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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the adequacy of Regulation (EU) 2017/1131 of the European Parliament and of the Council on money market funds from a prudential and economic point of view

EXECUTIVE SUMMARY

The Money Market Funds Regulation (the MMF Regulation) entered into force in 2018 and set out a comprehensive framework for EU money market funds (MMFs). It recognises their major role in financing the economy, in particular short-term funding to public authorities and corporates, and meeting investors' need. EU MMFs offer a liquid, well-regulated investment tool that contributes to meeting the objectives of the Savings and Investments Union.

The MMF Regulation includes safeguards that aim to strengthen MMF resilience, which is essential for investors' trust in the product. The Commission's 2023 MMF Report[1] found that the framework is broadly effective in reducing liquidity risks and identified certain aspect of the liquidity risks requiring further assessment. This report presents the results of the complementary analytical work carried out on liquidity risks, and the conclusions on better MMF resilience.

MMFs are diverse and experience varying levels of liquidity shocks based on their type (variable, low volatility or constant net asset value – VNAVs, LVNAVs and CNAVs, respectively), currency, investors and uses. Due to these differences, MMFs keep liquidity reserves above the required minima, considering the specific characteristics of each fund and their stress test outcomes. This cautious approach by MMF managers can be explained by investor scrutiny (enabled by transparency rules in the MMF Regulation), regulatory supervision and concern over reputational risks.

MMFs have demonstrated their capacity to reconstitute liquidity buffers even during periods of market stress, reflecting active liquidity risk management and effective supervisory oversight. This suggests that the different mechanisms set out in the MMF Regulation have been implemented consistently, under the coordination of the European Securities and Markets Authority (ESMA).

This report has assessed the resilience of weekly liquid assets (WLAs), which is considered a useful WLA benchmarks for liquidity risk management and supervision. Based on extensive data analysis, this report concludes that the appropriate WLA benchmark levels ('market resilience levels') are 20% for VNAV MMFs and 40% for CNAV and LVNAV MMFs.

The Commission therefore believes that these market resilience levels may serve as benchmarks for MMF managers, in particular in risk management roles, and national competent authorities, to help identify situations that may warrant closer monitoring and increased supervisory engagement.

[1] Report from the Commission to the European Parliament and the Council on the adequacy of Regulation (EU) 2017/1131 of the European Parliament and of the Council on money market funds from a prudential and economic point of view (COM(2023) 452): EUR-Lex - 52023DC0452 - EN - EUR-Lex

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ABBREVIATIONS

AIFMD	Alternative Investment Fund Managers Directive
CNAV MMF	Public debt constant net asset value MMF, as defined in Article 2(11) of the MMF Regulation
DLA	Daily liquid assets, in accordance with the requirements set out in Article 24(1)(c), (d) and Article 25(1)(c) of the MMF Regulation
ECB	European Central Bank
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EUR	Euro
FSB	Financial Stability Board
GBP	UK sterling
LMT	Liquidity management tool
LVNAV MMF	Low volatility net asset value MMF, as defined in Article 2(12) of the MMF Regulation
LRM	Liquidity risk management
MMF	Money market fund. MMFs refer to EU-domiciled funds unless stated otherwise (e.g. US MMFs).
MMF manager	Manager of the MMF, as defined in Article 2(23) of the MMF Regulation
MMF Regulation	Regulation (EU) 2017/1131 on money market funds
NAV	Net Asset Value
NCAs	National competent authorities, being the competent authority of the MMF, as defined in Article 2(17) of the MMF Regulation
SIU	Savings and Investments Union, a European Commission initiative aiming to create better financial opportunities for people in the EU, while strengthening the financial system's capability to connect savings with productive investments
USD	US dollar
UCITS	Undertakings for Collective Investments in Transferable Securities
VNAV MMF	Variable net asset value MMF, as defined in Article 2(13) of the MMF Regulation
WAL	Weighted average life, as defined in Article 2(20) of the MMF Regulation
WAM	Weighted average maturity, as defined in Article 2(19) of the MMF Regulation
WLA	Weekly liquid assets, in accordance with the requirements set out in Article 24(1)(e), (f) and Article 25(1)(d) of the MMF Regulation
2023 MMF Report	Report from the Commission to the European Parliament and the Council on the adequacy of Regulation (EU) 2017/1131 of the European Parliament and of the Council on money market funds from a prudential and economic point of view (COM(2023) 452)

1 INTRODUCTION

MMFs play a key role in the financial system as cash management tools for corporates and an opportunity for investors looking for low volatility investment with higher returns than bank deposits. The increase in EU MMF assets in the last five years (+45% from 2019 to 2024) demonstrates the success of the framework. In the EU, 455 MMFs held about EUR 1.95 trillion in total assets at the end of 2024. EU MMFs are mainly established in Ireland, Luxembourg and France. As a result, EU MMFs offer a regulated investment tool that contributes to diversify investment opportunities and risk management, in line with the objectives of the Savings and Investments Union (SIU). They also provide additional funding options for EU businesses, enabling them to grow, innovate and create jobs.

EU MMFs at a glance

- Denominated in EUR (~45%), USD (~32%) and GBP (~23%).
- Established in Ireland (44%), Luxembourg (30%) and France (24%).
- Owned by professional investors (90%), including non-EU investors for MMFs domiciled in Ireland (77%) and in Luxembourg (63%).
- LVNAVs (~46%), VNAVs (~43%) and CNAVs (~11% of NAV).

Source: ESMA, 2023 EU MMF market, and Q4 2024 data

In 2018, the MMF Regulation came into force and laid down a comprehensive regulatory and supervisory framework for EU MMFs that "*provide short-term finance to financial institutions, corporations and governments [and] contribute to the financing of the economy of the Union*" (recital 1 of the MMF Regulation).

The AIFMD and UCITS Directive have been revised to introduce a strengthened and more harmonised framework for liquidity risk management, notably through the requirement for managers to select and implement at least one liquidity management tool from a prescribed list. Applicable from 16 April 2026, this framework enhances consistency across funds and reinforces overall financial stability.

The MMF Regulation provides a harmonised framework to strengthen the sector's resilience and mitigate systemic risk, with provisions covering, among other things, eligible assets, portfolio composition, valuation, risk management, leverage prohibition, transparency and reporting. The portfolio composition requirements are a central pillar of the MMF Regulation. These include provisions aiming to ensure MMFs' liquidity, such as provisions on liquidity buffers and provisions describing the role and duties of the MMF manager (such as maturity limits and credit quality,[2] see below). The different types of EU MMFs and their key characteristics and regulatory requirements are set out in Table 1. It shows the minimum regulatory thresholds for daily and weekly liquid assets (DLA and WLA) that MMFs must hold. The minimum thresholds in the MMF Regulation are intended to ensure, together with other safeguards, that MMFs can meet investor redemptions over time.

[2] MMF managers are responsible for ensuring compliance with the MMF Regulation. They have specific duties, such as assessing the credit quality of MMFs assets and conducting stress tests, asset valuation and investor disclosure.

Table 1: Key requirements and characteristics of EU MMFs

	Short-term MMF			Standard MMF
	Stable NAV		Variable NAV (VNAV)	
Requirements	**CNAV**	**LVNAV**	**Short-term VNAV**	**Standard VNAV**
WAM	Max. 60 days			Max. 6 months
WAL	Max. 120 days			Max. 12 Months
Maturity of assets	Max. 397 days			Max. 2 years with a 397-day reset
DLA	Min. 10%		Min. 7,5%	
WLA	Min. 30% (incl. up to 17.5% in public debt maturing within 190 days)		Min. 15%	
Other	No leverage, diversification, credit quality requirements, transparency and reporting			

In 2023, the Commission published a report[3] (the 2023 MMF Report) showing that "*the MMF Regulation successfully passed the test of liquidity stress experienced by MMFs during the COVID-19 related market turmoil of March 2020, the recent interest rate increases, and related financial asset re-pricing*".[4] Although the report concluded that the framework has been broadly able to ensure the sector's resilience, it highlighted certain aspects of liquidity risk management that needed further assessment to ensure that MMFs are resilient.

As a follow-up to the 2023 MMF Report, this report assesses the functioning of MMFs based on extensive analytical work and draws on multiple data sources[5] and consultations[6] to examine how liquidity risks are managed. It assesses how MMFs respond to liquidity shocks and how managers mitigate liquidity risk, particularly through liquidity buffers.

This report presents key findings on the assessment of MMF liquidity management (Section 2) and an analysis of appropriate market resilience levels (Section 3). The annexes provide a more in-depth technical analysis of these topics.

2 ASSESSMENT OF MMFs LIQUIDITY MANAGEMENT

2.1 Liquidity buffer levels

The Commission carried out an analysis of liquidity buffers at the level of the whole sector (macro analysis) and at the level of individual MMFs (micro levels) to understand how the levels are determined, and whether the market exhibits consistent behaviour.

[3] Commission adopts report on the functioning of the Money Market Funds Regulation (MMF) - Finance
[4] 2023 MMF Report, page 21.
[5] Data has been obtained from the following sources: Crane Data, Morningstar, ESMA, and NCAs.
[6] Commission targeted consultation on the functioning of the Money Market Fund Regulation, 12 April 2022, and Commission targeted consultation assessing the adequacy of the macroprudential policies for non-bank financial intermediation (NBFI), 22 May 2024.

Key finding 1: Most EU MMFs hold liquidity buffers well above the minimum requirements set out in the MMF Regulation

MMFs adopt a wide range of liquidity buffer levels linked to their specific situations, in particular their propensity to incur redemption requests of variable size depending on their investor base. Between Q1 2020 and Q4 2025, VNAV MMFs hold an average of at least 19% in DLA and 29% in WLA, compared with regulatory minima of 7.5% and 15% respectively, while CNAV and LVNAV MMFs maintain even higher buffers, averaging 36% in DLA and 54% in WLA, compared with minimum regulatory thresholds of 10% and 30% respectively.

Table 2 sets out the distribution of DLA and WLA by type of MMF over a six-year period. For instance, as regards WLA distribution for LVNAVs, the average buffer was 50%, whereas LVNAVs had an average buffer below 43% for the 25th percentile and had an average buffer of 54% for the 75th percentile. This data shows that the vast majority of LVNAV MMFs (75%) had average WLA above 43%. Similar findings can be observed for the other categories of MMFs and for their respective DLA.

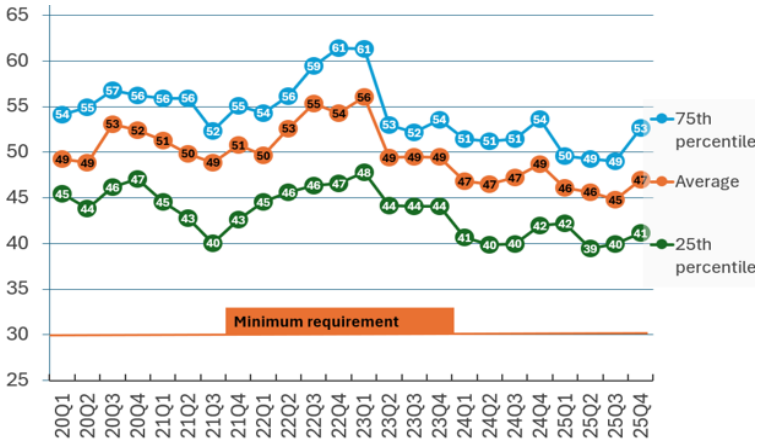
Table 2: Distribution of DLA and WLA by MMF type over a six-year period (in % of MMF NAV)

		MMF Type			
		CNAV	**LVNAV**	**Short-term VNAV**	**Standard VNAV**
DLA	**25th percentile**	24%	25%	11%	8%
	Average	40%	33%	22%	15%
	75th percentile	53%	38%	28%	18%
WLA	**25th percentile**	41%	43%	22%	16%
	Average	59%	50%	35%	24%
	75th percentile	76%	54%	43%	28%

Sources: European Commission based on ESMA data from Q1 2020 to Q4 2025

The fact that most EU MMFs hold liquidity buffers well above the minimum requirements set out in the MMF Regulation is explained by the generally prudent approach adopted by EU MMFs, driven by strong supervision, investor scrutiny (facilitated by the MMF Regulation's transparency requirements) and heightened sensitivity to reputational risks. This behaviour remains relatively stable over time, with some variations (see Chart 1 on LVNAV and Annex I). Chart 1 shows that the lowest level observed between 2020 and 2025 was an average liquidity buffer of 45% with the 25th percentile never falling below an average of 40% (Q2 2025).

Chart 1: Trends in the distribution of WLA for LVNAV MMFs



Source: European Commission, based on ESMA data from Q1 2020 to Q4 2025
Note: Trends in the average WLA and 25th and 75th percentiles of WLA (as a percentage of the NAV) across LVNAV.

Similar patterns are observed for other quantitative requirements under the MMF Regulation, which indicates a prudent approach across the MMFs sector. For example, WAL levels remained well below the applicable regulatory maxima. For CNAV, LVNAV and short-term VNAV MMFs, average mean and median WAL levels generally ranged between 40 and 65 days, compared with a regulatory maximum of 120 days. This indicates that asset maturities are, on average, shorter than the regulatory limit by a factor or two to three, **enabling faster reimbursement and contributing to the replenishment of liquidity buffers**. Standard VNAV MMFs exhibited higher WAL levels, with mean and median levels around 110–125 days, well below the regulatory ceiling of 360 days.[7]

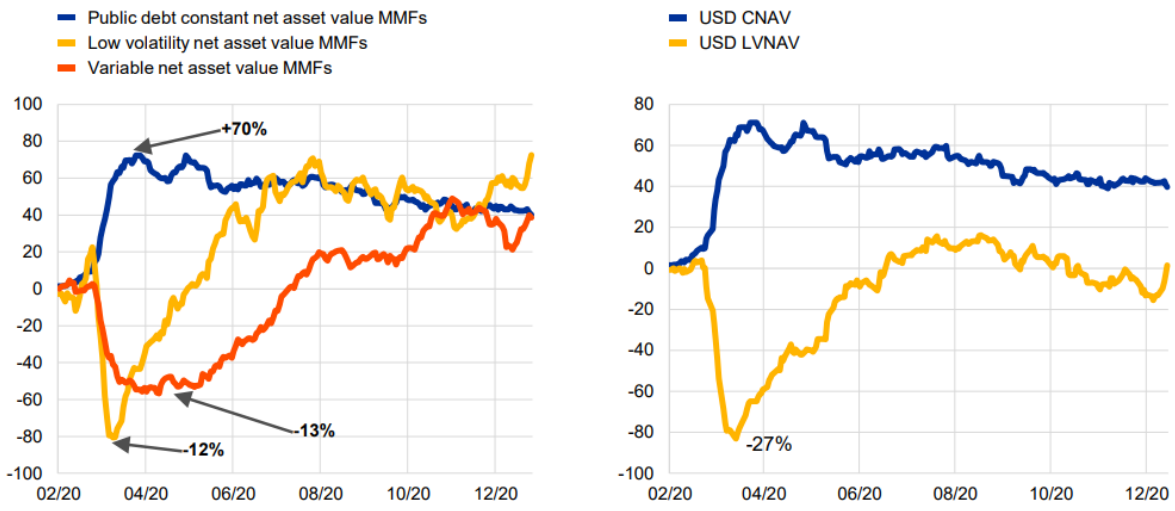
Key finding 2: MMFs hold different levels of liquidity buffers due to their differing characteristics due to varying degrees of potential liquidity shocks

MMFs generally operate with buffers above the regulatory minima although these can vary. This is because MMFs have differing characteristics, including category (VNAV, LVNAV or CNAV), currency denomination, investor base composition and use cases (see Annex II). They are therefore subject to varying degrees of potential liquidity shocks. Even MMFs of a similar type and currency do not have the same vulnerability to liquidity shocks.

In this regard, on average, MMFs experienced redemption shocks during the COVID-19 market event (see Chart 2) **manageable by their liquidity buffers**. Chart 2 shows that, over one month, VNAV MMFs experienced withdrawals of around 13%, compared with a minimum weekly liquidity buffer of 15%. LVNAV MMFs recorded outflows of about 12%, rising to 27% for USD-denominated funds, against a weekly liquidity buffer of 30%. By contrast, CNAV MMFs saw significant inflows during the initial phase of the COVID-19 pandemic.

[7] ESMA report on MMF (2023) and Crane Data

Chart 2: Net cumulative flows in MMFs at the onset of the COVID-19 market event

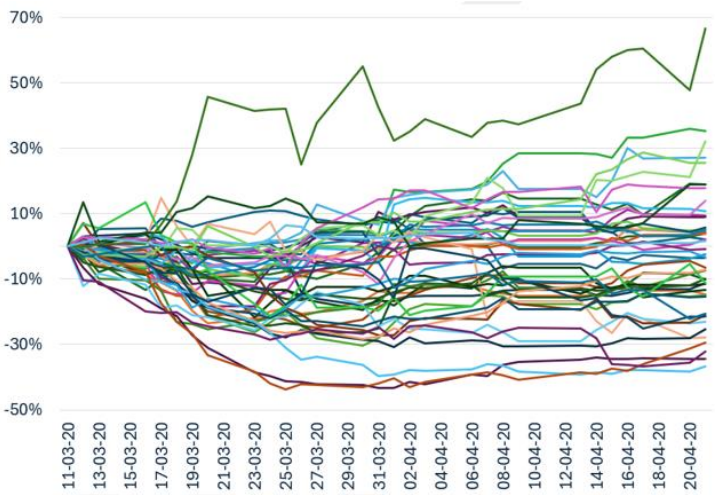


Sources: ESRB report, July 2021, Issues note on systemic vulnerabilities of and preliminary policy considerations to reform money market funds

Note: Net cumulative daily flows of broken down by MMF type and expressed in billions euros (y-axis). Positive values indicate net subscriptions, while negative values indicate net redemptions. The percentages show fund flows relative to the net asset value of each fund type.

As regards USD LVNAV MMFs, they did experience a significant redemption shock during the COVID-19 market event. However, the impact was extremely uneven across that MMF cohort, with 6% experiencing cumulative net outflows exceeding 30%, while 10% did not experience any redemption. Between these two extremes, various intermediate levels of inflows or outflows were observed, as shown in Chart 3. The lines represent the cumulative net flows of individual USD LVNAV MMFs over approximately five weeks of the COVID-19 market event.

Chart 3: Cumulative flows of individual USD LVNAV MMFs during the COVID-19 market event



Sources: Crane Data and NCAs.

Note: Each line represents the net cumulative flows as a percentage of NAV (y-axis) of a USD LVNAV MMFs with a NAV superior to EUR 1 billion. Positive values indicate net subscriptions, while negative values indicate net redemptions. These examples show that while USD LVNAV MMFs experienced significant redemptions during the COVID-19 market event, the impact on them was uneven across that MMF type.

2.2 How MMFs meet redemption requests

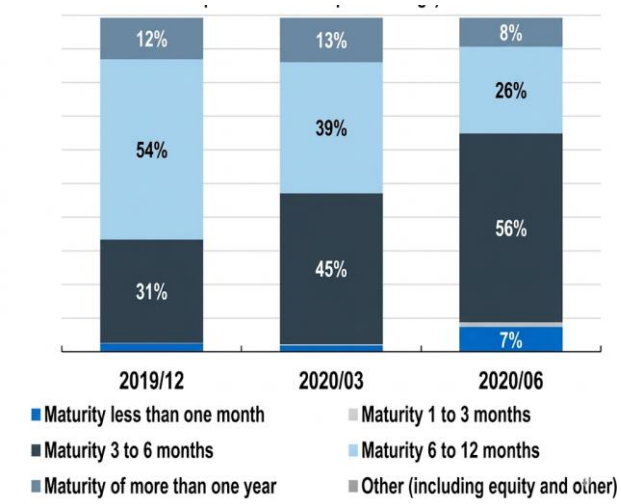
Stressed market conditions, for example during the COVID-19 and the liability-driven (LDI) funds market events, provide valuable insights into the dynamics of liquidity management in such conditions. The Commission analysed the capacity of MMFs to replenish liquidity buffers, including in stressed market conditions. Building on extensive datasets, this analysis focused on two levels: (1) the overall market; and (2) a closer review of MMFs that faced the most severe liquidity shocks.

Key finding 3: MMFs are able to refill their liquidity buffers under strong redemption pressure, including in stressed market conditions

In normal market conditions, MMFs typically maintain and refill their liquidity buffers through 'mechanical operations'. This is achieved not only through revolving cycles of roll-down of high quality short-term maturing assets (CP/CD/T-bills[8]), reinvestment of the cash into new short-term maturing assets, but also through transactions on the secondary market and the use of overnight secured funding (e.g., reverse repo) that can be sized up or down daily. This process is regulated and supervised on the basis of tight maturity requirements in the MMF Regulation, in particular the WAL which limits the average maturity of MMFs assets overall, and limits maturity for each asset individually (see Table 1).

In stressed market conditions, **MMFs "refill" moves from mechanical to 'defensive operations'**. As redemptions accelerate and secondary-market liquidity deteriorates, MMF managers actively accelerate cash generation by liquidating holdings and reduce exposure to market prices (see Chart 4). To achieve this, they adjust the portfolio composition to reduce the WAM (sensitivity to market price) and WAL (average maturity)[9] by concentrating reinvestments in the most liquid bonds with the shortest duration. This enables MMFs to increase the pace at which liquidity buffers are restored. Chart 3 shows the development of MMFs' bond portfolios before and at the start of the COVID-19 pandemic. It shows that, across the sector, the proportion of bonds with shorter maturity (3-6 months) in the portfolio almost doubled between December 2019 to June 2020.

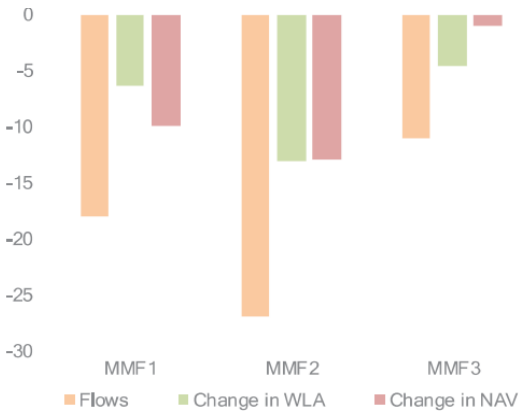
Chart 4: MMFs debt composition development



Source: EFAMA, European MMFs in the Covid-19 market turmoilovid-19, November 2020

Note: Maturity breakdown of debts in MMF portfolio, expressed as a percentage of total MMF assets

Chart 5: Trade-off between WLA and NAV deviation



Source: ESMA report, Vulnerabilities in money market funds, 2021

Note: 7-day net flows, WLA as a percentage of NAV and NAV deviation (in basis points), as of 25 March 2020

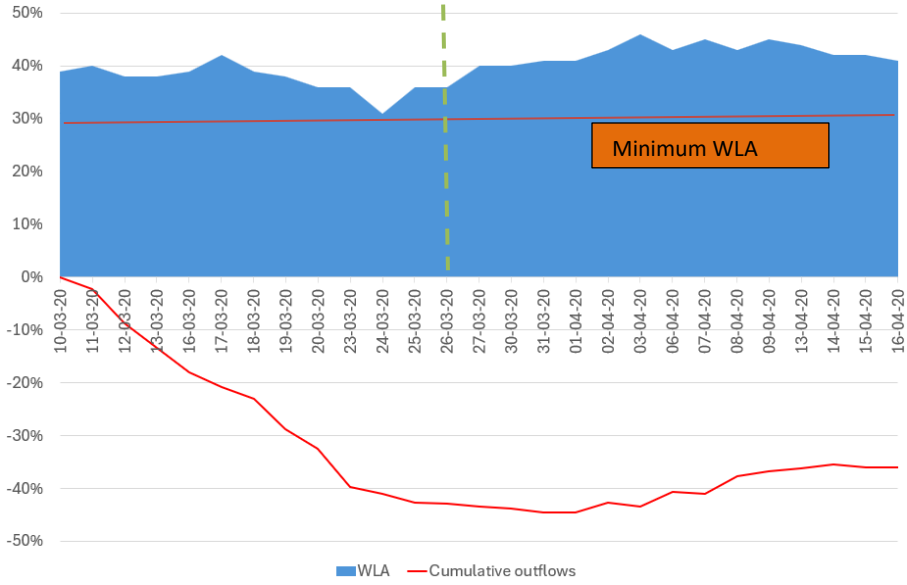
[8] MMFs invest in short-term instruments like commercial paper (CP), certificates of deposit (CDs), and Treasury bills (T-bills) to provide investors with low-risk, liquid returns.

[9] Market risk is proportionate to the duration of bonds. By shortening the maturity of bonds held by MMF portfolios, these portfolios are less exposed to market risk when converting bonds to cash into a shorter timeframe.

At the level of individual MMFs, an analysis of funds that experienced large redemption requests showed a similar pattern: these funds prioritised maintaining liquidity and, after drawing down their liquidity buffers, were able to rebuild them quickly (see Chart 6 for illustration and Annex I). Overall, redemption shocks experienced by individual MMFs were smaller than the amount of liquidity buffers maintained, enabling funds to meet redemption requests swiftly. Chart 6 shows the example of one LVNAV MMF that experienced an extreme redemption scenario and how it maintained weekly liquidity buffers above the regulatory minima over the reference period. Despite a 45% outflow during the period, WLA did not go below 30%.[10]

It should be noted that LVNAV MMFs have kept their WLA buffers either through portfolio amortisation or assets sales, in a context of wider bid-ask spreads. This may have triggered NAV deviations, particularly where less liquid assets such as CP and CDs were sold. These NAV deviations are illustrated in Chart 5. Maintaining WLA buffers may therefore have required the sale of less liquid assets, contributing to NAV deviations.

Chart 6: Example of worst-case scenario of a LVNAV MMF under strong liquidity shock



Sources: Crane Data and NCAs.

Note: Example of a LVNAV MMF experiencing very significant outflows, illustrating the impact on WLA and the subsequent rebuilding of liquidity. See other examples in Annex I.

[10] It should be noted that central bank intervention in commercial paper markets also supported the sector, helping to prevent further repercussions for MMFs under pressure.

3 ASSESSMENT OF APPROPRIATE MMF MARKET RESILIENCE LEVELS

This section examines the resilience of the EU MMF sector to significant increases in redemption requests. As discussed in the previous sections, liquidity buffers play a crucial role in meeting redemption requests, particularly in periods when short-term markets may be illiquid. To conduct this analysis, the Commission calculated the minimum level of WLA ('WLA resilience level') which, if maintained by MMFs, would allow them to serve strong redemption requests, while keeping DLA above the regulatory minimum.

The methodology is summarised below and corresponding data is presented in Annex III.

Key steps of the methodology used to calibrate the WLA resilience level



Key finding 4: To withstand stressed market conditions, WLA resilience levels of 40% for stable NAV MMFs and 20% for VNAV MMFs are generally sufficient.

This analysis shows that WLA resilience levels of 40% for stable NAV MMFs and 20% for VNAV MMFs are generally sufficient to withstand stressed market conditions (see also Annex III). More specifically, holding WLAs at or above these resilience levels would allow EU MMFs to withstand severe redemption shocks without fire asset sales while still maintaining DLAs above the regulatory minima. Maintaining DLAs above the minimum helps ensure immediate liquidity for redemptions, especially in periods of stress when MMFs may experience redemptions over several consecutive days.

This means that, **from a market-wide perspective**, applying these resilience levels uniformly will strengthen the ability of EU MMFs to withstand stressed market conditions and to mitigate the propagation of shocks to the rest of the financial system and the economy.

The Commission therefore believes that these WLA resilience levels could serve as practical reference points for liquidity risk management. From a supervisory perspective, they could also function as early warning indicators, prompting closer monitoring or enhanced supervisory engagement by NCAs, when MMFs operate persistently below the identified resilience levels. Therefore, these **WLA resilience levels could be used to identify situations that warrant further attention from MMF managers, particularly their risk management teams, and enhanced supervisory engagement by the relevant NCAs with MMF managers.**

It should be emphasized that many MMFs are unlikely to experience redemption shocks of the magnitude used to calibrate the WLA resilience levels. As this report shows, MMFs are not homogeneous; their propensity to face liquidity shocks depends on their specific characteristics and investor base. In addition, the calibration of WLA resilience levels relies on conservative assumptions, particularly the assumption that DLA is not used once it reaches the regulatory minimum.

Therefore, **setting the identified WLA resilience levels as new binding regulatory minima is not proportionate, given the heterogeneity in the MMF sector and fund types (Key finding 2).** Instead, the Commission considers that these WLA resilience levels can serve as supervisory and risk-management benchmarks, supporting MMF managers and NCAs to identify situations that may require closer monitoring and enhanced supervisory engagement.

4 CONCLUSION

The findings of this report are intended to serve as a basis for improving liquidity management by MMF managers and supervision of MMFs by NCAs. The findings in section 2 show that sector-wide liquidity levels are diverse although generally well above the minimum regulatory thresholds in the MMF Regulation. Moreover, the MMF sector overall has managed liquidity risks in a responsible manner, both on an ongoing basis and in times of stressed market conditions.

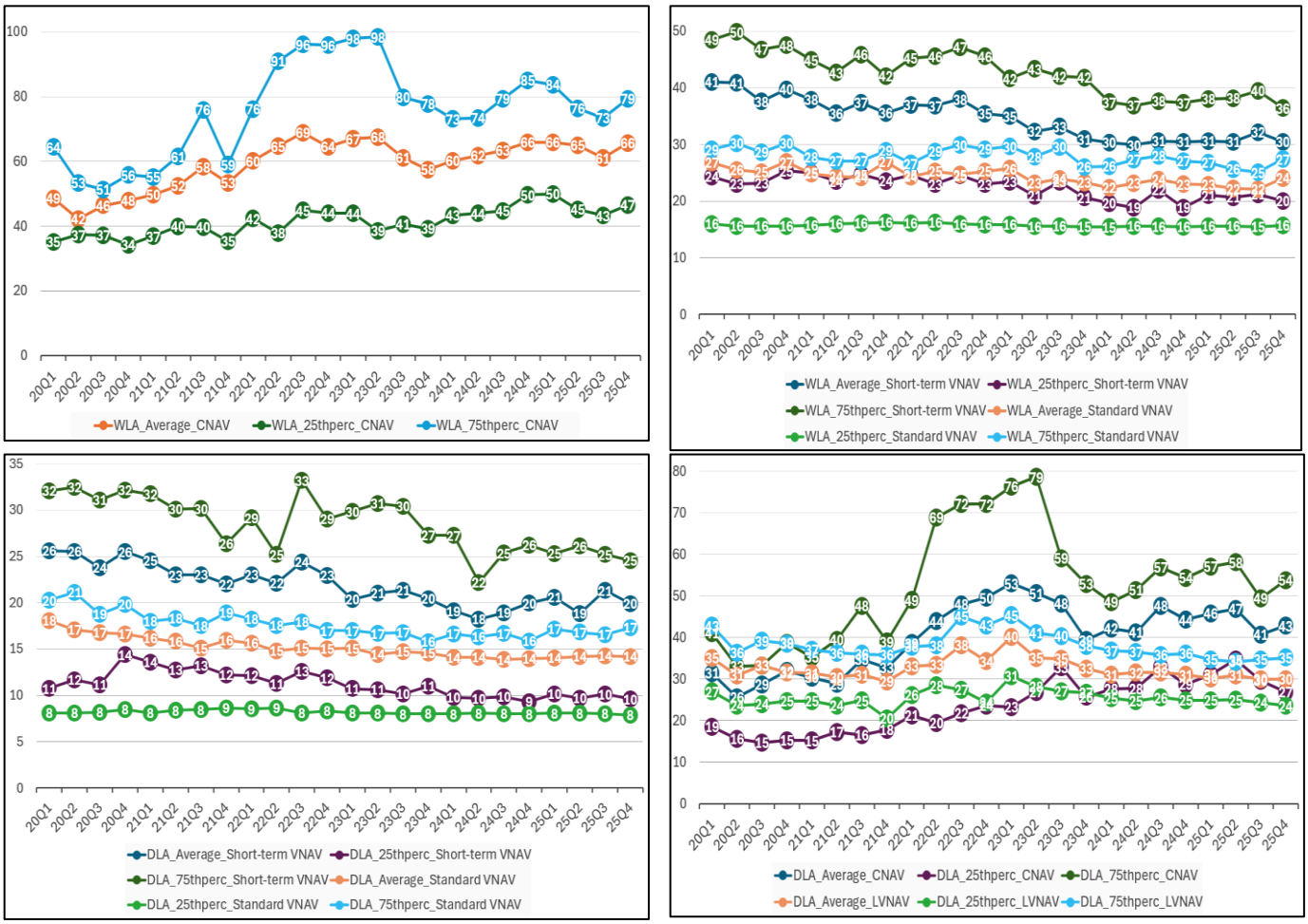
The findings in section 3 indicate that identified WLA resilience levels are capable of serving as supervisory and liquidity risk-management benchmarks, below which the intensity of scrutiny within the risk management functions of MMFs and their managers should be usefully increased and the supervisory scrutiny and engagements by NCAs enhanced, in order to ensure market wide resilience.

5 ANNEX I: LIQUIDITY BUFFERS LEVELS

5.1 Statistics on liquidity buffer levels

Chart I.1 presents statistics on liquidity buffer levels, illustrating that MMFs maintain liquidity above regulatory minima and how these levels change over time.

Chart I.1: WLA and DLA levels

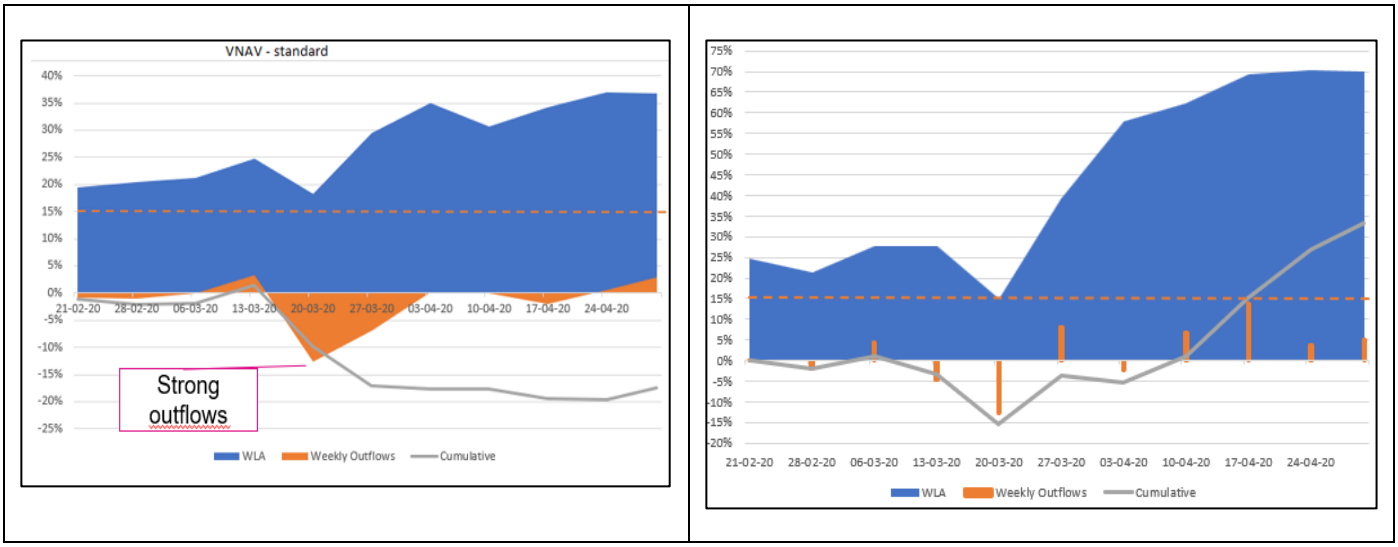


Source: European Commission, based on ESMA data from Q1-2020 to Q4-2025
Note: Trends in the average WLA and 25th and 75th percentiles of WLA (as a percentage of the NAV) across LVNAV.

5.2 Examples of MMFs that experience high redemption shocks

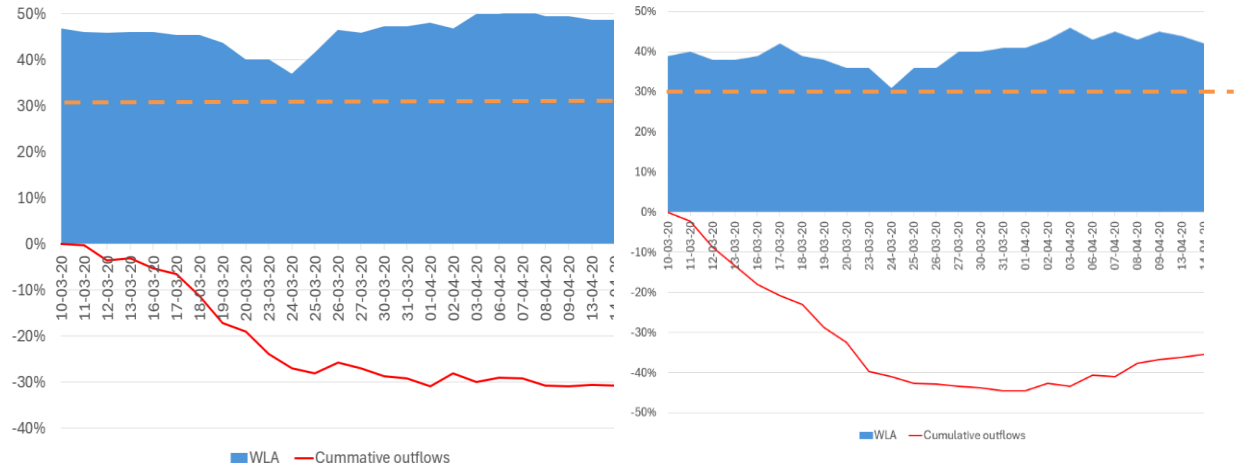
Liquidity buffer replenishment was analysed by focusing on the bottom 10% of funds that experienced the largest outflows. The analysis drew on supervisory data from NCAs, other data sources, fund communications on liquidity management under stressed market conditions, and changes in portfolio composition. A consistent pattern emerged: even among the most affected funds, MMFs were able to rebuild their liquidity buffers within a relatively short period following the stress episode.

Chart I.2: Examples of replenishment of liquidity buffers of two VNAVs under large redemption requests



Sources: Crane Data and NCAs.
Note: Example of two VNAVs MMF experiencing significant outflows, illustrating the impact on WLA and the subsequent rebuilding of liquidity buffers. The 15% minimum level is shown as a dashed line. .

Chart I.3: Replenishment of liquidity buffers under large redemption requests



Sources: Crane Data and NCAs.
Note: Example of two LVNAV MMF experiencing significant outflows, illustrating the impact on WLA and the subsequent rebuilding of liquidity buffers. The 30% minimum level is shown as a dashed line.

6 ANNEX II: BEHAVIOUR OF REDEMPTIONS IN STRESSED MARKET CONDITIONS

6.1 The market stress at the start of the COVID-19 pandemic

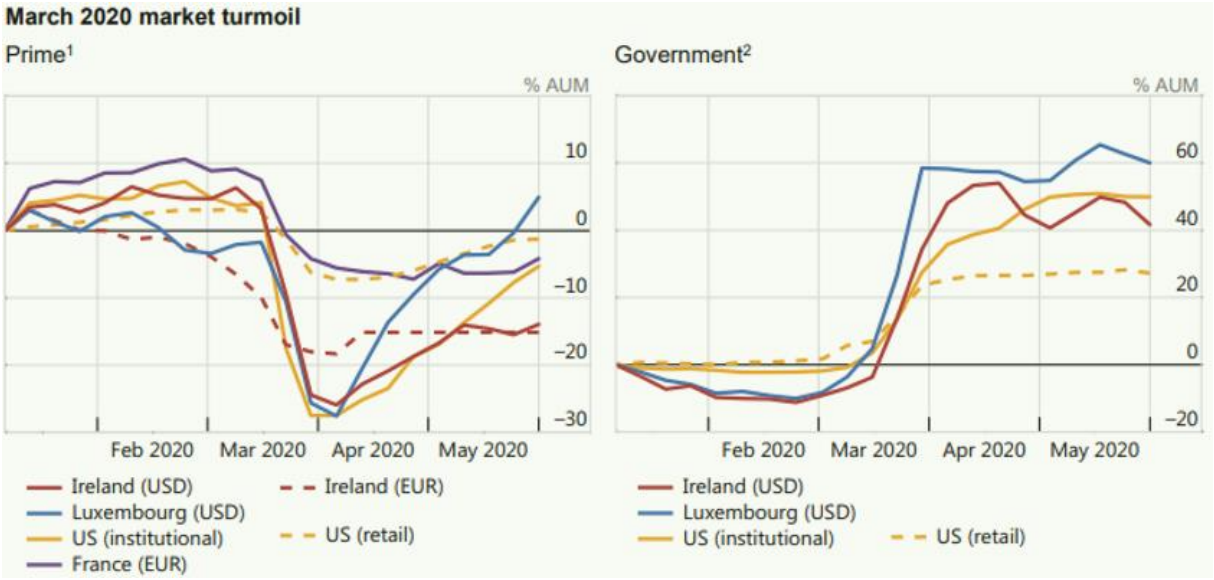
6.1.1 Overall market impact

The market events brought on by the COVID-19-pandemic began to unfold in February 2020 as concerns about the global spread of the virus intensified and financial markets started to reprice risk. However, its impact on MMFs materialised mainly in mid-March 2020 and continued until June 2020, when stressed market conditions were observed.

During a 15-day period starting in mid-March, investors in some MMFs increased their demand for liquidity, in particular from USD-denominated LVNAV MMFs, which experienced substantial redemption pressures (around 18% and 30% of those market segments).

USD-denominated LVNAV MMFs saw the largest and most prolonged outflows of all European short-term MMFs in the early weeks of March 2020. This was because, in addition to redemptions linked to cash needs, investors shifted to public debt CNAV in the EU.

Chart II.1: Cumulative MMFs flows in 2020



Source: FSB, Policy proposals to enhance MMF resilience, October 2021

6.1.2 Uneven effects and reactions across MMFs

The size of redemption requests and investor behaviour in normal and stressed conditions varies greatly across MMFs. Reactions and behaviours are driven by different factors, mainly by the investor base and within the investor base and by the use case of their investments (see below), the size of key investors and the investor mix. Other determining factors are the type of MMF (VNAV, LVNAV, CNAV).

While fund classification and currency are clearly major determinants, even very similar categories experienced highly diverse shocks during and beyond the COVID-19 crisis period. These differences are shown in Chart 3.

Charts 2 and 3 illustrate that, overall, USD LVNAV MMFs experienced a significant redemption shock at the beginning of the COVID-19 pandemic. However, the impact was highly uneven across funds. Fewer than 6% of LVNAV MMFs experienced cumulative outflows exceeding 30% of their NAV.

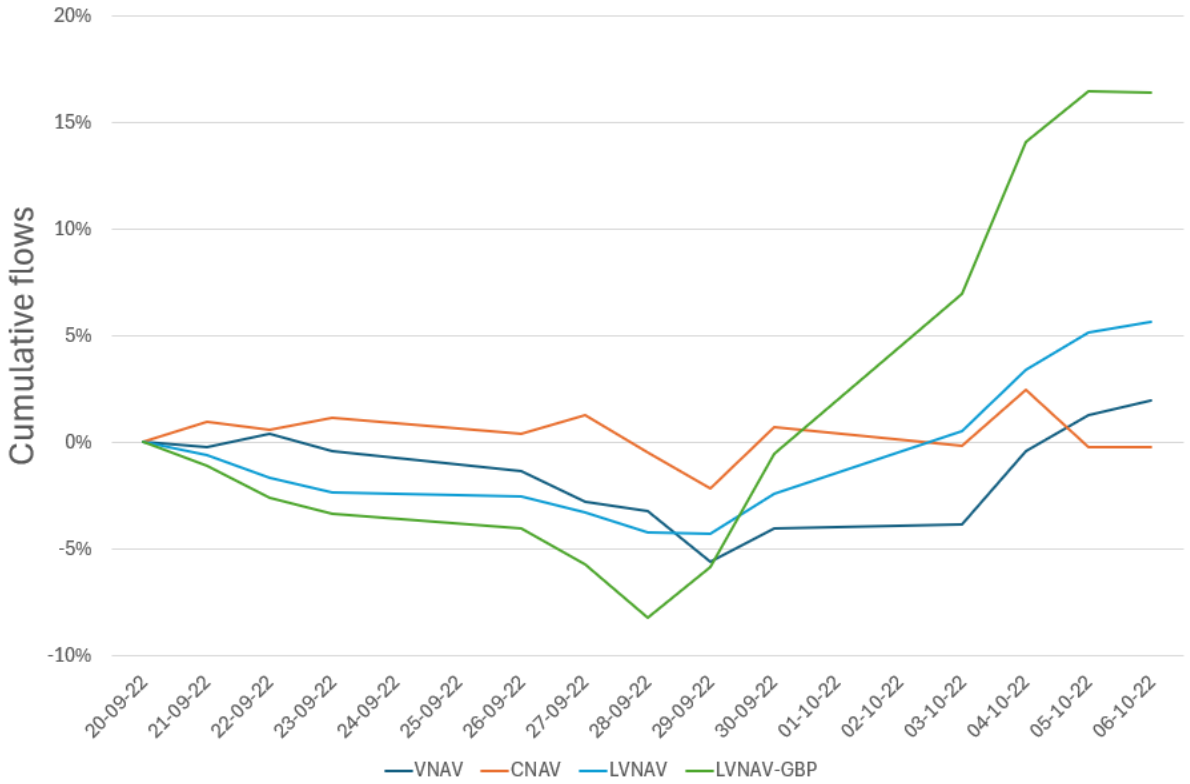
One reason for this heterogeneity is the investors' use cases**.** Three stylised 'extreme' examples illustrate how the same MMF can experience very different redemption patterns depending on the investor base and their behaviour in various market situations.

1) **Use of MMFs as cash-management / "payments" vehicle (predictable cycle):** Some institutional investors use VNAV MMFs as **transactional cash buckets,** e.g., cash is invested as contributions/premiums are collected and then redeemed in a **predictable cadence** (for instance, around pension-payment cycles). In this situation, outflows are often **scheduled and can be forecast**, so any liquidity decrease is rather a planned fluctuation than a run. Similar examples are pension systems that have regular inflows (contributions) and periodical outflows (benefit payments), which create predictable cash-flow patterns.
2) **Use of MMFs as a collateral / margin liquidity vehicle (potentially cliff-like pattern):** When MMFs are used as **collateral liquidity reserves** (directly or indirectly) for derivatives, repo transactions or LDI-related margin needs, the redemption driver can be **market movements and related margin calls**. In leveraged LDI funds, collateral needs can rise quickly when yields increase (reflecting marked-to-market losses), triggering a scramble for cash from many market players at once. In these circumstances, investors may redeem MMF shares/units to meet collateral calls, or they may use MMF holdings within collateral-management workflows—creating **more pro-cyclical and correlated liquidity demand** than 'pure' cash-management usage.
3) **Use of MMFs to pool the cash of other funds managed by the same MMF asset manager. Here the manager has visibility of redemption flows**.

6.2 The LDI related market event

In late September 2022, a sharp rise in UK gilt yields and severe stress in liability-driven (LDI) investment strategies used by pension funds were observed. This generated heavy mark-to-market losses for LDI funds which, in turn, induced variation margin calls. These margin calls created a sudden and important demand for cash, which spilled over to GBP-denominated MMFs, even though MMFs were not the source of the sudden extreme liquidity demand. Some MMFs experienced rapid outflows, particularly from institutional investors, and responded by increasing liquidity buffers and shortening portfolio maturities.

Chart II.2: Impact of the LDI crisis on MMFs flows

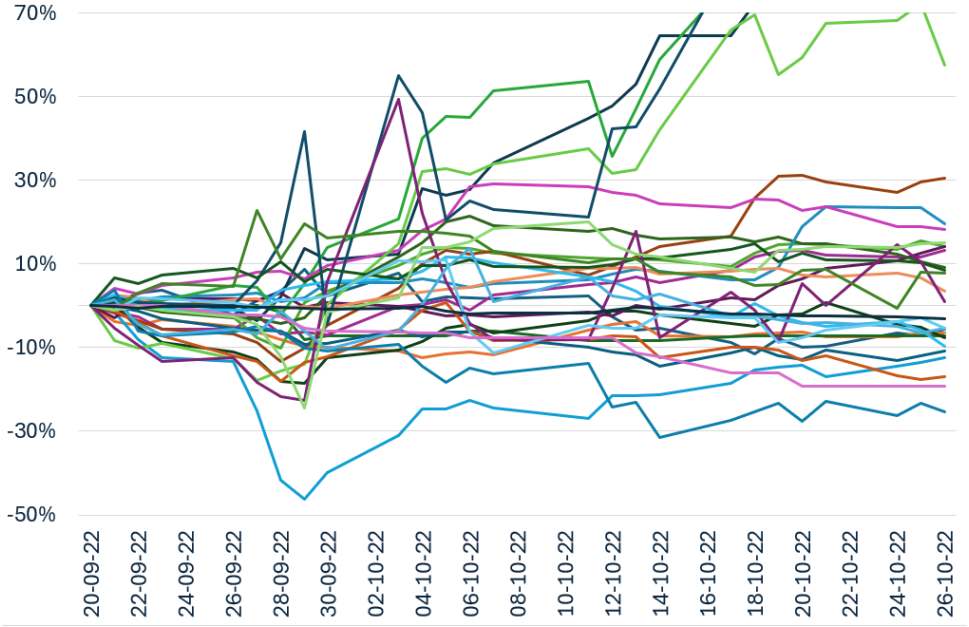


Sources: Crane Data and NCAs, MMFs with NAV superior to EUR 100 Mios
Note: Net cumulative flows by type of MMFs, expressed as a percentage of NAV

MMF responses to the sudden investor liquidity demand in the LDI market event were even more pronounced than the response during the COVID-19 pandemic. While some MMFs experienced inflows, others faced strong redemption pressures at times. The LDI-related market event had a highly diverse impact on GBP-denominated LVNAV MMFs, affecting only a handful of funds rather than the whole sector.

This diverse impact is reflected in the distribution of outflows: although the median fund experienced a –9% weekly outflow (–10% cumulatively), the lower tail faced more severe stress, with the 10th percentile seeing –21% weekly outflows and the most affected 1% of funds losing nearly –37% in a single week (–42% cumulatively). This pronounced skew indicates that stress was concentrated in funds heavily used by LDI strategies as liquidity buffers to meet margin and collateral calls. By contrast, GBP-denominated LVNAVs that served broader cash-management purposes, with more diversified investor bases and less direct linkage to collateral transformation or gilt-repo activity, recorded inflows over the same period.

Chart II.3: Trends in NAV, GBP LVNAVs during the LDI related market event



Sources: Crane Data and NCAs.
Note: Each line represents the net cumulative flows as percentage of NAV (y-axis) of a GBP LVNAV with a NAV superior to EUR 1 billion. Positive values indicate net subscriptions, while negative values indicate net redemptions. Those examples show that while GBP LVNAV MMFs experienced significant redemptions during the LDI crisis market event period, the impact was uneven across that MMF type.

7 ANNEX III: MARKET RESILIENCE LEVELS

7.1 Calibration of redemption shocks

In assessing redemption shocks, several models were tested using different data sources (Crane Data, NCAs, Morningstar) and methodological approaches, with a particular focus on addressing data quality issues and ensuring robustness.

The first percentile of the redemptions (in % of the NAV) was ultimately selected as it captures severe but plausible stress conditions, while limiting the influence of potential data errors or outliers.

This percentile is calibrated based on the COVID-19 pandemic related market event and therefore reflects a highly adverse scenario. It should be noted that such scenarios may not be realistic for many MMFs that benefit from a predictable investor base. Nevertheless, this severe approach is deemed appropriate in the context of potential contagion risks, particularly reputational contagion.

The relevance of contagion may also be assessed in the context of know-your-customer practices and the fact that MMFs are subject to regular regulatory disclosures to their investors. In addition, many investors require more frequent and detailed information, which may further mitigate contagion risks.

Table III.1: Range of first percentile redemption scenario distribution, across data sources [min 1st percentile, max 1st percentile]

	Daily	Weekly	Monthly
VNAV	[-4% ;-8%]	[-6% ;-19%]	[-16% ;-45%]
- **Standard VNAV**	[-4% ;-8%]	[-4% ;-21%]	[-9% ;-45%]
- **Short-term VNAV**	[-3% ;-10%]	[-6% ;-15%]	[-17% ;-26%]
LVNAV	[-6% ;-11%]	[-7% ;-28%]	[-28% ;-45%]
- **LVNAV USD**	[-9% ;-12%]	[-16% ;-26%]	[-30% ;-44%]
- **LVNAV GBP**	[-8% ;-11%]	[-16% ;-30%]	[-26% ;-47%]
CNAV	[-5% ;-14%]	[-4% ;-22%]	[--1% ;-34%]
Global	[-6% ;-11%]	[-7% ;-26%]	[-21% ;-45%]

Sources: Crane Data, Morningstar, NCAs data

7.2 Calibration of the 'market resilience thresholds'

EU MMFs are generally able to withstand the redemption shocks identified in Section 7.1, reflecting the dispersion of WLA levels across the sector. However, it is still crucial that robust supervision and effective risk management systems are in place to ensure that liquidity levels are tailored to each fund's specific situation.

In this context, this section calibrates WLA resilience levels that, if applied uniformly as minimum benchmarks, would enable MMFs to withstand the redemption scenarios calibrated in Section 7.1.

The methodology set out below has been used:

1. The analysis estimates the volume of redemptions that MMFs can absorb before their daily liquid assets fall below the regulatory minimum level. To do this, different levels of minimum WLA are considered, using real data on the portfolio composition and amortisation.

2. To calibrate the WLA resilience thresholds, the results are compared with the redemption scenarios applied to the MMFs identified in Section 7.1 (see Table III.1). The analysis takes into account the portfolio amortisation. The following conservative set of assumptions is applied:
    - redemptions are met exclusively through existing DLA and WLA, with no asset sales apart from the ones qualifying for the DLA and WLA;
    - the DLA is maintained above the minimum regulatory requirements[11].

Table III.2: Scenario retained for the calibration exercise:

MMF type	Daily	Weekly	Monthly
Standard VNAV	-8%	-17%	-34%
Stable NAV	-15%	-30%	-47%

Sources: Crane Data, Morningstar, NCAs data

This analysis shows that WLA resilience levels of between 35% to 40% for stable NAV MMFs and 20% for VNAV MMFs are sufficient to withstand stressed market conditions. In particular, holding WLAs at or above these resilience level would enable EU MMFs to withstand (i.e. to maintain DLAs above the regulatory minima) severe redemption shocks as calibrated in section 7.1.

[11] This is a conservative hypothesis, as in practice, MMFs may allow DLA to temporarily fall below the regulatory minimum to meet redemption requests, and may also sell assets or rely on cash inflows.