

Enhancing the Resilience of Non-Bank Financial Intermediation

Progress report

6 September 2023



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Executive Summary

This report describes progress over the past year and planned work by the FSB, as well as by standard-setting bodies (SSBs) and other international organisations, to enhance the resilience of non-bank financial intermediation (NBFi).

A wide range of factors and structural changes in the global financial system over the past decade have increased the reliance on market-based intermediation. NBFi has grown to almost half of global financial assets and has become more diverse. As a result, the importance of NBFi for the financing of the real economy has increased.

Building on the lessons from the March 2020 market turmoil, the FSB developed a comprehensive NBFi work programme to examine and, where appropriate, address specific issues that contributed to the amplification of the shock; to enhance understanding and strengthen the monitoring of systemic risk in NBFi; and to assess policies to address systemic risk in NBFi. Developments since March 2020, including the failure of Archegos and strains in commodities and bond markets, underscore the need to take policy measures to enhance the resilience of the NBFi sector. Enhancing NBFi resilience is intended to ensure a more stable provision of financing to the economy and reduce the need for extraordinary central bank interventions. Efforts to strengthen NBFi resilience should not compromise the resilience in other parts of the system or the important role that NBFi plays in financing the real economy.

The functioning and resilience of the NBFi ecosystem depends on the availability of liquidity and its effective intermediation in stress. If liquidity imbalances become sufficiently large and pervasive, they may give rise to financial instability. These imbalances can be the result of the interaction of large and unexpected shifts in liquidity demand, insufficient supply of liquidity in stress and various amplification mechanisms. These interactions can give rise to asset fire sales and transmission of stress to other parts of the financial system and the economy.

Certain activities and types of entities (so-called ‘key amplifiers’) may particularly contribute to aggregate liquidity imbalances and transmission and amplification of shocks due to their size, structural characteristics and behaviour in stress. On the liquidity demand side, this includes activities that could give rise to liquidity mismatches, which are particularly prevalent in some types of non-bank entities, such as certain money market funds (MMFs) and open-ended funds (OEFs). Other factors that can contribute to liquidity demand in stress include unexpectedly large margin calls for derivatives and securities trades; external funding and currency mismatches (e.g. considering global use of the US dollar as a borrowing and investment currency); and excessive build-up of leverage. On the liquidity supply side, key amplifiers include factors that reduce the ability of bank and non-bank liquidity providers to absorb large spikes in liquidity demand; and the structure of core wholesale funding markets, which is characterised by limited standardisation, low levels of automated trading and turnover, and heavy reliance on dealer intermediation. The high interconnectedness between different entities within the NBFi ecosystem and with the banking sector suggests the need for a system-wide approach to assessing and addressing NBFi risks.

The main focus of the FSB policy work to enhance NBFi resilience is to reduce excessive spikes in the demand for liquidity by addressing the vulnerabilities that drive those spikes or by mitigating their financial stability impact. To date, the policy proposals to address systemic risk

in NBFIs have involved largely repurposing existing policy tools rather than creating new ones, given the extensive micro-prudential and investor protection toolkit already available.

This report presents the findings of analytical work on key amplifiers of liquidity stress, especially those associated with non-bank leverage. It also describes two sets of policies being developed by the FSB and SSBs to reduce excessive spikes in liquidity demand:

- The first set involves revisions to the FSB Recommendations to address structural liquidity mismatch in OEFs by providing greater clarity on the redemption terms that OEFs could offer to investors based on the liquidity of their asset holdings and to promote greater inclusion and use (and consistency of use) of liquidity management tools (LMTs). The goal of the revised Recommendations, combined with the new IOSCO guidance on anti-dilution LMTs, is a significant strengthening of liquidity management by OEF managers compared to current practices.
- The second set involves policies to enhance margining practices. This includes high-level, cross-sectoral policy recommendations on liquidity risk management and governance to enhance the liquidity preparedness of market participants for margin and collateral calls; developing further guidance and effective practices to increase transparency and evaluate initial margin responsiveness in centrally cleared markets; and potentially other policy actions to strengthen variation margin processes.

Recent market incidents have confirmed that many of the key amplifiers worked in tandem to transmit shocks across the financial system. Given this, it is critical to ensure that the various policies fit together from a system-wide perspective. The FSB and SSBs are collaborating closely to ensure that policies complement and interlink effectively. Until these policies are finalised and fully implemented, the vulnerabilities evident in recent market incidents remain.

Experience with the use of tools for systemic risk mitigation in NBFIs is limited to date. The FSB will discuss experiences and lessons of work by its member authorities on the design and use of tools to address systemic risk in NBFIs. The FSB will also work with the SSBs to assess, in due course, whether implemented reforms have sufficiently addressed systemic risk in NBFIs, including whether to develop additional tools for use by authorities.

The report concludes by outlining further work to assess and address systemic risk in NBFIs that the FSB, in collaboration with the SSBs, will carry out. A key area of policy focus in 2024 is addressing financial stability risks from NBFIs leverage. Table 1 provides an overview of the FSB's medium-term NBFIs work programme, while Table 2 describes work already completed.

Table 1: Planned deliverables under the FSB’s medium-term NBFi Work Programme

| Topic | Deliverable | Timing |
|--|--|---|
| Resilience of money market funds (MMFs) and short-term funding markets | FSB, working with IOSCO, to assess the effectiveness of MMF reforms in addressing risks to financial stability | End-2026 |
| | IOSCO to revisit its <i>Policy Recommendations for MMFs</i> in light of the framework and policy toolkit in FSB report | TBD |
| | FSB to analyse the functioning and resilience of repo markets, including interlinkages with core bond markets | TBD |
| Liquidity risk and its management in open-ended funds (OEFs) | FSB, in consultation with IOSCO, to revise the 2017 FSB Recommendations on liquidity mismatch in OEFs | Final report in late 2023 |
| | IOSCO to operationalise revised FSB Recommendations through amendments to the 2018 IOSCO Recommendations and supporting good practices | TBD (following the revisions to the FSB Recommendations) |
| | IOSCO, in consultation with the FSB, to develop guidance on LMTs to complement the revised FSB Recommendations | Final report in late 2023 |
| | FSB, in consultation with IOSCO, to initiate a pilot programme to close identified data gaps for monitoring financial stability risks relating to OEF liquidity mismatch and the use of LMTs | Pilot programme in 2023; follow-up work as needed in 2024 |
| | FSB and IOSCO to organise a workshop on experiences among authorities on design/use of stress tests for OEFs | Early 2024 |
| | FSB and IOSCO to monitor implementation and assess the effectiveness of their revised Recommendations | TBD |
| Margining practices | FSB to issue policy recommendations on liquidity preparedness of market participants for margin and collateral calls, and to work on data gaps in regulatory reporting BCBS-CPMI-IOSCO to complete policy work on transparency in centrally cleared markets; variation margin processes; and the responsiveness of initial margin models to market stresses | 2024 |
| Non-bank leverage | FSB and SSBs to work on policies to enhance the monitoring of, and address financial stability risks from, leverage in NBFi | 2024 and beyond |
| Bond market liquidity | FSB and IOSCO to consider follow-up work in due course to enhance the functioning and resilience of core bond markets | TBD |
| Developing a systemic risk perspective in NBFi | FSB to continue to assess vulnerabilities in specific NBFi segments and report on implementation of G20 NBFi reforms | 2024 and beyond |
| | FSB to continue to enhance its Global Monitoring Report on NBFi reflecting the findings from NBFi work | 2024 and beyond |
| Developing policies to address systemic risk in NBFi | FSB to publish report with main findings of NBFi initiatives and any further policy proposals to address systemic risk in NBFi | 2024Q4 |
| | FSB to discuss experiences and lessons of member work on the design and use of tools to address systemic risk in NBFi | TBD |
| | FSB to work with SSBs to assess, in due course, whether agreed and implemented reforms have sufficiently addressed systemic risk in NBFi, including whether additional policy tools are required | TBD |

Table 2: Deliverables to be completed by end-2023 under the FSB's NBFi Work Programme

| Topic | Brief description | Timing |
|--|---|---|
| 1. Analytical and policy work on specific issues | | |
| Resilience of money market funds (MMFs) and short-term funding markets | To make policy proposals, in light of the March 2020 experience, to enhance MMF resilience including with respect to the underlying short-term funding markets | FSB MMFs report (Oct 2021) |
| | To take stock of the MMF policy measures adopted by FSB member jurisdictions | FSB peer review report (end-2023) |
| | To assess the functioning and resilience of commercial paper and negotiable certificates of deposit markets | FSB and IOSCO (end-2023) |
| Liquidity risk and its management in OEFs | FSB, in consultation with IOSCO, to revise the 2017 FSB Recommendations on liquidity mismatch in OEFs IOSCO, in consultation with the FSB, to develop detailed guidance on liquidity management tools to complement the revised FSB Recommendations | FSB and IOSCO consultation reports (Jul 2023) |
| Margining practices | To examine frameworks and dynamics of margin calls in centrally and non-centrally cleared derivatives markets and the liquidity management preparedness of market participants to meet margin calls | BCBS-CPMI-IOSCO reports (Sep 2022 and Feb 2023) |
| Liquidity, structure and resilience of core bond markets | To examine the structure and liquidity provision in core funding markets during stress, including the role of leveraged investors and factors that limit dealer capacity to intermediate | IOSCO corporate bond markets report (Apr 2022) BIS Markets Committee paper (May 2022) FSB government bond markets report (Oct 2022) |
| Non-bank leverage | To assess the financial stability implications of NBFi leverage | FSB report (Sep 2023) |
| 2. Systemic risk assessments | | |
| Strengthening the ongoing monitoring of NBFi risks | To assess NBFi risks in light of COVID-19 developments and lessons from the March turmoil | Annual FSB Global Monitoring Reports |
| Advancing the understanding of systemic risks in NBFi and the financial system | To deepen the analysis of structural and interconnectedness issues in NBFi, including the interaction of USD funding pressures and fund outflows in emerging market economies, as input into enhanced risk monitoring and discussions on policies to address systemic risks in NBFi | FSB USD funding report (Apr 2022) FSB NBFi progress reports (Nov 2021 and 2022, Sep 2023) |
| 3. Policies to address systemic risks in NBFi | | |
| Policies to address systemic risks in NBFi | To examine policies to address systemic risks in NBFi, including the adequacy of current policy tools and the concept and desired level of resilience in NBFi | FSB NBFi progress reports (Nov 2022 and Sep 2023) |

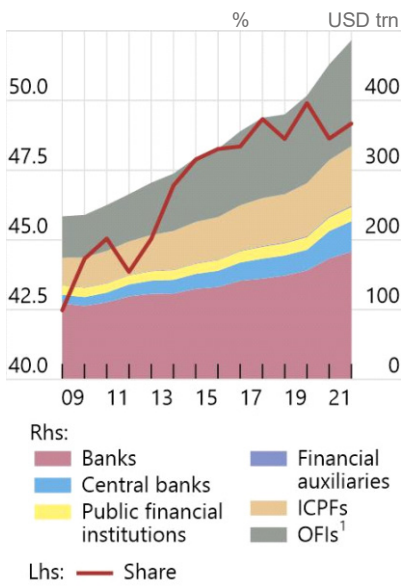
1. Introduction

This report describes progress over the past year and planned work by the FSB, standard-setting bodies (SSBs), and other international organisations, to enhance the resilience of non-bank financial intermediation (NBFi) under the FSB’s NBFi work programme.¹

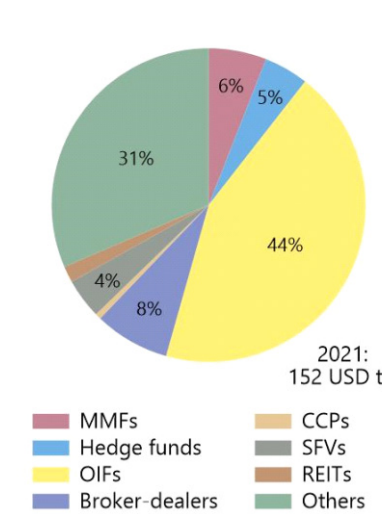
A wide range of factors and structural changes in the global financial system over the past decade have increased the reliance on market-based intermediation. NBFi has grown to almost half of global financial assets and become more diverse (Graph 1).² As a result, the importance of NBFi for the financing of the real economy has increased.

The NBFi sector has grown and evolved considerably in recent years **Graph 1**

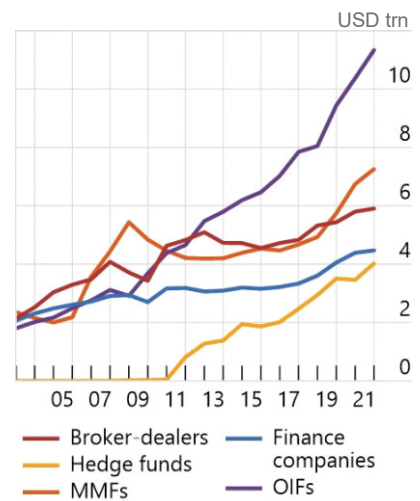
NBFi asset’s rising share in total financial assets



Share of OFI’s major subsectors to total OFI assets



Credit assets held by selected OFI sub-sectors²



CCPs = central counterparties; ICPFs = insurance corporations and pension funds; MMFs = money market funds; OFIs = other financial intermediaries; OIFs = investment funds other than MMFs and hedge funds; REITs = real estate investment trusts and real estate funds; SFVs = structured finance vehicles. Data used in the charts above covers 21 jurisdictions and euro area.

¹ OFIs (other financial intermediaries) is a subset of the NBFi sector, comprising all financial institutions that are not central banks, banks, public financial institutions, insurance corporations, pension funds, or financial auxiliaries. OFIs include, for example, investment funds, captive financial institutions, and money lenders (CFIMLs), central counterparties (CCPs), broker-dealers, finance companies, trust companies and structured finance vehicles. ² Increases of aggregated data may also reflect improvements in the availability of data over time at a jurisdictional level.

Sources: FSB (2022), *Global Monitoring Report on Non-Bank Financial Intermediation 2022*; FSB calculations.

The March 2020 turmoil underscored the need to strengthen resilience in the NBFi sector, as key funding markets experienced acute stress and public authorities needed to take a wide range of measures to restore market functioning and to support the supply of credit to the real economy.³ Building on the lessons from the turmoil, the FSB developed a comprehensive NBFi work programme to examine and, where appropriate, address specific issues that contributed to amplification of the shock; to enhance understanding and strengthen the monitoring of systemic

¹ The FSB’s NBFi work programme (and this report) does not cover intermediation activities related to crypto-asset activities and markets. These are analysed separately and the FSB recently published policy recommendations in this area. See FSB (2023), *FSB Global Regulatory Framework for Crypto-asset Activities*, July.

² See FSB (2022), *Global Monitoring Report on Non-Bank Financial Intermediation 2022*, December.

³ See FSB (2020), *Holistic Review of the March Market Turmoil*, November.

risk in NBFIs; and to assess policies to address systemic risk in NBFIs. The changed macroeconomic environment since then and additional market incidents – such as the failure of Archegos Capital Management and strains in commodities and bond markets – further underscore the need to take policy measures to enhance the resilience of the NBFIs sector. Enhancing NBFIs resilience is intended to ensure a more stable provision of financing to the economy and to reduce the need for extraordinary central bank interventions. Efforts to strengthen NBFIs resilience should not compromise the resilience in other parts of the system or the important role that NBFIs play in financing the real economy.

In recent NBFIs progress reports, the FSB noted that the functioning and resilience of the NBFIs ecosystem depends on the availability of liquidity and its effective intermediation under stressed market conditions.⁴ If liquidity imbalances become sufficiently large and pervasive, they may give rise to financial instability. These imbalances can be the result of the interaction of large and unexpected shifts in liquidity demand (going well beyond the normal fluctuations that are part of price formation and portfolio management), insufficient supply of liquidity in stress, and various amplification mechanisms. These interactions can give rise to asset fire sales and the transmission of stress to other parts of the financial system and the economy.

Certain activities and types of entities (so-called ‘key amplifiers’) may particularly contribute to aggregate liquidity imbalances and the transmission and amplification of shocks due to their size, structural characteristics and behaviour in stress. On the liquidity demand side, this includes activities that could give rise to liquidity mismatches, which are particularly prevalent in some types of non-bank entities, such as certain money market funds (MMFs) and open-ended funds (OEFs); unexpectedly large margin calls for derivatives and securities trades; external funding and currency mismatches (e.g. considering global use of the US dollar as a borrowing and investment currency); and excessive build-up of leverage. On the liquidity supply side, this includes factors that reduce the ability of bank and non-bank liquidity providers to absorb large spikes in liquidity demand and the structure of core wholesale funding markets, which is characterised by limited standardisation, low levels of automated trading and turnover, and heavy reliance on dealer intermediation. The high interconnectedness between different entities within the NBFIs ecosystem and with the banking sector suggests the need for a system-wide approach to analysing NBFIs risks and for developing policies to address them.

This year’s progress report presents the findings of analytical work on vulnerabilities in particular entities and activities that may contribute to aggregate liquidity imbalances, especially those associated with non-bank leverage. It describes policies being developed by the FSB and SSBs to address systemic risk in NBFIs, focusing particularly on liquidity mismatch in OEFs and on margining practices. The report also outlines further work to assess and address systemic risk in NBFIs that the FSB, in collaboration with the SSBs, will carry out in 2024 and beyond. The rest of the document is structured as follows:

- Section 2 presents the main findings of the work over the past year to assess and address vulnerabilities in NBFIs entities and activities;
- Section 3 describes policy proposals to enhance NBFIs resilience; and
- Section 4 outlines the way forward.

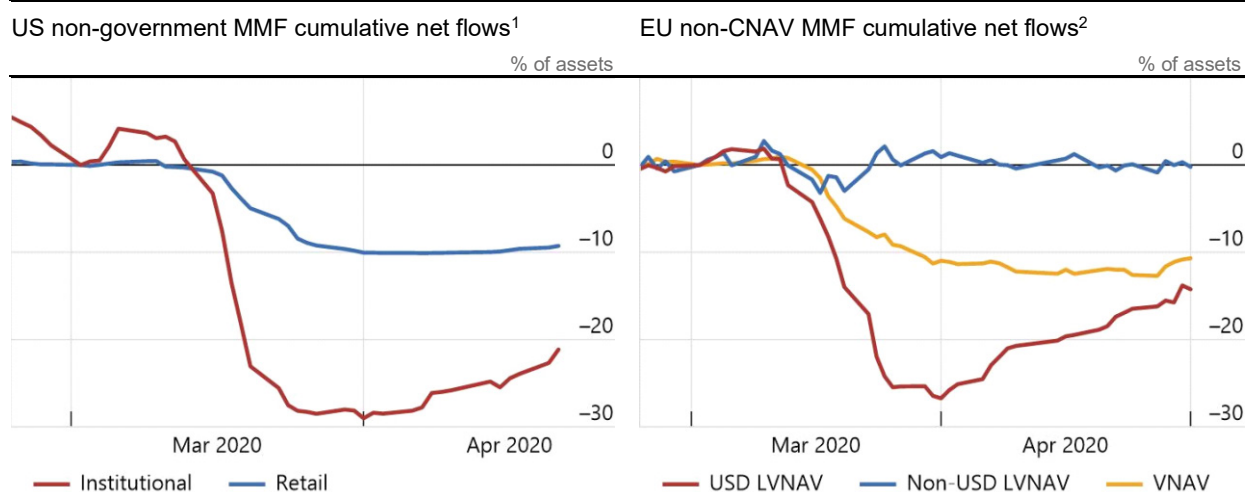
⁴ See FSB (2021), *Enhancing the Resilience of Non-Bank Financial Intermediation: Progress report*, November; and FSB (2022), *Enhancing the Resilience of Non-Bank Financial Intermediation: Progress report*, November.

2. Assessing and addressing vulnerabilities in specific areas

2.1. Resilience of money market funds and short-term funding markets

Vulnerabilities in MMFs can contribute to large and unexpected liquidity imbalances in times of stress. MMFs are subject to two broad types of mutually reinforcing vulnerabilities: they are susceptible to sudden and disruptive redemptions and they may face challenges in selling assets, particularly under stressed conditions. These vulnerabilities have been studied extensively in the academic literature and documented in official reports and rulemakings. In practice, these vulnerabilities have been significantly more prominent in non-public debt MMFs, as indicated by the outflows of US- and EU-domiciled MMFs in the March 2020 market turmoil (Graph 2).

MMFs flows in the US and Europe during the March 2020 turmoil Graph 2



The graph shows cumulative net flows as a percent of assets under management as of 28 February 2020. ¹ Institutional refers to publicly-offered institutional prime MMFs in the US. ² MMFs in the EU fall under two broad categories: (1) standard MMFs, which are variable net asset value (VNAV) funds; and (2) short-term MMFs, which are subject to a 60-day limit on the weighted average maturity of their portfolio. Short-term MMFs can be constant NAV (CNAV) for public debt MMFs, and either VNAV or “low volatility” NAV (LVNAV) for non-public debt MMFs.

Sources: Bouveret et al (2022), [Money Market Fund Vulnerabilities: A Global Perspective](#), Finance and Economics Discussion Series 2022-012, Board of Governors of the Federal Reserve System.

The FSB, in collaboration with IOSCO, published its final report with policy proposals to enhance MMF resilience in 2021.⁵ The report notes that FSB members are assessing, or will assess, MMF vulnerabilities in their jurisdiction and will address them using the framework and policy toolkit in the report, in line with their domestic legal frameworks. It also recognises that individual jurisdictions need flexibility to tailor measures to their specific circumstances. At the same time, as shown by the experience of March 2020, there are important cross-border considerations to be kept in mind. International coordination and cooperation on implementing policy reforms is critical to mitigate spillovers and avoid regulatory arbitrage. Enhancing MMF resilience will also help address systemic risk and minimise the need for future extraordinary central bank interventions to support the sector.

⁵ See FSB (2021), [Policy proposals to enhance money market fund resilience: Final report](#), October.

A number of FSB member authorities have already published policy reforms or proposals on MMFs. For instance:

- The US Securities and Exchange Commission (SEC) adopted MMF reforms in July 2023 that include increasing minimum liquidity requirements to provide a more substantial buffer in the event of rapid redemptions; removing provisions that permit MMFs to temporarily suspend redemptions and removing the regulatory tie between the imposition of liquidity fees and a fund's liquidity level; requiring certain MMFs to implement a liquidity fee framework that will better allocate the costs of providing liquidity to redeeming investors; and enhancing certain reporting requirements to improve the SEC's ability to monitor and assess MMF data.⁶
- In July 2023, the European Commission issued a report assessing the functioning of the MMF Regulation in the EU from a prudential and economic point of view. The report concludes that the MMF Regulation has enhanced financial stability and overall successfully passed the test of recent market stress episodes. The report also identifies certain vulnerabilities in the market for MMFs and areas meriting further assessment.⁷
- The UK authorities published a discussion paper in May 2022 with potential policy options, including requiring MMFs to hold significantly more liquid assets, charging a liquidity fee or applying swing pricing, and removing risks from thresholds effects. The UK authorities will issue a consultation paper on MMF regulation in late 2023.⁸

The FSB's 2021 MMF report noted that policies aimed at enhancing the resilience of MMFs could be accompanied by, among other things, measures that aim at improving the functioning of the underlying short-term funding markets, though it cautioned that such measures, while useful, might not change the limited incentives of market participants to trade or of dealers to intermediate, particularly during stress periods. The report also noted that these measures will need time to be designed and implemented given the jurisdiction-specific structure of these markets and the fact that some measures involve changes in private conventions or contracts. In terms of follow-up, the FSB, in consultation with IOSCO, is assessing the functioning and resilience of primary and secondary markets in commercial paper (CP) and negotiable certificates of deposit (CD) in core funding market jurisdictions. The objective is to identify and assess structural vulnerabilities in those markets and to explore the merits of different policy options to mitigate such vulnerabilities in order to improve market functioning.

⁶ See SEC press release, [Money Market Fund Reforms and Amendments to Form PF Reporting Requirements for Large Liquidity Fund Advisers](#) (12 July 2023).

⁷ See EC (2023), [Commission adopts report on the functioning of the Money Market Funds Regulation \(MMF\)](#), July. See also ESMA (2022), [ESMA proposes reforms to improve resilience of Money Market Funds](#), February; and the European Systemic Risk Board (2022), [ESRB recommends increasing the resilience of money market funds](#), January.

⁸ See Bank of England and Financial Conduct Authority (2022), [Resilience of Money Market Funds](#), Discussion Paper DP 22/1, May.

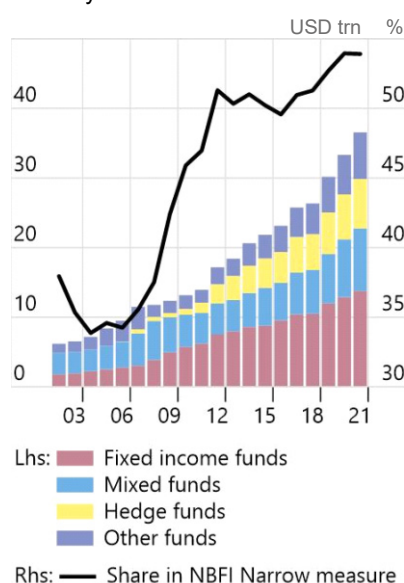
2.2. Liquidity risk and its management in open-ended funds

The importance of OEFs – both in absolute terms and as a share of NBFI assets – has increased over the last decade (Graph 3, left-hand panel). OEFs have on average increased their holdings of less liquid and illiquid assets in recent years, in part through a search for yield in a low interest rate environment. At the same time, these funds have generally continued to offer investors daily dealing thereby contributing to structural liquidity mismatch, which can be defined as the difference between the redemption terms that an OEF offers to investors and the amount of time it may take the OEF’s manager to liquidate fund holdings in an orderly manner to satisfy redemption requests. Unmitigated structural liquidity mismatch may amplify shocks by driving ‘excess’ redemptions that require managers to engage in asset sales larger than in the absence of liquidity mismatch, especially in times of stress. One particular example is when redeeming OEF investors do not bear the full cost of their redemptions and there is a ‘first mover advantage’ for those investors. Recent episodes of stress (Graph 3, mid- and right-hand panels) have shown that OEF outflows can be very large, which contributed to selling pressures and led to interventions by public authorities to restore market confidence.

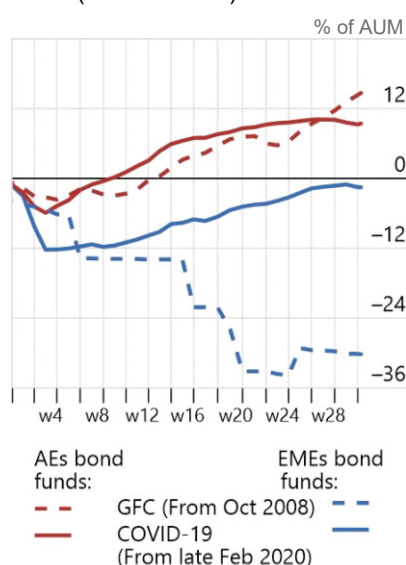
Growing importance of OEFs and size of corporate bond fund outflows during episodes of stress

Graph 3

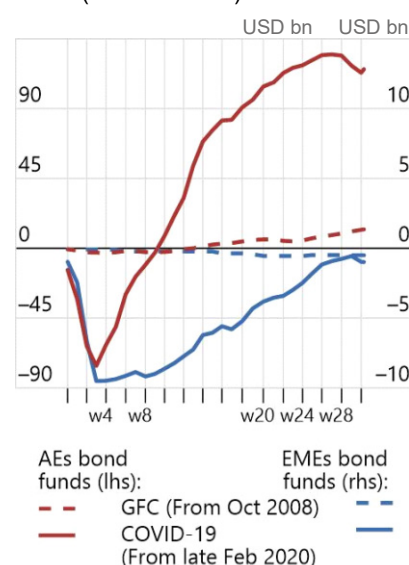
OEFs have grown significantly in recent years¹



Cumulative flows to corporate bond funds (2008 vs 2020)



Cumulative flows to corporate bond funds (2008 vs 2020)



¹ The panel shows collective investment vehicles with features that make them susceptible to runs. Open-ended equity funds are only included in this chart if they hold more than 20% of their assets under management in credit assets. The narrow measure is composed of NBFI entities that authorities have assessed as being involved in credit intermediation activities that may pose bank-like risks (i.e. maturity/liquidity transformation, leverage or imperfect credit risk transfer) and/or regulatory arbitrage

Sources: FSB *Global Monitoring Report on Non-Bank Financial Intermediation 2022*; FSB *Holistic Review of the March Market Turmoil*; FSB calculations.

In 2022, the FSB assessed the effectiveness of its 2017 policy recommendations to mitigate vulnerabilities in OEFs stemming from liquidity mismatch (FSB Recommendations).⁹ This took place in coordination with IOSCO’s review of its 2018 recommendations on liquidity risk

⁹ See FSB (2022), *Assessment of the Effectiveness of the FSB’s 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds*, December.

management for such funds (IOSCO Recommendations).¹⁰ The report concluded that authorities have made meaningful progress in implementing the 2017 FSB Recommendations. Nevertheless, lessons learnt since the publication of the FSB Recommendations, including during the March 2020 market turmoil, have produced new insights into liquidity management challenges in segments of the OEF sector. While the assessment suggested that the FSB Recommendations remain broadly appropriate, enhancing clarity and specificity on the policy outcomes that the FSB Recommendations seek to achieve would make them more effective from a financial stability perspective. The report also noted that there was material variation in how LMTs were used and suggested that there was room for greater use of LMTs, in particular anti-dilution tools that are intended to pass on the cost of liquidity to redeeming shareholders in both normal and stressed market conditions.

In response to the assessment's findings, the FSB launched a public consultation in July 2023 proposing revisions to the relevant FSB Recommendations on OEF liquidity mismatch.¹¹ The revised Recommendations are addressed to financial regulatory and supervisory authorities and set out the key objectives that an effective regulatory and supervisory framework should achieve to address the vulnerabilities arising from liquidity mismatch in OEFs, to the extent jurisdictions' liquidity regulations are not yet consistent with the revised Recommendations.

One of the key changes to the FSB Recommendations is to provide greater clarity on the redemption terms that OEFs could offer to investors, based on the liquidity of their asset holdings. This would be achieved through a proposed bucketing approach, where OEFs would be grouped into different categories depending on the liquidity of their assets. OEFs in each category would then be subject to specific expectations based on their redemption terms and conditions. Authorities should set expectations for OEF managers to use a mixture of quantitative and qualitative factors when determining the liquidity of OEF assets in normal and stressed market conditions.

Proposed changes emphasise the need for authorities to ensure the availability of a broad set of anti-dilution and quantity-based LMTs for use by OEF managers in normal and stressed market conditions. Revised recommendations also aim to achieve greater inclusion of anti-dilution LMTs in OEF constitutional documents and greater use of, and greater consistency in the use of, such tools in both normal and stressed market conditions. The overall objective is to mitigate potential first-mover advantage arising from structural liquidity mismatch in OEFs by imposing on investors the costs of liquidity associated with fund redemptions (and subscriptions). In this regard, anti-dilution LMTs should impose on redeeming investors the explicit and implicit costs of redemptions, including any significant market impact of asset sales and purchases to meet those redemptions.

The revised FSB Recommendations should be read in conjunction with the proposed IOSCO guidance on anti-dilution LMTs that was published for consultation at the same time.¹² Both the FSB and IOSCO observed in their respective assessments that there is scope for greater uptake

¹⁰ See IOSCO (2018), *Final Report on Recommendations for Liquidity Risk Management for Collective Investment Schemes*, February.

¹¹ See FSB (2023), *Addressing Structural Vulnerabilities from Liquidity Mismatch in Open-Ended Funds – Revisions to the FSB's 2017 Policy Recommendations: Consultation report*, July.

¹² See IOSCO (2023), *Consultation Report on Anti-dilution Liquidity Management Tools – Guidance for Effective Implementation of the Recommendations for Liquidity Risk Management for Collective Investment Schemes*, July.

of LMTs, in particular anti-dilution LMTs. Investor protection and financial stability concerns could arise when transacting investors in OEFs do not bear the costs of liquidity associated with fund subscriptions/redemptions, which disadvantages remaining investors. Anti-dilution LMTs can address these concerns, and therefore, form an important part of an overall liquidity risk management framework for OEFs.

To support the greater use of anti-dilution LMTs by OEFs, IOSCO is proposing that responsible entities should have appropriate internal systems, procedures and controls in place at all times in compliance with applicable regulatory requirements as part of the everyday liquidity risk management of their OEFs. In particular, responsible entities should consider and use at least one appropriate anti-dilution LMT for each OEF under management. Independently of the tool used, responsible entities should be able to demonstrate to authorities (in line with the authorities' supervisory approaches) that the calibration of the tool is appropriate and prudent for both normal and stressed market conditions. If responsible entities set thresholds for the activation of anti-dilution LMTs, those thresholds should be appropriate and sufficiently prudent so as not to result in any material dilution impact in the fund. Responsible entities should have adequate and appropriate governance arrangements for liquidity risk management, including clear decision-making processes for the use of anti-dilution LMTs. Responsible entities should publish clear disclosures of the objectives and operation (including design and use) of anti-dilution LMTs to improve awareness among investors and enable them to better incorporate the cost of liquidity into their investment decisions and mitigate potential adverse trigger effects.

2.3. Margining practices

Central counterparties (CCPs) functioned as intended during the March 2020 market turmoil, but increases in margin requirements were sometimes significant in scale and frequency, in some cases stretching market participants' ability to manage the associated liquidity risk. In light of this, the BCBS, CPMI and IOSCO conducted a review of margining practices in centrally and non-centrally cleared markets. The report concluded that the BCBS, CPMI and IOSCO should work together with the FSB to take forward policy work in the following areas: increasing transparency in centrally cleared markets; enhancing the liquidity preparedness of market participants and liquidity disclosures; identifying data gaps in regulatory reporting; streamlining variation margin (VM) processes in centrally and non-centrally cleared markets; and evaluating the responsiveness of centrally cleared and non-centrally cleared initial margin (IM) models to market stresses.¹³

A key area of focus for the FSB this year has been the liquidity preparedness of non-bank market participants for margin and collateral calls across centrally and non-centrally cleared derivatives and repo markets. Analysis of recent incidents of liquidity stress – the market turmoil of March 2020; the collapse of Archegos in March 2021; the commodities market turmoil in 2022; and stress in the gilt market driven by the LDI strategies by UK pension funds in September 2022 – and feedback from stakeholder outreach suggests that whilst margin and collateral calls are a necessary protection against counterparty risk, they can also amplify the demand for liquidity by market participants if they are unexpected in times of stress and affect a large enough part of the market. The increase in such calls can impact market participants differently depending on

¹³ See BCBS, CPMI and IOSCO (2022), *Review of margining practices*, September.

size of positions and level of liquidity preparedness. The analysis has identified common factors contributing to inadequate liquidity preparedness for margin and collateral calls:

- Weaknesses in liquidity risk management and governance by relevant market participants. This raises the importance of issues such as robust liquidity stress-testing, including accurately assessing the liquidity of assets and liabilities in times of stress; planning for extreme but plausible scenarios; monitoring and managing concentrated and leveraged positions; putting in place effective collateral management practices; ensuring adequate levels of liquidity as well as diversified and reliable funding sources; and having efficient decision-making processes.
- Other factors that go beyond individual market participants, but may nevertheless be the focus of policy attention, such as the transparency of margining practices and market positions, the reliability of liquidity provision by intermediaries, and the depth of markets under stress.

The BCBS, CPMI and IOSCO workstreams (Phase 2) in other margining areas coordinated their collection of information to support further policy consideration. This included a survey of CCPs across all workstreams on centrally cleared markets, and joint outreach sessions to clearing members (CMs)/intermediaries, clients/end-users and collateral service providers on transparency and IM responsiveness in centrally cleared markets, and streamlining VM in non-centrally cleared markets. This was supplemented with targeted outreach to industry associations on transparency in centrally cleared markets; surveys of CMs and clients focusing on streamlining VM processes in centrally cleared markets; and a survey of relevant authorities on IM responsiveness in non-centrally cleared markets. Recent reports on commodities markets stress provided additional evidence to support the Phase 2 work.¹⁴

The main findings from the information gathered are as follows:

- Transparency in centrally cleared markets. Comparing the results of the CCP survey with feedback from CMs and clients, there appears to be a gap between the information that CCPs state that they already disclose about their margin model design choices and the demand from CMs and clients for further disclosures. CMs and clients also identified additional disclosures of backward-looking model performance metrics that they would like to see provided. In most cases, margin simulators currently provided by CCPs tend only to estimate the impact of portfolio changes rather than changes due to stressed market conditions. At the same time, there is a cost in developing and maintaining margin simulation tools that needs to be weighed against the benefits provided by these tools in terms of helping CMs and clients forecast their liquidity needs.
- IM responsiveness in centrally cleared markets. The CCP survey confirmed that most CCPs use metrics to measure the procyclicality of their IM models and to determine whether to undertake a model review or recalibration; however, there is considerable variation across CCPs in terms of how the metrics are defined and used. The CCP survey showed that CCPs use qualitative criteria to assess the procyclicality of their IM

¹⁴ See FSB (2023), *The Financial Stability Aspects of Commodities Markets*, February; and BCBS-CPMI-IOSCO (2023), *Margin dynamics in centrally cleared commodities markets in 2022*, May.

models and that most CCPs have processes and procedures for determining when to override the risk parameters and/or outputs of their IM models, although they may not set specific triggers for these manual adjustments.

- Streamlining VM in centrally cleared markets. Information was gathered on this topic through survey responses from CCPs, CMs and clients. While there was significant participation from CCPs in the survey, only a small number of CMs and clients chose to respond to the surveys. The responses reflect the large diversity of CCP jurisdictions, asset classes and business models. Some common themes were nevertheless identified in the responses, such as the transparency of ad-hoc VM calls and their drivers, as well as the trade-off between the number of scheduled intraday calls and the likelihood of ad-hoc calls. Responses to other themes reflect the absence of a universal solution, in particular when considering the possibility of passing through VM and accepting non-cash collateral, which may be mutually exclusive.
- IM responsiveness in non-centrally cleared markets. The review of margining practices noted that non-centrally cleared derivatives markets experienced a smaller adjustment in IM requirements in response to the Covid market shock than centrally cleared markets. This is likely an intended consequence of the relatively conservative construction of the model used to determine IM which is based on the requirements specified in the BCBS-IOSCO margin standards (hereafter referred to as the WGMR framework).¹⁵ At the same time, the relatively lower responsiveness of the ISDA SIMM might be attributed to the frequency of recalibration.
- Streamlining VM in non-centrally cleared markets. The joint industry outreach sessions did not identify material problems related to VM processes in non-centrally cleared derivatives markets.

2.4. Non-bank leverage

The FSB has recently examined the financial stability risks associated with leverage in NBFIs.¹⁶ As recent market incidents have demonstrated, if not properly managed, the build-up of leverage creates a vulnerability that, when acted upon by a shock, can propagate strains through the financial system, amplify stress, and lead to systemic disruption. It can do so via two propagation mechanisms: the position liquidation channel (e.g. sudden unwinding of positions in response to margin calls) and the counterparty channel (e.g. counterparty default due to its leveraged positions). Any disruption could be further amplified by factors such as the amount and concentration of leverage as well as its opacity, asset valuations, market participants' inadequate risk management, and liquidity imbalances in leveraged non-bank investors and in the markets they operate in.

Leverage can be financial or synthetic and can be either on- or off-balance sheet. Leverage that is difficult to identify or measure by market participants or public authorities is referred to as

¹⁵ See BCBS and IOSCO (2020), *Margin requirements for non-centrally cleared derivatives*, April.

¹⁶ Leverage is a financial technique used to increase exposure, boost returns or take positions that can offset potential losses from other exposures (hedging). See FSB (2023), *The Financial Stability Implications of Leverage in Non-Bank Financial Intermediation*, September.

'hidden leverage'. In some cases, leverage is hidden because no data are available to assess its presence or magnitude. In other cases, leverage can be hidden because available data are not sufficient or adequately used to assess vulnerabilities.

Available data suggest that the debt issued by the NBFIs in FSB member jurisdictions is significant and similar in scale to household debt, but that it is unevenly distributed within the sector. While insurance companies, pension funds and investment funds represent two-thirds of non-bank assets, more than 90% of on-balance sheet financial leverage is concentrated in other financial intermediaries (OFIs), such as broker-dealers, hedge funds, finance companies, holding companies and securitisation vehicles. Aggregate data points to a decline in OFI leverage since the 2008 global financial crisis, though this has largely been due to a change in composition of the NBFIs sector rather than widespread deleveraging by non-bank entities.

Non-bank entities have been taking on additional leverage through off-balance sheet exposures, including foreign exchange swaps and forwards. These positions have grown significantly over the past decade. While it is difficult to assess non-bank synthetic leverage from publicly available information, aggregate proxies suggest that this may be higher than its historical average.

Amongst non-bank investors, hedge funds display high synthetic leverage in aggregate, obtained through derivative positions. Within the hedge fund sector, there is a group of funds, typically pursuing macro and relative value strategies, with very high levels of synthetic leverage. In addition, large hedge funds usually spread their borrowing across several prime brokers, which helps diversify their funding sources but can also create hidden leverage in the financial system. Furthermore, a few prime brokers dominate the provision of lending to hedge funds, and this concentration could amplify shocks and propagate them through the financial system.

Although long-term investors take financial leverage on their balance sheet, this does not appear to be significant in aggregate. Insurance companies sometimes have a significant notional amount of derivatives (implying synthetic leverage) on their balance sheet for hedging purposes. In some jurisdictions, defined benefit pension funds take off-balance sheet leverage through LDI vehicles that borrow in repo markets and also take-on synthetic leverage. These types of leveraged strategies could impact financial stability through the liquidation of positions (fire sales) during times of highly volatile price movements, when leverage leads to unexpectedly large margin and collateral calls, and could be amplified through concentrated positions by a few investors and within particular market segments – as was the case for the stress in the gilt market driven by the LDI strategies by UK pension funds in September 2022.

There are a number of data gaps that make it difficult to fully assess the vulnerabilities associated with non-bank leverage. Family offices, for example, may be taking on leverage, but little public or regulatory data are available to measure the nature, size and concentration of those positions. Similarly, pension funds' leverage is difficult to assess without more information on their investments. The limited availability of data, problems in aggregating existing data, and difficulties in estimating meaningful measures of leverage may lead to a misestimation of overall leverage in the NBFIs sector and, in particular, the inability to identify large and concentrated positions. In addition to hampering vulnerabilities assessments, this impedes mitigating measures from being put in place by market participants and regulators.

Actions that could be considered to address the most salient identified data gaps include: (1) making more intensive use of existing data, such as those available in trade repositories; (2)

enhancing reporting requirements for non-bank investors, especially those (in particular OFIs) that have high leverage levels; (3) changing existing frameworks for assessing leverage to include new and consistent metrics; (4) sharing more information between authorities and across jurisdictions; (5) expanding disclosure requirements for firms to shed light on concentrated positions; and (6) collecting and publishing more information on non-bank leverage and balance sheets, for example in national statistics and flow of funds accounts. Measures to address data gaps should take into account the costs of such measures to market participants and authorities, as well as potential financial stability risks.

Authorities might also want to examine whether any policy responses are needed to address vulnerabilities and amplification factors from non-bank leverage. Examples include: implementing the agreed FSB minimum standards and haircut floors on non-centrally cleared securities financing transactions; developing additional rules on haircuts and margins; or assessing whether rules on leverage could be enhanced or extended to financial institutions not subject to such requirements, taking account of differences in risk profiles. In addition, measures could be considered to mitigate the financial stability consequences of high non-bank leverage, for example by enhancing prime broker risk management, improving the liquidity preparedness of market participants, augmenting the resilience of liquidity provision in core funding markets during times of stress, or enhancing stress testing by both non-bank investors and authorities.

3. Policies to address systemic risk in NBFIs

This section describes a set of policy proposals to address systemic risk in NBFIs, focusing on key amplifiers that may contribute to liquidity imbalances in aggregate. These proposals form the basis for follow-up detailed work by the FSB and SSBs to revise or add to their existing international standards or to provide more guidance as needed.

3.1. Overview

The aim of policies by the FSB and SSBs to address systemic risk in NBFIs is to reduce liquidity demand spikes; enhance the resilience of liquidity supply in stress; and enhance risk monitoring and the preparedness of authorities and market participants. These policies, described below, include revising or adding to existing international standards by the FSB and SSBs or providing further guidance as needed; identifying other potentially useful policy options that individual authorities may wish to consider based on their particular market structure and context; and carrying out additional analytical work to assess and, as appropriate, address issues identified in the NBFIs work to date. Any changes to international standards or guidance will involve close coordination with the relevant SSBs and outreach with stakeholders, including through public consultation.

The main focus of the FSB policy work to enhance NBFIs resilience is to reduce excessive spikes in the demand for liquidity by addressing the vulnerabilities that drive those spikes (e.g. by reducing liquidity mismatch or the build-up of leverage) or by mitigating their financial stability impact (e.g. by enhancing the liquidity preparedness of market participants to meet margin calls). To date, the policy proposals to address systemic risk in NBFIs have involved largely repurposing existing policy tools (e.g. on liquidity management and margining) rather than creating new ones, given the extensive micro-prudential and investor protection toolkit already available.

Policies to enhance resilience of liquidity provision in stress are also very important, though they are more difficult to implement as they require longer-term structural changes and tend to be country-specific. In addition, some of the policies aiming to reduce excessive spikes in the demand for liquidity may support the provision of liquidity during stress periods, for example, by reducing procyclical behaviour of certain NBF1 liquidity providers.

Measures to enhance the risk monitoring and preparedness of authorities and market participants include addressing identified key data gaps, enhancing transparency and information sharing, and developing additional risk metrics and analytical tools for monitoring.

3.2. Policies for liquidity demand and supply

The FSB published policy proposals in 2021 to enhance the resilience of **money market funds** through mechanisms to impose on redeeming fund investors the cost of their redemptions; to absorb losses; to address regulatory thresholds that may give rise to cliff effects; and to reduce liquidity transformation (see section 2.1). In terms of next steps, the FSB, working with IOSCO, will complete later this year a thematic peer review taking stock of MMF reform measures adopted or planned by FSB member jurisdictions in response to the 2021 FSB report, including those jurisdictions' evidence-based explanation of MMF vulnerabilities and policy choices made. This stocktake will be followed up by 2026 with an assessment of the effectiveness of these measures in addressing risks to financial stability. IOSCO will also revisit its *Policy Recommendations for MMFs* in light of the framework and policy toolkit in the 2021 FSB report.

As noted in section 2.2, policy work to address structural vulnerabilities stemming from liquidity mismatch in **open-ended funds** is ongoing. The goal of the proposed revisions to the 2017 FSB Recommendations, combined with the new IOSCO guidance on anti-dilution LMTs, is a significant strengthening of liquidity management by OEF managers compared to current practices. The FSB and IOSCO will finalise by end-2023 their respective policy documents. IOSCO will then operationalise the revised FSB Recommendations through amendments to the 2018 IOSCO Recommendations and supporting good practices. The FSB and IOSCO will monitor progress by member jurisdictions in implementing their respective revised Recommendations. This monitoring will be followed up, once implementation is sufficiently advanced, with an assessment of effectiveness of jurisdictions' policy measures in addressing risks to financial stability from OEF liquidity mismatch.

With respect to **margin practices**, as noted in section 2.3, the FSB will develop by early 2024 high-level, cross-sectoral policy recommendations on liquidity risk management and governance addressed to non-bank market participants to meet margin and collateral calls. SSBs can then review and further specify, as needed, requirements for their sector based on the recommendations. The FSB will also share its findings on margining practices with the relevant BCBS, CPMI and IOSCO groups for consideration in their policy work.

On transparency and IM responsiveness in centrally cleared markets, the intention of CPMI, IOSCO and BCBS is to publicly consult on a set of policy proposals, with a view to developing further guidance and effective practices, covering the following outcomes:

- Enhanced disclosure by CCPs of 'backward-looking' model performance indicators. This would include disclosure of a standardised measure of margin changes, in

conjunction with metrics representing market conditions, as well as additional disclosures to regulators for assessing model performance.

- Provision by CCPs of improved margin simulators for CMs and clients.
- Enhanced CCPs' disclosure of model design choices and governance practices associated with the review, and adjustment, of model design.
- Enhanced CMs' transparency to clients, including information related to how CMs choose to pass through CCP demands, as well as margin add-ons assigned by CMs.

The consultative report on increasing transparency and evaluating IM responsiveness in centrally cleared markets is expected to be published in the fourth quarter of 2023.

The initial focus of streamlining VM in centrally cleared markets is on the key operational aspects of VM payments, the challenges faced by CMs and clients, and potential solutions or tools to address those challenges. Preliminary analysis suggests that the solutions called for by respondents can be mapped to the existing CPMI-IOSCO *Principles for Financial Market Infrastructures* and associated guidance. However, the survey responses suggest there is a need for a broader adoption of the best practices.

As regards IM responsiveness in non-centrally cleared markets, the work has looked into the steps taken by the International Swaps and Derivatives Association (ISDA) and entities subject to the WGMR framework to improve the responsiveness of the standard initial margin model (SIMM) to market stresses. The evidence confirmed that in most cases SIMM is used as an internal model for calculating regulatory IM in accordance with the WGMR framework. The work has considered developments underway by ISDA to increase the frequency of the SIMM recalibration to make the model more responsive to extreme market shocks, the consequences of which will have to be monitored. In addition, consideration of potential supervisory recommendations to improve operational and liquidity readiness was also undertaken.

In terms of streamlining VM in non-centrally cleared markets, the outcome is likely to highlight some best practices to be recommended to market participants, in a proportionate manner, to improve and strengthen VM processes. Additionally, a review of the implementation of non-centrally cleared IM and VM will be undertaken by BCBS and IOSCO in the third quarter of 2023, once entities covered by phase six of the WGMR framework have had one year of experience complying with the requirements.

A key area of policy focus in 2024 is non-bank **leverage** (see section 2.4). The FSB, working with IOSCO, will undertake and coordinate policy work to enhance the monitoring of, and address financial stability risks from, leverage in NBFIs. This includes taking stock of the policy tools that are available to authorities in FSB member jurisdictions to contain such risks and considering potential policy measures to address them. Any policy work will be coordinated with the work of the SSBs to ensure a comprehensive and consistent approach. This includes, for example, the planned additional guidance by the BCBS on banks' counterparty risk management practices for exposures to non-bank financial entities.

The FSB and SSBs are also working to enhance the **resilience of liquidity supply in stress**. Last year's FSB and IOSCO reports identified certain reforms that individual authorities may

wish to explore for their domestic government and corporate bond markets.¹⁷ The 2022 FSB report on USD funding and external vulnerabilities in emerging market economies (EMEs) noted that some measures have already been undertaken in FSB member jurisdictions to enhance the supply of liquidity in stress.¹⁸ The report also proposes policy measures that seek to reduce EME vulnerabilities stemming from external funding and non-bank financing, as well as to enhance crisis management tools.¹⁹

Looking ahead, the FSB will, in consultation with IOSCO, complete its analysis of CP and negotiable CD markets in core funding market jurisdictions with a view to assessing potential policy options to address structural vulnerabilities in order to improve market functioning (e.g. through changes in market microstructure, enhanced regulatory reporting, or increased market transparency). The FSB and IOSCO will also consider additional work in due course to enhance the resilience of liquidity provision in core government and corporate bond markets.

Recent market incidents have confirmed that many of the key amplifiers work in tandem – both on the liquidity demand and supply sides – to transmit and amplify the shock across the financial system. For example, the significant spike in demand for liquidity during the March 2020 market turmoil – especially by non-banks to raise cash to meet investor redemptions (such as certain OEFs and MMFs) and unwind leveraged positions (such as hedge funds) – exceeded the ability of dealers to intermediate and created dislocation across various markets. The sharp increase and extreme volatility in key commodities prices in 2022 led to higher margin calls in centrally cleared derivatives markets in Europe, which contributed to a migration of activity to largely non-centrally cleared OTC markets as well as to reduced hedging of commodities prices. Deleveraging by LDI funds (in part due to poor preparedness to meet margin/collateral calls) and the insufficient supply of market liquidity added further pressure on UK gilt prices in September 2022 and led to additional margin/collateral calls as well as to large outflows by some MMFs used by those funds. Given the interconnectedness between – and potential spillovers across – market segments and participants, it is therefore critical to ensure that the various policies fit together from a system-wide perspective. The FSB and SSBs are collaborating to ensure a holistic perspective across all NBF1 work, by examining how policies complement and interlink with each other in a comprehensive and consistent manner to ensure that systemic risk in NBF1 will be sufficiently mitigated. Until these policies are finalised and fully implemented, the vulnerabilities evident in recent incidents of liquidity stress will remain.

As mentioned previously, experience with the use of policy tools to address systemic risk in NBF1 is limited to date. To this end, the FSB will discuss experiences and lessons of work by its member authorities on the design and use of tools – micro-prudential, investor protection and macroprudential – for this purpose. The FSB will also, working with the SSBs, assess in due

¹⁷ These included increasing the availability and use of central clearing, encouraging the use of all-to-all trading platforms, and enhancing market transparency. See FSB (2022), *Liquidity in Core Government Bond Markets*, October and IOSCO (2022), *Corporate Bond Markets – Drivers of Liquidity During COVID-19 Induced Market Stresses*, April.

¹⁸ For instance, the US Federal Reserve transformed the foreign and international monetary authorities (FIMA) repo facility it had established in March 2020 into a standing facility in 2021. Transactions using this facility allow approved FIMA account holders to temporarily exchange their Treasury securities for US dollars, which can then be made available to institutions in their jurisdictions. This measure, along with the liquidity swap lines provided to a number of central banks by the US Federal Reserve and the ECB, is intended to ease funding strains particularly for EMEs.

¹⁹ These include measures to limit the build-up of non-financial corporate foreign currency mismatches; further development of foreign currency hedging markets at the domestic and regional levels to manage currency risks; deepening of local currency debt markets and fostering a broader domestic investor base; and tackling NBF1 vulnerabilities, including those relating to liquidity mismatches in OEFs. See FSB (2022), *US Dollar Funding and Emerging Market Economy Vulnerabilities*, April.

course whether the implemented reforms have sufficiently addressed systemic risk in NBFIs, including whether to develop additional tools for use by authorities.

3.3. Monitoring systemic risk in NBFIs

The FSB, in collaboration with SSBs, is also working to enhance the **monitoring of systemic risk in NBFIs**. This involves the development of additional metrics and new analytical tools to monitor NBFIs vulnerabilities on an ongoing basis, and the assessment of vulnerabilities in specific NBFIs areas through targeted deep dives. Examples of planned work include:

- In-depth assessment of vulnerabilities in specific NBFIs segments that are large (or growing rapidly), characterised by liquidity mismatch and/or leverage, and are highly interconnected with the rest of the financial system, which could include private (credit and equity) markets, collateralised loan obligations and leveraged loans, and long-term investors among others. In addition, the FSB will examine vulnerabilities in the repo market, given the role of repo in core bond markets and the importance of that market for funding by market participants in times of stress. IOSCO will examine liquidity and transparency in the single-name credit default swap (CDS) market as a follow-up to the March banking sector turmoil, and the FSB will then consider whether any follow-up financial stability-oriented work is needed.
- Work to enhance the availability of OEF-related data for financial stability monitoring. To this end, the FSB has launched a pilot programme among member jurisdictions to take stock of current practices and close identified data gaps to improve both central banks and securities regulators' ability to monitor key OEF vulnerabilities relating to OEF liquidity mismatch and the use of LMTs. In addition, the FSB will hold a workshop with IOSCO in early 2024 to share experiences among authorities on the design and use of fund- and system-level stress tests to support OEF liquidity risk management and inform vulnerabilities assessments and policy development.
- Analysis of data and tools that authorities find useful to monitor and manage strains associated with market participants' inadequate liquidity preparedness for margin and collateral calls and associated work on regulatory reporting gaps in this area.
- Stocktakes of regulatory reporting and use of collected data by authorities to develop risk metrics for monitoring NBFIs leverage and assessing related financial stability risks. This also includes ways to enhance effective use of existing data (e.g. trade repository data) by authorities, and exploring the usefulness of global surveys and the feasibility and benefits of greater cross-border sharing of specific types of data.

4. Way forward

The global financial system remains vulnerable to further liquidity strains, as many of the underlying vulnerabilities and key amplifiers of stress in the NBFIs sector during recent market incidents are still largely in place. It is therefore critical to finalise and implement international reforms to enhance NBFIs resilience, so that market participants internalise fully their own liquidity risk – rather than rely on extraordinary central bank and other official sector interventions – and authorities are better prepared for stress events.

To further advance on the design and implementation of policies to address systemic risk in NBFIs discussed in the previous section, the FSB will continue its work programme in 2024 and beyond. This work will be carried out within the FSB as well as by its member SSBs and international organisations, to ensure that relevant experiences and perspectives are brought to bear. The deliverables include stand-alone reports in specific areas of the programme and an overall progress report to the G20 in late 2024 with the main findings across different areas and any further policy proposals to address systemic risks in NBFIs. Table 1 in the Executive Summary provides an overview of the medium-term work programme on NBFIs, while Table 2 describes the work that has already been completed.