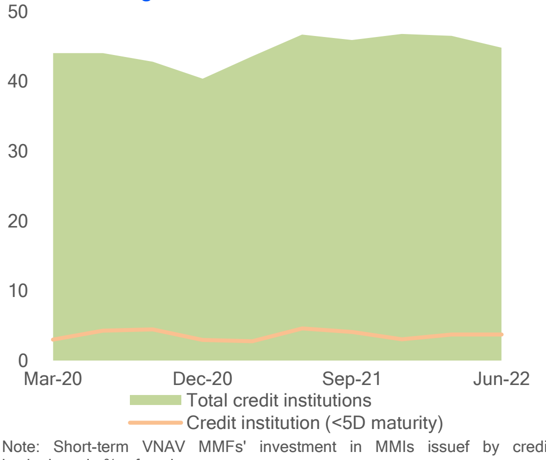
Note: LVNAV MMFs' investment in government bond, in % of total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.45
Bank MMIs eligible in LVNAVs' WLA



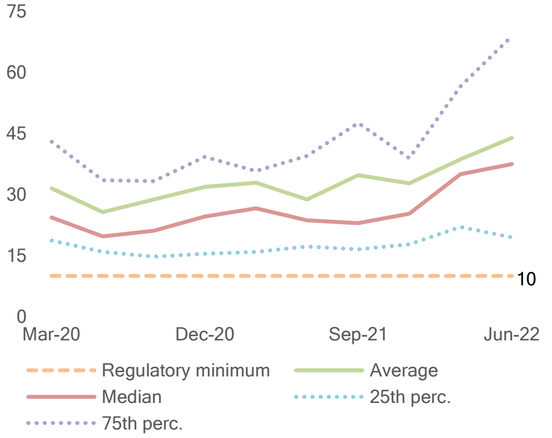
Note: LVNAV MMFs' investment in MMIs issuef by credit institutions, in % of total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.46
Bank MMIs eligible in short-term VNAVs' WLA



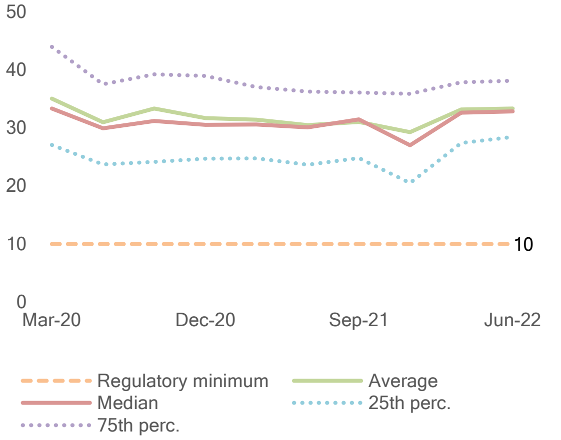
Note: Short-term VNAV MMFs' investment in MMIs issuef by credit institutions, in % of total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.47
DLA of CNAVs



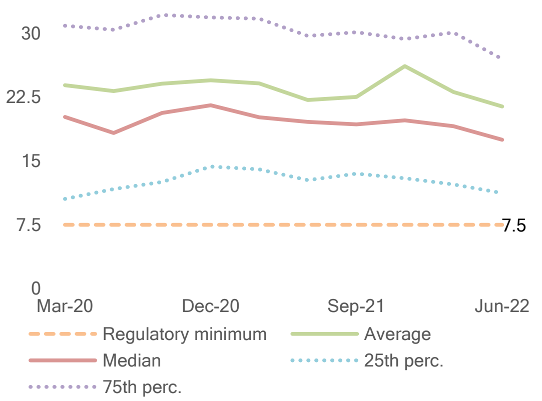
Note: Daily liquid assets (DLA) of CNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.48
DLA of LVNAVs



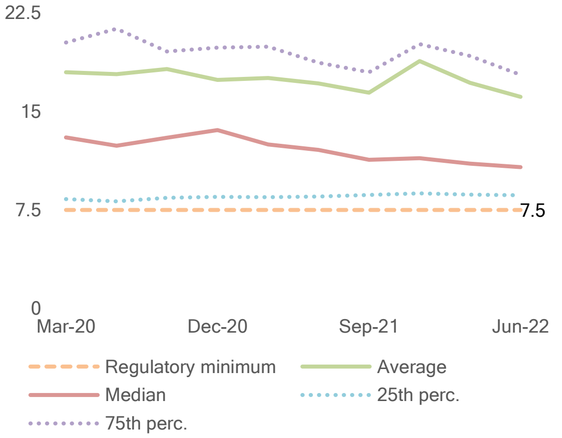
Note: Daily liquid assets (DLA) of LVNAV MMFs, in % ot total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.49
DLA of short-term VNAVs



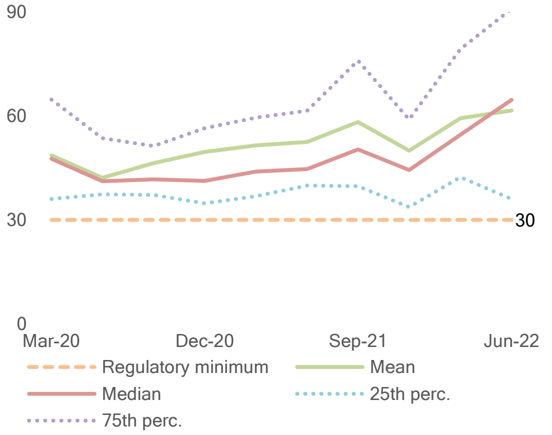
Note: Daily liquid assets (DLA) of short-term VNAV MMFs, in % ot total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.50
DLA of standard VNAVs



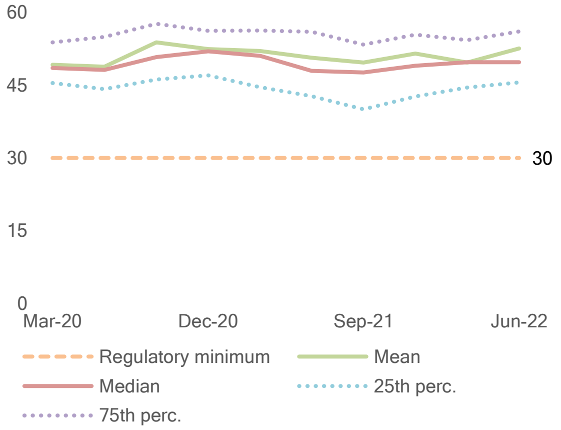
Note: Daily liquid assets (DLA) of standard VNAV MMFs, in % ot total assets.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.51
WLA of CNAVs



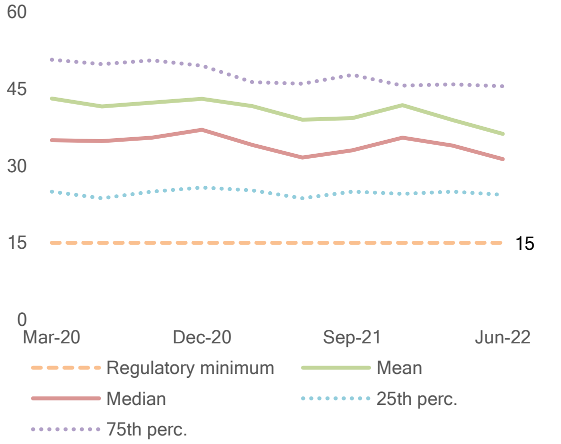
Note: WLA of CNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.52
WLA of LVNAVs



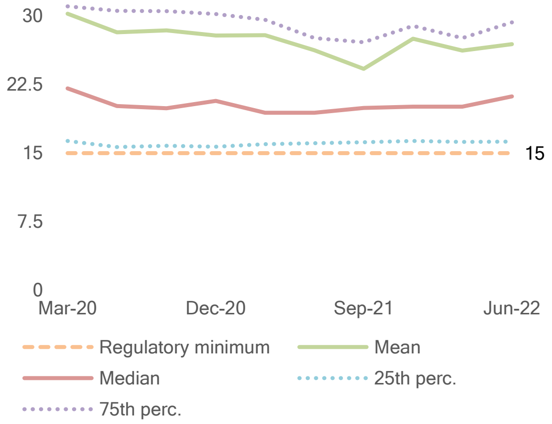
Note: WLA of LVNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.53
WLA of short-term VNAVs



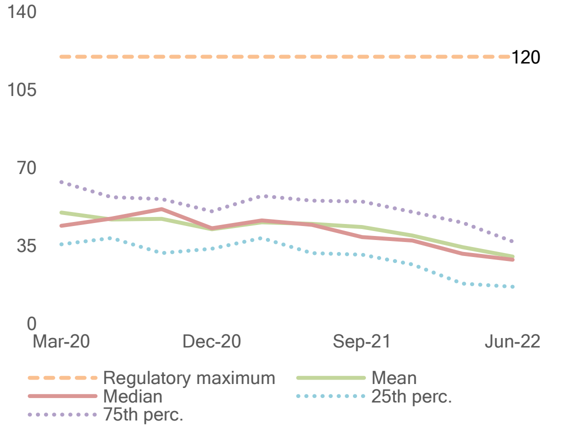
Note: WLA of short-term VNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.54
WLA of standard VNAVs



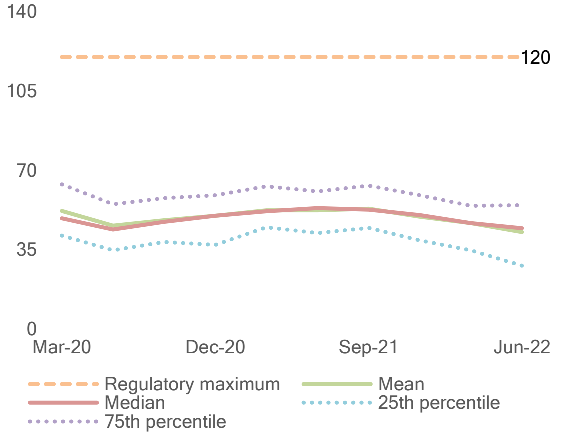
Note: WLA of standard VNAV MMFs, in %.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.55
WAL of CNAVs



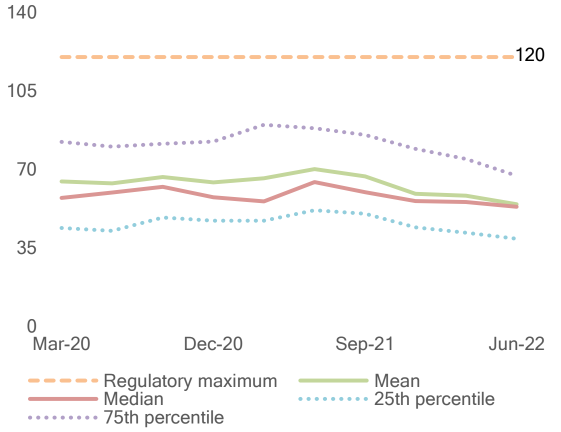
Note: Weighted average portfolio liquidity (WAL) of CNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.56
WAL of LVNAVs



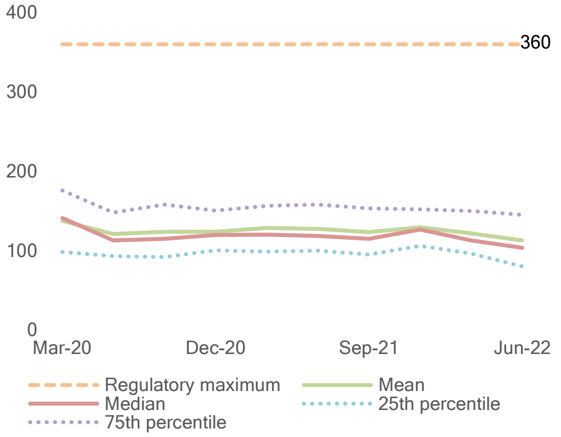
Note: Weighted average portfolio liquidity (WAL) of LVNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.57
WAL of short-term VNAVs



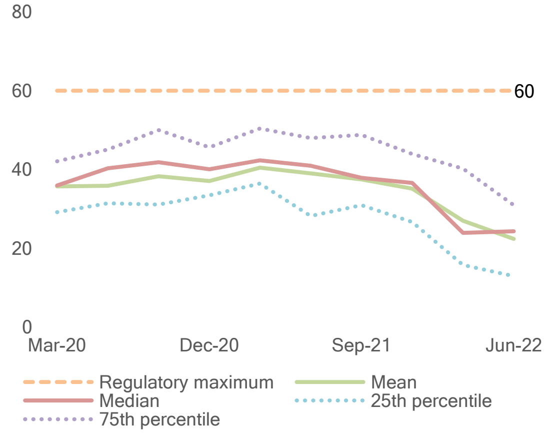
Note: Weighted average portfolio liquidity (WAL) of short-term VNAV MMFs, iexpressed n days.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.58
WAL of standard VNAVs



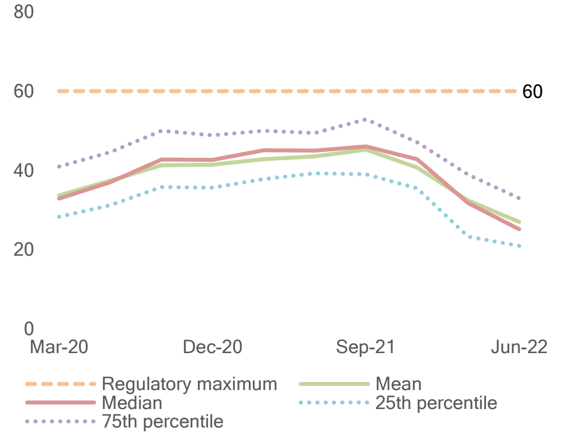
Note: Weighted average portfolio liquidity (WAL) of standard VNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.59
WAM of CNAVs



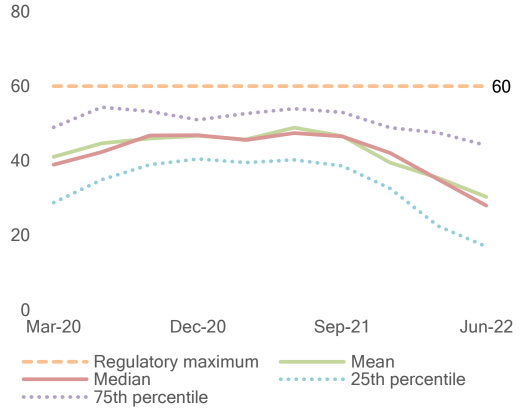
Note: Weighted average portfolio maturity (WAM) of CNAV MMFs, expressed days.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.60
WAM of LVNAVs



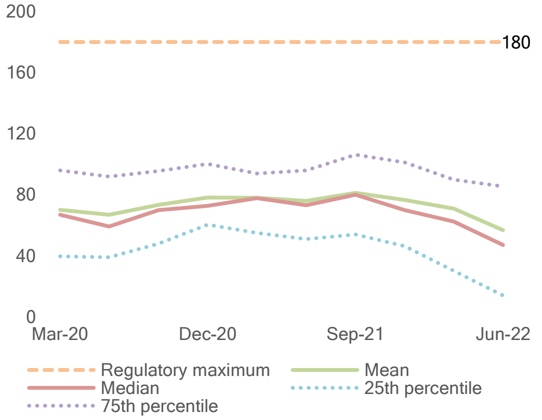
Note: Weighted average portfolio maturity (WAM) of LVNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.61
WAM of short-term VNAVs



Note: Weighted average portfolio maturity (WAM) of short-term VNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

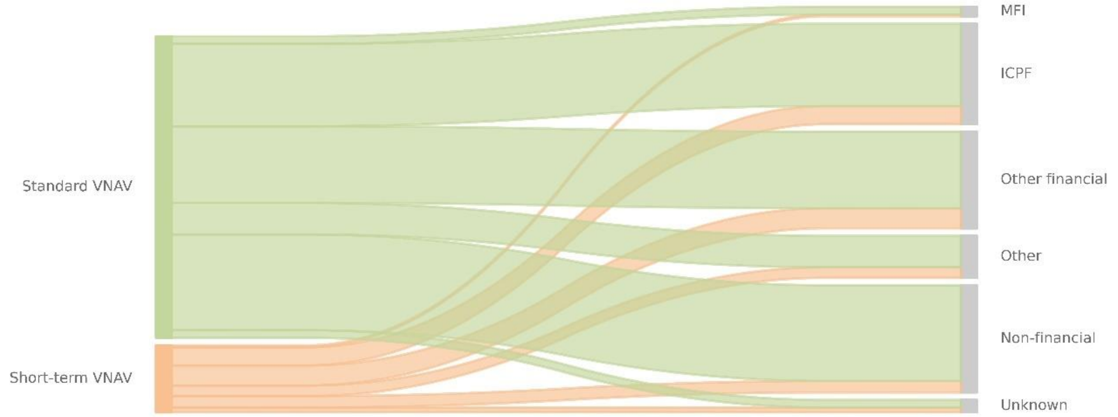
SR-MMF-S.62
WAM of standard VNAVs



Note: Weighted average portfolio maturity (WAM) of standard VNAV MMFs, expressed in days.
Sources: MMFR database, NCAs, ESMA

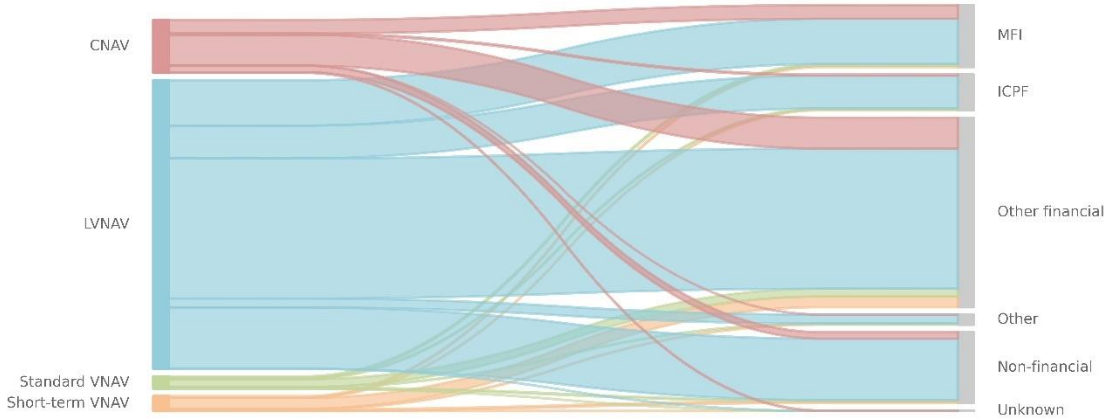
MMF liabilities: Ownership, flows and return

SR-MMF-S.63
Investors in French MMFs



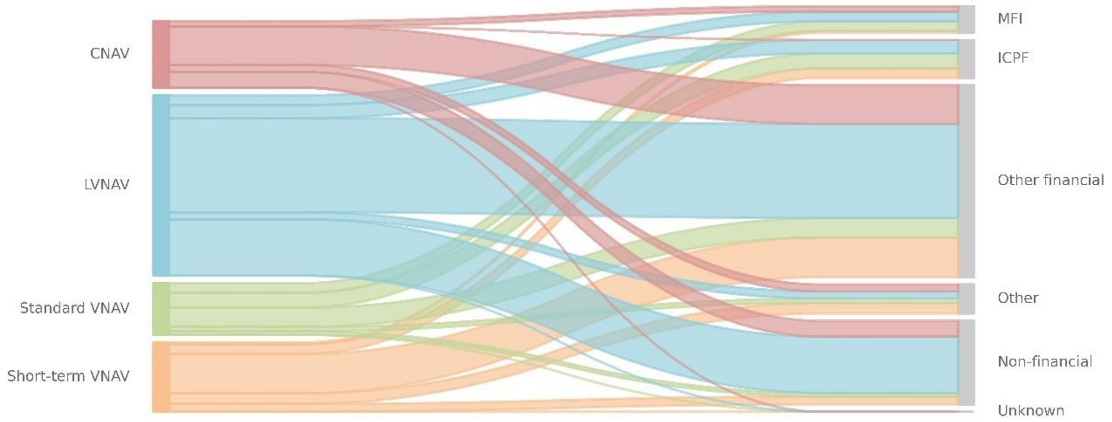
Note: Holder structure of French MMFs, end of 2021. Flows are proportional to NAV held by investors. MFI: Monetary financial institutions (including MMFs); ICPF: Insurance corporations and pension funds; Other: Government and household; Other financial includes non-MMF CIUs.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.64
Investors in Irish MMFs



Note: Holder structure of Irish MMFs, end of 2021. Flows are proportional to NAV held by investors. MFI: Monetary financial institutions (including MMFs); ICPF: Insurance corporations and pension funds; Other: Government and household; Other financial includes non-MMF CIUs.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.65
Investors in Luxembourg MMFs

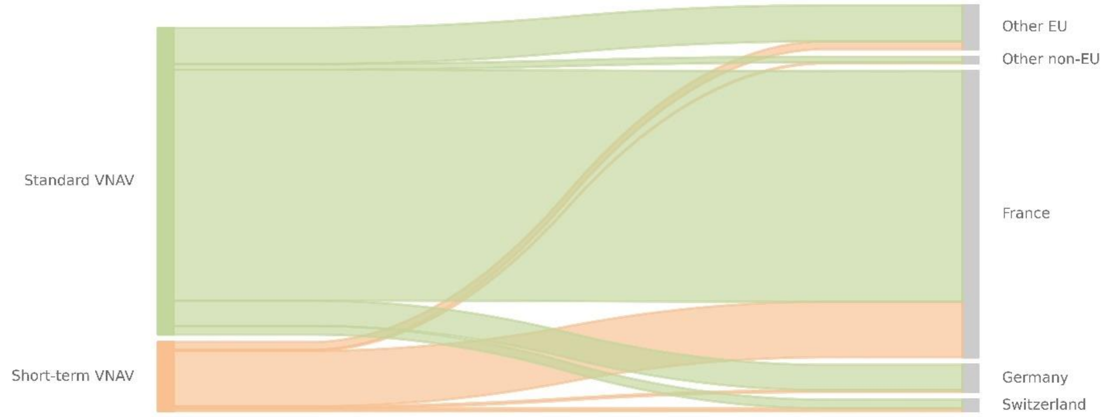


Note: Holder structure of Luxembourg MMFs, end of 2021. Flows are proportional to NAV held by investors. MFI: Monetary financial institutions (including MMFs); ICPF: Insurance corporations and pension funds; Other: Government and household; Other financial includes non-MMF CIUs.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.66
Investors in MMFs authorised in other EU jurisdictions

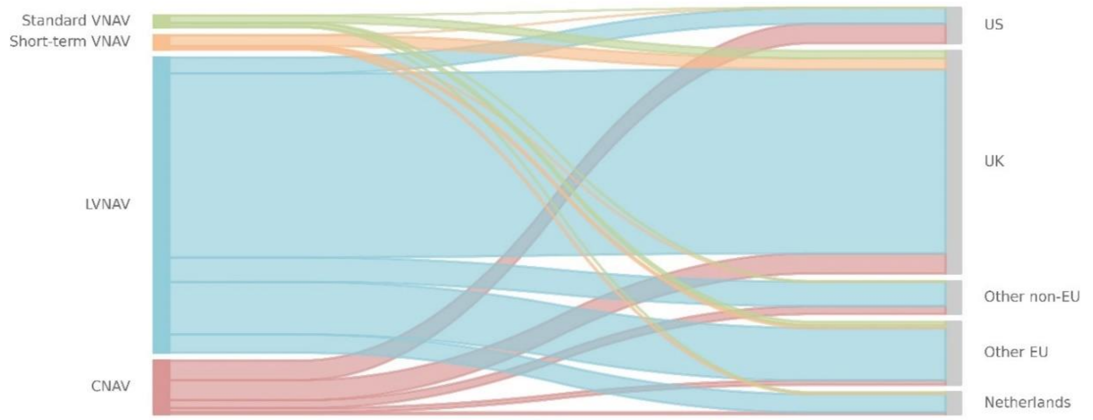
Note: Holder structure of MMFs domiciled in other EU jurisdictions, end of 2021. Flows are proportional to NAV held by investors. MFI: Monetary financial institutions (including MMFs); ICPF: Insurance corporations and pension funds; Other: Government and household; Other financial includes non-MMF CIUs.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.67
Domicile of French MMFs' investors



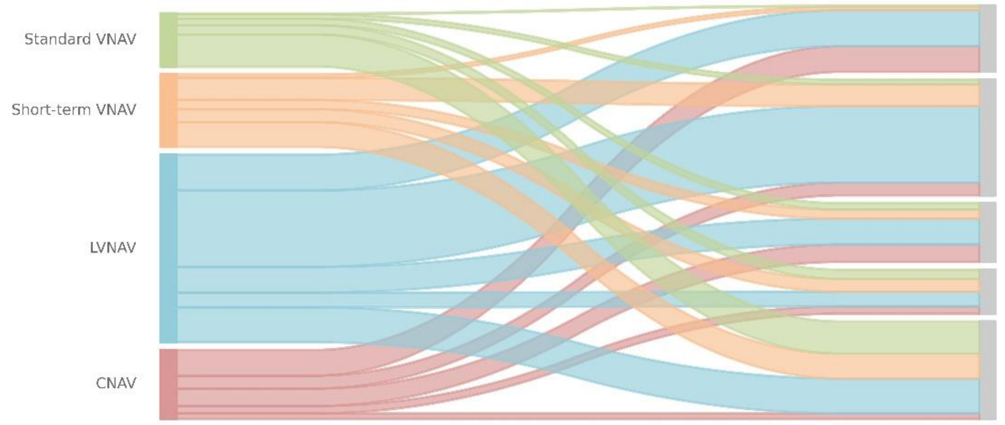
Note: Domicile of French MMFs' investors, end of 2021. Flows are proportional to NAV held by investors.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.68
Domicile of Irish MMFs' investors



Note: Domicile of Irish MMFs' investors, end of 2021. Flows are proportional to NAV held by investors.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.69
Domicile of Luxembourg MMFs' investors

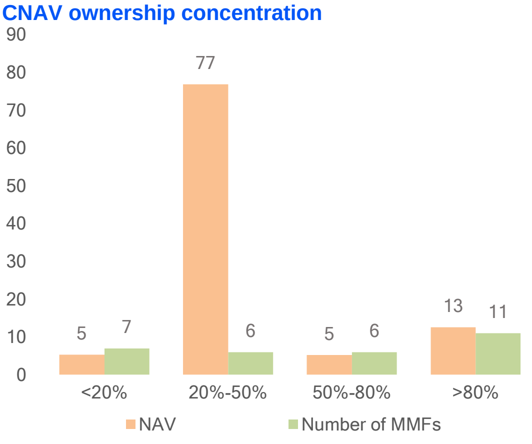


Note: Domicile of Luxembourg MMFs' investors, end of 2021. Flows are proportional to NAV held by investors.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.70
Domicile of investors in MMFs authorised in other EU jurisdictions

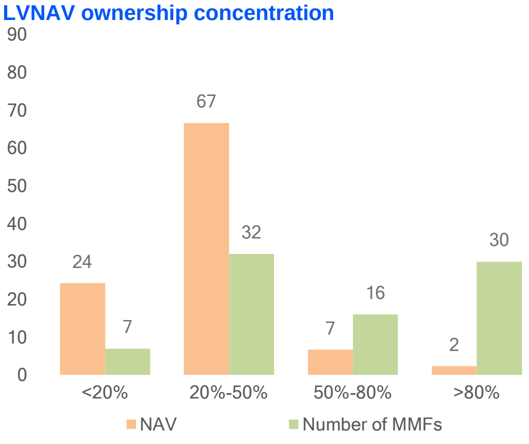
Note: Domicile of investors in MMFs' authorised in other EU jurisdictions, end of 2021. Flows are proportional to NAV held by investors.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.71
CNAV ownership concentration



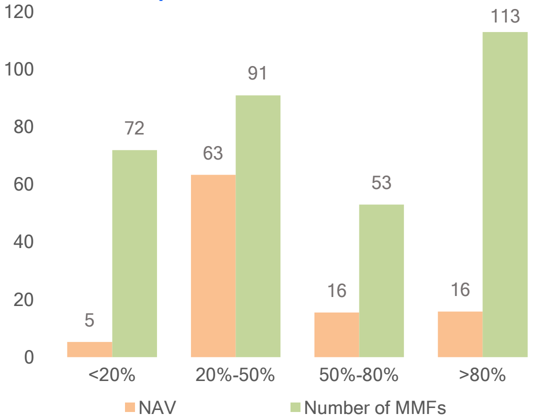
Note: NAV of CNAV MMFs by equity interest of top five owners, in number of funds and in % for NAV.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.72
LVNAV ownership concentration



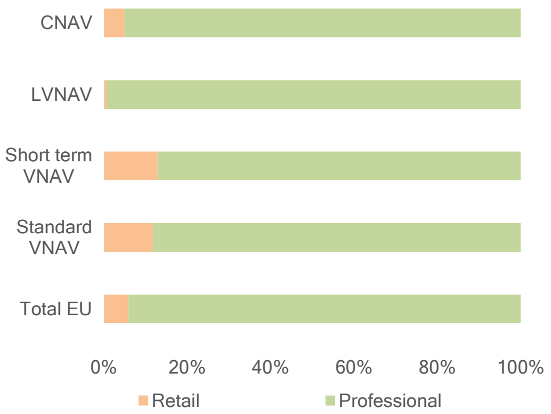
Note: NAV of LVNAV MMFs by equity interest of top five owners, in number of funds and in % for NAV.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.73
VNAV ownership concentration



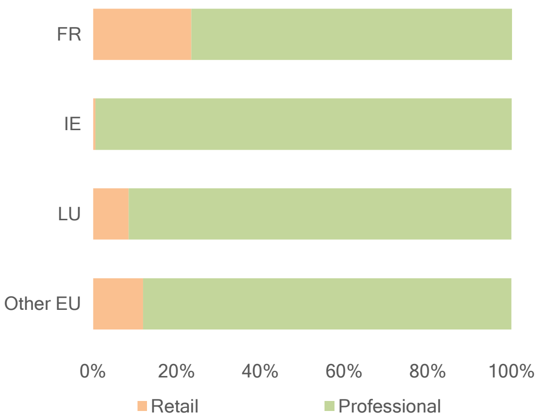
Note: NAV of VNAV MMFs by equity interest of top five owners, in number of funds and in % for NAV.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.74
Investor type by MMF regulatory type



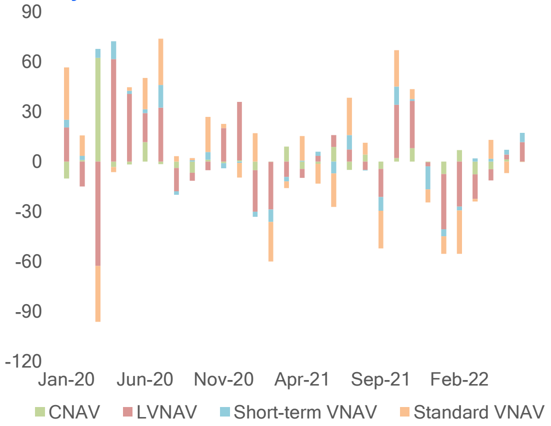
Note: Share of NAV by investor type, in % of NAV.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.75
Investor type by MMF jurisdiction



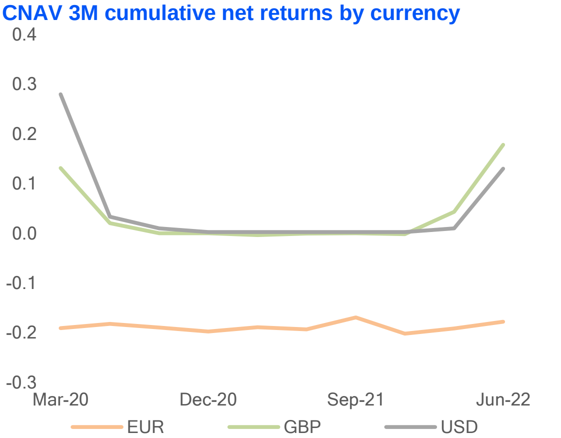
Note: Share of NAV by MMF domicile and investor type, in %
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.76
Monthly flows



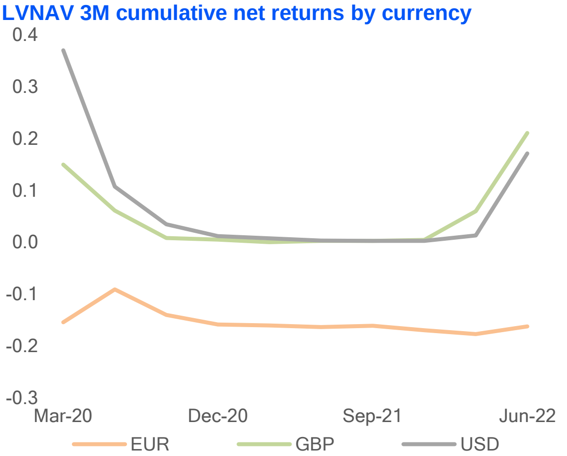
Note: Monthly net flows of MMFs, in EUR bn.
Sources: MMFR database, NCAs, ESMA.

SR-MMF-S.77
CNAV 3M cumulative net returns by currency



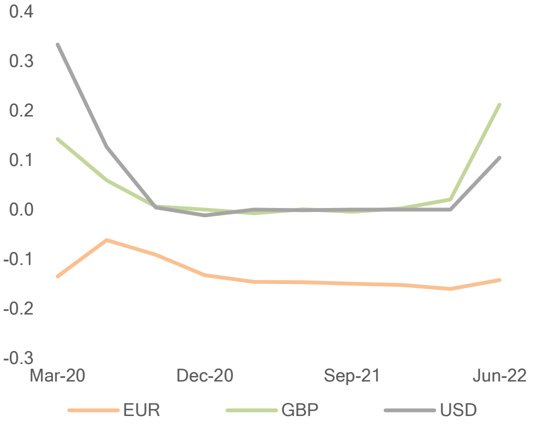
Note: 3-months asset-weighted average returns for CNAV MMFs by currency, in %.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.78
LVNAV 3M cumulative net returns by currency



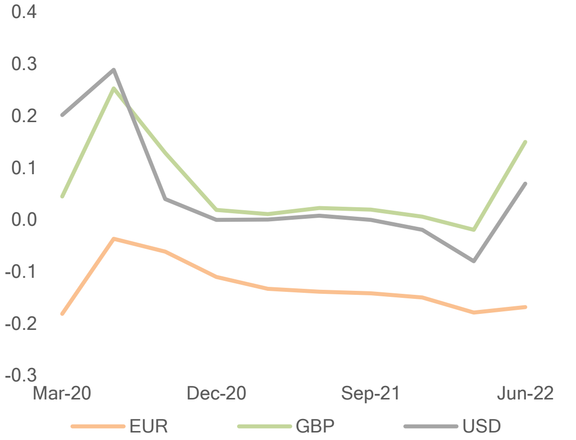
Note: 3-months asset-weighted average returns for LVNAV MMFs by currency, in %.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.79
Short-term VNAV cumulative 3M net returns by currency



Note: 3-months asset-Weighted average returns for short-term VNAV MMFs by currency, in%.
Sources: MMFR database, NCAs, ESMA

SR-MMF-S.80
Standard VNAV cumulative 3M net returns by currency



Note: 3-months asset-weighted average returns for standard VNAV MMFs by currency, in%.
Sources: MMFR database, NCAs, ESMA

Annex

Methodological notes

Summary

The analysis in this Report relies on the data sourced from the central ESMA MMF database established under the EU Implementing Regulation 2018/708. Supervisory data collected by NCAs through a standard reporting template ensure that the authorities are informed of the main developments in the MMF market and facilitate a collective analysis of the potential impacts of the MMF market in the Union. These notes describe the treatment of specific information reported by managers of EU authorised MMFs to develop the statistics on structural characteristics of EU market and industry trends.

Introduction

This report is based on the data submitted by managers of authorised MMFs to their competent authority and ESMA. Details on the completeness and frequency of the reporting framework are provided in the section on MMFR Data Reporting.

The indicators in this report have been developed to provide an overview of the structure and key developments in the EU MMF sector. They should not be considered as a substitute for any other regulatory and supervisory activity.

The EU Implementing Regulation 2018/708 provides the reporting template for managers of EU MMFs. As specified by Recital 2 of the Implementing Regulation, the information needs to be uniformly collected and conveyed across all jurisdictions so to ensure consistency throughout the European Union and facilitate a collective analysis of the potential impacts of the MMF market in the Union. The ESMA Guidelines on the reporting to competent authorities under Article 37 of the MMFR provide precise instructions on scope, content and format of the reporting template.

Portfolio composition and asset aggregation

The analysis of MMF portfolios is based on the information on assets requested in Section 6 of the reporting template (Block 4 of the ESMA Guidelines).

Asset size. For each MMF, the total value of the assets in portfolio is determined by considering:

- The market value of MMIs, eligible securitisations and asset backed commercial papers (Section 6.a of the reporting template)
- The market value of units in other MMF shares and derivative instruments (Section 6.b of the reporting template);
- The exposure of the deposit or ancillary liquid assets, the repurchase and reverse repurchase agreements (Section 6.b of the reporting template). In the case of reverse repurchase agreements the value of the exposure corresponds to the amount of cash provided to the counterparty

Issuer classification. For each MMI held in portfolio, managers of MMFs are requested to indicate the category of the issuer as specified in the reporting template (item A.6.7 in Section 6a of the reporting template). Given the high heterogeneity of EU and non-EU issuers, the sectorial classification is cross-checked with commercial data sources using instruments level identifiers (ISINs) to ensure consistency and comparability across reporting entities and over time.

Aggregation. MMIs are aggregated based on the sector of the issuers to identify and show trends at MMF type and industry level as follows:

- Government debt: EU and non-EU sovereign instruments issued by governments;
- Other public debt: instruments issued by central banks, EU and non-EU public bodies, national public bodies, EU and non-EU supranational public bodies;
- Credit institutions;
- Non-financial corporations;
- Other financial corporations.

Portfolio concentration. Portfolio concentration is computed as the exposures to the three main issuers of MMIs, securitised instruments and deposits and ancillary liquid assets. The exposures are computed for the 20 largest MMFs in terms of total assets for each type of fund. The issuers have been identified using the LEI reported in fields A.6.5 for MMIs, A.6.24 for eligible securitisation or asset backed commercial paper and A.6.77 for deposit and ancillary liquid assets. When an LEI code is not available and the ISIN code of the asset is reported and the same ISIN code has been reported in the database with an associated LEI code, such LEI is used as input to replace the missing value. For the residual cases when an LEI is not reported and cannot be identified, the name of the issuer reported in field A.6.6 for MMIs, A.6.24 for eligible securitisation or asset backed commercial paper and A.6.77 for deposit and ancillary liquid assets is used as aggregation key.

Ownership. The different investor types are aggregated as follows:[40]

— Monetary financial institution (MFI): banks, i.e. deposit-taking corporations with the exception of central banks, and MMF;

— Insurance corporations and pension funds (ICPFs): insurance corporations (IC) and pension plans/funds (PF);

— Other financial corporations: other collective investment undertakings and other financial institutions, except insurance corporations and pension funds;

— Other: Government and households (including non-profit institutions serving households).

Non-financial corporations: Institutional units whose principal activity is the production of goods and non-financial services.

[40] As indicated in the ESMA Guidelines on the reporting to competent authorities under Article 37 of the MMF, the investor group breakdown in field (A.7.3) of the reporting template reflects the classification of the European System of accounts (ESA) 2010.

Glossary

Amortized cost: It is a method of valuation for securities in a money market fund, based on the acquisition price and the return at maturity rather than daily market prices so the fund's net asset value can remain constant.

Asset-backed commercial paper (ABCP): Asset-backed commercial paper (ABCP) is a form of commercial paper that is collateralised by financial assets. ABCP is an asset that MMF may invest in.

Certificate of deposit (CD): Certificate of deposit is a bank deposit with a set maturity date and pre-determined, fixed interest rate.

Commercial Paper (CP): Commercial paper is an unsecured promissory note with a fixed maturity, usually between 1 day and 1 year.

Low-Volatility NAV (LVNAV): LVNAV MMFs are a type of short-term MMF established by the MMFR. Units in the fund are purchased or redeemed at a constant price, as long as the value of the assets in the fund do not deviate by more than 0.2% from par.

Mark to market: It is the practice of valuing a financial asset based on current daily prices.

Mark to model: It is the practice of pricing financial assets using financial models.

Money market fund (MMF): A MMF is an open-ended fund that invests in short-term debt securities.

Constant NAV (CNAV): CNAV MMFs, often referred as public debt CNAV, are a type of short-term MMF established by the MMFR. Units in the fund are purchased or redeemed at a constant price rounded to the nearest percentage point.

Repurchase agreement (Repo): A transaction in which assets are transferred in exchange for cash for a pre-agreed period, often overnight. It is used to manage short-term funding needs.

Reverse-repurchase agreement: Reverse repo is a transaction in which cash is lent in exchange for assets for a pre-agreed period, often overnight. The assets are held as security against a failure to return the cash.

Short-term MMF: Short-term MMFs are defined in the MMFR. Three types of MMFs may be categorised as short-term MMFs: (public debt) CNAV, LVNAV and (short-term) VNAV.

Standard MMF: Standard MMFs are defined in the MMFR. Standard MMFs must be variably priced. Standard MMFs have the objective of offering returns slightly higher than money market returns, and they therefore may invest in assets that have an extended maturity. To achieve such outperformance, standard MMFs can employ extended limits for the portfolio risk such as WAM and WAL.

Variable Net Asset Value (VNAV): VNAV MMFs can assume the form of either short-term or standard MMFs. Units in the fund can be purchased and redeemed at a variable net asset value, calculated to 4 decimal places.

Weighted Average Life (WAL): WAL is an indicator of credit risk. It is computed as the average length of time to legal maturity of all the underlying assets in the MMF reflecting the relative holdings in each asset.

Weighted Average Maturity (WAM): The WAM is an indicator of interest rate risk. It is computed as the average length of time to legal maturity or, if shorter, to the next interest rate reset to a money market rate, of all the underlying assets in the MMF reflecting the relative holdings in each asset.

List of abbreviations

ABCP	Asset-backed Commercial Paper
AIF	Alternative Investment Fund
AIFM	Alternative Investment Fund Manager
AIFMD	Alternative Investment Fund Manager Directive
bp	basis point
CIU	Collective Investment Undertaking
CNAV	Constant net asset value
CD	Certificate of Deposit
CP	Commercial Paper
DLA	Daily Liquid Asset
ECB	European Central Bank
EEA	European Economic Area
EFAMA	European Fund and Asset Management Association
ESMA	European Securities and Markets Authority
ICPF	Insurance corporation and pension fund
ISIN	International Securities Identification Number
LEI	Legal Entity Identifier
LMT	Liquidity management tools
LVNAV	Low-volatility net asset value
MMF	Money Market Fund
MFI	Monetary Financial Institution
MiFID	Markets in Financial Instruments Directive
MMFR	Money Market Fund Regulation
NAV	Net asset value
NCA	National Competent Authority
OTC	Over the counter
pp	percentage point
UCITS	Undertakings for the Collective Investment in Transferable Securities
UCITSD	Undertakings for the Collective Investment in Transferable Securities Directive
VNAV	Variable net asset value
WAL	Weighted Average Liquidity
WAM	Weighted Average Maturity
WLA	Weekly Liquid Asset