EFAMA

European Fund and Asset Management Association

# Open-ended funds and resilient capital markets

## The perspective of the European asset management industry

# Executive Summary

In this position paper, in line with its commitment to evidence-based advocacy, the European Fund and Asset Management Association (EFAMA) provides a comprehensive overview of the contribution of the European investment fund sector to the diversity and resilience of capital markets. While financial stability concerns relating to the investment fund industry often make headlines in the financial press, such concerns often downplay both the existence of an already-robust regulatory framework, as well as the net positive contribution of investment funds in financing the real economy.

## *Growing capital markets*

The European Union's 2020 Capital Markets Union (CMU) Action Plan testifies the crucial role that capital markets play in the economy by providing alternative funding sources for large, and often long-term, projects. From this perspective, the growth of capital markets is an auspicious development, although recent studies have shown that European capital markets are – in many respects – still some way from realising their full potential.[1] European investment funds support the development of capital markets by providing retail and institutional investors with access to investment opportunities that would otherwise be inaccessible, either as a result of insufficient funds or a lack of the necessary financial expertise. Through this, investment funds also make multiple contributions to the resilience of these markets, for example, by fostering market transparency, encouraging long-term investment and funding horizons, increasing diversification, and by contributing to greater disintermediation from the banking system.

## *Resilient capital markets*

Whilst capital markets represent an opportunity for Europe, market-based finance comes with its own set of challenges. From a financial stability perspective, the resilience of capital markets has been partially undermined by several structural developments since the Global Financial Crisis (GFC). Over the last decade central banks have maintained unprecedented accommodative monetary policies, which have contributed to historically high valuations and sovereign and corporate leverage levels. Moreover, GFC reforms have limited the ability of broker-dealers to maintain their market-making activities during periods of stress, and have transformed counterparty risks into liquidity ones by mandating margin calls. Liquidity provision has continued to grow, but is increasingly mediated by more-opportunistic liquidity providers, which tend to exit the market when volatility increases. These developments have resulted in a situation where demand for liquidity may exceed supply, particularly during periods of market stress. Fortunately, recent market events – such as the COVID-19 crisis – have shown that rather than resulting in a reduction in trading volumes, this imbalance has so far manifested itself in higher trading costs.

Despite these worrying market-wide developments, for more than a decade, macro-prudential supervisors have maintained a narrow focus on the ill-defined category of 'non-bank financial intermediation' (NBFI), more pejoratively known as 'shadow banking'.[2] Within this loosely defined, catch-all category, investment funds have been the primary object of interest for macro-prudential supervisors. This is because certain fund categories – for example bond funds – engage in credit intermediation while offering

[1] EFAMA, Household Participation in Capital Markets, September 2020; AFME, Capital Market Union: Key Performances Indicators – Fifth Edition, November 2022; ECMI, Time to re-energize the EU's capital markets, November 2022.
[2] FSB, Shadow Banking: Strengthening Oversight and Regulation, October 2011.

short-notice redemption rights to their end investors. Observing this, macro-prudential supervisors have concluded (without sufficient evidence) that these funds operate in a similar fashion to banks. This would mean, therefore, that they could be vulnerable to runs – which could ultimately trigger 'fire sales' – in very much the same way. Such concerns stem from a flawed methodology that the Financial Stability Board (FSB) developed in the early 2010s to identify non-banks that engage in "economic activities that may give rise to systemic risks" (the NBFI narrow measure). However, this methodology prejudicially equates the credit intermediation provided by the banking sector with that of market-based finance. It considerably underestimates the heterogeneous composition of the funds' client base, and overestimates the sensitivity of fund investors to market fluctuations. Finally, this methodology neglects other significantly important market participants outside the NBFI narrow measure, who may also contribute to the accrual of risks in the broader financial system.

While financial risks have recently materialised with multiple bank failures in March 2023, in the UK Liability-Driven Investment (LDI) crisis in September 2022, as well as in the earlier Archegos debacle in March 2021, there have been no failures of similar magnitude in the investment fund sector. While investment funds did experience large outflows during March 2020, these reflected the risk-off sentiment of end investors during circumstances where the global economy was in the process of shutting down. The most recent fund failure – the collapse of the Woodford Equity Income Fund in October 2019 – was idiosyncratic, and had no long-standing consequences for capital markets.

## *Systemic risks in the European investment fund sector?*

After reviewing the various channels through which European investment funds may contribute to the build-up of systemic risks and the associated data, we conclude that the sector as a whole is not systematically important. While it cannot be excluded that certain subgroups of funds may contribute to pockets of risk, effective micro- (i.e. entity level) and macro-supervision remains key to identify and supervise these subgroups.

Unlike banks or investment firms, fund management companies operate through an 'agency' business model, whereby they manage their clients' funds on the basis of a clearly defined mandate. While entrusting fund managers to invest and manage their wealth, clients are clearly aware of the potential for losses to their principal as a result of market corrections, and are prepared to bear such risk. As management companies do not trade on their own account, these cannot become insolvent due to a market correction.

Moreover, the European investment fund sector is a diverse sector, one where the majority of investment products follow simple investment strategies that rely on little-to-no leverage.[3] True alternative investment funds, namely those that invest in real assets or follow hedge fund-like strategies, only account for 22% of the investment fund sector and should not be automatically viewed as contributing to the build-up of systemic risks. All investment funds must be regulated in line with their respective investment strategy. Management companies have to obtain the authorisation of the local supervisor where the fund is domiciled before starting to distribute the fund's shares to investors. Among other considerations, supervisors review the fund's risk management set-up in order to ensure compliance with the EU's comprehensive UCITS/AIFMD regulatory regime. Because UCITS funds are open to retail investors, they have to comply with more stringent product rules, including eligible assets, diversification and leverage limits. By comparison, AIFs have greater flexibility in terms of their investment strategy, as they are predominantly marketed to institutional investors. Despite this increased flexibility, their

[3] EFAMA, Fact Book 2022, June 2022, pp. 12 and 53.

management companies have to report larger quantities of supervisory data to their respective supervisors, in order to guarantee that the latter have sufficient information to detect the potential build-up of fund-specific risks.

While the European investment fund sector has been growing its share of the European financial sector, it is far from being the dominant player that it is too often portrayed. At the end of 2021, it was only the third-largest after banks and other financial institutions. Between 2010-2020, growth in the sector resulted from a combination of important valuation gains and continuous inflows. Unsurprisingly, valuation gains have been high, as funds have performed well compared to others across a host of asset classes. This has been helped significantly by the long-lasting accommodative monetary policies of central banks.

Investment funds have maintained low levels of leverage during the above period, although recent market developments (such as the outbreak of the COVID-19 pandemic in March 2020) have drawn greater attention to the leverage-liquidity nexus. [4] Investment fund managers have continuously finetuned their liquidity risk management on the back of previous post-GFC regulatory reforms. While there is indeed liquidity transformation in investment funds, this transformation is natural and reflects the fact that investment funds are long-term investment products. Thus, regardless of the redemption frequency of the funds, their shareholders are far less sensitive to market developments than typical short-term investors (e.g. proprietary traders in investment firms or retail day-traders).

References to 'structural liquidity mismatches' are therefore misguided, as investment funds are not required to strictly match the liquidity of their assets and liabilities. Before being launched – and subject to the approval of their supervisors – investment funds have to ensure consistency across a number of parameters (including the investment strategy, type of investors, underlying assets, frequency of subscriptions/redemptions and availability of liquidity management tools). This design ensures that investment funds can meet liquidity outflows – from either redemptions or margin calls – in most, if not all, market conditions. In so doing, they rely on price-based liquidity management tools (LMTs) such as swing pricing to protect remaining investors from the effects of redemptions and quantity-based LMTs – such as suspension or gates – to ensure that the management company can temporarily , in exceptional circumstances, limit redemptions where it believes these can no longer be satisfied in an orderly and fair manner. In testament to this, the European investment fund sector remained resilient in March 2020 despite the often-alleged liquidity mismatches, where even the hardest-hit fund category – corporate bond funds – only experienced an average 0.4% in daily redemptions over the entire course of the month. This is well below the scenario of a weekly redemption of 22% used by ESMA to evaluate the resilience of investment funds.[5] During this same period, less than half of corporate bond funds had to activate an LMT[6].

Finally, the probability that important losses by a single investment fund or a group of funds could have material consequences for other financial institutions – be they banks, insurance companies or pension funds – remains low. It is worth also noting that banks and insurance companies must additionally meet specific capital requirements when investing in funds, which will neutralise the impact of even a sharp correction in the net asset value (NAV) of a fund on the solvency of these financial institutions.

[4] ESMA, TRV Report, September 2021, pp. 27-28.
[5] ESMA, Report on liquidity risk in investment funds, November 2020, p. 40.
[6] ESMA, Report on liquidity risk in investment funds, November 2020, p. 30.

## *EFAMA policy recommendations*

A proportionate response to the challenges that capital markets face requires, on one hand, more-effective supervision, and on the other, a number of regulatory interventions to allow for better liquidity management in and across capital markets.

Effective micro- and macro-prudential supervision has a central role to play in identifying and addressing the potential build-up of systemic risks. For this, macro-prudential supervisors will have to take a system-wide approach to understand how the interplay between market participants can result in suboptimal outcomes (such as liquidity imbalances in capital markets). When specifically reviewing the investment fund sector, these supervisors should use more-advanced analytical frameworks than those currently available. The recent ESMA Guidelines on liquidity stress-testing in UCITS and AIFs and Guidelines on Article 25 AIFMD offer direction here, while acknowledging that these frameworks remain partial for the purpose of systematically stress-testing broader market liquidity.[7] Macro-prudential supervisors should also work closely with their micro-prudential counterparts, who have a more intimate knowledge of those investment funds identified as potentially contributing to the build-up of systemic risks. As a last resort – and should there be sufficient evidence that a fund, or a group of funds, creates vulnerabilities for the broader system – micro-prudential supervisors could use their existing powers (such authorisation screening, supervisory guidance or leverage limits) to reduce the level of risk.

In addition to effective supervision, there are a number of pragmatic recommendations which, taken together, could increase the resilience of capital markets in our view:

### *Policy recommendations*

#### A. ASSET MANAGEMENT

1. **Availability and use of LMTs:** Management companies should have the possibility of choosing between several LMTs currently available, depending on the specificities of the funds under their management. It is equally important that supervisors support management companies in the consistent use of these LMTs. Principle-based guidance would be particularly welcome where swing pricing is used (e.g. for setting the related swing factors). However, it is important to leave management companies sufficient flexibility on deciding when to activate such tools, as this will avoid a mechanistic application of these tools and resulting 'cliff effects'.

2. **Client base transparency:** Management companies should have free access to aggregate data on their client base, ensuring that they can optimise their liquidity risk models. Distributors and intermediaries – who usually maintain their end-client records in the form of omnibus accounts – refuse to provide access to this information for commercial reasons. This extends to even the most basic investor breakdown. Greater client-base transparency would, furthermore, allow management companies to provide more accurate details on the liquidity of their funds' liabilities to supervisors.

[7] ESMA, Guidelines on liquidity stress testing in UCITS and AIFs, September 2019; ESMA, Guidelines on Article 25 of Directive 2011/61/EU, December 2020.

## B. CAPITAL MARKETS

1. **Create a consolidated tape for fixed-income securities:** Providing greater transparency during times of market volatility would help market participants identify liquid markets and allow supervisors to monitor concerning market developments.

2. **Improve CCP margin transparency and predictability:** Central counterparties (CCPs) could size initial margin requirements more conservatively by using appropriate model assumptions to mitigate the potential for future procyclical initial margin moves. This would avoid any excessive flow of liquidity away from markets during periods of stress.

3. **Facilitate the use of liquidity buffers by banks during periods of stress:** Banks have liquidity buffers to act counter-cyclically during periods of stress through providing the necessary liquidity. Yet, during March 2020, banks were unwilling to dip into these buffers. Greater guidance from banking regulators on when and how banks can deploy these buffers would contribute significantly to the resilience of capital markets.

4. **Consolidate supervisory reporting across all financial sectors:** In order to conduct comprehensive systemic risk analyses, supervisors should have data on how all types of market participants, intermediaries and product types behave under normal and stressed market conditions. In sectors where market participants already provide extensive supervisory information, regulators should ensure that supervisors exchange the data that they collect among themselves. For example, in the case of European investment funds, central banks should share their fund inventories with market supervisors.

Finally, macro-prudential supervisors should be more open, and engage regularly with representatives of the investment management industry. This would reduce the risk of adopting one-sided views in pursuit of their mandates. Our industry is currently strongly concerned that the overwhelming majority of research undertaken on alleged systemic risks from non-banks is either produced by central banks directly or in academic circles in close cooperation with the former. For tangible evidence and experience to test their assumptions, it will be fundamental for macro-prudential supervisors to both engage in a more open debate with the financial industry and to share aggregate supervisory data (such as AIFMD Annex IV reporting and fund inventories) with a broader group of stakeholders. This would allow the latter to test the robustness of existing macro-prudential analyses.

# Contents

# Introduction

As recent market developments have revived concerns over the stability of the financial system, many macro-prudential supervisors have seized this opportunity to rally support for the further regulation of capital markets. The narrative is that – while the banking sector has demonstrated resilience during the COVID-19 outbreak due to the introduction of the Basel III reforms in the early 2010s – the rest of the financial system (dubbed Non-Bank Financial Intermediation, or NBFI) has shown signs of vulnerability. For example, these authorities have pointed out that the 'dash for cash' event of March 2020 was symptomatic of deeper vulnerabilities in capital markets, such as lax initial margining practices and the alleged 'first-mover advantage' in the open-ended investment fund sector.[8]

Even the isolated bankruptcies in the U.S. banking system in early 2023 have offered certain macro-prudential supervisors a renewed opportunity to spread this narrative, despite the fact that these developments required public interventions to prevent further bank runs. As an illustration, Luis de Guindos, vice-President of the European Central Bank (ECB), argued – in the aftermath of these events – that although "certain bank business models may be more vulnerable […], vulnerabilities in the financial system prevail in the non-bank financial sector, which grew fast and increased its risk-taking during the low interest rate environment. Credit and liquidity risk remain high, making the sector more vulnerable to market volatility and an abrupt repricing in financial markets. Despite some recent de-risking, structural liquidity mismatch prevails in the non-bank financial sector and market corrections could be amplified by forced selling into illiquid markets".[9]

While reviewing recent market developments is necessary to identify vulnerabilities in capital markets, a number of shortcomings in the analysis of macro-prudential supervisors have resulted in an excessive emphasis on investment funds. This position paper looks to counter some of these claims and is structured as follows:

**Section 1** highlights the importance of capital markets in funding the real economy and shows how investment funds contribute to the transparency, liquidity and resilience of these markets. Although recognising that there are specific risks associated with the development of capital markets (for example, the build-up of system-wide liquidity imbalances).

**Section 2** highlights how the NBFI approach developed by the Financial Stability Board (FSB) to identify 'economic activities that may give rise to systemic risks' remains largely theoretical and inadequate on a number of accounts. These include overly simplistic risk measures and a siloed approach that is based on the analysis of too few market actors.

**Section 3** reviews the different channels through which investment funds could contribute to the build-up of risks (size, risk taking, leverage, liquidity transformation and interconnectedness). It concludes that the investment fund sector is not systemically relevant.

**Section 4** provides several policy recommendations that could help mitigate the specific risks associated with the further development of European capital markets. It also provides EFAMA's analysis of the FSB December 2022 Report on liquidity mismatches in open-ended funds (OEFs).[10]

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[8] FSB, Holistic Review of the March Market Turmoil, November 2020.
[9] ECB, Outlook for the euro area economy and financial stability, Speech by Luis de Guindos, April 2023.
[10] FSB, Assessment of the Effectiveness of the FSB's 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds, December 2022.

In conclusion, EFAMA recommends that macro-prudential supervisors should adopt a system-wide approach to financial stability risks that considers the possibility that many market participants could potentially engage in so-called 'fire sales' – the core concern of these supervisors. To reduce liquidity imbalances in capital markets, regulators should facilitate liquidity management in the investment fund sector firstly by ensuring the availability and consistent use of LMTs, and secondly, by ensuring greater client base transparency. On the issue of the supervision of investment funds, macro-prudential supervisors should focus on that subset of funds that could reasonably contribute to the build-up of systemic risks, while possibly allowing market supervisors to use their own powers to curb certain those activities. To sufficiently address the aforementioned liquidity imbalances, regulators should necessarily rely on important complementary measures, such as i) support the development of a consolidate tape for fixed-income securities, ii) improve CCP margin transparency and predictability, iii) facilitate the use of liquidity buffers in the banking sector, and iv) consolidate supervisory reporting across all financial sectors.

# 1. Open-ended funds & resilient capital markets

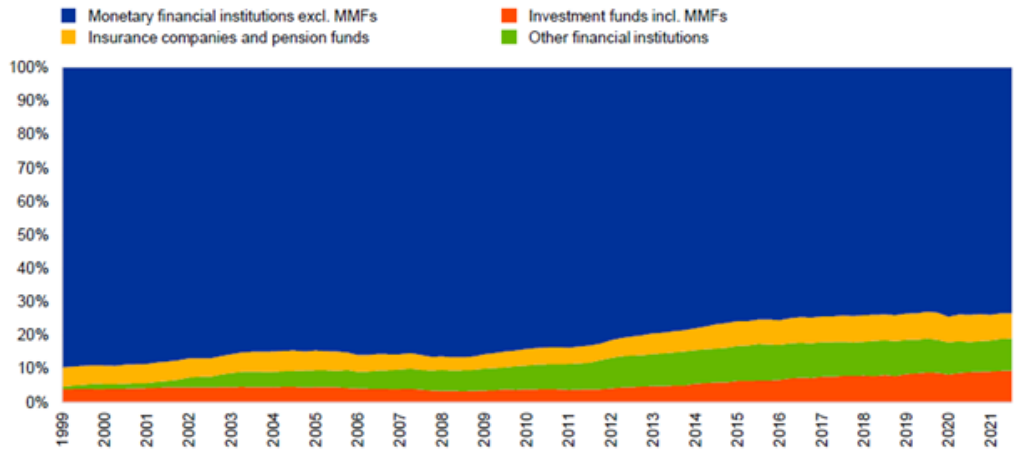
After outlining the crucial role of capital markets in providing long-term funding to the real economy, this section explores how investment funds assist in the correct functioning of these markets. It also examines some of the key features that characterise the sector: an 'agency' business model, the diversity of the sector and a time-tested regulatory framework which has been developed to better protect end investors and safeguard financial stability.

## 1.1. Providing long-term funding for the European economy

Capital markets play a crucial role in the long-term financing of the European real economy, a fact recognised by the EU Action Plan for an EU Capital Markets Union (CMU). By allowing the issuance of equity (public and private) and debt securities, as well as facilitating investments in alternative asset classes (such as real assets), capital markets can provide governments, multilateral institutions and non-financial companies with alternative sources of funding. These can often exceed the financing capability of a single bank and can offer an option for projects that may exceed the average life of a loan (such as R&D or infrastructure projects).[11]

Chart 1.1 shows how, over the last two decades, the financing of the European economy through the participation of non-monetary financial institutions (in short, non-banks) has risen steadily. It accounted for over one quarter of the credit provided to Euro-area non-financial corporates at end-2021. Of this, investment funds accounted for an increasing portion. This trend is set to continue, spurred by a blend of – among other elements – societal forces (such as an ageing population), environmental concerns (such as financing the transition to a net-zero carbon economy) and regulatory imperatives (including the realisation of a Capital Markets Union in Europe). In fact, capital markets will have to grow even more rapidly if Europe is to address the challenges set out above.[12]

**CHART 1.1. PROVISION OF CREDIT TO EURO AREA NON-FINANCIAL CORPORATIONS**




Source: ECB

[11] European Commission, Action Plan on Building a Capital Market Union, September 2015.
[12] EFAMA, Household Participation in Capital Markets, September 2020; AFME, Capital Market Union: Key Performances Indicators – Fifth Edition, November 2022; ECMI, Time to re-energize the EU's capital markets, November 2022.

Investment funds facilitate the raising of capital in financial markets by matching individual savers and investors with investment opportunities that meet their specific risk appetite. Their contribution to the European capital markets is evident in a number of ways. The first is by providing a source of patient capital aimed at achieving long-term goals, managed in order to weather occasional episodes of short-term market volatility. Funds' investor disclosure documents typically indicate minimum recommended holding periods. Depending on the underlying asset class, these vary significantly, up to eight years or even beyond, in cases where assets are particularly illiquid (such as real assets). The second is by disintermediating the financial system. By moving funds away from credit institutions and reallocating risk among myriads of investors who are willing to bear this risk in exchange for returns, investment funds diversify the funding of the European economy. The difference between an investment fund and a bank deposit account cannot be stressed strongly enough. The former one speaks of 'capital at risk,' which is borne willingly by investors; the latter implies money stored onto a deposit account and guaranteed up to a certain amount. The third is that – through their investor disclosures – investment funds offer a greater level of transparency relative to other banking and investment products. The fourth is that investment funds – particularly the open-ended type – offer the tangible benefits of diversification to their investors, meaning the latter become less exposed to the idiosyncratic risks of owning fewer financial instruments. This is particularly important for retail investors, as they will be less likely to panic and liquidate their investments when faced with a market correction. Last, in contrast to some of the academic narrative in this area, it is well-documented that investment funds can and do act counter-cyclically at times of market stress; for example, by repurchasing assets that have fallen in value but where their underlying long-term fundamentals remain sound.

With these fundamental traits in mind, we will proceed to explain the European investment fund landscape in greater detail, from a number of important perspectives.

## 1.2. Overview of the European investment fund market

The European investment fund sector represents a diversified industry, comprising professional asset management companies with a mandate to meet their clients' investment needs over a given time horizon and to a specified risk tolerance. The business model of investment managers is substantially different from that of banks, enough to justify its own tailored regulatory framework.

### 1.2.1. An agency business model

The investment fund sector differs structurally from the banking sector, as management companies and banks do not perform the same economic activities. Unlike banks, the fiduciary duty of an asset manager is to act as an 'agent' and exclusively in the interest of its clients, and to achieve a pre-defined balance between financial risks and investment performances on their behalf.

In the investment fund industry, end investors willingly bear most of the investment risks; in the banking sector, meanwhile, most risks are borne by the bank's balance sheet and backed by capital requirements. Accordingly, in the investment fund sector, assets are segregated from the management company's own balance sheet and held by depositary banks in the name of the investment funds and on behalf of investors. This renders them 'bankruptcy remote' from the fortunes of the asset management company. In addition, the latter is required to have minimum own funds to cover its operational expenses, as well as potential losses to investors in a limited number of circumstances (in the case of material negligence or misconduct, for example).

Furthermore, although both sectors engage in what the post-GFC literature has named 'liquidity and maturity transformation', banks have less leeway than investment funds in managing their solvency and liquidity risks. To finance their activities, banks primarily rely on deposits that are disposable on short notice, which implies that banks are exposed to bankruptcies through two

channels. First, the solvency channel; this is when the bank suffers a balance sheet loss that exceeds its equity holding. The second is the liquidity channel; this results from a traditional 'bank run', where there is growing mistrust in the ability of a bank to make its depositors whole. Investment funds, on the other hand, have much more leeway as their financing model is based on equity. The net value of shares fluctuates with the value of assets held by the investment fund. A sharp correction in the underlying portfolio is thus naturally reflected in a sharp correction in the value of the fund. Asset managers have, moreover, the possibility to introduce LMTs such as temporary gates, or the suspension of redemptions, to manage their outflows.

These differences in their respective business models naturally lead to distinct regulatory frameworks. Banks are subject to strict regulatory requirements (capital buffers, leverage limits and minimum liquidity coverage ratios, to name a few). Investment funds, meanwhile, have a framework where the onus is on management companies to design their risk management policies based on the funds' strategy and related level of risk. Additional requirements apply for funds typically offered to retail investors (including strict diversification requirements, strict overall exposure limits and restricted access to certain asset classes).

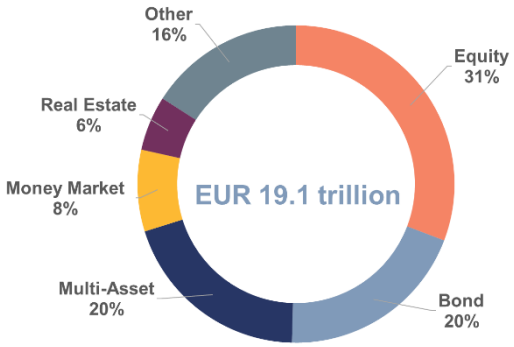
### 1.2.2. A diverse industry

Through asset management services, investors are able to access multiple asset classes (such as equity, bond, money market, alternative, commodities and real estate). They can also benefit from a diversified set of investment strategies, ranging from 'buy-and-hold' to more complex alternative investment strategies, ranging from index-tracking to 'actively managed' product suites, all the way to discretionary individual mandates managed on behalf of large institutional clients. This diversity is depicted visually in charts 1.2 and 1.3 below, showing the exposures of European investment funds being managed at end-2022.

Even within the same broad asset class (for example, bond funds), there can be multiple strategies. Portfolios may hold securities across the entire fixed-income spectrum – each with very diverse features – such as government vs. corporate bonds, investment-grade vs. high-yield bonds, short- vs. medium- vs. long-term debt, convertible debt and subordinated debt. These represent only the most prominent categorisations. As we shall argue in the following sections, attempting to gauge 'systemic risks' in OEFs – by overlooking key differences of and among security types on the asset side, while basing conclusions on very broad fund categorisations such as high-yield bonds – can only result in a series of false positives. Portfolio holdings, even for apparently homogenous categories such as 'high-yield bond funds', can be extremely diverse, with features and payoff profiles that will behave differently under specific market conditions.

It is also important to note that – on the liability side – there is also great diversity in the investor types. These include banks, insurance companies, pension funds, other financial institutions, multilateral institutions, national governments, non-financial corporations, foundations, charities and endowments, family offices, households and individuals. The distribution of fund products between these extremely diverse client types is not homogenous, and can differ significantly between EU Member States, as well as by investment product. The following charts show a gross breakdown of the main client types as a percentage of total assets under management in Europe at the end of 2021 (chart 1.4). They include a further split between institutional and retail clients for several EU (and non-EU) jurisdictions over the same period (chart 1.5).

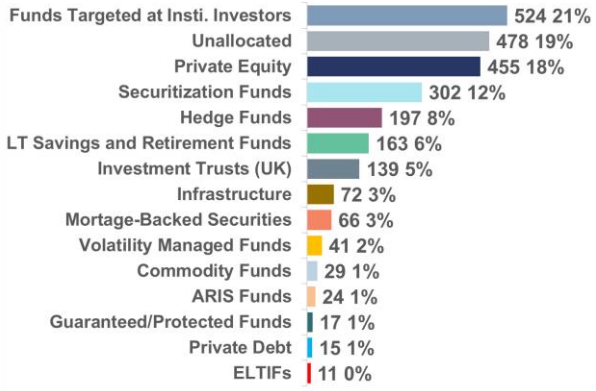
## CHART 1.2. NET ASSETS OF EUROPEAN INVESTMENT FUNDS BY FUND TYPE AT END 2022




Source: EFAMA

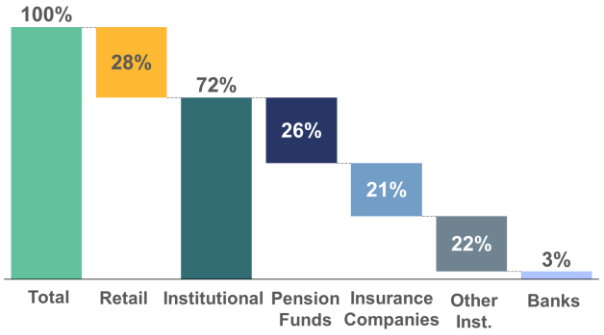
## CHART 1.3. ESTIMATED BREAKDOWN OF OTHER AIFS AT END 2022

EUR billions, percent




## CHART 1.4. BREAKDOWN OF CLIENTS BY AUM AT THE END OF 2021

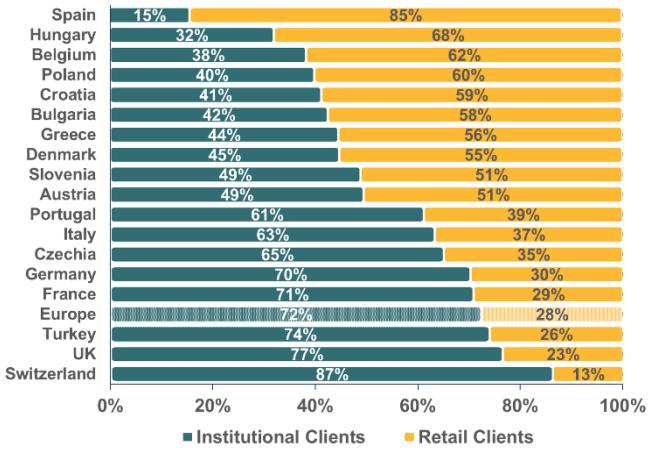
percent




Source: EFAMA

## CHART 1.5. AUM BY TYPE OF CLIENT AT THE END OF 2021

share in total AuM




Such diversity is not trivial, given that each investor type differs in terms of investment goals, investment horizons, risk tolerance and degree of sophistication. Even within a single investor category, such as 'retail clients', there can be stark differences. As a general example, young professionals are incentivised to invest in riskier assets over a longer-term investment horizon during their capital accumulation phase, compared to older individuals close to retirement age and the consequent capital drawdown phase. As a result, during important market corrections, the former is likelier to remain invested, whereas the latter can be expected to consider redeeming. Similarly, liability-driven investors – such as defined benefit pension schemes – will choose to remain invested or redeem their holdings based on when their liabilities *vis-à-vis* policy holders/retirees fall due, and not in the middle of a market correction, as some have assumed.

### 1.2.3. A highly regulated industry

The European investment fund sector has been subject to a strict regulatory framework since the UCITS Directive was introduced in 1985 to regulate collective, open-ended investment

schemes for the first time. The Directive has since undergone numerous enhancements to keep pace with the asset management industry's evolutions. It was complemented by the AIFMD regime in 2011, designed to regulate the management of 'alternative' investment funds. Both frameworks are currently undergoing revision following a European Commission proposal in November 2021, and are expected to be finalised during 2023. Below are some of the rules that define these comprehensive frameworks.

As we argue in the following section, considerations on liquidity risks in European OEFs should not ignore a series of key risk management requirements common to both frameworks; requirements that promise to be further enhanced as part of the ongoing legislative review. Of similar importance are the additional requirements stemming from the post-GFC financial market reforms. These aim to further reduce the potential for financial spillover effects between other large financial institutions, including banks, broker-dealers, exchanges and clearing houses. To this effect, counterparty risks between OEFs and other market participants have also been largely addressed through other key pieces of EU financial legislation. These include the European Market Infrastructure Regulation (EMIR), the Central Securities Depositories Regulation (CSDR), the Market in Financial Instrument Regulation (MiFIR) and the Securities Financing Transaction Regulation (SFTR).

Despite these strict and well-defined regulatory safeguards, capital markets remain vulnerable to sudden market corrections, bouts of illiquidity, corporate defaults and fraud. As the next section argues, policymakers must consider these vulnerabilities within the context of capital markets as a whole. By so doing, they will avoid the temptation for singling out and focusing exclusively on the (re-)regulation of a certain category of market participants, and namely investment funds.

## TABLE 1.1. THE UCITS/AIFMD FRAMEWORKS

| | UCITS | AIFMD |
|---|---|---|
| **Manager rules** | • Authorisation by the manager's home National Competent Authority (NCA) (Art. 6)<br>• Own funds (Art. 7)<br>• Effective risk management (Art. 51) | • Authorisation by the manager's home National Competent Authority (NCA) (Art. 7)<br>• Own funds (Art. 9)<br>• Effective risk management (Art. 15-16) |
| **Product rules** | • Authorisation by the UCITS's home NCA (Art. 5)<br>• Asset eligibility (Art. 50)<br>• Concentration limits, the '5/10/40' rule (Art. 52)<br>• Borrowing prohibition for investment purpose (Art. 83)<br>• Leverage limit (Art. 51.3)<br>• Depository (Art. 22) | • Authorisation by the AIF's home NCA (Art. 31)<br>• Self-imposed leverage limits (Art. 15.3)<br>• Depository (Art. 21) |
| **Disclosures** | • Prospectus (Art. 69)<br>• Key Investor Information (Art. 78)<br>• Annual and half-yearly reports (Art. 69) | • Annual report (Art. 22)<br>• Disclosures to investors (Art. 23) |
| **Reporting** | • Leverage reporting (Art. 51) | • Supervisory reporting (Art. 24)<br>• Additional reporting for 'significantly leveraged' AIFs (Art. 24.4)<br>• Additional reporting for effective monitoring of systemic risk (Art. 24.5) |
| **Supervisory powers** | • General powers (Art. 98)<br>• Suspension of subscriptions and redemptions in the interest of the unit holder or the public (Art. 98.2j) | • General powers (Art. 43)<br>• Suspension of subscriptions and redemptions in the interest of the unit holder or the public (Art. 43.2j)<br>• Leverage limits (Art. 25.3) |

# 2. Redefining 'systemic risks'

Capital markets have seen their own share of challenges over the last decade, with multiple market developments drawing attention to their perceived fragility. There was the March 2020 'dash for cash' induced by the COVID-19 pandemic, the UK Liability-Driven Investment (LDI) crisis as a result of a sudden spike in UK Gilt yields, along with other newsworthy debacles (including Woodford and Archegos).

To determine which among these market events are relevant to any discussion on the resilience of capital markets, it is important to distinguish between market developments that are systemically important and those that are idiosyncratic or specifically limited to one or fewer actors, and that therefore do not represent a threat to the broader financial system. Systemic risks have been defined as "the threat that developments in the financial system [such as the failure of large and interconnected institutions or growing endogenous imbalances] can cause a seizing-up or breakdown of this system and trigger massive damages to the real economy". [13] From this perspective, a market development such as the suspension of the Woodford Equity Fund would not qualify as the embodiment of a systemic risk, as the fund was neither sufficiently large nor interconnected enough to destabilise the UK market, let alone a larger regional one. Indeed, although this event was deeply unfortunate from an investor protection perspective, as investors faced large losses and saw part of their capital blocked in unlisted equities, it resulted in neither market disruptions, nor in any negative consequence for the broader UK economy.

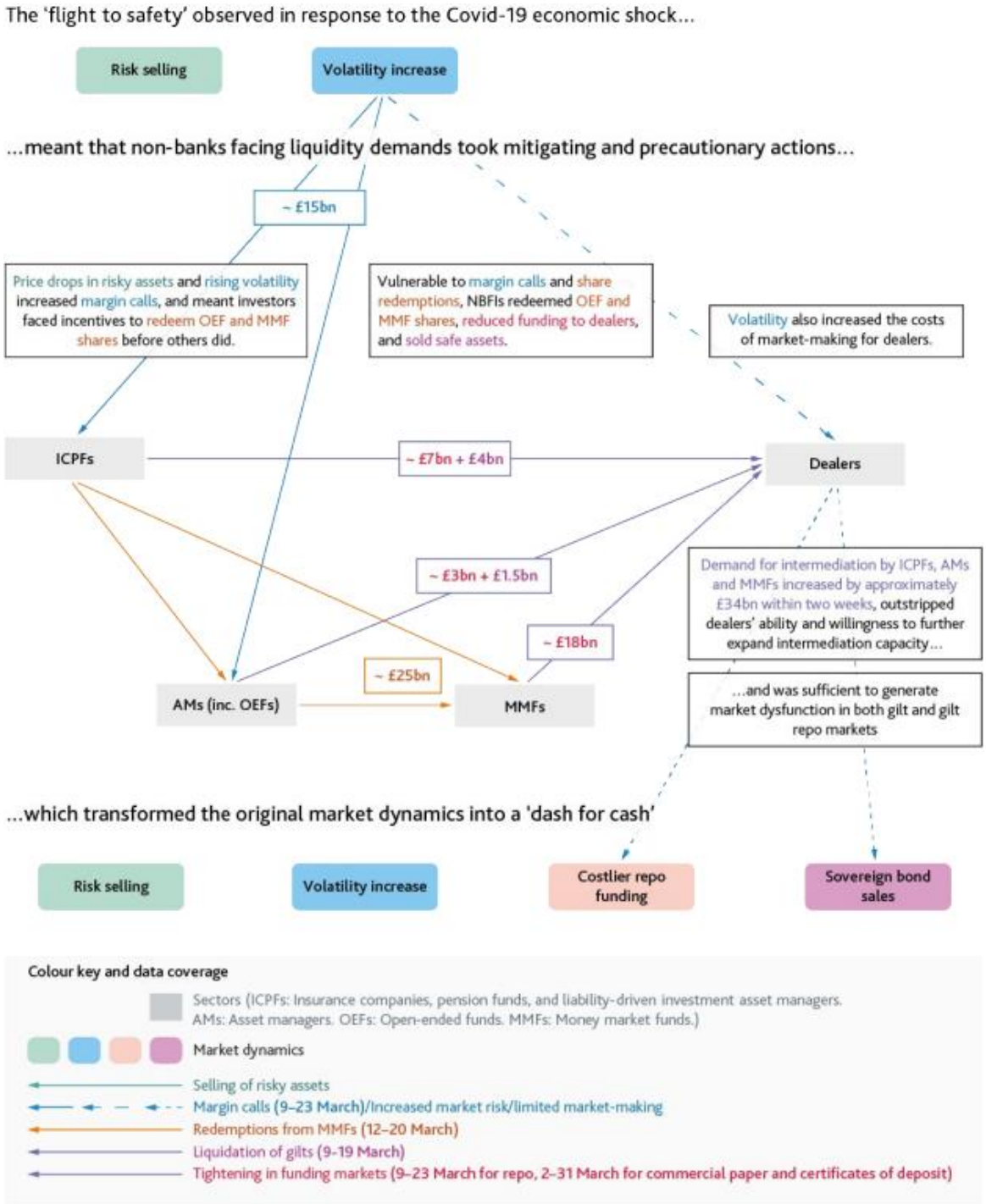
With hindsight, over the last decade global capital markets have undeniably experienced developments that could increase the probability of disorderly market corrections. Central banks have maintained accommodative monetary policies that have contributed – among other factors – to historically high valuations and leverage levels.[14] Moreover, the earlier, post-GFC reforms have limited the ability of broker-dealers to continue their market-making activities during periods of market stress. Meanwhile, reforms to foster central clearing infrastructures have *de facto* replaced counterparty risks with liquidity risks by mandating margin calls. While liquidity provision in capital markets has continued to grow, this is being mediated by more opportunistic players such as principal trading firms that tend to exit the market when volatility increases.[15] These developments have resulted in a situation where liquidity demand may exceed supply during situations of market stress. However, an encouraging observation is that – despite this decoupling between liquidity supply and demand – capital markets have so far remained resilient with stable trading volumes, although increases in trading costs were observed during recent periods of stress.[16]

Despite these developments, the focus of macro-prudential supervisors has lain elsewhere. Since the early 2010s, they have warned that – following the GFC reforms – risk-taking could move from the highly regulated banking sector into the allegedly less-regulated market-based finance sector, dubbed 'non-bank financial intermediation', or more evocatively 'shadow banking'. In light of the steady growth in capital markets over the last decade – and among investment funds in particular – these supervisors contend that some market-based intermediaries would be contributing to the build-

[13] Trichet, Systemic Risk, Distinguished Lecture in Economics and Public Policy, December 2009.
[14] Mirco Balatti, Chris Brooks, Michael P. Clements, and Konstantina, Did Quantitative Easing Only Inflate Stock Prices? Macroeconomic Evidence from the US and UK, September 2018; Kappou Viral V. Acharya, Ryan N. Banerjee, Matteo Crosignani, Tim Eisert, and Renée Spigt, Exorbitant Privilege? Quantitative Easing and the Bond Market Subsidy of Prospective Fallen Angels, February 2022.
[15] Adrien D'Avernas and Quentin Vaneweyer, Intraday liquidity and money market dislocations. August 2021; Robert Czech, Shiyang Huang, Dong Lou and Tianyu Wang, An unintended consequence of holding dollar assets, December 2021; Botao Wu, Post-Crisis Regulations, Trading Delays, and Increasing Corporate Bond Liquidity Premium, June 2022.
[16] BlackRock, A holistic approach to bond market resilience, August 2022.

up of risks in the system. The overarching concern for these authorities has been that some of these entities may contribute to 'fire sales', creating even greater demand for liquidity during periods of stress, when the cost of such liquidity increases exponentially (see Chart 2.1, which illustrates a situation that these authorities wish to avoid).

**CHART 2.1. LIQUIDITY DEMANDS DURING THE 'DASH FOR CASH' IN STERLING MARKETS**




Sources: Bank of England Sterling Money Market data collection, Crane data, EMIR Trade Repository Data, FCA transaction (MiFID II) data, Morningstar, Supervisory returns and Bank calculations.

Through its NBFI approach, which was developed in the early 2010s, the FSB has identified a narrow measure of entities that engage in "economic activities that may give rise to systemic risks". Open-ended investment funds represent the majority of this narrow measure, with the FSB grouping these together (with the notable exception of equity funds) on the basis that OEFs have features that make them subject to bank-like runs.

As set out in more detail in the following section, this choice negates the fact that the investment fund sector is inherently diverse and that most funds only follow long-term investment strategies that make them unlikely to contribute to the build-up of systemic risks. This has been partly acknowledged by the FSB, which recognised that "this classification is done on a conservative and inclusive basis, reflecting the assumption that policy measures and/or risk management tools have not been exercised" and consequently that "the narrow measure may overestimate the degree to which NBFI currently gives rise to post-mitigant financial stability risks given that existing policy measures, risk management tools or structural features may have significantly reduced or addressed financial stability risks".[17]

Investment funds were included in the narrow measure, yet other activities – ones that may equally contribute to the build-up of systemic risks – were excluded due to several shortcomings in the FSB's methodology. First, the FSB uses simplistic risk metrics (credit intermediation and maturity/liquidity transformation ratios) that do not account for the specific nature of the investment fund sector. For example, because an investment fund provides credit does not mean that it is engaging in a bank-like activity. While banks can create scriptural money by expanding their balance sheets, investment funds can only redeploy savings and are therefore constrained in the amount of credit they can provide to the real economy. Equally, it is not because an investment fund offers daily redemptions that one should equate these investment products with deposits susceptible to runs. Banks are subject to runs for two complementary reasons, i.e. deposits are a means of payment and banks can rapidly become insolvent. It is true that there have been concerns around the possibility of a 'first-mover advantage' among funds investing in less-liquid assets, but at this stage such concerns remain in the realms of theory and without any empirical backing, as it will be demonstrated in section 3.4.2.[18]

Second, and more problematically, the methodology was developed from the notion that that only non-banks were involved in liquidity transformation, and that when not part of a banking group, could contribute to the build-up of systemic risks. As a result, Insurance Companies and Pensions Funds (ICPFs), along with broker-dealers with ties to a banking group, were all excluded from the narrow measure. Yet, as we saw in recent market developments, these market participants can occasionally also find themselves in a situation where they have to liquidate large portions of their portfolios. This was the case for broker-dealers in the Archegos debacle of March 2021, for UK pension funds that relied on LDI in September 2022, as well as for most market participants at the height of the COVID-19 crisis in March 2020 (including central banks in the U.S. Treasury market). As a result, any macro-prudential supervisory approach that limits its scope of analysis to a small subset of market participants will inevitably fail to capture system-wide dynamics.[19] If market liquidity is the true concern of macro-prudential supervisors and international standard setters, then they should consider all market participants capable of generating and/or contributing to 'fire sales', regardless of which regulatory license they hold.

Finally, one should not expect market-based finance to behave anti-cyclically at an aggregate level during a period of market stress. In properly functioning capital markets, asset prices are based on openly available information. It is therefore normal to have (sharp) price corrections when new information is made available to the market. Rather than focusing on

[17] FSB, Global NBFI Monitoring Report, December 2022, p. 4.
[18] FSB, Global NBFI Monitoring Report, December 2022, pp. 47-51.
[19] As outlined in chart 3.2, European investment funds only accounted for approximatively 17% of European capital markets in 2022.

net sales, macro-prudential supervisors should focus on whether there are vulnerabilities in a specific sector that may amplify such sales. For example, when it comes to the investment fund sector, macro-prudential supervisors should not need to focus on whether investment funds sell securities during periods of market stress, but rather on whether these sales can be processed in an orderly fashion to meet investors' redemption demands while ensuring that the latter are also treated fairly. When analysing market events, supervisors should also recognise that those asset classes that may have experienced a sell-off could also represent buying opportunities in the near term, reversing the impact of the initial outflows. Investment opportunities and consequent portfolio reallocations in favour of cheaper (that is to say, undervalued) asset categories should therefore not be ignored. This suggests that supervisors' analyses should be less 'static'.

# 3. Key prudential concerns

Having redefined systemic risks, we next consider whether the European investment fund sector could convincingly be said to contribute to the build-up of systemic risks. This section reviews the various channels through which this could feasibly happen: size, risk-taking, leverage, liquidity transformation and interconnectedness. It broadly finds that the sector cannot be deemed as systemically important, although certain subgroups of funds may warrant more careful monitoring.

## 3.1. The growing size of the industry

The investment fund sector has grown – in terms of net assets under management (AuM) – more than other financial sectors. However, such growth is not a sufficient metric in its own right to conclude that investment funds could contribute to the build-up of systemic risks in the European financial system. As the majority of funds typically follow only long-term investment strategies, growth in the sector is essentially driven by valuation gains and continuous inflows from several investor categories.

Certain macro-prudential supervisors have pointed out that the European investment fund sector has, in recent years, accumulated a greater amount of total net assets compared to other financial sectors – including banking, insurance and pensions – enough to justify greater scrutiny. According to the ECB's own data (depicted in chart 3.1), long-term investment funds (that is to say, all investment funds excluding Money Market Funds) and ICPFs have respectively grown by EUR 5.2 trillion and EUR 1.6 trillion in assets under management. Whereas in Q4 2022 the former accounted for 18.3% of the European financial industry (from 14.5% in Q4 2015), the latter decreased from 13.8% in Q4 2015 to 13.3% in Q4 2022. Conversely, the balance sheet of other financial institutions – which include CCPs, broker-dealers and sovereign wealth funds – have remained relatively stable at around EUR 21 trillion. At the end of 2022, these institutions represented 25.8% of the European financial industry, compared to their previous 30.9% at the end of 2015. Commercial banks' total net assets have grown by EUR 7.3 trillion since Q4 2015, while their share of the European financial industry has remained steady at approximately 43%.[21]

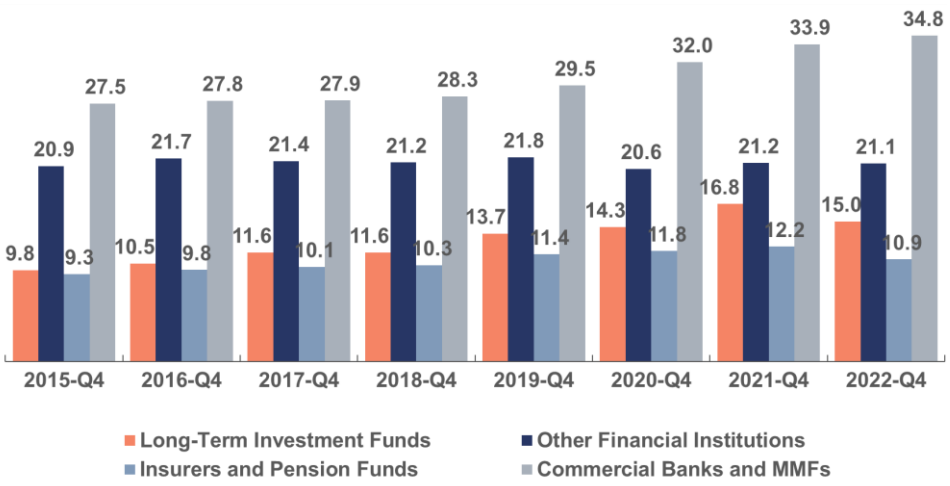
In the latter case, supervisors should rely on more-advanced analytical frameworks, such as those developed in the ESMA Guidelines on liquidity stress testing and Guidelines on Article 25 AIFMD.[20] Supervisors should nonetheless be aware that some of these frameworks have their own limitations, notably the impossibility of systematically stress testing market liquidity in the same way as bank regulators stress test the solvency of credit institutions.

[20] ESMA, Guidelines on liquidity stress testing in UCITS and AIFs, September 2019; ESMA, Guidelines on Article 25 of Directive 2011/61/EU, December 2020.

[21] Money Market Funds (MMFs) were excluded from our analysis because these funds have unique characteristics that require specific considerations (e.g. short-dated holdings, daily and weekly liquid asset requirements, etc.). Please refer to the following EFAMA papers for a more in-depth discussion on the MMF sector: EFAMA, Response to ESMA consultation on the legislative review of the EU Money Market Fund Regulation (MMFR), June 2021; EFAMA, Response to the FSB consultation report on policy proposals to enhance money market fund resilience, August 2021.

## CHART 3.1. EVOLUTION OF TOTAL NET ASSETS PER SECTOR IN THE FINANCIAL INDUSTRY

EUR trillions



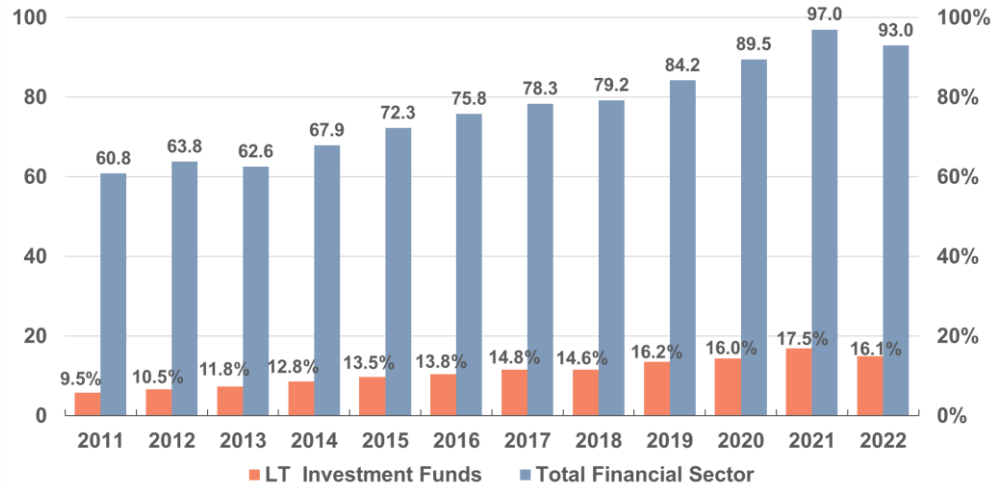

Source: EFAMA's calculations based on ECB data

### 3.1.1. Still a relatively small sector

The European investment fund sector remains – despite the rapid growth described in the previous section – a relatively small part of the broader financial ecosystem. When comparing the size of the long-term investment fund sector relative to the total amount of investable financial sector assets, one finds that the share of the long-term investment fund sector remains well below 20%, as shown in chart 3.2. While considering size as potentially conducive to larger spill-over effects, any macro-prudential analysis should also focus on how the interactions between all market participants shape the broader market dynamics.

## CHART 3.2. EVOLUTION OF THE RELATIVE SIZE OF THE LT FUND SECTOR IN THE EA

EUR trillions, percent

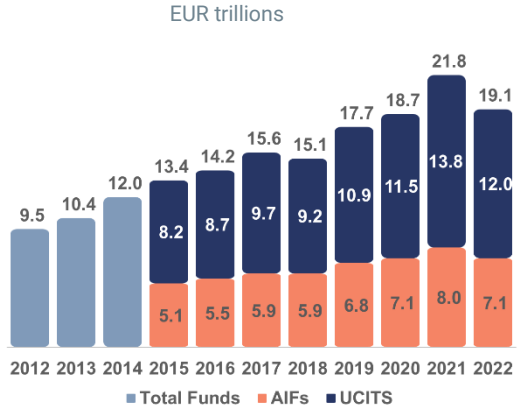



Source: EFAMA's calculations based on ECB data

### 3.1.2. A sector dominated by long-only strategies

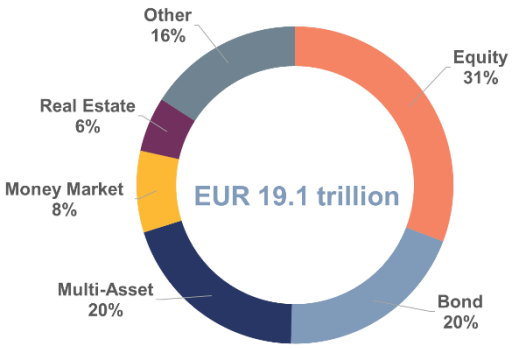
A further breakdown of European investment funds reveals that, at the end of 2022, UCITS funds accounted for 63% of total net assets managed under European collective investment schemes, with the remainder structured as AIFs.[22] Chart 3.3 frames the evolution in the growth of net assets for both types of collective investment schemes during the decade 2012-2022. Whilst it must be acknowledged that there are some UCITS funds that follow alternative strategies, one can assume that the size of the alternative investment fund sector is much smaller than these official figures show. Notably, this is due to the fact that in some jurisdictions many AIFs – such as *Spezialfonds* in Germany – are in fact long-term, UCITS-like funds.[23] Chart 3.4 furthermore shows that 71% of the net assets are managed under funds that invest in equities, bonds or a mix of both. Real estate funds account for 6% of the market, while other funds – including hedge funds and private equity funds – only account for 16% of the market. This is notwithstanding the fact that this latter sub-category also includes any unconstrained funds or those that invest a fraction of their portfolio in real assets, regardless of whether they follow an alternative investment strategy or not (see chart 1.3. for a breakdown of the 'other' category).[24]

**CHART 3.3. NET ASSETS OF EUROPEAN INVESTMENT FUNDS**




Source: EFAMA

**CHART 3.4. NET ASSETS OF EUROPEAN INVESTMENT FUNDS BY FUND TYPE AT END 2022**




### 3.1.3. Growth driven by inflows and valuation gains

A common misconception is that growth in the investment fund sector has been driven by the comprehensive post-GFC regulatory reforms of banks and other sell-side institutions, allegedly leading some of the previous banking activities to migrate into the market-based financial sector.[25] In reality, however, the relative growth of the sector has been driven by a series of broader market developments.

[22] EFAMA, Fact Book 2023, June 2023, p. 10.
[23] BVI, Remarks on the FSB's Call for papers: Systemic risks and policies to address them in non-bank financial intermediation, March 2022.
[24] EFAMA, Fact Book 2023, June 2023, pp. 10 and 52.
[25] Falato et al., Financial fragility in the COVID-19 crisis: The case of investment funds in corporate bond markets, Journal of Monetary Economics, Volume 123, October 2021, pp. 35–52.

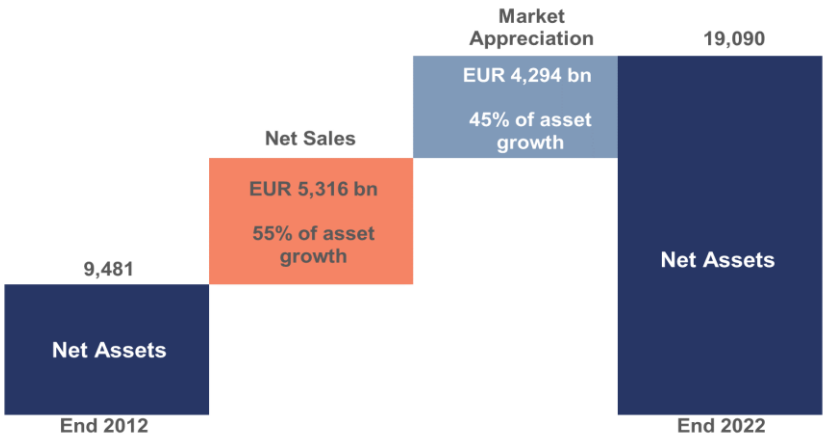
## *Valuation growth*

A prominent driver behind the growth in the European investment fund sector during the last decade has been valuation. Following the GFC and the Euro sovereign debt crisis, a prolonged period of accommodative monetary policies in Europe has contributed to marked valuation gains – particularly for equity funds among other asset classes. Chart 3.5 shows that market appreciation on the back of an accommodative ECB monetary policy accounted for around 45% of the total growth in net assets of UCITS and AIFs, whereas net sales accounted for 55%.[26]

In relative terms, other large market participants – such as banks and ICPFs – have benefited less from such valuation gains, as these institutions have had to predominantly invest in lower-yielding loans or fixed-income securities. Banks overwhelmingly invested in loans, and to a lesser extent, in fixed-income securities[27], with interest rates on Euro-denominated mortgage and corporate loans remaining exceptionally low over the last decade, rarely exceeding 3% per annum.[28.]

**CHART 3.5. GROWTH IN UCITS AND AIF ASSETS**

EUR billions

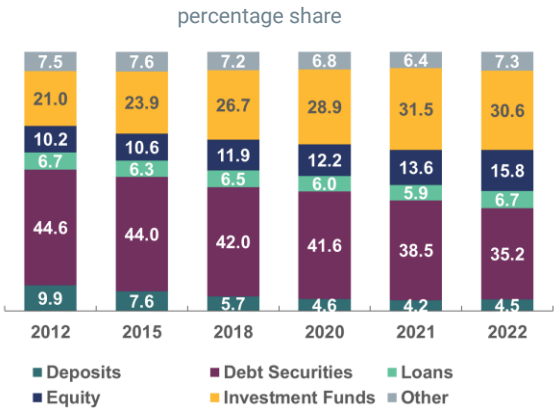



Source: EFAMA

As for ICPFs (see charts 3.6 to 3.9), these have rebalanced their portfolio toward equity and investment funds during the last decade, while still maintaining a substantial exposure to the fixed-income market, accounting for approximately 46% of the aggregate balance sheet of insurance companies and 34% of those of pension funds at the end of 2022.[29] At the end of 2019, fixed-income securities held by ICPFs were, on average, lower-performing than those held by investment funds, with 72% of these securities having a yield-to-maturity lower than 1%, while only 35% of bonds in the fund sector were in a similar situation.[30]

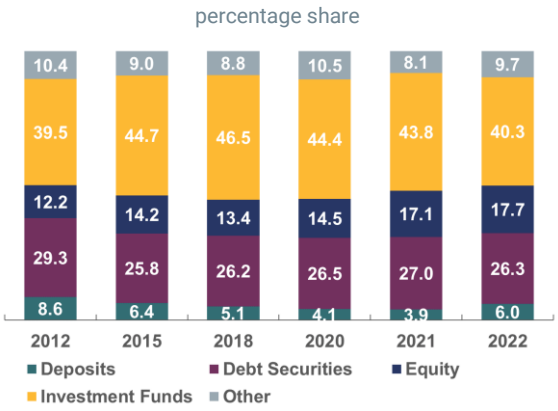
[26] EFAMA, Fact Book 2023, June 2023, p. 10.
[27] ECB, Money, banking and other financial corporations, Statistics Bulletin, June 2022.
[28] ECB, MFI interest rates on euro-denominated deposits from and loans to euro area residents, Statistics Bulletin, June 2022.
[29] EFAMA, Fact Book 2023, June 2023, pp. 70-72.
[30] ECB, Financial Stability Review, November 2019, p. 82.

## CHART 3.6. FINANCIAL ASSET OWNERSHIP BY EU INSURERS

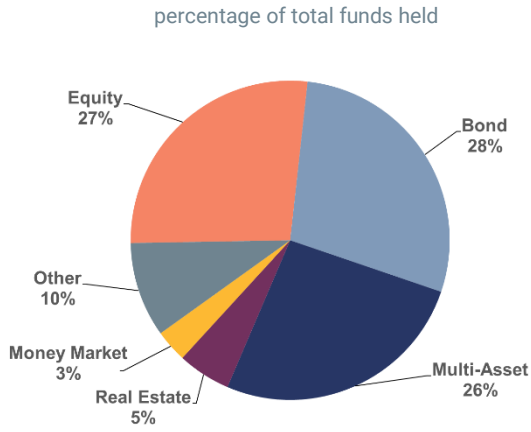



Source: EFAMA's calculations based on ECB data

## CHART 3.7. FINANCIAL ASSET OWNERSHIP BY EU PENSION FUNDS

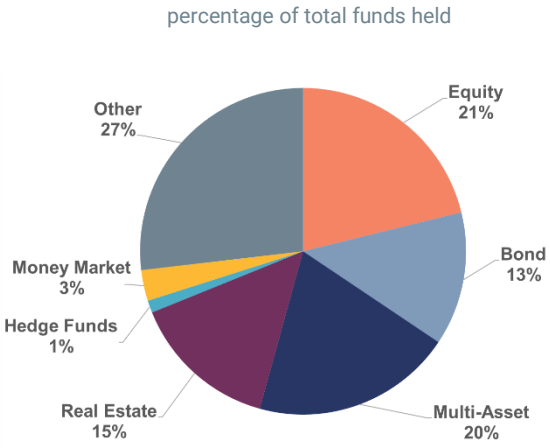



## CHART 3.8. INVESTMENT FUNDS HELD BY INSURERS IN THE EA AT END 2022




Source: EFAMA's calculations based on ECB data

## CHART 3.9. INVESTMENT FUNDS HELD BY PENSION FUNDS IN THE EA AT END 2022

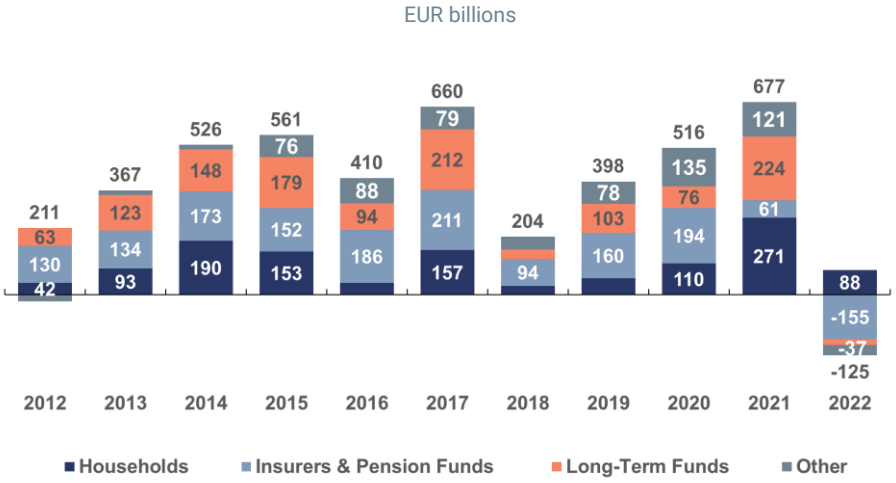



### *Greater allocations to investment funds*

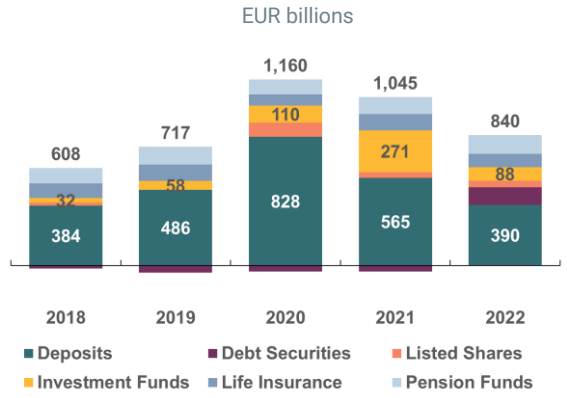
Retail investors are increasingly investing in capital markets through investment funds, with their holdings increasing from 9.4% in 2012 to 12.3% in 2022 at the expense of direct holdings in fixed-income securities. Despite strong overall retail net sales, investment funds have nonetheless experienced several years with more limited retail inflows (as per charts 3.10 and 3.11 below). Concerning ICPFs, these financial institutions have increasingly reallocated their portfolio towards investment funds over the last decade (see charts 3.12 and 3.13 below). Last, other financial intermediaries have seen their fund holdings almost double from 5% in 2012 to 9.1% in 2022, although they primarily reallocated their portfolio to equities over this period. Given the sheer size of this sector, their subscriptions inevitably account for a significant share of inflows into investment funds since 2012 (see charts 3.10 and 3.14).[31]

[31] EFAMA, Fact Book 2023, June 2023, p. 67-74.

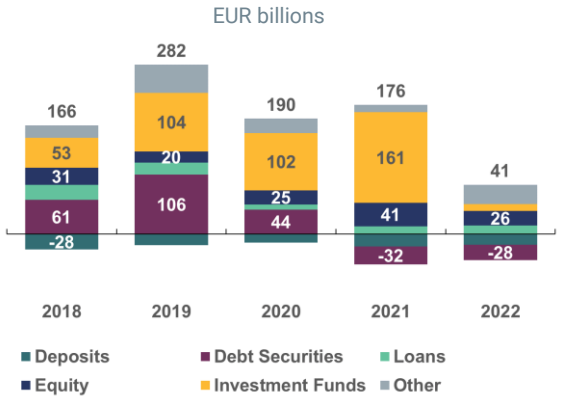
## CHART 3.10. NET ACQUISITION OF INVESTMENT FUNDS IN THE EU BY SECTOR



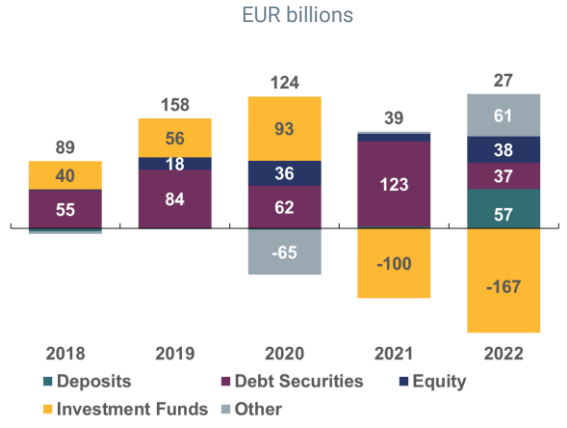

## CHART 3.11. NET ASSET ACQUISITIONS BY EU HOUSEHOLDS



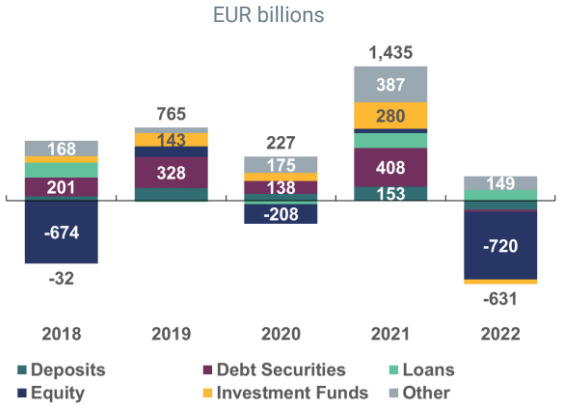

## CHART 3.12. ACQUISITIONS OF FINANCIAL ASSETS BY EU INSURERS




## CHART 3.13. ACQUISITION OF FINANCIAL ASSETS BY EU PENSION FUNDS




## CHART 3.14. ACQUISITIONS OF FINANCIAL ASSETS BY EU OTHER FINANCIAL INTERMEDIARIES




Source: EFAMA's calculations based on ECB data

## 3.2. A shift in risk-taking in bond funds

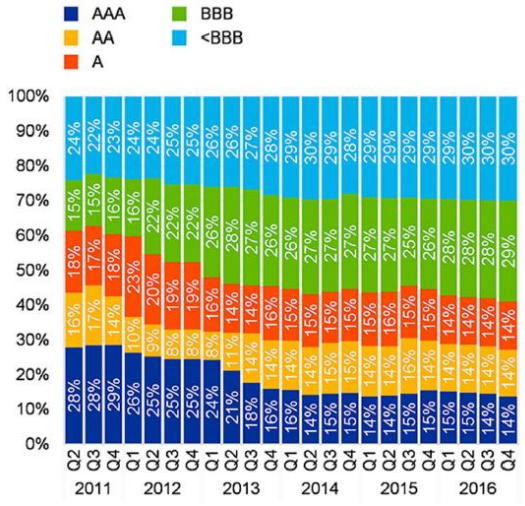
Due to the historically low levels of interest rates during the past decade, European bond funds have taken greater risks by rebalancing their portfolios to assets with higher yields and consequently lower credit ratings. This increase in risk-taking was, however, counterbalanced by a reduction in the average maturity of their underlying assets. It may be that this evolution simply reflects the fact that the share of issuances rated BBB and below has grown significantly in the European bond market since 2011.

As well as growth-related considerations, certain macro-prudential supervisors also suggest that investment funds have been taking on greater risk since 2008, increasing their exposure to bonds with lower credit scores and longer maturities. More specifically, the fear is that the protracted impact of the pandemic on the real economy, rising interest rates and the ongoing energy crisis may lead to an increase in corporate downgrades, or – worse still – a wave of defaults. [32] Where more than half of the debt securities held by EU bond funds comprise securities that are rated either at the lower end of the investment-grade scale (BBB+ to BBB-) or in the high-yield domain (below BBB-), it is argued that the impact of corporate downgrades could be pronounced for certain funds. In line with their investment strategies, corporate bond funds and high-yield bond funds would be most at risk.[33]

These macro-prudential bodies have presented evidence that suggests that EU bond funds have indeed increased their exposure to riskier fixed-income securities. Chart 3.15 shows that the aggregate share of assets with BBB ratings or below increased from 39% in 2011 to 55% by the end of 2014. This increase was reflected by a decrease in the aggregate share of assets with AAA ratings over the same period, from 28% to 15%.[34] At the same time, chart 3.16 also shows that the average rating of fund holdings has remained broadly stable since 2014, with an average of 60% in fixed-income securities having a rating of BBB or higher[35]. Moreover, chart 3.17 illustrates that greater credit risk-taking was compensated by a lower level of maturity risks. The average effective maturity of the assets in bond funds has consistently decreased during the last decade from 9.5 years in 2008 to 8.5 years in 2021.[36] As a result, while high-yield funds have maintained, on average, a portfolio rated below BB, investment-grade bond funds have seen their portfolios deteriorate slightly to an average rating of between A and BBB[37].

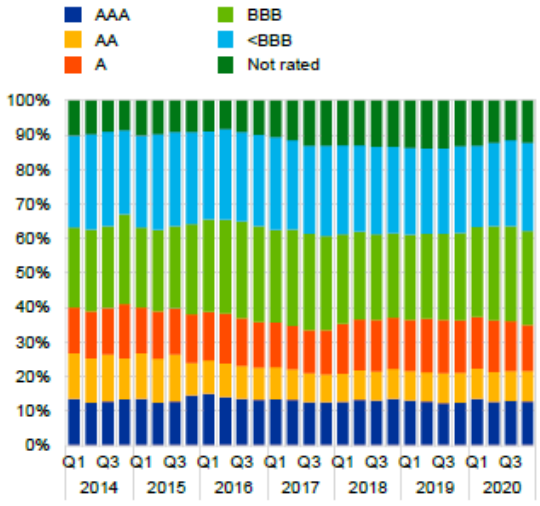
[32] For estimates, see BlackRock, Lessons from COVID-19: European BBB Bonds and Fallen Angels, July 2020.
[33] ESRB, NBFI Monitor, August 2021, p. 36; ECB, Financial Stability Review, November 2022, pp. 69-70.
[34] ESRB, Recommendations on liquidity and leverage risks in investment funds, December 2017, p. 26.
[35] ESRB, NBFI Monitor, August 2021, pp. 37-38.
[36] ESRB, NBFI Monitor, August 2021, pp. 37-38.
[37] ESMA, TRV Report, September 2021, p. 24.

## CHART 3.15. AVERAGE RATING OF FUND HOLDINGS IN EU BOND FUNDS




Source: ESRB

## CHART 3.16 AVERAGE RATING OF FUND HOLDINGS IN EU BOND FUNDS




Source: ESRB

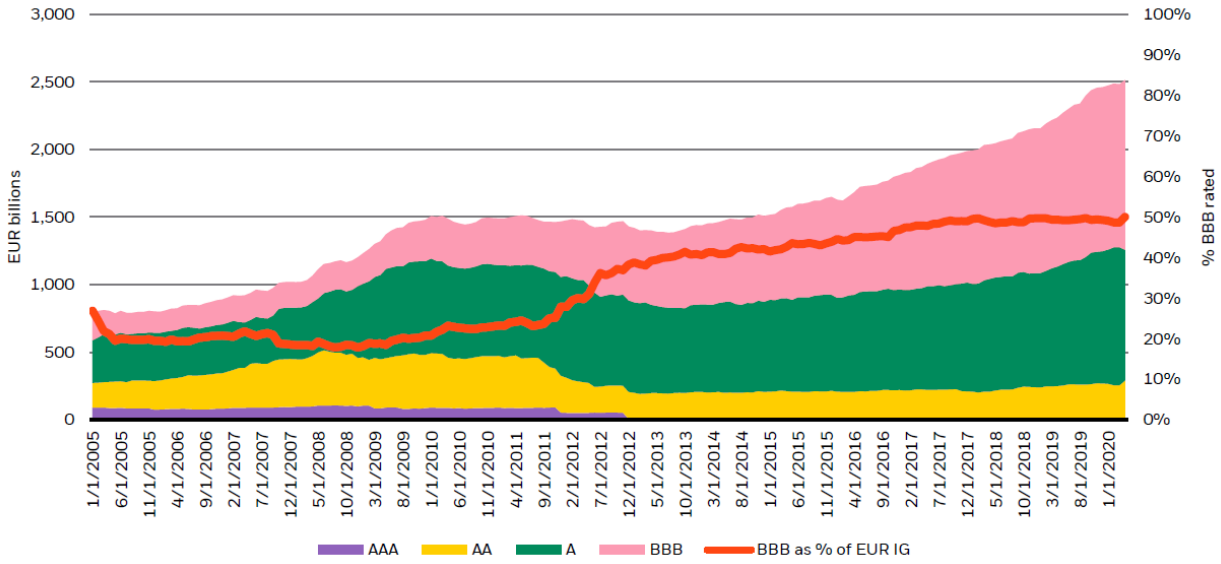
## CHART 3.17 WEIGHTED AVERAGE MATURITY OF ASSETS IN EU BOND FUNDS


Source: ESRB

In retrospect, this deterioration in the average rating of fund holdings in European bonds is however unsurprising. The European high-yield bond market has been growing faster than the European investment-grade bond market over the last decade, even though the latter remained eight times larger than the former by the end of 2019. Within the investment-grade bond market, the ratings structure has also evolved to contain proportionally more BBB bonds, around 50% since early 2018 (see chart 3.18 below). Similarly, while the weighted average maturity of European investment-grade corporate bonds reached a low of 5.1 years in 2012, it started to plateau at 6.2 years by 2015[38].

[38] BlackRock, Lessons from COVID-19: European BBB Bonds and Fallen Angels, July 2020.

**CHART 3.18. EUR INVESTMENT-GRADE BONDS BY RATING AND PROPORTION OF BBB**




Source: Bloomberg, BlackRock

Last, it is worthwhile noting that corporate downgrades do not necessarily result in cliff-edge effects, automatic forced selling by bond funds and finally market dislocation. First, management companies are expected to maintain their own risk management process to avoid a mechanistic reliance on credit ratings (see Articles 51 UCITS / 15 AIFMD). Second, price adjustments to a downgrade are a gradual process; in most cases, fixed-income securities are first put on a 'negative outlook' or 'negative watch' by credit-rating agencies before any downgrade takes place. A downgrade is therefore usually priced by the market before the event itself. In addition, European investment-grade bond funds have some flexibility in their investment strategies and can often invest up to 20-30% in high-yield bonds.[39]

## 3.3. Limited use of leverage

Leverage in the European investment fund sector remains low, and is often deployed for reasons other than gaining additional exposure to an underlying market, including for efficient portfolio and risk management purposes. It cannot, however, be excluded that some leveraged investment funds may face steep liquidity demands during periods of stress. For this reason, supervisors should focus on those funds that are at greater risk of a liquidity shortfall due to sudden margin calls.

A recurring concern is that leverage may have destabilising effects on the broader financial system by allowing certain investment funds to build excessive positions that – under worsening market conditions – may prove unsustainable. However, leverage – whether financial (through debt) or synthetic (through derivatives) – is an important portfolio/risk management tool. For example, investment funds may enter into derivative arrangements to hedge specific risks such as currency, manage inflows and build efficient portfolios.[40]

[39] BlackRock, Lessons from COVID-19: European BBB Bonds and Fallen Angels, July 2020.
[40] AMIC/EFAMA, Use of Leverage in Investment Funds in Europe, July 2017.

***Methodological note***

In the investment fund sector, leverage is expressed as the ratio between a fund's total exposure (numerator) and its NAV (denominator). There are, however, a couple of difficulties associated with the calculation of leverage, which have led to the development of a range of calculation methodologies.

First, calculating the total exposure of an investment fund may prove difficult when the fund has exposure to derivatives, because the market value of a derivative does not always properly reflect the level of risk taken by the fund. Under the UCITS/AIFMD framework, asset managers have to covert each derivative position into the market value of an equivalent position in the underlying market to avoid understating their exposure. The conversion to the notional value is not, however, ideal because it tends to overstate the exposure of certain derivatives (for example, with a call option the maximum loss that an investment fund may face is the market value of the option, yet the fund has to use the market value of the underlying equity to calculate the notional value of the option). To avoid situations where funds would excessively overstate their total exposure, the UCITS/AIFMD framework provides the possibility – under certain conditions – to adjust leverage figures with duration netting and delta adjustment.

Second, as outlined above, not all derivative products lead to additional exposure. There are derivatives that are used by investment funds to hedge or net their existing positions. Gross leverage figures do not take this nuance into consideration, assuming that all derivatives increase the risks taken on by investment funds. However, commitment/net leverage figures allow asset managers to subtract netting and hedging arrangements from their total exposure. Similarly, when calculating the 'adjusted gross leverage', ESMA does not include interest rates and foreign exchange derivatives when calculating gross leverage, because it deems that these are mostly used by investment funds for hedging purposes.

Despite the long-standing concerns over leverage in the European investment fund sector, a majority of funds do not use financial or synthetic leverage. By law, pursuant to Article 83(2) UCITS, UCITS funds cannot borrow cash for investment purposes; and although there is no such limit for AIFs, UCITS-like AIFs are unlikely to borrow cash either. The average borrowing in AIFs – 21% of NAV – remains low by most standards, although there are important disparities among AIF categories, with certain categories – such as hedge funds – having materially higher average borrowing levels. [41] Moreover, on synthetic leverage, the UCITS Directive forbids a net exposure higher than 200% (including the value of their physical securities), with the notable exception of UCITS funds that use the Value at Risk (VaR) approach to calculate their leverage levels. [42] The AIFMD, meanwhile, requires that management companies set a net leverage limit for AIFs in their prospectuses. As a result, and as outlined in Table 3.1., 65% of European investment funds do not use any synthetic leverage. The use of leverage is more prevalent in those funds with assets under management over EUR 5 billion (80%), as well as in some sub-sectors such as bond, hedge and mixed funds (over 45%).[43]

[41] ESMA, AIF Annual Statistical Report, February 2022, p. 6.
[42] Pursuant to Article 41 of Commission Directive 2010/43/EU, UCITS funds may opt for the VaR approach to comply with their leverage limit. While this approach may allow these funds to exceed the 200% commitment leverage limit, they are required to calculate their gross leverage and to report it to their supervisor.
[43] ECB, The impact of derivatives collateralisation on liquidity risk: evidence from the investment fund sector, Working Paper Series, No 2756, December 2022, p. 9.

**TABLE 3.1. SHARE OF FUNDS USING DERIVATIVES BROKEN DOWN BY NAV AND STRATEGY**

| NAV in EUR millions | Bonds | Equities | Hedge | Mixed | Real estate | Other | All types | Number of euro area funds |
|---|---|---|---|---|---|---|---|---|
| 0 – 1 | 6% | 2% | 6% | 7% | 3% | 3% | 4% | 7, 575 |
| 1 – 5 | 24% | 15% | 23% | 24% | 6% | 37% | 28% | 5, 274 |
| 5 – 50 | 42% | 26% | 49% | 40% | 9% | 34% | 34% | 19, 215 |
| 50 – 100 | 53% | 34% | 55% | 50% | 13% | 31% | 42% | 6, 932 |
| 100 – 500 | 63% | 45% | 65% | 61% | 16% | 36% | 52% | 11, 693 |
| 500 – 1, 000 | 72% | 57% | 70% | 68% | 16% | 40% | 62% | 2, 364 |
| 1, 000 – 5, 000 | 78% | 68% | 76% | 73% | 26% | 40% | 69% | 2, 013 |
| > 5, 000 | 88% | 77% | 75% | 85% | 78% | 45% | 81% | 183 |
| Not available | 2% | 2% | 3% | 4% | 1% | 3% | 3% | 3, 292 |
| All sizes | 50% | 33% | 46% | 45%% | 8% | 23% | 35% | 58, 544 |
| Number of euro area funds | 9, 693 | 12, 481 | 2, 089 | 15, 270 | 5, 072 | 13, 939 | 58, 544 | |

Source: ECB

Unsurprisingly, on aggregate, leverage remains low in the European investment fund sector. The ECB has, for example, recognised in 2016 that "compared to the traditional banking sector where assets are often more than 10-30 times the size of equity, leverage in the investment fund sector is low with total assets much less than twice the amount of equity".[44] This finding still holds true today, as the ratio of total assets to shares in the European investment fund sector was 1.09 at the end of 2022.[45] Using the standard AIFMD regulatory measures, the ESMA AIF Statistical Report shows that the average adjusted gross leverage in the AIF sector was 139% at the end of 2020. This figure, however, overstates the exposure of most alternative funds, as the use of leverage is concentrated in only a few AIFs. Indeed, while the average adjusted gross leverage for hedge funds is of 327%, it would not exceed an average of 141% for the other alternative fund categories according to ESMA[46]. In fact, even within the hedge fund category, there are important disparities: the highest 10% of leveraged hedge funds have an aggregate gross adjusted exposure of 600%.[47] As a result, the median of alternative investment funds has an adjusted gross leverage of only 102%, far below the AIF average.[48] Although the figures are not available on a European level, one may expect that the leverage levels for UCITS funds would be even lower given the product rules that apply to this category of investment funds.

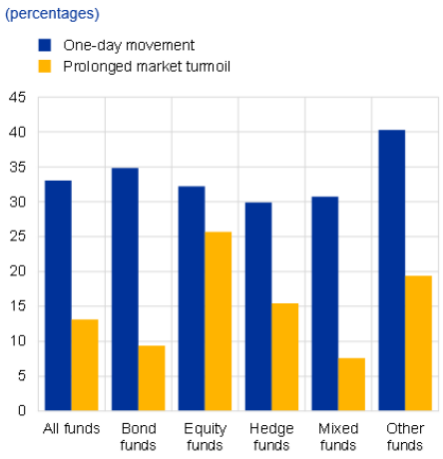
These low figures are not surprising, given the supervisory framework put in place in Europe to limit the use of leverage. During the authorisation process, NCAs evaluate the expected use of leverage by a fund and require additional assurances from the management company when the expected leverage exceed a certain threshold, usually a gross leverage higher than 300 or 400%. AIF managers also have to regularly provide their NCAs, pursuant to Article 24 AIFMD,

[44] ECB, Shadow banking in the euro area: risks and vulnerabilities in the investment fund sector, Occasional Paper Series, No 174, June 2016.
[45] ECB, Statistics Bulletin, June 2023.
[46] ESMA, AIF Statistical Report, February 2022, p. 6.
[47] ESRB, NBFI Monitor, August 2021, p. 43; ESMA, AIF Statistical Report, February 2022, p. 13.
[48] ESMA, TRV Report, September 2021, pp. 27-28.

with supervisory information on the AIFs under their management, including leverage figures, principal exposures and exposures to derivatives. These reporting requirements are even more stringent for AIFs, whose leverage calculated under the commitment approach exceeds 300% (including here again, the value of physical securities). In addition to the above supervisory reporting requirements, the asset manager has to provide information on the total financial borrowing of the AIF, including borrowing embedded in derivatives and short selling. At the moment, UCITS funds benefit from a lighter-touch reporting regime under Article 51(1) UCITS, because of the multiple other product limits with which a UCITS fund has to comply (such as the concentration and financial borrowing limits). Lastly, based on the AIFMD supervisory reporting and in accordance with Article 25 AIFMD, NCAs monitor the use of leverage by AIFs on a risk-based basis. This focuses on those funds that pose the greatest risks to the system and can impose leverage limits on AIFs when they deem its use excessive.[49]

It is nevertheless critical for supervisors to continue evaluating the use of leverage in capital markets considering the potential for the build-up of systemic risks. Recent market developments such as the COVID-19 pandemic and the Archegos debacle provide useful lessons as to where vulnerabilities may lie in terms of leverage in capital markets. The pandemic highlighted the nexus created by the post-GFC financial reforms between leverage and liquidity, when daily variation margin calls for European investment funds reached tens of billions of euros. Daily margin requirements were introduced for the vast majority of derivative transactions in order to reduce counterparty risks; however, this ultimately created more liquidity demands from investors as a result – including for investment funds – during periods of stress. Yet, due to deteriorating liquidity holdings, the ECB believes that "between 13% and 33% of euro area funds with sizeable derivatives exposures may not have sufficient liquidity buffers to meet the calls" (see chart 3.19 below). The central bank therefore concluded that these funds are "likely to redeem MMF shares, pro-cyclically sell assets and draw on credit lines, thus amplifying the market dynamics under such stress scenarios".[50]

**CHART 3.19. ESTIMATED SHARE OF FUNDS WITH SHORTFALLS UNDER BASELINE SCENARIOS BY TYPE OF FUND**




Source: ECB

[49] ESMA, Guidelines on Article 25 of Directive 2011/61/EU, December 2020.
[50] ECB, The impact of derivatives collateralisation on liquidity risk: evidence from the investment fund sector, Working Paper Series, No 2756, December 2022.

The Archegos debacle, moreover, highlights the importance of transparency and proper risk management by prime brokers. Archegos was a U.S. family office with an oversized exposure to a small number of (technology) stocks through total return swaps (TRS). This is an investment strategy that is far from representative of the broader investment fund sector, even among hedge funds. This debacle shows that unconstrained leverage can lead to heavy losses for counterparties – USD 10 billion concentrated among five banks in this particular case – and may have had a material impact on the price of the underlying securities due to forced liquidations; a drop exceeding 30% for Archegos' top long positions. Last, it shows that there may be risk management shortcomings among certain of the prime brokers that provided leverage finance to Archegos without fully grasping the counterparty risks associated with its strategy.[51]

## 3.4. Liquidity transformation allowing better allocation of capital

A robust liquidity risk management framework is a prerequisite for any fund to obtain the required regulatory approvals, as well as for its future success. Recent supervisory reports have demonstrated that fund liquidity management in Europe meets the highest regulatory standards. In March 2020, the fund sector experienced a significant market correction induced by the COVID-19 pandemic. Yet, even the hardest-hit fund sub-sector – corporate bond funds – proved resilient. Therefore, rather than focusing on the whole sector, supervisors should focus on those subsets of funds exposed to greater liquidity risks. This should ensure that – through effective oversight and proper enforcement – all management companies implement adequate liquidity risk management frameworks.

It is clear that OEFs engage in liquidity transformation to various extents, by investing in assets that have variable liquidity and maturities while allowing investors to redeem their holdings on short-term notice (depending on each funds' redemption terms). Some funds (particularly those of the UCITS type) are structured to offer daily redemptions to meet investor liquidity expectations. Such a set-up has the significant advantage that subscriptions can be invested directly in the market to generate performance. Nevertheless, to properly manage fund subscriptions and redemptions, management companies need to have resilient liquidity management policies in place, an important element of which are LMTs, which comprise all the liquidity management practices available to investment funds to honour their redemption terms.

The concerns of macro-prudential supervisors over OEFs have crystalised around this liquidity transformation, often characterised as a 'liquidity mismatch'. These concerns stem from the fact that – should all investors redeem simultaneously – many investment funds would have insufficient liquidity to meet such outflows. While LMTs and regulatory disclosures to investors exist to manage redemptions in an orderly fashion, the emphasis from supervisors has too often been placed on the so-called 'first-mover advantage', particularly during periods of market stress. 'First-mover advantage' occurs where an investor seeks to redeem their holdings ahead of other investors, usually to avoid dilution impacts from trading in stressed conditions and/or potential restrictions in the amount of their holding returned, due to the use of LMTs or structural changes in the fund's portfolio that result in a lower liquidity profile. This would force the fund manager to sell the fund's assets (potentially at a discount), leaving remaining investors exposed to a diluted and/or less liquid portfolio, which may in turn trigger additional redemption demands. A further conjecture posits that such selling activities would lead to further

[51] Credit Suisse, Special Committee of the Board of Directors report on Archegos Capital Management, July 2021; ESMA, Leverage and derivatives – the case of Archegos, TRV Risk Analysis, May 2022.

rounds of 'fire sales' by other fund managers and investors, thereby transforming an already-large market correction into a fully-fledged financial crisis, with a significant toll on the real economy and also potentially prompting central bank intervention as an ultimate backstop.

In the EU, the ESRB and ESMA have identified several segments of the investment fund sector where there would allegedly be 'structural liquidity mismatches'. These include a) corporate bond funds investing in high-yield bonds or loans with daily redemption frequency and no LMT; b) real estate funds investing in commercial real estate (CRE) with high redemption frequency (such as quarterly or more frequently) but with short notice periods and no gates; c) alternative funds of funds with daily redemption frequency; and d) money market funds investing in commercial paper (CP) or certificates of deposit (CDs).[52] Our analysis focuses on corporate bond funds, as these faced the largest redemption demands during the COVID-19 crisis (up to an average of 8% for high-yield corporate bond funds in the course of March 2020). By comparison, the other fund categories identified above faced fewer redemptions. For their part, MMFs faced moderate redemptions (3.4%) over the same period, although given their specificities, these deserve to be treated separately.[53]

As a preliminary consideration, it is crucial to underscore the difficulty – not to say the impossibility – of making accurate evaluations based on aggregate figures on whether there are 'structural liquidity mismatches' in the sectors. The liquidity profile of OEFs varies significantly through the industry, as well as through time, depending – as it does – on an individual fund's portfolio, its investor base (no investor has the same redemption pattern), the use of leverage (where leveraged funds may additionally face margin calls) and market conditions. On the latter, it should be noted that even those assets that are usually liquid can temporarily suffer bouts of illiquidity under certain market conditions (for example, even the U.S. T-Bill market saw significant increases in bid-ask spreads in March 2020). Such differences, we find, are insufficiently factored into the analysis performed by macro-prudential bodies.[54]

As a result, rather than blindly trying to match the liquidity of their assets and liabilities, investment funds should seek to design liquidity set-ups that are consistent with a number of parameters, including the investment strategy, type of investors, underlying assets, frequency of subscriptions/redemptions and availability of liquidity management tools.

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[52] ESRB, Recommendation on liquidity risks in investment funds, May 2020; ESMA, Report on liquidity management in open-ended funds, November 2020, p. 50; ESMA, TRV Report, September 2021, p. 25; ESRB, NBFI Report, August 2021, p. 20; ESMA, Annual Statistical Report, February 2022, p. 4.

[53] EFAMA, March 2020 Fact Sheet, May 2020; EFAMA, Market Insights – Net outflows UCITS in March 2020, Market Insights, Issue n°1, May 2020; EFAMA, Money Market Funds in Europe – State of Play, Market Insights, Issue n°2, October 2020; EFAMA, European MMFs in the Covid-19 turmoil: Evidence, experience and tentative considerations around eventual future reforms, November 2020.

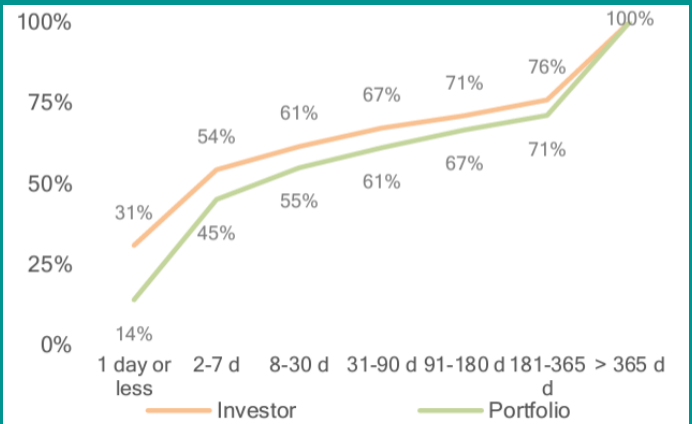
[54] As an example, we refer to the charts appearing in the ESRB's EU Non-bank Financial Intermediation Risk Monitor, No. 6 of August 2021 (pp. 13 and 68 thereof). These are not reliable in terms of identifying potential systemic risk as the analysis aggregates funds that are very different and wrongly assumes that all investors are alike.

### *Methodological note*

European macro-prudential supervisors use different proxies to determine whether there are structural liquidity mismatches in the fund sector. The most advanced one is a graphical comparison between the liquidity of the assets and the fund's redemption policy (information that is provided to macro-prudential supervisors by management companies in their supervisory reporting as per chart 3.20 below).[55]

This particular proxy, however, overestimates liquidity both on the asset and liability sides. For example, on the liability side, it is not because a fund offers daily or even weekly redemption rights that all investors will redeem their shares on a daily or weekly basis. In general, we observe that most end investors are invested for the long-term, and are unlikely to redeem their shares for years, if not decades. It is therefore not sufficient to estimate alleged liquidity mismatches on the basis of the redemption frequency presented in the fund prospectus. Greater transparency on the client base would allow for partial mitigation of this concern, as management companies would have access to more reliable data to help estimate future outflows. There are similar shortcomings for the measurement of liquidity on the asset side, as outlined by IOSCO in a recent report.[56]

**CHART 3.20. LIQUIDITY MISMATCH OF AIFS AT AGGREGATE LEVEL**




Note: Portfolio and investor liquidity profiles of AIFs managed and/or marketed by authorised AIFMs, end of 2020. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. EEA30 and non EEA30 AIFs by authorised AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

## 3.4.1. Fund liquidity management

Risk management practices have – and will continue – to evolve with the EU legislation, which has ascribed a growing number of requirements for how management companies should manage liquidity risks. The UCITS/AIFMD framework requires management companies to have robust liquidity management policies and procedures in place to ensure that asset managers have sufficient liquidity to face foreseeable redemptions and appropriate LMTs to confront even unprecedented redemptions (see Articles 40(3) of the UCITS Commission Directive and 16

[55] ESMA, AIF Annual Statistical Report, February 2022, p. 13.
[56] IOSCO, Investment Funds Statistics Report, January 2023, pp. 18-19.

of the AIFMD).[57] The recent *IOSCO Thematic Review on Liquidity Risk Management Recommendations* shows that the EU jurisdiction has some of the current best practices in terms of fund liquidity management.[58]

A proper liquidity risk management policy should combine a number of elements that ensure that funds are able to meet their liquidity needs under most, if not all, market conditions:

**Liquidity profile:** Each investment fund should have a liquidity profile that ensures consistency between investors' profiles (and related foreseeable liquidity needs) and the fund's chosen management strategy. Asset managers and their trading desks usually adjust the portfolio composition of their funds by reacting to changes in market conditions – and particularly during times of stress – to preserve the liquidity and risk profile of their funds. During periods of volatility, portfolio managers may, for example, trade in smaller lot sizes, change the composition of the portfolio in favour of more liquid securities or defensive positions, decrease the concentration of particular securities within the portfolio or source additional liquidity, all while not compromising the chosen investment strategy.

**Redemption frequency:** Each investment fund should have a redemption frequency consistent with the broader liquidity set-up of the fund, taking into account both the liquidity of the underlying portfolio as well as the availability of LMTs.

**Anti-dilution arrangements:** In line with their fiduciary duty, investment funds should take sufficient precautions to limit the level of dilution that may result from the subscription and redemption process. One potential anti-dilution arrangement among funds investing in (less-liquid) transferable securities is the practice of 'vertical slicing', where the investment fund sells the underlying assets on a pro-rata basis. When used, this practice essentially eliminates the need for a fund to sell its most liquid assets first. This is complemented by anti-dilution arrangements, including price-based tools such as anti-dilution levies or swing pricing, which allocate trading costs to subscribing and redeeming investors, thus protecting the other investors from dilution.

**Crisis management arrangements:** Every investment fund should have the possibility of suspending the subscription and redemption of shares, should the fund no longer be able to guarantee an orderly redemption process. Gates are another type of LMT that are frequently used during periods of stress. They allow the management company to limit the level of redemptions to a set percentage of the fund. Management companies are expected to maintain documented liquidity management policies that clearly specify under which conditions these LMTs can be activated.

**Stress-testing:** Management companies are also obliged to conduct stress-testing exercises – at minimum annually – for each fund under their management.[59] These aim to ensure that funds are sufficiently resilient even during periods of extreme stress. The exercises can also inform management companies on how their fund is likely to react to certain risk factors and therefore help them adjust their liquidity management policies accordingly (by, for example, determining under which conditions certain LMTs should be activated).

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[57] Please refer to the following papers for more insights into fund's liquidity risk management: EFAMA/AMIC, Managing fund liquidity risk in Europe: Recent regulatory enhancements & proposals for further improvements, January 2020; AMIC/EFAMA, Response to IOSCO consultation on open-ended funds: LRM recommendations and Market Stress of 2020, April 2020; AFG, Practical guide to liquidity risk management compliance, September 2020; BlackRock, A European perspective on the use of liquidity management tools, Policy Spotlight, July 2022; ALFI, Swing pricing guidelines, July 2022.

[58] IOSCO, Thematic Review on Liquidity Risk Management Recommendations, November 2022.

[59] ESMA, Guidelines on liquidity stress testing in UCITS and AIFs, September 2019.

On LMTs specifically, one should be aware that these tools are not necessarily appropriate in all cases and need to be assessed and used according to the characteristics of the specific fund. From an asset-side perspective, some portfolios are less liquid than others, and therefore more difficult to sell over short periods without bearing greater transaction costs (higher bid-offer spreads). From a liability side perspective, redemptions may be driven by various reasons, which will vary from one investor to the other and from one situation to the other (including uncertainty, deteriorating risk sentiment, reputation risk and/or regulatory requirements). Asset managers have, however, greater visibility of upcoming outflows from (large) institutional investors than from retail investors. This is because it is harder to model outflows from retail investors, as shares in retail funds are mostly sold through third-party distributors.[60]

The results of ESMA's 2020 Common Supervisory Action (CSA) on UCITS liquidity risk management conducted in response to the COVID-19 market downturn in March 2020 concluded that "overall, most UCITS managers have demonstrated that they have implemented and applied sufficiently sound LRM processes". However, ESMA also noted that "in a few cases, some adverse supervisory findings were identified, particularly linked to documentation, procedures and methodology. In some cases, the liquidity assessment before investing should be strengthened, as well as the data reliability verification and the internal control framework".[61] The most recent ESMA liquidity stress test confirmed the above assessment, noting that (based on an average weekly redemption shock of around 22% and factoring the higher historic losses suffered during the 2017-2019 period) "more than 86% of AIFs and 90% of UCITS (would be) resilient to the shocks".[62]

### 3.4.2. No concrete evidence of a 'first-mover advantage'

Looking specifically at corporate bond funds, one important concern for macro-prudential supervisors is that there could be a 'first-mover advantage', which would make these funds prone to runs. As open-ended corporate bond funds invest in fixed-income securities, which may prove difficult to trade during a period of market stress, end investors would be incentivised to redeem their holdings ahead of others. Such behaviour would be provoked by the desire to avoid finding themselves in a less-liquid fund, or holding shares of diluted value as a result of redemptions by other investors.[63]

Consistent with this hypothesis, some academic studies have shown that – while redemptions from equity funds were proportional to negative performances – corporate bond funds display a higher sensitivity to negative performances. In other words, outflows from corporate bond funds would tend to grow increasingly large as bond funds record negative performances (as per chart 3.21). The conclusion by academics was that corporate bond funds would be more sensitive to negative performances than equity funds, as investors in bond funds tend to redeem in advance for the reason outlined previously.[64]

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[60] This dialogue with institutional investors is particularly important for AIFs considering that their ownership is highly concentrated with the top 5 investors accounting on average for 75% of the NAV across fund type (see ESMA 2022 AIF Statistical Report, p. 12).

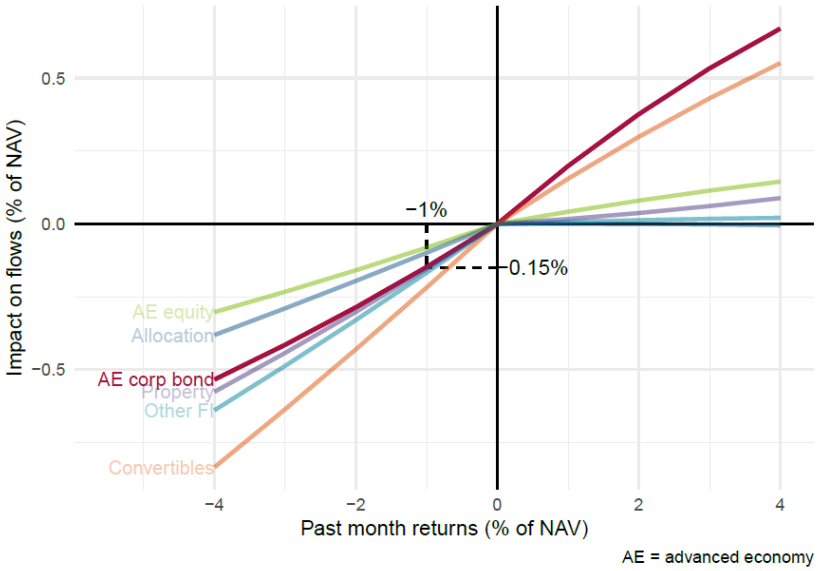
[61] ESMA, Public statement on compliance with UCITS liquidity rules, 24 March 2021.

[62] ESMA, Report on liquidity risk in investment funds, November 2020, p. 40.

[63] Bank of England, Reducing liquidity mismatch in open-ended funds: a cost-benefit analysis, April 2022.

[64] Goldstein et al., Investor flows and fragility in corporate bond funds, *Journal of Financial Economics*, Volume 126, Issue 3, December 2017, pp. 592-613.

## CHART 3.21. ESTIMATED FLOW-PERFORMANCE RELATIONSHIP BY FUND ASSET CLASS




Source: Bank of England

It appears, however, that this sensitivity to negative performances is not a characteristic particular to corporate bond funds, but rather a feature of the broader bond market. A more recent study from the Investment Company Institute (ICI)[65] has shown that bond mandates display the same sensitivity to negative performances as bond funds, thereby demonstrating in the end that there is no 'first-mover advantage' in the fund sector. More specifically, the study points out that competition for liquidity among investors with bond exposure is a feature of any bond capital market, although it is undeniably more visible in the corporate bond market. As this market is inherently less liquid, there is an incentive for investors to sell their assets ahead of others to take advantage of the limited liquidity provided by broker-dealers. Should corporate bond market liquidity become temporarily impaired, bond investors may have to accept steeper discounts when selling their assets.

A comparison between bond funds and mandates allows determination of whether the sensitivity of bond funds to negative performances is due to competition for liquidity within the funds (a fund-level 'first-mover advantage'), or simply the result of the aforementioned competition for liquidity within the broader market (a market-wide 'first-mover advantage'). A crucial difference between mandates and bond funds is that assets in a mandate are managed individually, whereas investment funds are managed collectively. As a result, there cannot be any competition for liquidity in a mandate, as assets are not pooled in a single vehicle with the assets of other investors. There is thus no mandate-level 'first-mover advantage' that could urge these investors to redeem by fear of seeing their holdings diluted by the sales of other investors. Yet, the study shows that mandates demonstrate the same sensitivity to negative performances as bond funds. In other words, it means that – regardless of whether investors are exposed to corporate bonds through a fund or a mandate – they behave similarly when faced with negative performances.

This observation is incompatible with the theory of a fund-level 'first-mover advantage', which

[65] ICI is the trade association representing mutual funds in the United States.

would imply a greater sensitivity to negative performances among bond funds compared to mandates. Therefore, the only possible conclusion is that this high sensitivity to negative performances is not attributable to a fund-level 'first-mover advantage', but rather to a market-wide one, which may encourage corporate bond investors to exit a position before the bond market becomes illiquid.[66]

Furthermore, the theoretical concerns relating to the 'first-mover advantage' neglect the fact that management companies have liquidity management techniques – in particular, anti-dilution tools and levies – to address such specific concerns.[67]

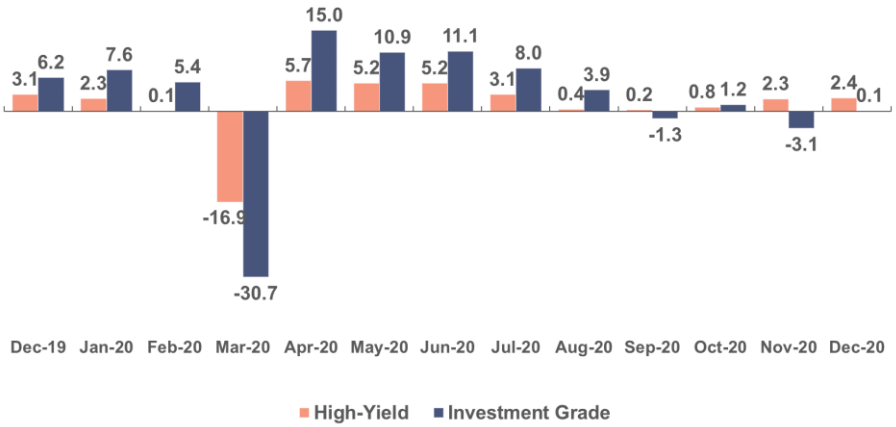
### 3.4.3. Resilience of European bond funds in March 2020

The COVID-19 pandemic was a real-life test for financial markets, and demonstrated the resilience of the investment fund sector. There were large net outflows from European investment funds during March 2020, as clients redeemed over EUR 300 billion from UCITS funds alone. [68] Yet investment funds – including corporate bond funds, which experienced larger redemptions than other fund categories – continued to operate as normal without any noticeable impact on the underlying markets.

As can be seen in chart 3.22, although the net sales of UCITS bond funds accounted for less than 5% of assets under management, in absolute terms these outflows amounted to redemptions significantly higher to those during the 2008 financial crisis. Interestingly, although redemptions in corporate bond funds amounted to EUR 47.6 billion – reaching an average of 8.2% of net assets for high-yield corporate bond funds and 4.3% for investment-grade corporate bond funds – these redemptions only represented one-third of the overall redemptions from the bond fund market. Most redemptions were concentrated in sovereign bond funds.

**CHART 3.22. NET FLOWS OF CORPORATE BOND FUNDS**

EUR billions




Source: EFAMA's calculations based on Morningstar Direct data

[66] Christophe Stahel, Strategic complementarity among investors with overlapping portfolios, March 2022.
[67] Kacperczyk et al., Swing pricing and fragility in open-end mutual funds, Financial Conduct Authority Occasional Paper; Emter et al., Financial fragility in open-ended mutual funds: the role of liquidity management tools, Presentation at the FSB Conference "Understanding and addressing systemic risks in NBFIs", June 2022.
[68] EFAMA, UCITS remained resilient in March 2020, Market Insights, No. 1, May 2020.

Based on the EPFR database, covering a universe of 1096 European corporate bond funds – representing 80% of the European market according to our estimations –, these large redemptions took place over the course of one month. During this period, an average net daily outflow of around 0.4% was recorded (as per charts 3.23 b). For high-yield corporate bond funds, weekly net redemptions reached 4% in the week beginning 16 March, with cumulative redemptions peaking at 10% on 26 March. For investment-grade corporate bond funds, weekly outflows reached 2.4% during the same week, with cumulative redemptions peaking at 6% on 25 March (as per chart 3.23 a). The magnitude of the outflows, which was much lower than the weekly 22% outflows used in the ESMA Guidelines, was such that asset managers did not have to scramble to meet redemptions.[69]

**CHART 3.23 A. CUMULATIVE NET FLOWS IN/FROM EUROPEAN CORPORATE BOND FUNDS IN 2020**

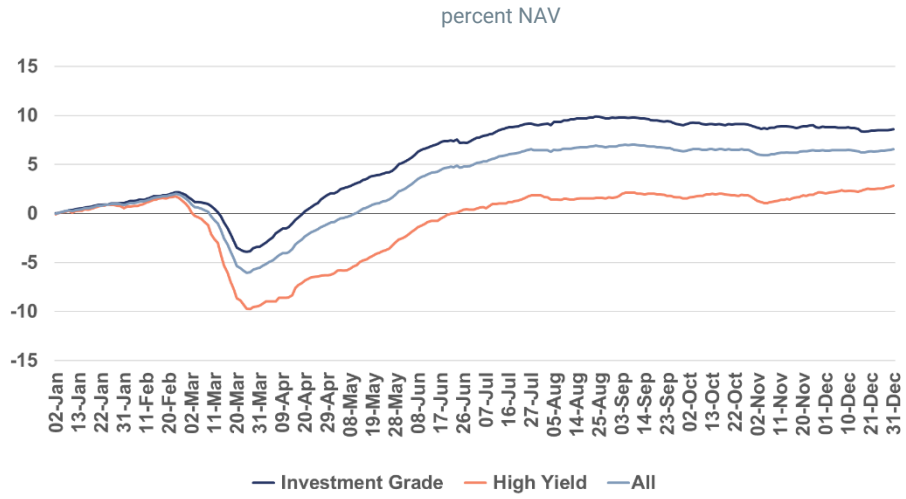
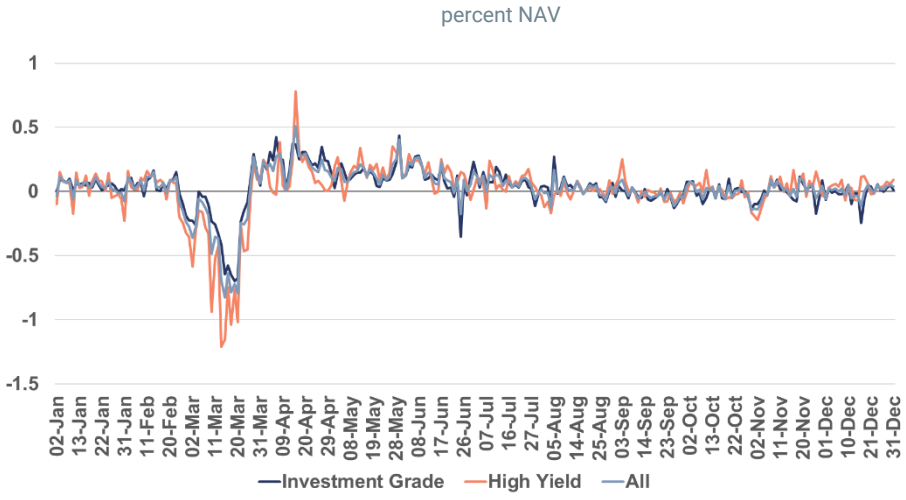



**CHART 3.23 B. NET DAILY FLOWS FROM EUROPEAN CORPORATE BOND FUNDS IN 2020**

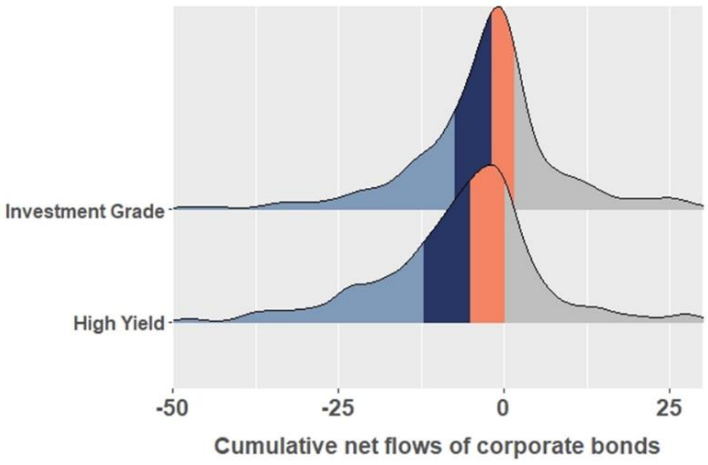



Source: EPFR

[69] More information on the EPFR Fund Flows database here.

It is also important to stress that these outflows are aggregate figures, and that there are significant differences between funds. The ESMA survey on liquidity risk in investment funds also demonstrates this point. Among the 541 corporate bond funds surveyed, if the majority of UCITS funds did indeed record outflows during March 2020, 23% saw inflows over the same period.[70] This finding is corroborated by our own data; chart 3.24 shows that the median cumulative outflows at the peak of the COVID-19 crisis was only 1.8% for investment-grade corporate bond funds and 5% for high-yield corporate bond funds. Furthermore, corporate bond funds in the upper quartile (the right-most shaded area) of the distribution either did not experience outflows during March 2020 or experienced inflows during that same period. It therefore appears that the average cumulative outflows outlined in chart 3.23 were starker than the median cumulative outflows. This was due to a subset of funds in the bottom quartile that experienced larger outflows than average (the left-most shaded area). For investment-grade bond funds, the average cumulative outflows at the peak of the crisis were 4%, the median outflows were only 1.8%. Equally, for high-yield corporate bond funds, the average outflows were 10%, whereas the mean outflows were only of 5%.

**CHART 3.24. DISTRIBUTION OF CORPORATE BOND FUNDS ACCORDING TO THEIR CUMULATIVE FLOWS**




Source: EFAMA, EPFR

When considering the impact of the net outflows from corporate bond funds, one should bear in mind a number of factors. First, asset managers limited their actual sales by managing their liquidity consistently throughout March 2020, as confirmed by the ESMA CSA on UCITS liquidity risk management. [71] However, it must be acknowledged that, as outlined in chart 3.25, asset managers did increase their cash holdings during that period. This was to address potential further outflows, and more importantly, take advantage of opportunities offered by the market dislocation (such as buying securities at a deep discount). Moreover, asset managers were able to rely on LMTs during this period to manage liquidity risks, although – according to the aforementioned ESMA survey on liquidity risk in investment funds – their use remained limited. From a sample of 541 corporate bond funds, 25% of funds used swing pricing during March 2020, 10% used temporary borrowing, 3% used anti-dilution levies and only 1% of funds suspended their dealing, mainly due to valuation

[70] ESMA, Report on liquidity management in open-ended funds, November 2020, p. 24.
[71] ESMA, Public statement on compliance with UCITS liquidity rules, 24 March 2021.

uncertainties.[72] A starker and more prolonged crisis could potentially have been mitigated by a more aggressive use of LMTs. Finally, there is evidence that many asset managers sliced their portfolio vertically when selling their assets in order to protect remaining investors from dilution and thus also ensuring that asset sales were not concentrated in a single market.[73]

**CHART 3.25. FUNDS WITH OUTFLOWS BETWEEN FEBRUARY AND MARCH 2020**

| | UCITS | | AIFs | |
|---|---|---|---|---|
| | Feb 20- Mar 20 | Mar 20- Jun 20 | Feb 20- Mar 20 | Mar 20- Jun 20 |
| Cash | 0,9% | -1,7% | 1,8% | -1,2% |
| Sovereign bonds | -3,8% | 1,4% | -1,5% | 1,0% |
| AAA-AA corporate bonds | -1,1% | 0,3% | -0,9% | -0,3% |
| A corporate bonds | -1,3% | 1,2% | -0,5% | -0,5% |
| BBB corporate bonds | -2,9% | 3,8% | -1,3% | 1,8% |
| HY corporate bonds | -4,2% | 2,8% | -0,7% | 0,8% |
| Equity bonds | -1,5% | 0,6% | -1,5% | -0,3% |
| CIUs bonds | 0,1% | 0,3% | -0,6% | -0,1% |
| Loans bonds | -0,2% | 0,0% | -1,2% | 0,4% |
| Other corporate debt | -1,4% | 0,5% | -0,1% | 0,0% |
| Unrated corporate bonds | -0.7 | 0,1% | 0,1% | 0,0% |

Note: Portfolio rebalancing across type of instruments in % Equity exchanged in regulated markets. CIUs liquidable in seven calendar days;.
Source: NCAs, ESMA

Second, certain nuances must also be taken into consideration when examining the impact of sales by funds on capital markets. Investment funds hold a relatively limited share of euro corporate bonds. Although the funds were large investors in Q4 2019, with EUR 852 billion in holdings, they only accounted for 22% of the market.[74] Other important investors included insurance companies and pension funds (25%), banks (21%), other financial institutions (6%) and even retail investors (8%). As a result, and assuming that investment funds sold EUR 47.6 billion of euro corporate bonds to meet outflows in March 2020 (somewhat unlikely, as European funds invest around the world, and therefore would have also had to sell assets outside the euro area), this would only have represented 1.2% of the entire market in Q4 2019.[75] In fact, investment funds were far from being the main sellers of euro corporate bonds during the COVID-19 downturn, at least on a quarterly basis. During the first quarter of 2020, investment funds sold approximately EUR 9.4 billion worth of corporate bonds, while other investors sold jointly more than EUR 58.8 billion in the euro corporate bond markets. Sales by investment funds would have therefore accounted for less than 16% of the overall sales in the euro bond market. The effect of the sell-off in euro corporate bonds is unlikely to have been significant for the financing of corporations, given that the net sales amounted to only EUR 4 billion, due to large investments in the bond market by both non-financial companies and central banks.[76] Moreover, the sell-off in corporate bonds was not as indiscriminate and generalised as some believe, as only certain

[72] ESMA, Report on liquidity risk in investment funds, November 2020, p. 30.
[73] ESMA, Report on liquidity risk in investment funds, November 2020, p. 24.
[74] Methodological note: In the above analysis, MMFs are not counted with investment funds but with banks. The ECB statistics on MMFs are indeed excluded from the investment fund sector and included in the statistics on monetary and financial institutions (MFIs). Although including MMFs in the statistics on investment funds would result in higher figures for the investment fund sector both in terms of market size and footprint during Q1 2020, we believe that the general picture would remain unchanged.
[75] ECB, Statistics Bulletin, May 2022.
[76] ECB, Statistics Bulletin, May 2022.

sectors – such as airlines, travel and leisure – were significantly affected.

It is legitimate to be concerned about the ability of governments and non-financial companies to access liquidity during periods of stress. However, market corrections are natural events when updated information becomes available to investors. Following an initial fall, markets naturally do find their bottom, with sell-offs being only a temporary phenomenon. As most investors are institutional and have long-term liabilities to meet, market panics and sell-offs (of the type that concern macro-prudential supervisors) would, in essence, only represent a 'bump in the road'. The COVID-19 crisis bears witness to the importance of not liquidating at fire-sale prices; those investors that remained invested throughout 2020 and 2021 profited from considerable returns (all while recognising that central bank policies around the world remained accommodative). This is further evidenced by the prompt reversal of flows in the month following the March 2020 correction, as can be seen in chart 3.22.

## 3.5. Limited spill-over risks

The degree of interconnectedness among the different financial sectors is undeniable, as various institutions and retail investors rely on investment funds to manage their wealth, as well as acting as a source of funding for, among other, governments, non-financial companies and banks. The concern that a crisis originating in the investment fund sector would spread to other financial sectors was, however, misguided. Beyond the resilience of the investment fund sector outlined in previous sections, there are multiple safeguards to ensure that other financial sectors would remain resilient.

### 3.5.1. Ownership/promoter link

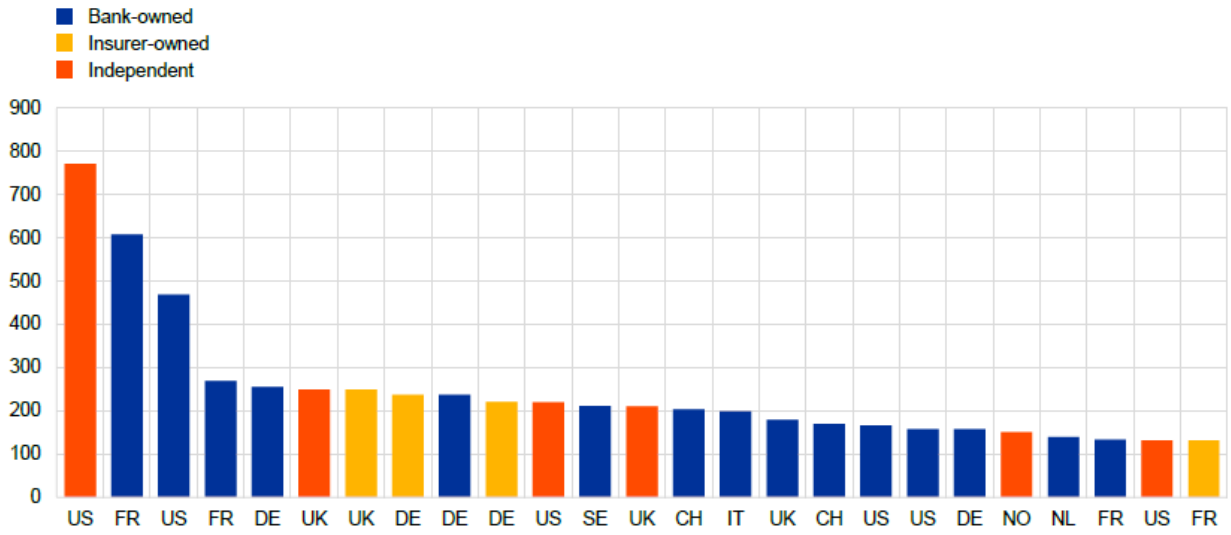
The owner/promoter link would be the first conduit through which stress could potentially spread from investment funds to banks and/or insurance companies according to macro-prudential supervisors. For example, the ESRB noted that banks and insurance companies in the EU are connected to large asset management companies within financial conglomerates. During stress periods, such interlinkages – through credit lines and contingency arrangements between the holding company and the affiliated institutions – could result in contagion between the affiliated institutions and the holding company.[77]

The risk of contagion stemming from the ownership/promoter link must, however, be nuanced on several accounts. First, as outlined in section 1.2.1, management companies operate based on an agency model, which means that these firms do not invest on their own account. This means that in practice, a management company – unlike most other financial institutions – cannot become insolvent due to a steep market fall. Second, contingency arrangements within a same financial group are relatively rare. There are no automatic forms of assistance – whether via a considerable purchase of fund shares, capital or return guarantees, nor committed lines of credit – from a parent entity to its affiliated management company. When these arrangements exist, they come at a specific cost and are contracted on an independent commercial basis. Clearly, it cannot be excluded that a parent company may, for strategic reasons and at its own discretion, choose to support its asset management affiliate.

[77] ESRB, NBFI Monitor, August 2021, pp. 14-15.

**CHART 3.26. AGGREGATE NET ASSETS OF THE TOP 25 ASSET MANAGEMENT COMPANIES IN THE EU**

*(EUR billions)*




*Sources: Thomson Reuters Lipper and ECB calculations.*
*Notes: Asset managers are classified as held by banks/insurers when the asset manager is a subsidiary of the bank/insurer*

## 3.5.2. Bank asset links

Banks could theoretically be impacted by developments in the investment fund sector through their asset exposure. In fact, as noted by the ECB, banks provide credit to investment funds and invest in their shares. In Q4 2019, euro area banks held EUR 75 billion in global fund shares and lent EUR 15 billion to investment funds[78].

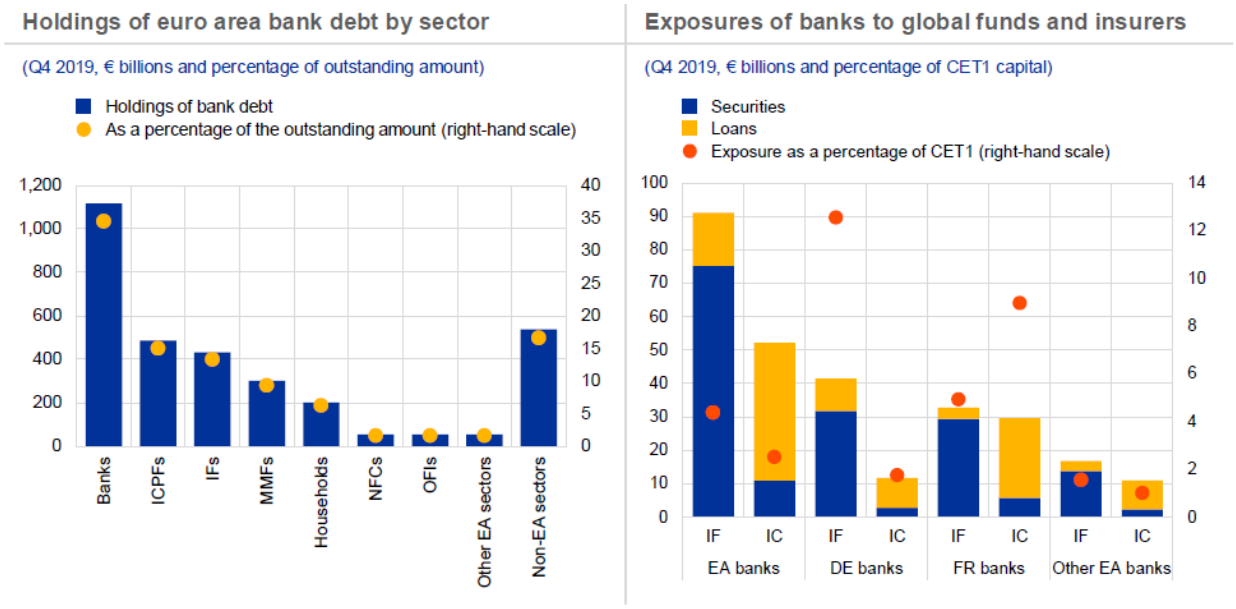
From this asset-side perspective, however, the scenario that large losses in an investment fund or a group of funds could undermine the solvency of a bank is an unlikely one.

**Loans to investment funds:** As mentioned several times, investment funds have notably low levels of leverage. The risk that an investment fund would become insolvent, and therefore incapable of repaying a loan to a bank over the medium to long term, is highly improbable. While such a situation is possible, it is only relevant for investment funds that have commitment leverage higher than 200% (to err on the side of caution). Yet, as discussed above, investment funds leveraged to that extent represent only a minority of funds.

**Seed capital in investment funds:** The risk of loss is more probable when a bank purchases fund shares that fluctuate according to the value of the fund's underlying assets.[79] Through this, banks can be exposed to severe market corrections. However, there is no room for regulatory arbitrage, as outlined below.

[78] ECB, Financial Stability Review, May 2020, p. 79.
[79] Seed capital refers to amounts of cash invested into a fund for the purpose of developing a new product or testing a new strategy before a broader market offer.

**CHART 3.27. SIGNIFICANT FINANCING LINKS BETWEEN BANKS AND NON-BANKS**




Sources: ECB (large exposure data and securities holdings statistics) and ECB calculations.
Notes: The right panel shows the aggregate exposures of the largest euro area banks towards global investment funds and insurance corporations. Securities include debt securities, investment fund shares and equity. Loans are reported if the exposure is above the threshold of 10% of Common Equity Tier 1 capital. The horizontal axis shows the domicile of the bank.

Whether a bank lends to, or invests in, an investment fund, the EU Capital Requirement Regulation (CRR) ensures that banks can only have exposure to this fund when their position is financed by equity, which in other words means that any such exposure must be covered by prudential capital. For exposures to 'very high-risk items', for instance leveraged AIFs, banks should assign a 150% risk weight to these exposures (Article 128 CRR). Less demanding are other forms of investment funds that require an assigned risk weight of 100%, albeit with the opportunity to reduce this amount under several methods, among which is the 'look-through approach' (Article 132 CRR).

### 3.5.3. Common exposure link

The last link between investment funds on the one hand and banks, insurance companies and pension funds on the other is their participation in the same markets. According to the ESRB, the portfolios of euro area banks, ICPFs and bond funds have significant common exposures. Large common exposures may result in severe losses for banks and ICPFs were investment funds to liquidate a large or illiquid part of their portfolios simultaneously.[80] The ECB points out that such a scenario is particularly likely in the high-yield bond market. There, investment funds are the dominant players, and the aforementioned financial institutions would be unlikely to 'buy the dip', given that they are historically underweight in this segment.[81]

[80] ESRB, NBFI Monitor, August 2021, p. 15.
[81] ECB, Financial Stability Report, May 2021, p. 71.

Investment funds are not a dominant market participant in most markets, including the corporate bond market (as pointed out in sections 3.1.1. and 3.4.3.). Therefore, such interlinkage would only become problematic from a financial stability perspective were there to be a structural vulnerability (such as the alleged 'first-mover advantage'), which would force a majority of investment funds to sell large amounts of assets simultaneously. However, as already outlined, there is no robust evidence that such a structural vulnerability exists in the investment fund sector. It should also be added that – even in the presence of such a vulnerability – pro-cyclical sales would be sharply reduced by the use of anti-dilution tools such as swing pricing or anti-dilution fees. As a result, one may conclude that sales by investment funds broadly reflect the normal functioning of capital markets, where new information results in price adjustments. Any attempt to change this dynamic by making investment funds more anti-cyclical would interfere with proper capital allocation.

# 4. Key policy recommendations

Capital markets could benefit from a regulatory intervention that would address potential imbalances between their supply and demand of liquidity. A number of regulatory changes (currently underway as part of the AIFMD/UCITS Review) could help investment funds better manage their investors' liquidity demand during periods of stress. However, given the limited size of the industry, this alone will not suffice to mitigate the liquidity imbalances in capital markets. Regulators will need to consider bolder regulatory measures, ones which would enhance liquidity supply in these markets for all intermediaries, of which investment management companies and their funds – as we have argued – are only a part.

## 4.1. Policy recommendations from the industry

Although the UCITS/AIFMD regulatory framework already addresses most of the concerns outlined in the previous section, there remains room for improvement in implementing the existing rules and in ensuring better cross-sectoral complementarity between the other European regulatory frameworks. Insofar as specific recommendations for the asset management industry are concerned, the availability and the consistent use of LMTs – along with greater client base transparency – are certainly worth pursuing further. Naturally, these must be accompanied by further reforms involving other key intermediaries as well as capital market infrastructures.

### 4.1.1. Availability and use of LMTs

The availability and consistent use of LMTs would ensure that an increased number of management companies comply with a minimum set of requirements. This in turn would protect the value of investors' holdings and consequently avoid any reputational fallout for the management companies. Regulators should nonetheless refrain from introducing overly prescriptive requirements, as these would prove counterproductive.

First, management companies should have the flexibility to design their liquidity management set-up in line with the specific characteristics of their funds. To this end, a long-standing policy ask of the industry has been to give asset managers the possibility of choosing between most, if not all, of the LMTs currently available.[82] This is not yet the case in all European countries (as per the Table 4.1 below), although progress is being made at both the national and EU level. Concerning the latter, the near-final completion of the AIFMD/UCITS review leads us – at the time of writing (June 2023) – to be optimistic for the prospects of managers adopting a common set of LMTs across EU jurisdictions, pending their further specifications by ESMA.

By adopting guidelines, regulators should support management companies in the consistent use of these LMTs. Ensuring that every management company respects a set of minimum requirements would reduce the likelihood of isolated market failures. As an example, providing guidance on the principles that management companies should follow when setting swing factors would be extremely welcome. In particular, regulators should provide further advice on the costs that swing factors should incorporate (execution costs, taxes, spreads and so forth). By providing market supervisors with sufficiently clear criteria for

[82] AMIC/EFAMA, Managing fund liquidity risk in Europe: Recent regulatory enhancements & proposals for further improvements, January 2020.

evaluating liquidity management practices, these guidelines could also help the former in their oversight mission. However, we wish to stress that it is important to leave a sufficient degree of flexibility to management companies, as the latter should be able to adjust their liquidity management policies according to developments in the market. Moreover, excessively detailed guidance could give rise to pro-cyclical effects, amplifying those same market risks policymakers seek to mitigate. For example, introducing automatic or prescriptive triggers for activating LMTs would lead to a potential increase in redemption demands, were investors to expect and anticipate these activations. As an example, the European money market funds industry wholeheartedly supports the removal from the EU MMFR regime of what is perceived to be an automatic link between certain types of MMFs reaching their prescribed liquidity thresholds and the potential activation of redemption fees, gates or suspension by fund boards.[83]

**TABLE 4.1. AVAILABILITY OF LMTS ACROSS EU MEMBER STATES**

| | AT | BE | BG | CY | CZ | DE | DK | EE | ES | FI | FR | GR | HR | HU | IE | IS | IT | LI | LT | LU | LV | MT | NL | NO | PT | RO | SE | SI | SK | UK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gates | NO | NO | NO | YES | NO | NO | NO | YES | YES | NO | YES | NO | NO | NO | YES | NO | YES | YES | NO | YES | NO | YES | YES | YES | YES | YES | NO | NO | YES | YES |
| Side pockets | YES | NO | NO | YES | NO | NO | NO | YES | YES | NO | YES | NO | NO | NO | YES | NO | YES | YES | NO | YES | NO | YES | YES | YES | NO | NO | NO | YES | NO | NO |
| Anti-dilution levy | NO | NO | NO | YES | NO | NO | NO | YES | NO | NO | YES | NO | NO | NO | YES | NO | YES | YES | NO | YES | NO | NO | YES | NO | YES | YES | NO | NO | NO | YES |
| Redemption fees | YES | NO | NO | YES | NO | YES | NO | YES | NO | YES | YES | NO | NO | NO | YES | NO | YES | YES | NO | YES | NO | NO | YES | NO | NO | NO | NO | NO | NO | YES |
| Redemption-in-kind | YES | NO | NO | YES | NO | YES | NO | YES | YES | YES | YES | NO | YES | NO | YES | NO | YES | YES | NO | YES | NO | YES | YES | NO | YES | NO | NO | YES | NO | YES |
| Suspension of redemptions | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Swing pricing | YES | NO | NO | YES | NO | NO | NO | YES | NO | YES | YES | NO | NO | NO | YES | NO | NO | YES | NO | YES | NO | NO | YES | YES | NO | NO | NO | NO | NO | YES |
| Short-term borrowings | YES | NO | YES | YES | YES | YES | NO | YES | YES | YES | YES | YES | NO | NO | YES | YES | YES | YES | NO | YES | NO | YES | YES | NO | YES | YES | NO | YES | YES | YES |
| Mandatory liquidity buffers | YES | NO | NO | NO | NO | NO | NO | NO | YES | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | YES | NO | NO | NO | NO | NO | YES | NO |
| Side letters | YES | NO | NO | NO | NO | NO | NO | YES | YES | NO | NO | NO | NO | NO | YES | NO | NO | YES | NO | YES | NO | YES | YES | NO | NO | NO | NO | NO | NO | YES |
| Other tools/ measures | NO | NO | NO | NO | NO | YES | NO | NO | YES | NO | YES | NO | NO | NO | NO | NO | YES | NO | NO | YES | NO | NO | NO | NO | NO | YES | NO | NO | NO | YES |

Source: ESMA

## 4.1.2. Client base transparency

Improving managers' knowledge of end investors would enhance liquidity stress tests and improve preparedness for future redemption shocks. While ongoing dialogue with institutional investors on their intentions is valuable for predicting outflows, modelling investor behaviour is made more difficult for retail investors by the fact that retail funds are mostly sold via distributors. For asset managers, the availability of data from distributors on underlying investors is a key challenge for conducting liquidity stress tests. These require managers to consider investor behaviour as mandated by the ESMA Liquidity Stress Testing Guidelines, adopted in September 2019. The challenge of access to data was recognised by ESMA in Guideline 9, but unfortunately this issue has not yet been resolved. To improve liquidity risk management, we believe that asset managers should receive free of charge sufficient information on their end investors – including at least the investor profiles and shares held by the different categories of underlying investors.[84]

[83] EFAMA, European MMFs in the Covid-19 turmoil: Evidence, experience and tentative considerations around eventual future reforms, November 2020.
[84] AMIC/EFAMA, Managing fund liquidity risk in Europe: Recent regulatory enhancements & proposals for further improvements, January 2020.

### 4.1.3. Capital market reforms

As well as measures directly relevant for the investment fund sector, there are a series of measures that would further strengthen the resilience of capital markets:

**Creating a consolidated tape for fixed-income securities**, to provide greater transparency in times of market volatility. The consolidated tape would allow market participants to find the most liquid markets and allow supervisors to monitor market developments more closely during periods of market stress. Despite the MiFID review in 2014, post-trade data remains fragmented across the different Authorised Publication Arrangements (APAs) and data aggregators. A post-trade bond consolidated tape would provide market participants with the confidence to use post-trade bond data for pre-trade price discovery.[85]

**Improving CCP margin transparency and predictability**, to avoid spikes in margin calls during periods of market stress as experienced during the COVID-19 crisis. This would avoid the excessive flow of liquidity away from markets. CCPs could use appropriate model assumptions to size initial margin requirements more conservatively (for example, historical market trends and margin period of risk) to mitigate the potential for future procyclical initial margin moves.[86] It is equally important to ensure that brokers' collateral policies – including for investment funds – are sufficiently transparent to those investors that use their services, as we understand that brokers may impose additional margin requirements on their clients on top of those required by CCPs. Last, to alleviate unintended liquidity pressures from margin calls, we recommend expanding acceptable collaterals to include MMFs and ETFs.[87]

**Facilitating the use by banks of their liquidity buffers during periods of stress** would allow broker-dealers to expand their balance sheets further during such periods of uncertainty. During March 2020, broker-dealers were unwilling to dip in their buffers to provide additional liquidity to the market, despite the fact that they were designed for this exact countercyclical reason. Greater guidance from bank regulators on when and how broker-dealers can use these liquidity buffers would significantly contribute to the resilience of capital markets.

**Consolidating supervisory reporting across all financial sectors**, to allow macro-prudential supervisors to form a more complete overview of the European financial system. Indeed, to conduct a comprehensive systemic risk analysis, it is not sufficient to only leverage supervisory information on the behaviour of investment funds, particularly given their relatively limited footprint in capital markets. This has also been confirmed by the ECB and IOSCO, noting that there still are important supervisory data gaps in the ICPF sector.[88] At the same time, it is essential that regulators ensure that these additional reporting requirements do not burden market participants with excessive compliance costs. For example, European investment funds already provide extensive information to their national competent authorities and central banks. It is important that the latter authorities cooperate closely, to ensure investment funds report the relevant supervisory information only once.

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[85] ICMA, EU Consolidated Tape for Bond Markets Final report for the European Commission, April 2020.
[86] FIA, Revisiting Procyclicality: The Impact of the COVID Crisis on CCP, October 2020.
[87] BlackRock, Margin and Capital Requirements for Uncleared Swaps for Covered Swap Entities, December 2019; CFTC Global Markets Advisory Committee, Recommendations to Improve Scoping and Implementation of Initial Margin Requirements for Non Cleared Swaps, May 2020.
[88] ECB, Financial Stability Review, May 2020, p. 90; IOSCO, Corporate Bond Markets – Drivers of Liquidity During COVID-19 Induced Market Stresses, April 2022, p. 5.

## 4.2. Other policy measures under consideration

Given the concerns set out in earlier sections, macro-prudential supervisors have called for a tighter regulatory framework for liquidity management in OEFs. These would include a further harmonisation of available LMTs – as supported by our industry – as well as more radical policy measures such as the introduction of liquidity bucketing that we would resolutely oppose.

When reviewing these policy proposals, it is essential to stress that any policy measure should preserve the principle-based approach that underpins the current regulatory framework. This will ensure that management companies can adapt their risk management policies to the specific situation of the funds under their management, as well as to the contingent market conditions. It should also be borne in mind that national supervisors play a key role in assessing the appropriate means of managing risk. This is both prior to granting a fund authorisation, and on an ongoing basis via close supervision during normal market conditions and targeted reporting and oversight during stressed times. In order to secure an authorisation for the fund prior to its launch, asset managers (with input from the fund's investment, risk, compliance and operations functions) work closely with national supervisors, determining the appropriate approach for managing the liquidity of that fund, determining its structure, redemption frequency and other LMTs.

### 4.2.1. Defining liquidity

A recurring proposal from macro-prudential supervisors is the definition of liquidity categories as a starting point for a range of more-stringent liquidity requirements.

In its 2018 Recommendations, the ESRB advocated the introduction of a list of inherently less-liquid assets to identify "assets that cannot be easily and rapidly converted into cash with little loss of value during market stress". Such a list would include real estate, unlisted securities (including private shares), loans and other alternative assets. It would exclude assets that – under normal market conditions – can be sold without large discounts.[89] In its December 2022 report, the FSB echoed this approach, recommending the introduction of three liquidity buckets: liquid assets (cash, certain listed equities and government bonds), less liquid assets (certain corporate bonds) and illiquid assets (real estate, loans and to a lesser extent private equity).[90]

The interest in defining liquidity standards borrows from the supervisory experience of the United States. The SEC currently requires management companies to categorise on at least a monthly basis each investment into four categories, based on the number of days in which the fund reasonably expects the investment could be converted to cash under current market conditions and without significantly changing the market value of the investment: a) highly liquid investments (less than 3 business days), b) moderately liquid investments (3-7 calendar days), c) less liquid (within 7 calendar days), and d) illiquid investments (more than 7 calendar days)[91].

EFAMA rejects the rigid definitions of liquidity as currently exist in the United States, although we do recognise that some assets are inherently less

[89] ESRB, Recommendations on liquidity and leverage risks in investment funds, April 2018, p. 27.
[90] FSB, Assessment of the Effectiveness of the FSB's 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds, December 2022, p. 11.
[91] SEC, Investment Company Liquidity Risk Management Program Rules, August 2022. Please note that these rules are at the moment under review and may become even more stringent. For more details, refer to SEC, Proposal on Open-End Fund Liquidity Risk Management Programs and Swing Pricing; Form N-PORT, November 2022.

liquid and therefore require special liquidity management practices. However, a liquidity bucketing approach would not be consistent with the liquidity risk management approach developed in Europe. While U.S. mutual funds have to classify their portfolios into several liquidity buckets to comply with their minimum liquidity buffers and limits, European investment funds closely monitor their liquidity set-up and rely on fund stress testing to determine whether this set-up would resist a redemption shock. A U.S.-style liquidity bucketing would therefore probably only result in additional compliance cost for European investment funds.

Beyond the fact that this approach would not fit the European regulatory landscape, it is equally important to underscore that any approach that has liquidity bucketing at its core is misguided. Given the fluid nature of liquidity, any attempt to define or quantify it precisely – particularly during period of stress – is difficult. Indeed, there is no guarantee that past levels of liquidity will reflect those in the future. The new SEC proposal attempts to address this concern. The envisaged rule will require mutual funds to calculate the liquidity of their portfolio based on a scenario where these funds would have to sell 10% of their assets. Unfortunately, as outlined by ICI, this approach inevitably reduces the number of assets that can be considered as liquid. If combined with strict investment limits, the range of investment strategies that remain viable will also be reduced. For example, should the SEC rule enter into force, even a U.S. large cap equity fund could be in breach of the rule because a large share of its assets would be classified as 'illiquid investments' under the new regime. Should a similar rule enter into force in Europe, the impact would be even starker given the fragmentation of European capital markets. Finally, it cannot be excluded that the 'bucket' approach could see threshold effects introduced were liquidity to evaporate from the market. In the case of the U.S., these threshold effects would manifest themselves in the form of additional reporting requirements to the fund board and to the SEC, including the impossibility for the fund to maintain its investment strategy.[92]

### 4.2.2. Minimum liquidity buffers

The introduction of minimum liquidity buffers would not be consistent with the European regulatory framework where the onus is to ensure that management companies have sufficient flexibility to adjust their liquidity management practices to the specificities of the funds under their management. Liquidity buffers may be necessary in certain situations, but would not be an appropriate requirement for all investment funds, especially for those funds that rely on the vertical slicing of their portfolio.

Although not currently under consideration by most macro-prudential supervisors, in 2018 the ESRB alluded to the possibility of setting "limits to the proportion of less liquid assets a manager can invest in", aiming to "improve the capacity of the fund manager to meet redemptions, even under stressed market conditions" [93]. This approach would be consistent with the SEC Investment Company Liquidity Risk Management Programme Rules, which require management companies to determine a 'Highly Liquid Investment Minimum' for open-ended mutual funds; that is, a minimum percentage of a fund's net assets that must be invested in highly liquid investments. These are defined as cash or investments reasonably expected to be convertible into cash within three business days

[92] ICI, Letter to the SEC on Open-End Fund Liquidity Risk Management Programs and Swing Pricing; Form N-PORT Reporting, February 2023, pp. 21-22.
[93] ESRB, Recommendations on liquidity and leverage risks in investment funds, April 2018, p. 24; FSB, Assessment of the Effectiveness of the FSB's 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds, December 2022, p. 27.

without significantly changing the market value of the investment.[94]

EFAMA strongly opposes any rule that would dictate the minimum amount of liquid assets investment funds should hold. Our opposition stems from several considerations, the most significant of which being that liquidity buffers would not allow for the fair treatment of end investors during periods of market stress. The use of liquidity buffers implies that investment funds would have to meet redemptions by selling their most liquid assets first. This would distort fund portfolios at the expense of the remaining investors. Investment funds use a variety of liquidation techniques, which can include a waterfall approach (where the most-liquid assets are liquidated first), vertical slicing (where assets are sold following a pro-rata approach) or a combination of both. To the extent that investment funds 'vertically' slice their portfolio, they are able to avoid the aforementioned dilution. Equally problematic is the fact that these liquidity buffers would result in a cash drag, eroding returns for remaining investors. There are nevertheless certain situations where management companies do deploy liquidity buffers. For example, funds investing in real assets can use them to manage their liquidity, and funds investing in transferrable securities can use them to adjust to small portfolio moves or manage margin calls. A liquidity buffer should therefore be considered as only one liquidity management tool among others, and not as the default option for every investment fund to use.

### 4.2.3. Appropriate redemptions frequency

Regulators should resist the temptation to develop prescriptive rules that would constrain a fund's liquidity set-up on the basis of the liquidity of its underlying portfolio. As these proposals stem from the erroneous assumption that there would be 'structural liquidity mismatches' in the OEF sector, we believe that these proposals – which attempt to bridge the alleged gap through rulemaking – should be discarded.

To provide more details on the proposals currently under consideration, the ESRB recommends that less liquid funds should "reduce the frequency of redemptions offered by an investment fund, and/or impose notice periods for investors wishing to redeem from an investment fund".[95] The FSB has developed a more prescriptive framework to promote greater consistency between OEF redemption terms and underlying asset liquidity. The aforementioned FSB Report suggests that "funds that allocate a significant proportion of assets under management (e.g. 30-50% or more) to assets that are illiquid even in normal market conditions would need to offer liquidity to investors less frequently than daily and/or require long notice/settlement periods to redeem shares". The report further suggests that "funds mainly holding less liquid assets, or assets that are more vulnerable to illiquidity in stressed market conditions, may offer daily dealing, subject to fund managers being able to demonstrate to the authorities (in line with their supervisory approaches) that they can implement anti-dilution LMTs that pass on to redeeming investors the explicit and implicit costs of redemptions, including any significant market impact of sales. Alternatively, these funds would need to consider and use measures to reduce the frequency at which they offer liquidity to investors and/or implement longer notice/settlement periods, as appropriate".[96]

In addition to its general view expressed above, EFAMA would like to draw regulators' attention to a number of challenges arising from these proposals. First, any policy measure that relies on liquidity bucketing for its operationalisation is

[94] SEC, Investment Company Liquidity Risk Management Program Rules, August 2022.
[95] ESRB, Recommendations on liquidity and leverage risks in investment funds, April 2018, p. 24.
[96] FSB, Assessment of the Effectiveness of the FSB's 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds, December 2022, p. 3.

bound to introduce unnecessary complexity in the management of liquidity, for the reasons outlined in section 4.2.1.

Second, for funds that invest in less liquid assets, we would like to once more stress that the priority should be to make all LMTs available across Europe and ensure a certain consistency in the use of these tools. Supervisors should ensure that these funds have access to an appropriate set of LMTs, among which anti-dilution tools will certainly play an important role to guarantee fair treatment of end investors. However, we oppose introducing the mandatory use of notice periods by these funds. Funds that invest in transferable securities should be able to trade in the market on the day of the redemption requests, in order to guarantee a level playing field with those investors directly investing in the underlying market. Furthermore, it is worth noting that longer notice periods would be of limited use to these funds under most market conditions. These funds would not take advantage of the additional time to trade in smaller lot sizes ahead of the redemption date. This is because this would result in profit and loss (P&L) were the assets to be sold at a higher or lower value than the NAV of the fund on the day of the redemption, an outcome that investment funds prefer to avoid. Longer notice periods could nonetheless come as a relief under very specific situations, such as, for instance when a fund considers suspending its redemptions.

Third, for funds investing in illiquid assets, we recognise that real assets are inherently illiquid, and therefore such funds require a different liquidity management set-up than those funds investing in transferable securities. Whilst we believe that using longer notice periods for those funds investing in these asset classes is good practice, we caution against the temptation to use notice periods to close 'structural liquidity mismatches' in this sub-sector. As outlined in section 3.4. on liquidity transformation, the fund sector has no need for a perfect match between the liquidity of the underlying assets and liabilities. Imposing a one-year notice period to all these funds on the assumption that it may take up to one year to liquidate illiquid investments – as is currently the case in certain EU Member States – would be counter-productive. Such a long notice period may potentially act as a disincentive for a large share of retail investors who do not feel comfortable with the idea that their capital could be blocked for a relatively long period. This is why in certain markets there is a strong demand for funds offering short-term redemptions. Given that there is no scientific way to evaluate the ideal length of a notice period at sector level, regulators should refrain from mandating a minimum notice period. As with other fund categories, management companies should have the sufficient flexibility to choose a notice period that reflects the specificities of the funds under their management. At the very least, were regulators to decide to introduce a minimum requirement, they should engage with investor associations to evaluate the impact of longer notice periods on the distribution of such funds. In such a case, the cost-benefit analysis should not neglect the necessity for retail investors to access these fund products.

### 4.2.4. Standardisation of swing pricing

As outlined in section 4.1.1. on the availability and use of LMTs, promoting greater consistency in the use of LMTs will be one of the challenge facing supervisors. Regulators should not, however, give macro-prudential supervisors the power to define the swing factors that management companies should use when applying swing pricing.

In order to limit wider market impact due to asset sales, there have been informal calls by certain central banks for asset managers to take trading costs stemming from market-wide sales into account in their swing pricing frameworks. The rationale is that, during periods of market stress, the swing factors that management companies apply might not always adequately reflect the actual trading costs that investment funds face. This may be due to the fact that certain market conditions (such as greater volatility or lower market depth) could not have been foreseen

when the swing factors were determined. Under such market conditions, swing pricing would not be sufficient to fully address the alleged 'first-mover advantage'. Consequently, these central banks propose that they could – based on proxies – provide asset managers with the swing factors they would have to apply when activating their swing pricing during stressed market periods.

EFAMA equally rejects the latest proposal on the grounds that it would expose the investment fund sector to a plethora of challenges. Compared to central banks, management companies have more detailed and up-to-date information on funds and the investor base, and are therefore better positioned to determine swing factors. Indeed, determining the appropriate swing factor is not an automated process and requires inputs from a variety of (internal and external) parties. These include the trading desk, risk management and operations teams, as well as third parties such as the fund administrator and data providers. Were managers nonetheless to be obliged to apply a particular minimum swing factor during stressed market conditions, this would result in a pricing error for certain funds when the swing factor significantly departs from a fair estimate of their transaction costs. As managers are permitted to use swing pricing only for reducing dilution and not to create a profit or loss for remaining investors, this risks giving rise to compensation for redeeming investors. Such a situation would be inevitable because trading costs vary between funds according to various factors, including the size of the fund, its asset base and the level of redemptions.

### 4.2.5. Supervisory activation of LMTs

For similar reasons that management companies should be able to select the LMTs available for the funds under their management, supervisors should only have a role to play in activating LMTs under the most stressed of market situations.

The European Commission, in its AIFMD/UCITS legislative proposal of November 2021, argued for national supervisors to have the power not only to suspend redemptions – as is currently the case – but also to require the imposition of gates on redemptions, notice periods or redemption fees.[97] The rationale for this is that management companies may not be willing to activate an LMT for competitive or reputational reasons, nor be concerned by the broader financial implications. While the Commission recognised that national supervisors are permitted to request the suspension of redemptions for this purpose, it considered that a supervisor should be able to activate other LMTs as well as suspensions.

EFAMA believes that asset managers should remain responsible for deciding when to activate LMTs. We note that the power to suspend redemption is currently available to supervisors, and we caution against expanding this power to require the activation of further LMTs, noting that such an intervention should take place only under exceptional circumstances and only following consultation with the fund manager. Centralising the decision to impose a given LMT would dispense with the manager's intimate knowledge of the fund's liquidity profile, underlying assets, redemption policy and underlying investors, and interfere with their fiduciary duty to act in the best interest of the fund's investors. Indeed, LMTs other than suspension are more 'nuanced' in nature, and are tailored to the specific characteristics of the fund, aspects of which the supervisor will have insufficient knowledge. The manager, having a deeper familiarity with the underlying investors and the fund as a whole, is best placed to select the most appropriate LMT. Decisions over the management of liquidity risk are also time-sensitive, and as such the supervisor will not be able to gather all necessary information from the fund manager to make the assessment within the necessary timeframe.

Last, it is also essential to consider that a cross-cutting and centralised activation of quantity-

[97] European Commission, AIFMD/UCITS legislative proposal, November 2021.

based LMTs (suspension or gates) would distort any-level playing field for funds, as other investors would still have the opportunity of trading in the underlying market.

### 4.2.6. Supervisory reporting and system-level stress testing

Macro-prudential supervision has the vital role of identifying those pockets of funds that may contribute to the build-up of systemic risks and of advising regulators and/or supervisors accordingly. When considering further requirements, regulators should, however, remember that supervisory reporting and stress testing represent significant compliance costs for the industry. Proportionality is therefore an important principle to follow when considering the introduction of further reporting or stress testing requirements.

The ESRB recommends introducing a supervisory reporting regime in the UCITS Directive and to ensure greater convergence with stress-testing practices to be followed by management companies. [98] Similarly, the FSB believes that investment funds should provide their supervisors with information on their liquidity set-up (dealing frequency, notice periods, settlement periods, investor characteristics and use of LMTs) and recommends introducing system-wide liquidity stress testing.[99]

Although EFAMA recognises that some supervisory information on UCITS funds may be relevant for macro-prudential supervisors, we unequivocally oppose the introduction of system-wide liquidity stress testing. As UCITS funds already provide information on their portfolio holdings to central banks, regulators should review which information is already available and specify the additional information that would contribute to improving macro-prudential supervision. It is our contention that many UCITS funds should not be required to report any additional information, as they are already subject to strict product rules (see table 1.1. for more details). Last, we believe that it is impossible to conduct system-wide liquidity stress testing, for the simple reason that this methodology was initially developed to monitor the risk of contagion within the banking sector. The objective of such system-wide testing is to see whether the failure of a systemically important bank would result in a 'domino effect' among other banks. In the investment fund sector, system-wide stress testing would not work, because it is not the solvency of funds that would be tested, but their liquidity. A system-wide exercise would have to rely on unrealistic assumptions (for example, all investors behaving in the same way) and on piecemeal data, which is insufficiently robust to provide any relevant insights.

[98] ESRB, Recommendations on liquidity and leverage risks in investment funds, April 2018, p. 4.
[99] FSB, Assessment of the Effectiveness of the FSB's 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds, December 2022, p. 30.

# Conclusion

This extensive review of the contribution of the investment fund industry to the resilience of European capital markets proves that investment funds are far from being the proverbial 'weak link' in the non-bank financing/intermediation chain.

Despite recurring concerns over vulnerabilities in the European investment fund sector, we have demonstrated that the investment fund sector as a whole is not systemically important. Most funds clearly invest in bonds and/or equities that do not contribute to the build-up of systemic risks. Although macro-prudential supervisors are correct in identifying proper liquidity risk management as a priority for the investment fund sector, they are potentially misguided when identifying 'structural liquidity mismatches' as an issue. Investment funds do not need to ensure a perfect match between the liquidity of their assets and liabilities; furthermore, they can rely on LMTs to allow them to manage unexpected redemptions. The chance of spillover from the fund sector to other financial sectors also remains low. This is because investors are aware of the potential for losses to their principal, and because banks and insurance companies must meet their own specific capital requirements to potentially absorb losses from their exposure to investment funds. Given the heterogeneity of the sector, it cannot, however, be ruled out that a subset of funds could contribute to the build-up of systemic risks. These could include, funds using derivatives without sufficient margin provisioning or funds investing significantly in illiquid assets while simultaneously offering daily redemption to their end investors.

While this position paper outlines a number of gaps in the analysis of macro-prudential supervisors, EFAMA believes that macro-prudential supervision is a crucial element of any mature financial system. As European capital markets gradually mature to meet the ambitions of the EU 2020 CMU Action Plan, we would first recommend that macro-prudential supervisors – ESRB, ESMA and national central banks – take a system-wide perspective on how various market participants may contribute to a particular unwanted outcome (cfr. section 2 on fire sales). Second, such supervisors and academics should refrain from relying on overly simplistic risk metrics without considering the context in which they use these (cfr. to section 2 on credit intermediations and section 3.4. on liquidity mismatches). Third, it is equally important for these same actors to move away from hypothetical scenarios and to focus on more-thorough analyses of market events (cfr. section 3.3.2. on the 'first-mover advantage' and section 3.5. on interconnectedness). As risk is inherent in any economic activity, supervisors will always be able to find theoretical (yet potentially very far-fetched) scenarios where risks may manifest themselves. This scoping exercise may prove initially useful for identifying market developments that macro-prudential supervisors should monitor closely. However, it will be necessary at some stage to review how probable these scenarios could be, and how material their impact could be for the financial system. Further regulatory reforms, such as the introduction of macro-prudential measures (for example, a leverage limit for unconstrained funds), would require more substantive evidence than mere hypothetical concerns.

Finally, we would call for more regular exchanges between macro-prudential supervisors and stakeholders, to ensure that there are no blind spots in the former's research. Unfortunately, the overwhelming majority of research on systemic risks in capital markets is currently either directly produced by central banks or in close cooperation with academia. To account for other perspectives, it will be important for macro-prudential supervisors to share their aggregate supervisory data with a broader group of stakeholders. That way, they can test the robustness of existing macro-prudential approaches.

# About EFAMA

EFAMA is the voice of the European investment management industry, which manages EUR 28.5 trillion of assets on behalf of its clients in Europe and aroundthe world. We advocate for a regulatory environment that supports our industry's crucial role in steering capital towards investments for a sustainable future and providing long-term value for investors.

Besides fostering a Capital Markets Union, consumer empowerment and sustainable finance in Europe, we also support open and well-functioning global capital markets and engage with international standard setters and relevant third-country authorities. EFAMA is a primary source of industry statistical data and issues regular publications, including Market Insights and the authoritative EFAMA Fact Book.

More information is available at www.efama.org

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