FSB FINANCIAL STABILITY BOARD

Global Monitoring Report on Nonbank Financial Intermediation

2025

16 December 2025

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Executive summary

This report assesses global trends in the non-bank financial intermediation (NBFI) sector for the year ending 31 December 2024. It presents the results of the 15th annual FSB global monitoring exercise (GME), covering 29 jurisdictions that account for over 90% of global GDP. It describes broad trends in NBFI and reviews key areas of monitoring, before focussing on a "narrow measure", that is, a subset of NBFI activities that may be more likely to give rise to bank-like vulnerabilities, for instance with funding models susceptible to run-risk or that tend to rely on short-term wholesale funding.

In 2024, the NBFI sector continued to expand (9.4%), growing at double the pace of the banking sector, with assets that represented 51.0% of total global financial assets. This is the second highest percentage share recorded – similar to pre-pandemic levels. All NBFI sectors grew, with the "Other Financial Intermediaries" (OFIs) sub-sector growing the most (11.3%) – as was the case in 2023. Most of this growth in OFIs was due to the continued increase (14.5%) in investment fund assets. This growth was widespread across jurisdictions. For equity funds, growth was driven by strong equity market performance, which increased their asset valuations, accounting for over 85% of the increase in assets under management (AUM). In contrast, growth in fixed income funds was primarily driven by investor inflows, which accounted for over 85% of the increase in fixed income funds' AUM.

Total financial assets of entities classified in the FSB's narrow measure increased 12.7% in 2024 – higher than the broader NBFI sector growth – to reach $76.3 trillion (table 0-1). The narrow measure's share of total financial assets increased to 15.4% (from 14.5% in 2023). All economic functions in the narrow measure grew in 2024. EF1 (collective investment vehicles with features that make them susceptible to runs) continued to account for the majority of the narrow measure (76.1% in 2024) and was the only function to experience double-digit growth (15.1%). The four other economic functions grew at rates of 2.5-6.6%. The narrow measure increased across all advanced economies (AEs) and the majority of emerging market economies (EMEs), with increases of 11.7% and 17.0%, respectively.

Given OFIs' continued use of wholesale funding (21.3% of total assets), more granular data were collected for the first time in this report. These more granular data showed that the identified components of wholesale funding varied by OFI entity type. For finance companies, equity real estate investment trusts and funds (eREITs), mortgage real estate investment trusts and funds (mREITs), and structured finance vehicles (SFVs), market-based financing provided the majority of wholesale funding, at around 55-70%. In the case of broker-dealers, repo represented a greater proportion than other sources of funding, followed by loans. Data coverage was lower for investment funds, but where components of wholesale funding could be identified the data showed that institutional investors' fund shares accounted for the majority of wholesale funding (as would be expected for investment funds). When considering the broader dataset, OFIs' repo funding was stable year-on-year (2.7% of total assets); money market funds (MMFs) and broker-dealers remained the entity types most involved in repo transactions, with MMFs having a significant role as providers of cash in repo markets (reverse repo).

Against the backdrop of lower interest rates in most major advanced economies, NBFI entity borrowings continued to increase, and at a faster pace than that of banks (6.9% against 4.3%). In terms of volumes, broker-dealers and captive financial institutions are the NBFI entity types borrowing the most with total borrowings of $6.6 trillion and $6.2 trillion, respectively. In terms of financial leverage, the picture was stable year-on-year: finance companies, broker-dealers, SFVs, and REITs continued to have the highest debt-to-assets ratios.

The case study in this year's report on bank-NBFI interconnectedness highlights three main forms of linkages: (i) funding and deposit relationships, where non-banks place deposits with banks; (ii) lending, repo and other credit exposures from banks to non-banks; and (iii) holdings of bank-issued securities by investment funds, insurers and pension funds. Funding and credit exposures are frequently complemented by market-based connections through derivatives, securities financing, custodial and other client services, as well as common asset exposures. While data challenges for analysing bank-NBFI interlinkages remain, the case study includes quantitative analysis of bank-NBFI interconnectedness by instrument type, as well as insights from analysis that has been conducted on portfolio overlap.

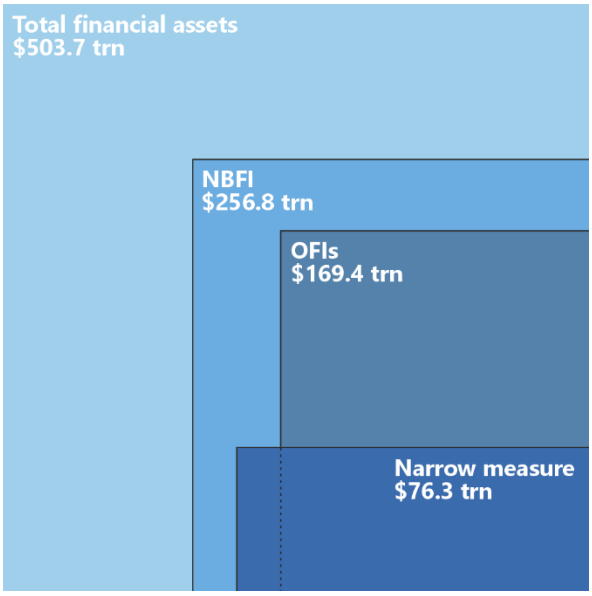
Most NBFI vulnerability metrics remained broadly stable over the past year, with fixed income and mixed funds showing high degrees of liquidity transformation, while finance companies, broker-dealers, and SFVs displayed high levels of leverage. Vulnerabilities related to leverage, maturity and liquidity mismatches can amplify shocks in the financial system, such as sudden corrections in asset prices or bouts of financial market volatility, as was observed in early August 2024. EF1 entities' percentile data suggest that, for most jurisdictions, maturity and liquidity transformation in fixed income funds was high. Liquidity transformation was also high for mixed funds and, in the case of MMFs, increased slightly year-on-year. For EF2 entities (predominantly finance companies), financial leverage remained elevated in several jurisdictions, having increased year-on-year. For EF3 entities (predominantly broker-dealers), aggregate vulnerability metrics displayed an increasing trend in credit intermediation, liquidity transformation, and leverage. For EF5 entities (mainly SFVs), financial leverage remained elevated, and little changed year-on-year.

This year's GME highlights data availability limitations for private credit in statistical and regulatory reports. At the time of this year's GME, there was no standard definition of private credit activities in such reports among the jurisdictions participating in the GME. This made it difficult to consistently identify private credit entities in statistical and regulatory reports. Using proxies and market intelligence, jurisdictions identified a diverse set of non-bank entities that likely engage in private finance activities, including private credit funds, but also trust companies, finance companies, structured finance vehicles, insurance corporations, and pension funds. Most entities engaging in private credit are not included in the narrow measure, given that they are not generally susceptible to run risk and do not tend to rely on wholesale funding.

Size of monitoring aggregates and composition of the narrow measure

At end-2024 **Graph 0-1**

Narrowing down to the narrow measure[1]



Monitoring aggregates

The following monitoring aggregates are referenced throughout this report:

(i) The **NBFI** sector is a broad measure of all non-bank financial entities, composed of all financial institutions that are not central banks, banks, or public financial institutions.

(ii) **Other financial intermediaries (OFIs)** are a subset of the NBFI sector, composed of all financial institutions that are not central banks, banks, public financial institutions, insurance corporations (ICs), pension funds (PFs), or financial auxiliaries. OFIs include money market funds (MMFs), hedge funds (HFs), other investment funds (OIFs), captive financial institutions and money lenders, central counterparties (CCPs), broker-dealers (BDs), finance companies (FinCos), trust companies (TCs), and structured finance vehicles (SFVs).

(iii) The **narrow measure of NBFI** is composed of NBFI entities that authorities have assessed as being involved in credit intermediation activities that may pose bank-like financial stability risks (i.e. credit intermediation that involves maturity/liquidity transformation, leverage or imperfect credit risk transfer) and/or regulatory arbitrage, according to the methodology and classification guidance used in the FSB's annual NBFI monitoring exercise.

[1] Total financial assets, NBFI and OFIs include participating jurisdictions and all of the euro area countries, whereas the narrow measure includes only participating jurisdictions. The semi-dashed area in the LHS graph showing the narrow measure represents assets that were not from OFIs and that correspond to ICs included in EF4 and to other financial auxiliaries unallocated to the five economic functions. This graph does not include data for Russia.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Composition of the narrow measure

At end-2024 **Table 0-1**

Economic Functions	Typical entity types[1]	Size[2] (USD trn)	Share (%)	Change in 2024 (%)
EF1 (collective investment vehicles with features that make them susceptible to runs)	MMFs, fixed income funds, mixed funds, credit hedge funds[3], mREITs	58.1	76.1	15.1
EF2 (lending dependent on short-term funding)	Finance companies, leasing/factoring companies, consumer credit companies	6.1	8.0	5.5
EF3 (market intermediation dependent on short-term funding)	Broker-dealers, custodial accounts, securities finance companies	4.9	6.4	5.8
EF4 (facilitation of credit intermediation)	Credit insurance companies, financial guarantors, monoline insurers	0.1	0.2	2.5
EF5 (securitisation-based credit intermediation)	Securitisation vehicles, structured finance vehicles, asset-backed securities	5.3	7.0	4.3
Unallocated	Other financial auxiliaries	1.7	2.3	4.5
Total		**76.3**	**100**	**12.7**

[1] The FSB's *Policy Framework* acknowledges that the narrow measure may take different forms across jurisdictions because of different legal and regulatory settings, as well as the constant innovation and dynamic nature of the non-bank financial sector. It also enables authorities to capture new structures or innovations that may introduce vulnerability, by examining underlying economic functions. Thus, the entity types listed should be taken as typical examples. [2] Net of prudential consolidation into banking groups. [3] Credit hedge funds are hedge funds that invest primarily in credit assets (e.g. bonds, loans). This table does not include data for Russia.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations

Introduction

The comprehensive monitoring of global trends, vulnerabilities, and innovations of the NBFI sector is a key part of the FSB's ongoing efforts to enhance financial system resilience. The FSB's annual global monitoring exercise uses sectoral balance sheet data from national financial accounts statistics ("flow of funds"), complemented with supervisory and publicly available data.[1] This year's edition primarily uses data as of end-2024 and discusses developments related to the NBFI sector up until that date.

The monitoring exercise adopts a two-step approach.[2] The first step takes a comprehensive look at the NBFI sector to ensure that the collected data covers all areas where vulnerabilities might arise within the financial system, including from recent NBFI-related innovations. The second step of the monitoring approach focuses on vulnerabilities associated with the NBFI sector that resemble those in the banking system or where regulatory arbitrage could undermine the goals of regulatory reforms enacted after the global financial crisis. To arrive at the "narrow measure" of the NBFI sector used in the second step, the participating jurisdictions classify a subset of NBFI entities on the basis of their economic functions (or activities) that may give rise to vulnerabilities because they involve liquidity/maturity transformation, imperfect credit risk transfer, or use of leverage (see Section 3).[3] To enhance consistency across jurisdictions, 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 (i.e. on a pre-mitigant basis). Consequently, the narrow measure may overestimate the degree to which NBFI gives rise to financial stability risks, given that existing policy measures, risk management tools, or structural features may significantly reduce or address financial stability risks.

Each year, the FSB aims to enhance the annual monitoring exercise by learning from the experiences of previous exercises. This year's report presents enhanced data on: (i) wholesale funding components for OFI entity types; and (ii) EF2 exposure by product type, including to commercial real estate (CRE). It also includes additional analysis of data limitations in statistical and regulatory reporting of private finance, including private credit. There is a case study on bank-NBFI interlinkages as well as a box summarising the availability of policy tools for securitisation-based credit intermediation (EF5).

This report is structured into three sections. Section 1 provides an overview of the NBFI sector including the main drivers of growth, highlighting the main developments for the narrow measure of NBFI activities. Section 2 focuses on developments in key areas of monitoring for the NBFI sector: credit intermediation which also covers non-bank fintech lending, the box on data limitations in private finance and private credit, wholesale funding and repurchase agreements, financial leverage, and interconnectedness – including the case study on bank-

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1 The FSB's NBFI monitoring exercise uses sectoral balance sheet statistics, as these are widely available and provide generally consistent financial sector data for mapping the global size and trends of NBFI. Some jurisdictions that currently lack sectoral balance sheet statistics have used other data sources that may not be fully consistent with the data from other participating jurisdictions.

2 The two-step approach in this report is based on the monitoring framework to assess bank-like financial stability risks from NBFI as set out in FSB (2011), *Shadow Banking: Strengthening Oversight and Regulation – Recommendations of the Financial Stability Board*, October.

3 The focus on economic functions is based on an approach that was introduced in FSB (2013), *Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities*, August (the "FSB Policy Framework").

NBFI interlinkages.[4] Section 3 covers vulnerabilities within the narrow measure, on an individual economic function basis and includes boxes on EF2 exposure to CRE and EF5 policy tools.[5]

To maximise both the scope and granularity of available data, the monitoring results are presented for two different samples of jurisdictions, which differ in terms of the treatment of euro area (EA) jurisdictions (Table 0-2). The first sample, denoted as *29-Group*, comprises 29 individual jurisdictions and includes more granular information for non-bank financial sectors. The second sample, denoted as *21+EA-Group*, is a more comprehensive sample because it not only comprises 21 individual non-euro area jurisdictions, but also includes the 20-member euro area as a whole, as opposed to only eight individual euro area jurisdictions in the *29-Group* sample.[6] The *21+EA-Group* sample is used in parts of Sections 1 and 2. The *29-Group* is used in parts of all three sections because of better coverage of NBFI sub-sectors.[7]

Table 0-2: Data sample composition

Belgium (BE)*	Argentina (AR)**	Hong Kong (HK)*	Saudi Arabia (SA)**	Euro area (EA)*
France (FR)*	Australia (AU)*	India (IN)**	Singapore (SG)*	
Germany (DE)*	Brazil (BR)**	Indonesia (ID)**	South Africa (ZA)**	
Ireland (IE)*	Canada (CA)*	Japan (JP)*	Switzerland (CH)*	
Italy (IT)*	Cayman Islands (KY)*	Korea (KR)*	Türkiye (TR)**	
Luxembourg (LU)*	Chile (CL)**	Mexico (MX)**	United Kingdom (UK)*	
Netherlands (NL)*	China (CN)**	Russia (RU)**[1]	United States (US)*	
Spain (ES)*				

= 29-Group *= 21+EA-Group* **= Advanced economy* ***= Emerging market economy (EME)*

[1] This report does not include data for Russia for the period 2021-24, though data for previous years (based on the 2021 submission) are included in the analysis where appropriate.

[2] When considering growth rates for Argentina and Türkiye in this report it should be noted that they experienced high inflation rates in 2024; 118% and 56%, respectively

4 Collection of data on non-bank fintech lending addresses part of the third phase of the G20 Data Gaps Initiative, which includes a recommendation to close data gaps related to non-bank fintech lending.

5 Measures of growth and results throughout this report are mainly based on either annual historical data covering end-2002 to end-2024 or cross-sectional data as of end-2024. Some exchange rate effects have been corrected when presenting growth rates by applying a constant end-2024 exchange rate across all past years to convert each jurisdiction's local currency data into U.S. dollars. Growth rates have not been otherwise adjusted (e.g. for the appreciation or depreciation of asset prices). The results in this report are not strictly comparable to those presented in previous reports because of jurisdictions' revisions to historical data, improvements in national statistics and more granular reporting. When material, these revisions are noted in footnotes throughout this report.

6 The European Central Bank (ECB) provided the euro area aggregated data. The euro area data in this report cover the following 20 jurisdictions: Austria, Belgium, Croatia, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

7 Throughout the report, *29-Group* and *21+EA-Group* refer to the sample of jurisdictions used for analysis, although for some analyses, data corresponding to a subset of jurisdictions are available.

1. Financial Intermediation in the Global Financial System

Section 1.1 provides an overview of the growth and size of the NBFI sector – which includes insurance corporations, pension funds, OFIs and financial auxiliaries – with respect to the global financial system. Section 1.2 focuses on trends and the main drivers of growth in the NBFI sector. Section 1.3 highlights developments for the subset of NBFI activities that may be more likely to give rise to vulnerabilities linked to credit intermediation (the narrow measure).

1.1. Macro Developments in 2024

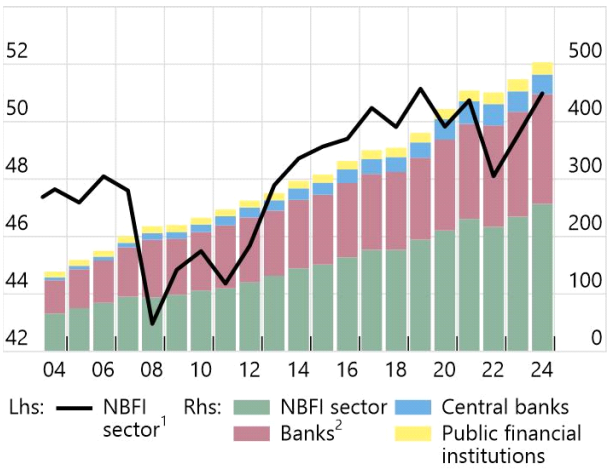
Total global financial assets continued to increase in 2024 (6.3%) and reached their highest level recorded in this monitoring exercise (Graph 1-1). This increase continued to be driven by the NBFI sector, where total financial assets increased 9.4% year-on-year, while banks' financial assets increased 4.7%. This growth was reflective of buoyant risk appetite amidst increasing asset prices and lower policy rates. Financial conditions eased globally as a number of major advanced economies began to decrease policy rates; the notable exception was the Bank of Japan's increase in policy rate for the first time since 2007. These conditions were supportive of asset valuations and investor inflows into NBFI sectors – particularly other investment funds (OIFs) and MMFs.

Consistent with quantitative tightening, central bank assets decreased 4.2% in 2024 to their lowest level since 2019. Central banks continued to reduce (either passively or actively) asset portfolios accumulated as a result of pandemic-era facilities. As at end-2024 total financial assets of central banks were $34.1 trillion.

NBFI as a share of total global financial assets increased in 2024

21+EA-Group **Graph 1-1**

Total global financial assets



Composition of the global financial system[4]

	Total global financial assets	Central banks	Banks[2]	PFIs[3]	NBFI sector
Size at end-2024 (USD trillion)	503.7	34.1	191.3	21.5	256.8
Share of total global financial assets (%)	100.0	6.8	38.0	4.3	51.0
Growth in 2024 (year-over-year, %)	6.3	-4.2	4.7	3.1	9.4
Growth 2018–23 (annualised growth, %)	6.1	6.6	6.3	5.2	5.9

[1] NBFI includes ICs, PFs, OFIs, and financial auxiliaries. [2] All deposit-taking corporations. [3] Public financial institutions.

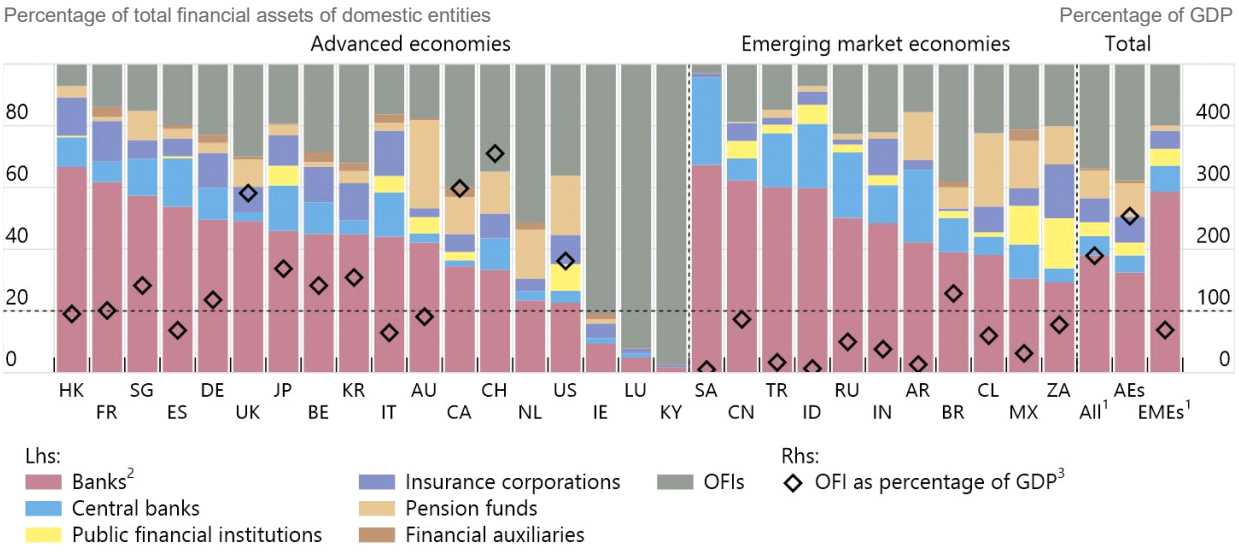
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

Financial markets experienced a sudden bout of volatility in early August 2024.[8] Increased investor concerns about the economic outlook precipitated a sell-off in financial markets in early August. The sell-off was reportedly exacerbated by an unwinding of yen-funded carry trades following market participants' expectations of a narrowing in the US-Japanese interest rate differential, an appreciation of the yen, and higher volatility in the yen-dollar exchange rate. The sell-off involved a large, but short-lived, fall in the Japanese stock market and an intraday spike in equity volatility indices in Japan and the US. Ultimately, risk sentiment stabilised, and volatility subsided. The Nikkei increased 19% over the course of the year, and the S&P 500 increased 24% over the same period. However, the episode showed that markets remain susceptible to bouts of volatility and illustrated the potential for leverage and liquidity mismatches to interact with one another and amplify the impact on the system.

Banks continued to be the largest entity type in most jurisdictions, particularly EMEs; the relative importance of the NBFI sector remained stable across AEs and EMEs (Graph 1-2, Annex 1, Graph A1-1). Banks were the largest entity type in twenty-two of the reporting jurisdictions – for the remaining seven jurisdictions OFIs were the largest entity type – and this was particularly the case for EMEs (Graph 1-2).[9] Banks represented 58.6% of total financial assets in EMEs, while they represented 32.4% in AEs (Graph 1-2). The relative importance of the NBFI sector was little changed across AEs and EMEs in 2024 (Annex 1, Graph A1-1).

The structure of the financial system differed across jurisdictions, with banks comprising the single largest entity type in most jurisdictions

29-Group at end-2024 **Graph 1-2**



[1] RU not included in aggregates. [2] All deposit-taking corporations. [3] Jurisdictions with OFI assets greater (lower) than their GDP will be above (below) the horizontal dashed line. The percentage of OFI assets to GDP for the Cayman Islands (287,381), Luxembourg (20,854), Ireland (1,480) and the Netherlands (544) are not shown since they are particularly high compared to the rest of the jurisdictions.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

8 FSB (2024), *Promoting Global Financial Stability: 2024 FSB Annual Report*, November.

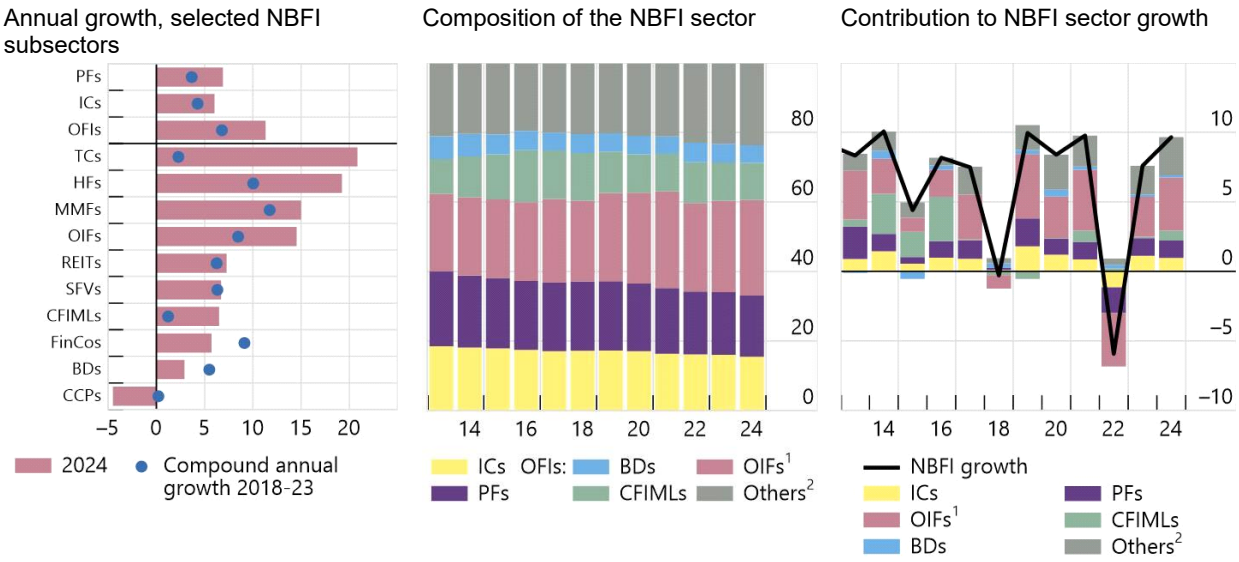
9 The seven jurisdictions for which the OFI sector was the largest were: Canada, Switzerland, the Netherlands, the United States, Ireland, Luxembourg, and the Cayman Islands.

1.2. NBFI Sector Developments

The composition of the global NBFI sector remained broadly stable year-on-year. All three NBFI sectors grew in 2024, and OFIs notably so – OFI assets increased 11.3%, while pension fund and insurance corporation assets increased 6.9% and 6.0%, respectively (Graph 1-3, LHS panel).[10] Consistent with OFIs' relative growth, their share of the global NBFI sector globally has gradually increased since 2019, while both insurance corporations and pension funds' shares have gradually decreased over that period (Graph 1-3, middle panel, see also Annex 1, Graph A1-2). Increases in pension fund assets were experienced in all reporting jurisdictions, and for insurance corporations all-but-one jurisdiction reported an increase. For pension funds, the US accounted for 55.0% of the increase, followed by Australia (9.3%) and Canada (5.8%). In the case of insurance corporations, the US accounted for 35.1% of the increase and China accounted for 27.5%.

OIFs[1] were the largest contributor to the increase of NBFI assets in 2024

In per cent, 29-Group **Graph 1-3**



BDs = broker-dealers; CCPs = central counterparties; CFIMLs = captive financial institutions and money lenders; FinCos = finance companies; HFs = hedge funds; ICs = insurance corporations; MMFs = money market funds; OIFs = investment funds other than MMFs and hedge funds; REITs = real estate investment trusts and real estate funds; SFVs = structured finance vehicles; TCs = trust companies, PFs = pension funds.

[1] Investment funds other than hedge funds, real estate investment trusts and real estate funds (REITs), and MMFs. Other investment funds include equity funds, fixed income funds and other funds such as mixed funds, referenced investment funds, external debt investment funds, currency funds, asset allocation funds, etc. [2] Others include CCPs, FinCos, HFs, MMFs, REITs, SFVs, TCs, and Others unidentified. Others identified comprise a variety of jurisdiction-specific entities that do not fit any of the explicit categories included in the monitoring exercise.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations

OFI assets increased in all jurisdictions, and in most cases by over 10%. Amongst AEs, Ireland, Hong Kong, and France all experienced growth in OFI assets of over 15% (Annex 1, Graph A1-3, LHS). Amongst EMEs India experienced an increase in OFI assets of over 20%, while Chile and Mexico experienced increases of over 15% (Annex 1, Graph A1-3, middle panel). In five of those cases, the growth was primarily driven by OIFs; the exception being Hong Kong

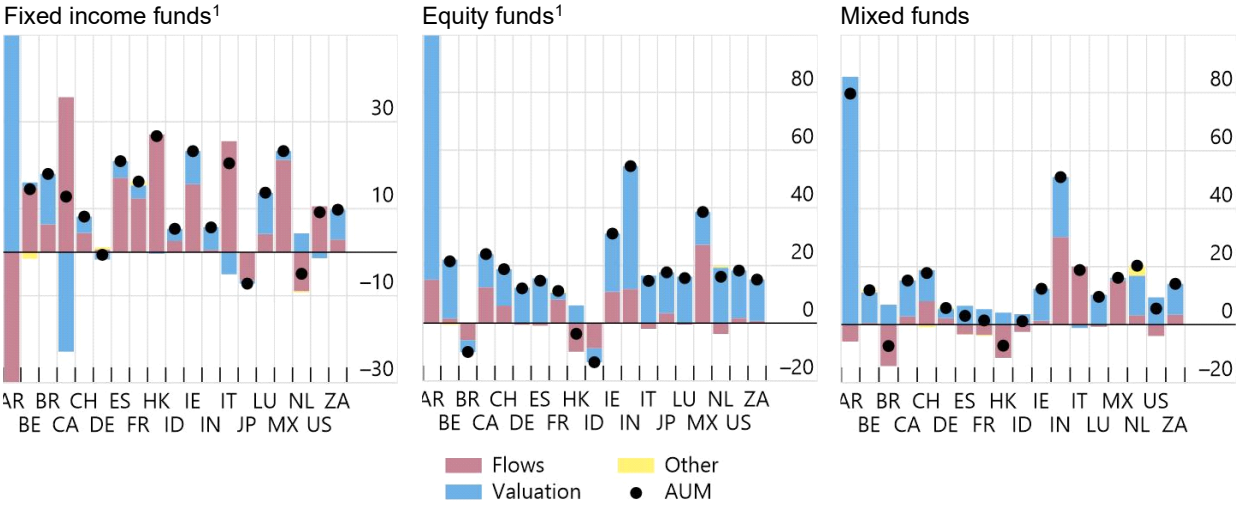
[10] Financial Auxiliaries' assets totalled $3.8 trillion at end-2024 and not subject to analysis in this report.

where MMFs drove OFI growth. Such cases of OIFs contributing to OFI growth were representative of the aggregate picture.

At the global level, investment funds continued to drive growth in OFI, and broader NBFI, assets. Globally, OIFs accounted for the largest share of the OFI sector (41.1%) and thereby contributed most to the OFI increase, and in turn the broader NBFI increase (Graph 1-3, RHS). This growth in OIF assets (14.5%) was widespread across jurisdictions (Annex 1, Graph A1-4). For equity funds, aggregate growth of 22.4% was driven by strong equity market performance, which increased their asset valuations, accounting for over 85% of the increase in assets under management (AUM). In contrast, aggregate growth of 13.0% in fixed income funds was primarily driven by investor inflows, which accounted for over 85% of the increase in fixed income funds' AUM (Annex 1, Graph A1-5). Graph 1-4 highlights the differing flow and valuation effects for these fund types across jurisdictions.

Change in funds' total assets split between flow and valuation effects

In per cent **Graph 1-4**



[1] The bars for Argentina are not shown entirely because they are particularly large compared to the other jurisdictions.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

MMF assets increased 15.0% to reach $12.1 trillion at end-2024 (graph 1-5, LHS). The aggregate growth rate was slightly below that of 2023, when MMF assets increased 17.9%, but remained above the 5-year average rate of 11.7% for 2019-23. Although the definition and scope of MMFs varies across jurisdictions, there are typically two broad ways to categorise MMF types, either by Net Asset Value (NAV) type, or by investment/maturity type.[11] Data for MMFs split by NAV type were more complete than for investment/maturity type. There was almost 100% coverage by NAV type: CNAV assets accounted for 83.2% of MMF assets, and VNAV MMFs had a 16.6% share (Annex 1, Graph A1-6, RHS). There was 80.5% coverage for investment/maturity type: 52.5% of MMF assets were categorised as short-term government MMFs, 28.0% were non-government or longer term; where jurisdictions were unable to report a

[11] Under the NAV categorisation, MMFs can be considered Constant/Low Volatility NAV (CNAV/LVNAV) or Variable NAV (VNAV). Under the investment/maturity categorisation, MMFs can be considered short-term government MMFs or non-government/longer maturity MMFs. CNAV MMFs are typically short-term MMFs, LVNAV are typically non-government MMFs, and VNAV MMFs may be short-term or longer maturity ("standard") MMFs. For further information on cross-jurisdictional differences see also FSB (2024), *Thematic Review on Money Market Fund Reforms: Peer review report*, February.

split, they reported data for these two MMF types combined, equating to 19.5% of MMF assets (Annex 1, Graph A1-6, LHS).

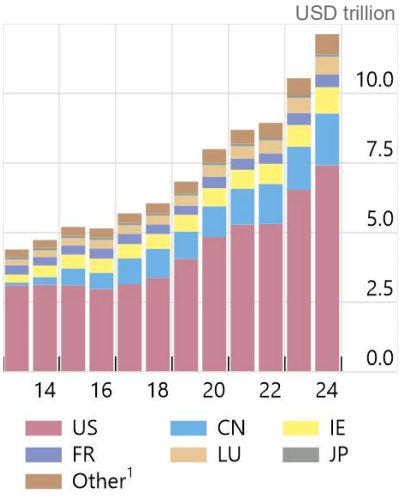
MMF growth continued to be widespread but growth rates, as well as drivers, varied by MMF type. CNAV MMFs grew 14.2% and VNAV MMFs grew 18.8%. Short-term government MMFs grew 19.4% and non-government or longer-maturity MMFs grew 6.1% (Annex 1, Graph A1-5, middle panel). Globally, the drivers of the increases in AUM differed by MMF type: while inflows accounted for just over 98% of the increase in short-term government MMFs' AUM, valuation effects drove the increase for non-government or longer-term MMFs (see Annex 1, Graph A1-5, RHS; and Graph 1-5 for flow and valuation effects at the jurisdictional level).[12] This contrasts with 2023, when flow effects dominated for both types of MMF (Annex 1, Graph A1-5, RHS). In the case of non-government or longer-term MMFs, the largest valuation effects were recorded by Argentina and Mexico (Graph 1-5), for Argentina this was partly reflective of changes in the portfolio composition on MMFs (favouring time deposits) and high nominal interest rates (in a context of decreasing but high inflation). MMF assets remained quite concentrated in 2024 (see Annex 1, Graph A1-7 for figures on concentration in MMFs and fixed income funds).

[12] Valuation effects may also reflect foreign currency translation effects. In some jurisdictions, such as Ireland and Luxembourg, MMFs can be denominated in non-EUR currencies (GBP and USD in particular). These fund report data to authorities in EUR, and therefore apply a different exchange rate every quarter, which will impact the calculations of the valuation effects in EUR.

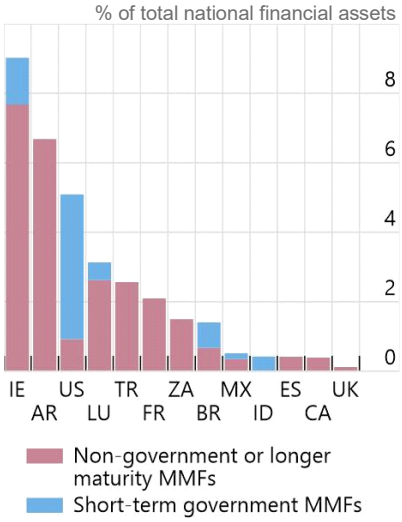
MMF trends across jurisdictions

29-Group **Graph 1-5**

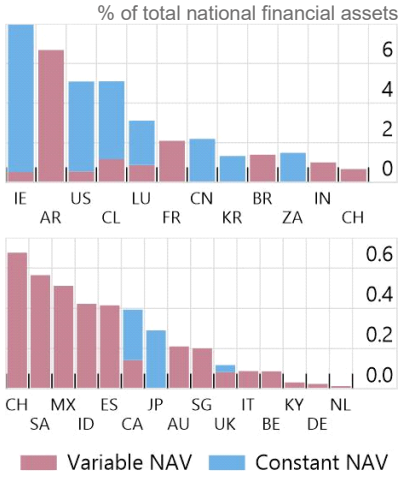
By jurisdiction



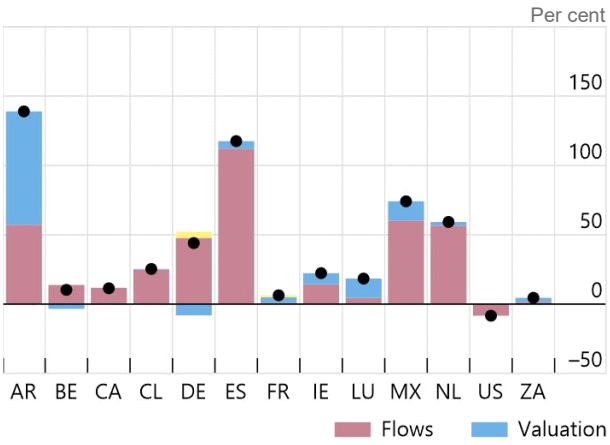
By type and jurisdiction, at end-2024[2]



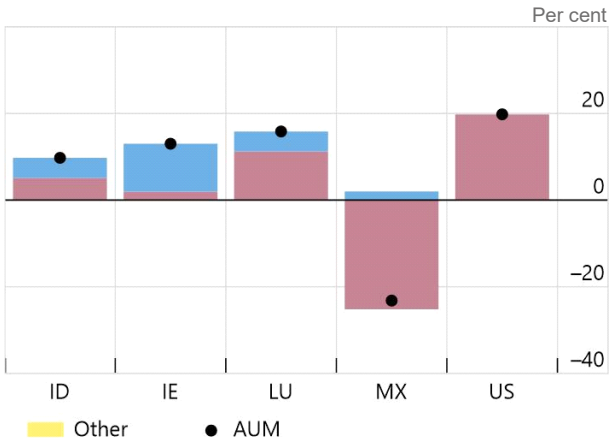
By type and jurisdiction, at end-2024[3]



Non-government MMFs' flows and valuation effects[4]



Short-term government MMFs' flows and valuation effects[5]



[1] Other jurisdictions in 29-Group not displayed separately. [2] Jurisdictions with total MMF assets of less than 0.1 per cent as a share of total national financial assets are not displayed. [3] The bar for Ireland's constant NAV (8.5%) is not shown entirely because it is particularly high compared to the other jurisdictions [4] There are 4 MMFs in ES, meaning that a change in any single MMF may significantly impact the total.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

There were some notable moves in other OFI subsectors, such as trust companies, hedge funds, and CCPs (Graph 1-3). Trust companies experienced the largest growth of all OFI subsectors and increased 20.8%; however, they only accounted for 2.9% of OFI assets. China accounted for most of the growth, and this was attributable to changes in trust companies' activity following the introduction of new regulation for asset management (see also section 3.1.1). Hedge fund assets increased 19.2% globally, and the increase in Cayman Islands hedge fund assets accounted for 90.7% of the aggregate increase. This increase occurred despite the number of hedge funds in the Cayman Islands decreasing, and reflected changes in investment types, notably a significant increase in investments in master funds. CCPs were the only OFI entity type to experience a decrease (-4.5%).

Box 1: Private finance and private credit – data challenges in statistical and regulatory reporting

For this GME, jurisdictions were asked to share some qualitative and quantitative information on private finance and private credit, on a best-efforts basis. This box summarises the main takeaways from the information collected. Private finance is broadly understood as an activity conducted by non-bank entities whereby the terms and conditions of the financing are negotiated on a bilateral basis or among a small group of non-bank entities. It typically covers venture capital, growth capital, private equity, real asset financing, and private credit. Hence, private credit is a subset of private finance.

There was not a standard definition of private credit activities in the statistical and regulatory reporting of the jurisdictions participating in the GME at the time of this data collection. Jurisdictions have, however, a shared understanding of private credit, which broadly corresponds to the following definition: "*Typically issuing debt instruments to corporates. The terms and conditions of such debt instruments are negotiated and tailored on a bilateral basis or among a small group of non-bank lenders.*"[13] As to private finance more generally, some jurisdictions have legal/regulatory definitions of certain equity-investing types of activities, such as venture capital, growth capital, and private equity. The definitions are usually linked with certain types of entities which carry out these activities.[14]

This lack of definition rendered it difficult to identify private credit entities in statistical and regulatory reports.[15] In addition, authorities reported several cases of entities pursuing different activities at the same time, e.g. both private equity and private credit. While statistical and regulatory reports may include data and information on loans held by non-bank entities, authorities did not necessarily know whether the loans have been originated by the non-bank entity or whether the loan portfolio was acquired from another lender (e.g. a bank, in which case this would not be considered "private credit" as defined above). As a result, most jurisdictions rely on proxies to identify private credit entities in their internal analysis.

Jurisdictions have identified a diverse set of non-bank entities that engage in private finance, including private credit. In recent years, there has been significant growth of assets held by so-called "private credit investment funds". However, jurisdictions also noted trust companies, finance companies, SFVs, insurance corporations, and pension funds as entities engaging in private finance and credit – either directly (e.g. by originating loans) or indirectly (by holding shares of private funds).

Despite data gaps, a subset of the participating jurisdictions provided estimates of private finance and credit on a best-efforts basis. Authorities from these jurisdictions relied on internal definitions and proxies to estimate the amount of private finance/credit held by various entity types in their regulatory, supervisory, and/or statistical reports. This means that the estimates provided are not necessarily representative of the whole private finance/credit market. The amount of private credit data identified by jurisdictions participating in this exercise was of around $0.5 trillion. This is much lower than other estimates calculated with commercial data, which are broadly around $1.5-2.0 trillion.[16] This

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13 These debt instruments often fall into the category of direct lending, but may also include mezzanine debt, special situations, distressed debt, venture debt, and real asset debt. Bank-syndicated loans and other forms of lending provided by banks are excluded. Debt funding provided through publicly traded assets such as corporate bonds are also excluded.

14 For example, in the EU, private equity firms are collective investment undertakings which invest in accordance with a defined investment policy such as venture capital, growth capital and mezzanine capital. A specific regime applicable to venture capital funds includes funds which provide finance to "undertakings that are generally very small, that are in the initial stages of their corporate existence and that display a strong potential for growth and expansion". In the US, private funds are pooled investment vehicles excluded from the definition of an investment company under the Investment Company Act of 1940. They cannot publicly offer their securities. They may pursue various types of investment strategies, such as hedge fund, private equity, venture capital, securitisations, etc.

15 For example, AIMFD defines a loan-originating alternative investment fund as a fund whose investment strategy is mainly to originate loans or whose originated loans have a notional value that represents at least 50% of its net asset value. However, in regulatory and statistical data, a specific category for "private credit funds" is missing.

16 See, for example, KKR (2025), Private Credit 2025: Navigating Yield, Risk, and Real Value, April and S&P Global (2025), Private Credit Solutions.

is explained by the data gaps mentioned above, but also because not all participating jurisdictions were able to provide data. Table A1 shows, for the subject of jurisdictions that provided data, which entity types have been identified as engaging in private finance/credit.

Table A1: List of entity types and jurisdictions for which private credit estimates were disaggregated in the data collection process

Jurisdiction	Entity type(s) for which estimates of private credit assets were provided
Canada	Private credit funds
Germany	Private credit funds and insurance corporations
Italy	Private credit funds
Luxembourg	Private credit funds
Netherlands	Private credit funds, insurance corporations, and finance companies
Japan	Finance companies
Switzerland	Private credit funds and insurance corporations
Hong Kong	Insurance corporations

Private credit funds are not well captured within the narrow measure of NBFI as it is currently defined. As explained in the introduction of this report, the narrow measure is a framework designed to capture certain bank-like vulnerabilities and was designed before the significant growth of private assets. Many private credit investment funds are closed-end and typically have low levels of leverage themselves (though the companies they lend to may be highly leveraged). They also do not rely on short-term wholesale funding for their activity, which means that they are not classified into EF1 or EF2 (or any other economic function). As to the rest of private finance, it is excluded from the narrow measure by definition, given the latter's focus on credit intermediation with run-risk and short-term funding.

Private credit funds can have several vulnerabilities. Previous work has identified vulnerabilities related to private credit, such as the relative fragility of borrowers, stale valuations, the opacity of private ratings, potential layers of leverage, and growing interlinkages.[17]

1.3. Narrow Measure developments

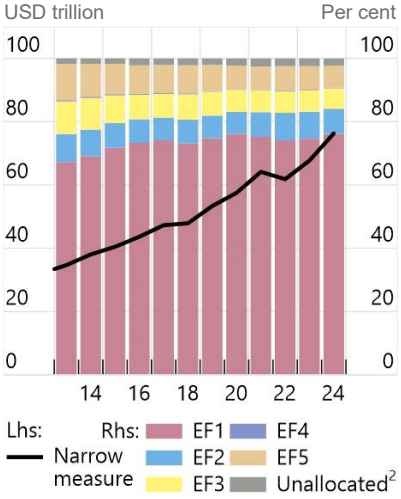
The narrow measure consists of NBFI entities involved in credit intermediation activities that could give rise to bank-like vulnerabilities and increased 12.7% in 2024 to $76.3 trillion (Graph 1-6). This growth rate was higher than the broader NBFI sector growth, nevertheless, the narrow measure's share of total financial assets increased only slightly year-on-year to 15.4% (from 14.5%). The measure increased across AEs and EMEs by 17.1% and 11.7%, respectively (Annex 1, Graph A1-8). The only jurisdiction not to have experienced an increase in their narrow measure was Indonesia. All economic functions grew in 2024. EF1 continued to account for the majority of the narrow measure (76.1% in 2024) and was the only function to experience double-digit growth (15.1% – approximately double its 5-year annual growth rate).

[17] See case study of FSB (2023), *Global Monitoring Report on Non-Bank Financial Intermediation 2023*, December; chapter 2 of IMF (2024), *Global Financial Stability Report*, April; box 2 of FSB (2024), *Promoting Global Financial Stability: 2024 FSB Annual Report*, November; box 1.3 in IMF (2025), *Global Financial Stability Report*, October; and BIS (2025), *The transformation of the life insurance industry: systemic risks and policy changes*, October.

EF1 experienced the largest increase of the economic functions[1]

29-Group **Graph 1-6**

Share of the narrow measure, per economic function[2]



The narrow measure by economic function[4]

	Narrow measure	EF1	EF2	EF3	EF4	EF5	Unallo-cated[2]
Size at end-2024 (USD trillion)	76.3	58.1	6.1	4.9	0.1	5.3	1.7
Share of narrow measure (%)	100.0	76.1	8.0	6.4	0.2	7.0	2.3
Growth in 2024 (year-over-year, %)	12.7	15.1	5.5	5.8	2.5	6.6	4.5
Growth 2018–23 (annualised growth, %)	7.2	7.6	10.1	3.9	-0.5	3.4	9.7
Share of total financial assets (%)	15.4	11.7	1.2	1.0	0.0	1.0	0.3

[1] Net of entities prudentially consolidated into banking groups. [2] Unallocated = assets of entities that were assessed to be involved in NBFI, but which could not be assigned to a specific economic function.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Collective investment vehicles with features that make them susceptible to runs (EF1) increased 15.1% in 2024 and growth was widespread, occurring in all jurisdictions. The growth was driven by fixed income funds and MMFs, which continued to account for the largest proportion of EF1 assets – 23.2% and 20.8%, respectively. EF1 represented 76.1% of the narrow measure globally and constituted the largest EF in 24 jurisdictions (Graph 1-6 and Annex 1, Graph A1-9). Growth rates above 20% were experienced in a few jurisdictions including Hong Kong where EF1 assets grew 47.4% in 2024 driven by inflows to MMFs given the relative attractiveness of MMFs in the high interest-rate environment.

Loan provision that is typically dependent on short-term funding (EF2) grew at 5.5% – around half of its five-year average growth rate – and represented 8.0% of the narrow measure globally (Graph 1-6). EF2 assets reached $6.1 trillion by end-2024 (Graph 1-6 and Graph 3-3, LHS). The United States contributed around one third of the global EF2 asset growth, followed by India and the United Kingdom – reflecting the large share they held of EF2 assets (these three jurisdictions held 68.2% of total EF2 assets). The positive trend was observed globally, with only a few exceptions: Germany, Hong Kong, and Indonesia reported notable declines of -31%, -22.7%, and -12.6%, respectively.

Intermediation of market activities dependent on short-term funding (EF3) continued to grow (5.8%) to $4.9 trillion in 2024, following the 11.7% increase recorded in 2023 (Graph 1-6). EF3's share in total narrow measure assets stood at 6.4%, making it the second smallest economic function by asset size. Assets of broker-dealers prudentially consolidated into banking groups were 60.9% of total broker-dealer assets and were not included in EF3 or the narrow measure. The four largest jurisdictions by EF3 assets (the United States, Japan, China and Korea) accounted for 90.3% of total EF3 assets and for about 79.6% of total growth of EF3 assets in 2024 (Graph 3-6, RHS).

Insurance or guarantees of financial products (EF4) grew 2.5% and continued to be the smallest economic function at $142 billion, with its share of the narrow measure stable at 0.2% in 2024. Eleven jurisdictions classified some of their insurance corporations into EF4. Seven jurisdictions reported mortgage insurers as EF4 entities. Other identifiable entity types engaged in EF4 were broker-dealers and financial guarantors.

Securitisation-based credit intermediation (EF5) grew 4.3% in 2024 to $5.3 trillion, and represented 7.0% of the narrow measure globally (Graph 1-6). The United States, the Cayman Islands, Ireland, Luxembourg, Italy, and China accounted for just under 80% of global EF5 assets. EF5 consisted of structured finance vehicles and trust companies (only in China), which represented 97.3% and 2.7% of EF5 assets, respectively, and exhibited different trends.

2. Key Areas of Monitoring

2.1. Credit intermediation

The credit activities of the NBFI sector are of particular importance to financial stability. NBFI entities can be an important source of credit, competition, and innovation within financial systems. On the other hand, NBFI entities that are not sufficiently resilient to shocks could slow the flow of credit to the wider economy, especially during downturns. Credit assets assessed in this section include loans,[18] debt securities,[19] and cash on deposit ("deposit assets").[20]

Credit assets in the financial system grew 6.1%, in line with total asset growth. Banks hold 81.3% of total loan assets and continue to dominate this asset class. The NBFI sector, however, holds 61.4% of all debt securities (i.e. credit assets other than loans and deposit assets). As discussed above, within the OFI sector, loan assets grew the most for MMFs and trust companies. The growth in MMFs loan assets is mostly due to money reserve funds in Japan.[21] After the Bank of Japan's policy rate became positive these funds reallocated their portfolio from deposits (which were relatively attractive in a negative-rate environment) to money market instruments. The growth in trust company credit assets is mostly due to China. Following a new asset management regulation, trust companies were able to develop their business significantly.

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18 Include overdrafts, instalment loans, hire-purchase credits, and loans to finance trade credit.

19 Such as bills, bonds, or commercial papers.

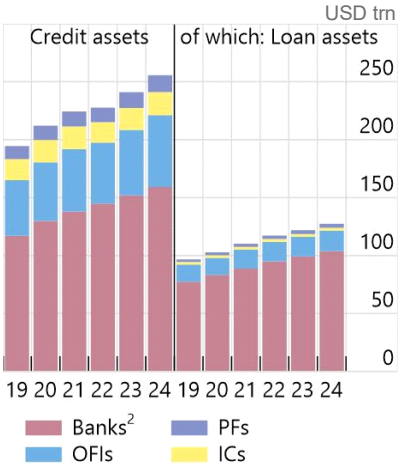
20 Other instruments may affect the exposure to credit assets, such as derivatives, which are not included here.

21 These are reported as MMFs for the purpose of the GME.

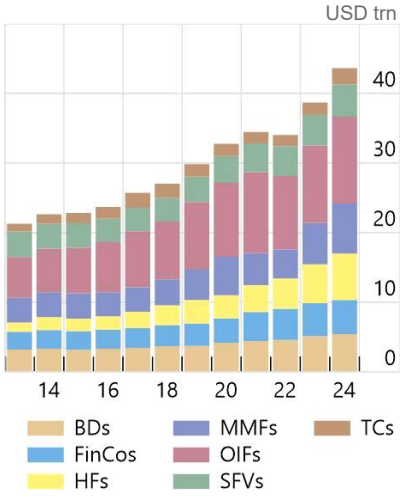
Credit and lending assets[1]

21+EA-Group for the left and middle panels, 29-Group for the right panel **Graph 2-1**

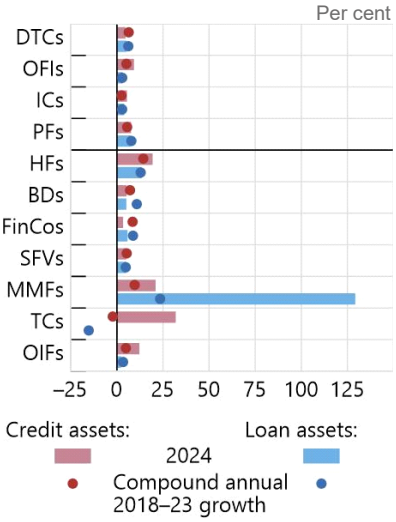
Composition and evolution of credit assets since 2019



Credit assets held by selected OFIs



Growth of credit and loan assets



OFIs = other financial intermediaries; PFs = pension funds; ICs = insurance corporations; BDs = broker-dealers; FinCos = finance companies; HFs = hedge funds; MMFs = money market funds; OIFs = investment funds other than MMFs and hedge funds; SFVs = structured finance vehicles; TCs = trust companies

[1] Subset of jurisdictions, between 5 for MMFs loan assets and all reporting jurisdictions for DTCs. [2] All deposit-taking corporations.

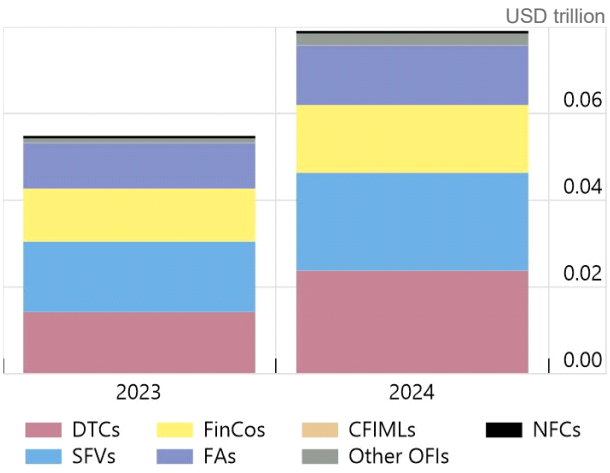
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

Another type of credit asset now covered under the GME is fintech lending. The third phase of the G20 Data Gaps Initiative (DGI-3) includes a recommendation to close data gaps related to non-bank fintech lending. Since last year, the FSB collects these data on a best-efforts basis. 13 jurisdictions reported data for a total of $75.9 billion, representing 1.8% of their OFI loan assets (Graph 2-2 RHS). Most of the fintech lending activity is done by so-called "non-bank deposit taking corporations" (such as by some "Digital Consumer Finance Companies" in Brazil and part of the "Non-Financial Credit Providers" and "Credit card systems" categories in Argentina) as is shown in Graph 2-2, LHS. Fintech lending activity performed by auxiliaries (i.e. marketplace platforms connecting lenders with borrowers) amounted to $10 billion. Details by jurisdiction and entity type are published in Graph A1-10.

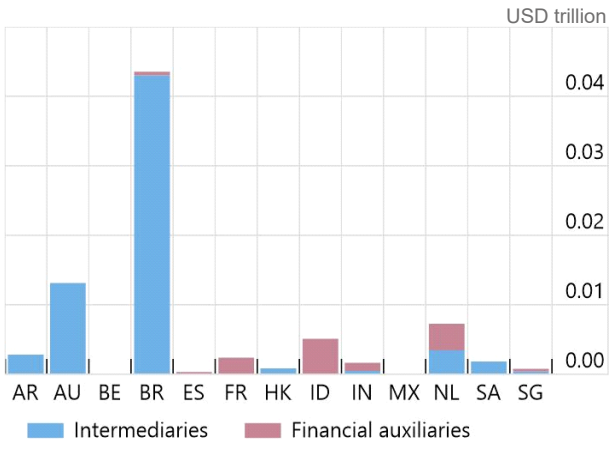
Fintech lending

Graph 2-2

Fintech lending by entity



Fintech lending by jurisdiction



Notes: for Spain, data for 2023 were used for 2024. DTCs is for non-bank deposit taking corporations. Given that some non-bank intermediaries may be using fintech auxiliaries (e.g. peer-to-peer platforms) to provide fintech lending, the graph may include some double counting.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

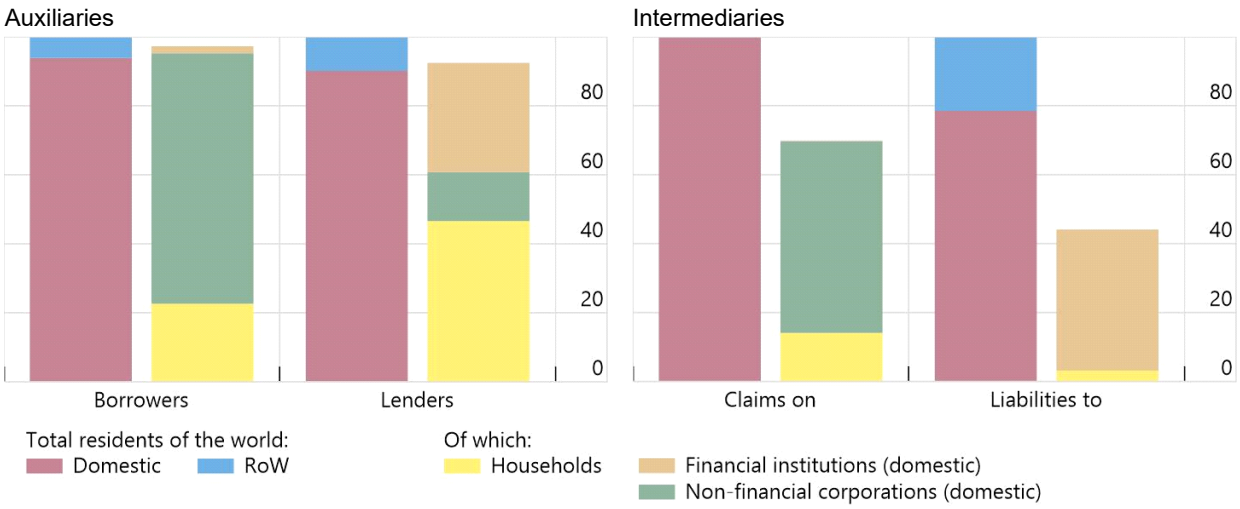
Some jurisdictions were able to provide data on interlinkages of fintech lending platforms (Graph 2-3). In Brazil, Hong Kong, the Netherlands, and Spain most fintech lending activity is done domestically, with only a small share of funding providers are from the "Rest of the World" (RoW). Non-financial corporations and households are the main borrowers using marketplace platforms. Financial institutions, but also households lend through marketplace platforms, while financial institutions are the main funding providers to other intermediaries engaging into fintech lending. The FSB also collected qualitative inputs about fintech entities' involvement in lending collateralised with crypto-assets, the support they may obtain from banks in their lending activities, and the lending of non-financial corporations. The takeaways from this qualitative collective are broadly similar to those of last year, and the reader is invited to refer to Box 2-1 in the 2024 FSB's Global Monitoring Report on NBFI.[22,23]

[22] See here

[23] As part of this year's exercise a couple of jurisdictions noted innovations with regards to the growing use of stablecoins and crypto-assets. On this topic, the FSB published a *Thematic Review on FSB Global Regulatory Framework for Crypto-asset Activities* in October this year.

Interconnectedness for fintech lending

Per cent of users of the platforms **Graph 2-3**



Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations

2.2. Wholesale Funding and Repurchase Agreements

Wholesale funding instruments and repurchase agreements (or repos) can be used by NBFI entities to create short-term liabilities and increase leverage. This facilitates credit growth and maturity/liquidity transformation outside the banking system. Wholesale funding and repos also increase interconnectedness among financial institutions, and although this may support efficient risk sharing in the financial system, in periods of stress it may also spread shocks and contribute to procyclicality, with these short-term liabilities presenting run risks.

For this year's exercise, as well as the more granular data on eREITs and mREITs, granular data on wholesale funding components were collected for all OFI entity types. That is, two different breakdowns of wholesale funding were provided: (i) a decomposition into short-term and long-term, as was the case in previous exercises;[24] (ii) a decomposition into derivatives, market-based financing, loans, and (in the case of investment funds) investment fund shares held by institutional investors.[25] As in previous years, this report separates repos from wholesale funding instruments.

In aggregate, OFIs' use of wholesale funding amounted to 21.3% of total assets – short-term wholesale funding was 4.8% of total assets and long-term wholesale funding 16.6% (Graph A1-10, LHS). However, this varies by OFI entity type, for example, in the case of broker-dealers short-term wholesale funding represents a much larger proportion of total assets than long-term wholesale funding.

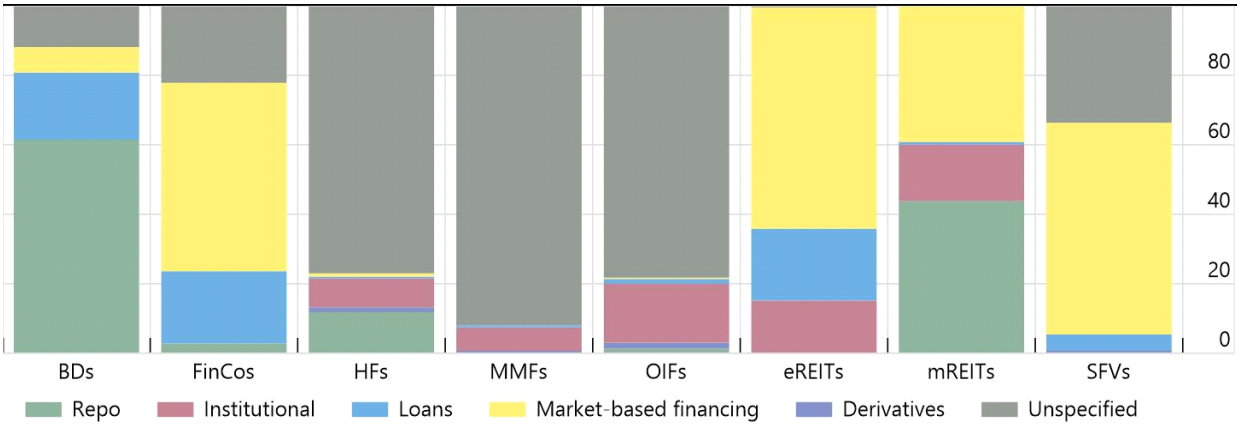
[24] Short-term wholesale funding is defined as having a residual maturity of less than 12 months, with long-term wholesale funding equal to wholesale funding – short-term wholesale funding.

[25] For the purpose of this exercise, market-based financing is defined as all types of market-based funding excluding equity, for instance it includes bonds issued and similar instruments such as commercial paper. Institutional investors cover all non-retail investors, this category may include for example family offices, sovereign wealth funds, insurance companies, and investment funds.

The more granular data collected for this year's exercise offers an insight into OFIs' significant use of wholesale funding. Coverage of this more granular data accounted for 43.0% of aggregate OFI wholesale funding. The data showed that the identified components of wholesale funding varied by OFI entity type (Graph 2-4). For finance companies, eREITs, mREITs, and SFVs, market-based financing provided the majority of wholesale funding, and measured around 40-60% of total wholesale and repo funding. In the case of broker-dealers and mREITs, repo represented the greatest proportion of funding. Data coverage was lower for investment funds, but where components of wholesale funding could be identified the data showed that institutional investors' fund shares accounted for the majority of such funding (as would be expected for investment funds).

OFI entity types' funding sources[1]

Percentage share of wholesale and repo funding sources **Graph 2-4**



[1] Estimated based on the data reported by a sub-sample of jurisdictions, between 3 for mREITs and 13 for BDs.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

When considering the broader dataset, OFIs' repo funding was stable year-on-year, at 2.7% of total assets (Annex 1, Graph A1-11, LHS). MMFs and broker-dealers remained the entity types most involved in repo transactions, with MMFs having a significant role as providers of cash in repo markets (reverse repo). MMFs' positive net repo position remained significantly higher than that of other entity types at almost $3 trillion and was relatively stable year-on-year – they continued to be almost exclusively net cash providers through repo transactions (Graph A1-12). Broker-dealers' net repo position was negative and continued to decrease in 2024 to $-0.7 trillion, as repo liabilities increased slightly to 35% of assets (Annex 1, Graph A1-12, middle panel).

Short-term liabilities can be compared with cash positions, as a proxy for rollover risk (Annex 1, Graph A1-13). The metric was more elevated for hedge funds than for other entity types which might be reflective of their trading activity which often uses repo to gain leverage. The metric was also elevated for broker-dealers, reflective of their business model and the use of short-term assets and liabilities to intermediate market participants' transactions.

2.3. Financial Leverage

If not properly managed, leverage creates a vulnerability that can propagate strains through the financial system, amplify stress, and lead to systemic disruption.[26] Leverage is a characteristic feature of modern economies and financial markets; it can be used to increase exposure and boost returns. However, if not properly managed, the build-up of leverage creates a vulnerability that, when subject to a shock, can propagate strains through the financial system, amplify stress, and lead to systemic disruption via two main channels: the position liquidation channel and the counterparty channel. Systemic disruption as a result of leverage has been demonstrated by a series of financial incidents, including inter alia the March 2020 market turmoil, the 2021 Archegos failure, and the September 2022 dislocation in the UK gilt market. Financial leverage – the subject of monitoring in this report – consists of borrowing through loans, bonds, repo, and other securities financing transactions (SFTs).

Against the backdrop of lower interest rates in most major advanced economies year-on-year, NBFI entity borrowings continued to increase, and at a faster pace than that of banks (6.9% against 4.3%).[27] In terms of volumes, broker-dealers and captive financial institutions were the NBFI entity types borrowing the most with total borrowings of $6.6 trillion and $6.2 trillion, respectively. Over 80% of broker-dealers' total borrowing was accounted for by the United States and United Kingdom which experienced increases of 10.2% and 2.8%, respectively. Broker-dealers' total borrowings increased 7.1% year-on-year; the largest increases occurred in Brazil (49.0%), followed by India (28.3%) and Hong Kong (23.6%).[28] Eight jurisdictions reported data for captive financial institutions' total borrowings, of which Luxembourg and the Netherlands accounted for over 80% and were little changed on the year. The most significant increase was reported in Korea (19.0%), followed by the United Kingdom (10.9%). In Korea this was driven by one business group which increased its borrowing in order to resolve its non-performing loans (NPLs) which had emerged in 2022-23 – a period when Korea's policy rates remained at elevated levels.

In terms of financial leverage, finance companies, broker-dealers, SFVs, and REITs continued to have the highest debt-to-assets ratios. The picture was quite stable year-on-year, with changes in levels of leverage of less than 2 percentage points across all entity types (Graph 2-5, middle panel). This measure of financial leverage is calculated at the sub-sector level. It does not reflect synthetic leverage, leverage taken off-balance sheet (e.g. via special purpose vehicles) and does not identify pockets of leverage within specific entity types. For additional indicators on leverage by entity type, please see vulnerability metrics in Section 3.

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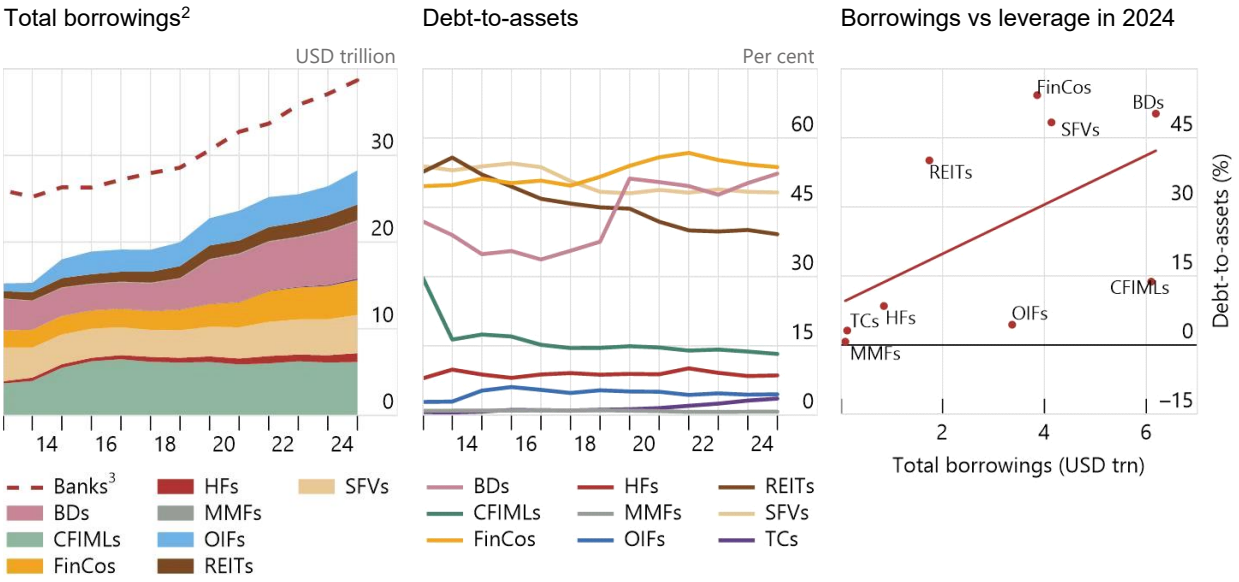
26 See FSB (2023), *The Financial Stability Implications of Leverage in Non-Bank Financial Intermediation*, September; FSB (2025), *Leverage in Nonbank Financial Intermediation: Final report*, July.

27 Borrowings refer to total borrowings which include debt securities, loans, and repos on the liability-side of the balance sheet.

28 Brazilian broker-dealers' total borrowings represented 0.3% of global broker-dealers' total borrowings. A single market participant prudentially consolidated within a banking group drove the growth in Brazil.

OFI borrowings and leverage[1]

29-Group **Graph 2-5**



[1] Subset of jurisdictions, between 8 for HFs and 25 for DTCs. [2] Total borrowings include debt securities, loans, and repos on the liability side of the balance sheet. [3] All deposit-taking corporations. For these entities, borrowings do not include deposits on the liability side of the balance sheet.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

2.4. Interconnectedness

Financial interconnectedness may help share risk across financial sectors but may also serve as a channel for risk transmission. Therefore, measures of interconnectedness can serve as important indicators of potential contagion, within and across sectors and borders. This section covers direct domestic and cross-border balance sheet interconnectedness between banks, insurance corporations, pension funds, and OFIs, as well as on an OFI-entity basis. To measure direct interconnectedness, such as direct borrowing and lending, or investment exposures between two counterparties, participating jurisdictions compiled aggregated balance sheet data to identify balance sheet asset and liability exposures between financial sectors that arose from credit provision and/or investment in a counterparty. In addition to the regular data collected each year for interconnectedness, this report also includes a case-study to quantify bank-NBFI interlinkages in greater granularity and identify pertinent vulnerabilities (see section 2.5).

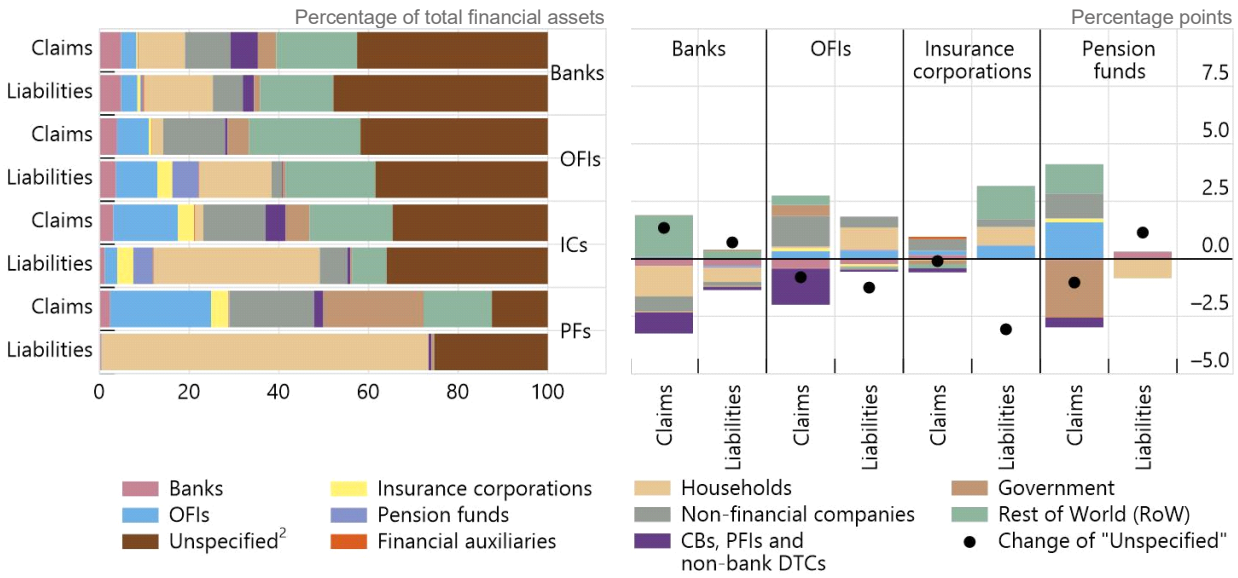
2.4.1. Aggregate linkages

Cross-border linkages continued to form the main identified linkage for a number of NBFI sectors (Graph 2-6, LHS). Cross-border linkages formed the largest proportion of identified linkages for both OFIs and banks; they also accounted for the largest proportion of insurance corporations' claims. OFIs formed the largest proportion of pension funds' identified claims, reflecting pensions funds' use of investment funds to manage some of their assets.

Aggregate linkages, measured as a percentage of financial assets

29-Group **Graph 2-6**

Aggregate linkages[1] Change in identified linkages 2025 vs. 2024[3]



[1] **The total reported linkages of all participating jurisdictions as a percentage of total claims and liabilities of each sector. The computed measures do not capture risks from indirect interconnectedness and do not take into account important qualitative aspects, such as the difference between secured and unsecured liabilities.** [2] **"Unspecified" indicates linkages to other sectors not identified by jurisdiction or not covered in this report.** [3] **Chart shows difference between Graph 2-5 LHS in this year's report, and the equivalent graph (Graph 1-13, LHS) in last year's report.**

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

OIFs continued to account for more than 40% of OFIs' linkages with the rest of the world (Annex 1, Graph A1-14, RHS). Captive financial institutions and money lenders (CFIMLs) were the second-largest identified counterparty accounting for 23% of OFIs' cross-border liabilities, and 17% of claims (Annex 1, Graph A1-14, RHS). At a jurisdiction level, funding from and exposure to the rest of the world were larger than 30% of OFI assets in Ireland, Luxembourg, France, Belgium, and the Netherlands (Annex 1, Graph A1-14, LHS). For Ireland, OFI exposures to the rest of the world were over 80% of OFI assets which reflects Ireland's non-bank sector's role as a channel for global finance.[29]

2.4.2. Domestic linkages between the banking and NBFI sectors

Banks and NBFI entities are directly connected, with funding channels operating in both directions. For instance, banks often extend credit to (or invest in) pension funds, OFIs, or insurance corporations, while these entities provide funding to banks or deposit the non-invested part of customer assets with custodian banks.

Domestic linkages between the banking and NBFI sectors remained stable in 2024 (Annex, Graph A1-15). Banks continued to be net recipients of funding from NBFI entities (Annex 1, Graph A1-15, LHS). OFI entity types' deposits in banks were broadly stable; MMFs and SFVs experienced the largest changes, of around 1 percentage point. MMFs' bank deposits

[29] The significant year-on-year increase in Ireland's OFI exposures to the rest of the world is due to a methodological change in the data compilation.

decreased from 6.9% to 5.8% of their assets while SFVs' bank deposits increased from 7.8% to 8.8% of their assets (Annex 1, Graph A1-16, LHS). Similarly, OFIs' use of funding was little changed: the largest move was funding from OIFs increasing from 4.5% to 4.8% (Annex 1, Graph A1-16, RHS).

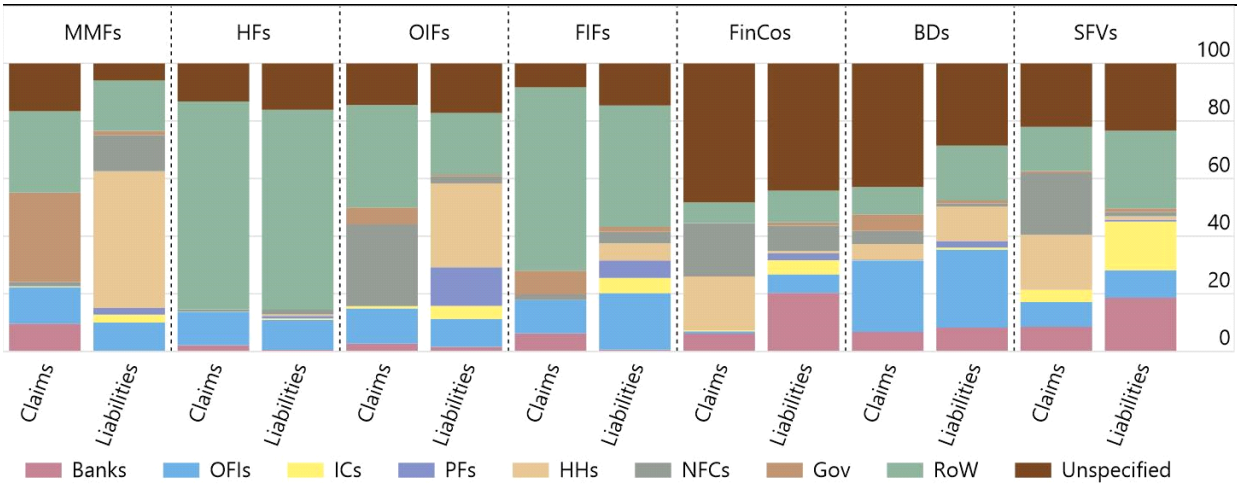
Bank-NBFI interlinkages remained varied across jurisdictions, both by size and OFI entity type (Annex 1, Graph A1-17). Both banks' use of funding from NBFI entities and OFIs' use of funding from banks (measured as a percentage of their respective assets) ranged from less than 1% to almost 40% (Annex 1, Graph A1-17). Links were most significant between banks and 'Other OFIs' – that is, CCPs, hedge funds, trust companies, and unidentified OFIs. 'Other OFIs' provided the largest proportion of bank funding of NBFI entities (Annex 1, Graph A1-17, LHS). They were also most frequently the largest user of bank funding across jurisdictions but in aggregate accounted for a roughly equal amount of bank funding as finance companies (Annex 1, Graph A1-17, RHS). OFIs' exposures to banks also ranged from less than 1% to almost 40% of OFI assets, after 'Other OFIs' it was MMFs and OIFs that accounted for the largest proportion of total OFI exposures to banks (Annex 1, Graph A1-17, RHS). As for banks' exposures to NBFI entities, they were at most 11.3% of a jurisdiction's bank assets; after 'Other OFIs' it was finance companies that accounted for the largest proportion of total exposures (Annex 1, Graph A1-17, LHS).

2.4.3. Interconnectedness by OFI entity type

OFI linkages with other financial market participants were little changed and continued to exhibit diversity across entity types (Graph 2-7). Rest of world (RoW) interlinkages were greatest for Hedge Funds, accounting for ~70% of both claims and liabilities, they also accounted for over 60% of fixed income funds' claims. In terms of total interlinkages, banks were most interconnected with SFVs, followed closely by finance companies. Further detail on bank-NBFI interlinkages is provided in the case study.

Identified OFI linkages with other financial market participants[1]

In per cent of entity's total assets; 29-Group **Graph 2-7**



[1] Linkages as the amount of total claims on/liabilities to given entities as a share of their assets. Graphs reflect the data of jurisdictions that reported linkages to the relevant entity. Subset of jurisdictions, between 8 for HFs and 24 for MMFs.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

2.5. Case study: Interconnectedness of the NBFI sector with banks – implications for financial stability

Non-bank financial institutions have become an increasingly important part of the global financial system, both as providers of credit to the real economy and as key participants in capital and funding markets. As their size and market presence have grown, so too have their interconnections with banks and the NBFI sector, broadening the channels through which shocks can propagate across sectors and jurisdictions.[30] Understanding these linkages is essential for identifying vulnerabilities and assessing emerging risks to financial stability. This case study sets out the main forms of NBFI interconnectedness with banks and the associated channels of risk transmission, drawing on survey responses from national authorities on the nature of these linkages in their jurisdictions and the data challenges they face in monitoring related risks.[31]

2.5.1. Mapping NBFI interconnections with banks

Interconnections between banks, non-bank financial institutions and markets take several forms.[32] Some are direct, arising from bilateral transactions such as loans, deposits, repo and derivatives exposures.[33] Others are indirect, operating through markets when banks and non-banks hold similar assets or pursue correlated investment strategies. Structural linkages also exist within financial groups and conglomerates, where banks, insurers and asset managers operate under common ownership and funding arrangements or share common outsourcers and ICT platforms (see *Table 1* for an overview). Together, these interlinkages influence how liquidity, credit and market shocks can propagate across the financial system, both domestically and across borders.

Table 1: Mapping of bank-NBFI linkages

Type of interconnection	Main mechanisms	Examples of exposures or activities	Potential risk transmission channels
Direct exposures between banks and non-banks	Bilateral financial transactions between entities	- Bank lending, repo, margin lending, derivatives positions - Non-bank deposits and holdings of bank-issued securities or covered bonds	- Stress among non-banks lead to credit losses, banks cutting credit lines, non-banks facing liquidity pressures - Non-banks stop taking risks (e.g. CDS) from banks who lose ability to distribute credit risks - Non-banks stop providing funding to banks (e.g. in “dash for cash” in March 2020, short-term bank debt market became frozen)

30 See, for example, IMF (2025), *Global Financial Stability Report*, October.

31 Jurisdictions that participated in the survey were: Argentina, Australia, Belgium, Brazil, Switzerland, Chile, Germany, the euro area, Spain, Hong Kong, Ireland, India, the Cayman Islands, Luxembourg, Mexico, the Netherlands, and Singapore.

32 Compare also Basel Committee on Banking Supervision (2025), *Banks' interconnections with non-bank financial intermediaries*, July.

33 European Central Bank (2023), Key linkages between banks and the non-bank financial sector, *Financial Stability Review*, Special Feature B, May; and European Central Bank (2025), Systemic risks in linkages between banks and the non-bank financial sector, *Financial Stability Review*, Special Feature B, November.

Type of interconnection	Main mechanisms	Examples of exposures or activities	Potential risk transmission channels
Indirect exposures through markets	Common asset holdings and correlated investment strategies	- Overlapping portfolios of debt securities and equities - Similar hedging or trading strategies across sectors	- Price contagion through asset sales and margin calls - Market-wide liquidity stress and cross-border spillovers (e.g. March 2020 turmoil)
Ownership linkages, conglomerate structures, and outsourcing	Common ownership, intragroup funding, shared operational and ICT arrangements	- Intragroup loans, guarantees, and credit lines - Shared service providers, custodians or asset managers - Significant risk transfers for prudential purposes	- Transmission of losses and liquidity shocks within groups - Reputational contagion and blurred risk boundaries between entities - Concentrated operational and ICT risks - Credit protection could become unavailable or ineffective

Channels of risk transmission and amplification

Interconnectedness of the NBFI sector gives rise to multiple channels through which stress can spread and amplify across the financial system. These channels operate through funding and liquidity dependencies, leverage and margining practices, and common asset exposures.[34] Further transmission mechanisms arise from intra-group relationships within financial conglomerates and from concentrated counterparty linkages between large institutions. Each of these mechanisms can transmit liquidity or valuation shocks across institutions and jurisdictions, as illustrated by recent episodes of stress in global markets (see section 2.5.3 of the case study).

- **Funding channels:** Non-bank entities' holdings of bank deposits and short-term instruments, as well as credit lines provided by banks, can transmit liquidity pressures back to the banking system during periods of stress.
- **Leverage and margining dynamics:** Non-bank financial institutions' leverage through derivatives and repo transaction, with banks as counterparties, heighten both sectors' sensitivity to market volatility and counterparty credit risk, as rising margins and leverage can trigger rapid deleveraging, asset sales, and liquidity strains.
- **Correlated exposures and portfolio overlaps**: Common asset holdings and overlapping portfolios exposes banks and non-bank financial institutions to correlated valuation losses and liquidity strains, potentially increasing the risk of shock amplification across sectors and borders, if institutions are selling assets simultaneously.
- **Intra-group linkages and financial conglomerates:** Linkages within financial conglomerates create two-way channels for contagion, as shocks in banks or affiliated

[34] Another channel of risk transmission – not covered in detail in this case study – arises from significant risk transfers from banks to NBFI entities, see BCBS (2025), *Banks' interconnections with non-bank financial intermediaries*, July.

non-bank entities can transmit through shared service providers, ownership ties, and reputational effects, blurring risk boundaries and amplifying moral hazard.

- **Concentrated activities:** Interconnectedness between banks and non-bank financial institutions is often concentrated, with a small number of large NBFI counterparties and dealer banks dominating trading and funding relationships. This concentration can create critical nodes in the financial system, amplifying stress in the event of a failure.

Data sources for cross-border linkages

Domestic interlinkages can be captured relatively well, though at a high-level, through flow-of-funds or "whom-to-whom" statistics, which map exposures between resident sectors and allow differentiation by instrument type, such as loans, deposits, securities or derivatives (see Section 2.4 in the main body of the report). By contrast, cross-border exposures are often more difficult to observe. Bank financing of offshore hedge funds or private credit funds, for instance, can be systemically significant yet remain outside standard sectoral statistics. Existing consolidated and locational banking statistics, such as the BIS international banking statistics,[35] typically provide information by counterparty residence, but not by counterparty type (e.g. funds, insurance corporations or other financial institutions). As a result, whom-to-whom statistics across borders are generally unavailable, and cross-sector exposures are often captured only in aggregate form.

Supervisory and commercial datasets for banks, investment funds, insurers and pension funds provide additional granularity on both domestic and cross-border linkages. For example, recent analysis for the United States highlights a gap between U.S. Treasury International Capital data on hedge fund holdings of U.S. Treasuries, which could only be identified by combining various data sources. The analysis found that hedge fund positions appear increasingly concentrated offshore in the Cayman Islands.[36] A recent study uses commercial data to identify a sample of hedge funds globally that are likely to engage in leveraged trading in the U.S. sovereign bond markets.[37] Still, regulatory data may contain gaps if non-domestic subsidiaries or branches providing prime brokerage services abroad are not captured by domestic reporting requirements.[38] Commercial data based on voluntary reporting may be incomplete and lack robust quality assurance. This limits the ability to quantify contagion channels that may stem from internationally active non-bank financial institutions.

2.5.2. NBFI interconnectedness in selected jurisdictions

A survey of national authorities was conducted to collect qualitative information on bank–non-bank interconnectedness across a sample of FSB member jurisdictions. Respondents were asked to identify the main forms of linkages between banks and non-banks, assess their relative importance, and describe the channels through which stress could be transmitted across sectors and borders. The survey results provide a cross-sectional perspective on funding, credit and market-based interconnections, and highlight structural differences across regions and financial systems.

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35 Available here.

36 US Federal Reserve (2025) The Cross-Border Trail of the Treasury Basis Trade, *FEDS Notes*, October.

37 Hong Kong Monetary Authority (2025), Assessing the linkages between hedge funds and prime brokers in sovereign bond markets: Evidence from commercial data, *Research Memorandum 10/2025*, September.

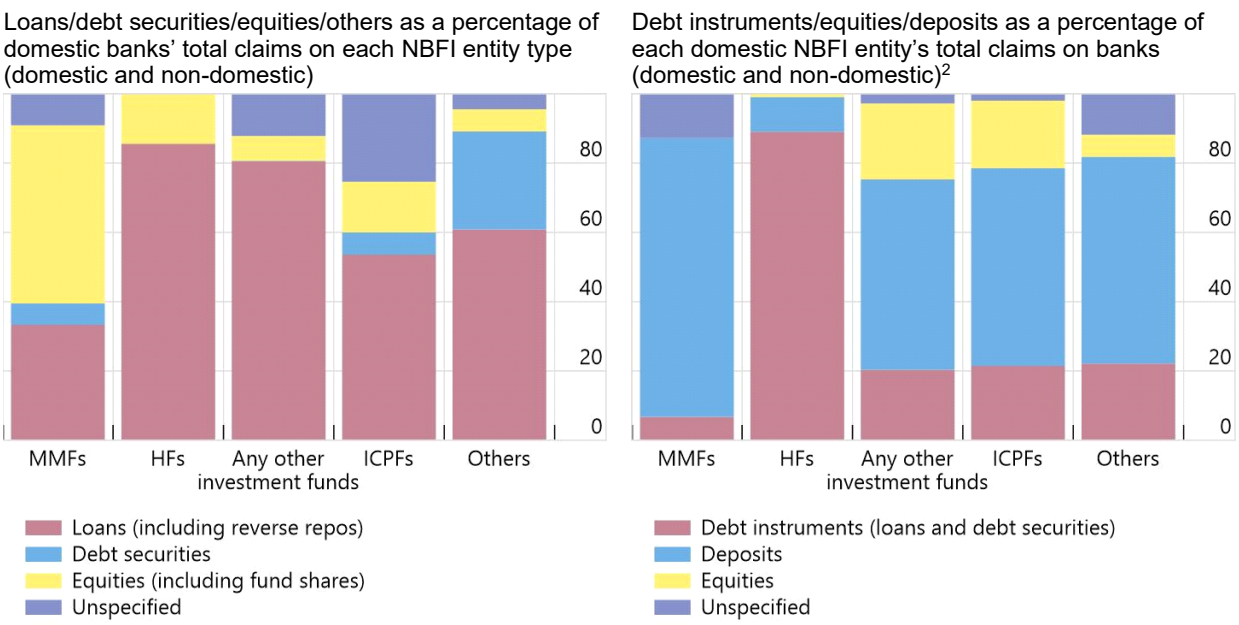
38 This can be an issue in derivatives and securities financing transactions reporting in the EU.

Across jurisdictions, survey responses indicate three main forms of linkage between banks and non-bank entities: (i) funding and deposit relationships, where non-banks place deposits with banks; (ii) lending, repo and other credit exposures from banks to non-banks; and (iii) holdings of bank-issued securities by investment funds, insurers and pension institutions. Funding and credit exposures are frequently complemented by market-based connections through derivatives, securities financing, custodial and other client services, as well as common asset exposures.

Graph 2-8 illustrates the composition of linkages between banks and non-bank entities, combined domestically and across borders. It shows, for a sample of jurisdictions, that banks' exposures to non-bank entities are mainly through loans and debt securities, while NBFI claims on banks are largely concentrated in deposits and debt instruments. Depending on the NBFI counterparty type, linkages arise through different credit and funding channels (i.e. loans, deposits, debt securities and equities), reflecting differences in the NBFI business models.

Cross-sectoral and cross border claims by bank and non-bank entities for a sample of jurisdictions[1]

In per cent **Graph 2-8**



[1] Includes data from Argentina, Australia, Belgium, Switzerland, Spain, India, Ireland, Luxembourg, the Netherlands and Singapore Source: Individual jurisdictions, FSB calculations. [2] Due to differences in terminology across jurisdictions, instruments similar to certificates of deposit may be captured under either 'deposits' or 'debt instruments'.

Some regional patterns emerge from the survey. Euro area countries report significant bilateral linkages between banks and investment funds, particularly through funding, repo and derivatives channels, as well as common exposures to sovereign and corporate bonds. These connections extend both within the euro area and to major international financial centres, notably the U.S. and UK. Luxembourg and Ireland highlight cross-border linkages arising from their role as important domiciles for non-bank entities managed by EU and global firms.

In Ireland, important cross border interlinkages arise, for example, from domestic MMFs' holdings of EU and UK short-term bank debt, and domestic bond funds' holdings of EU bank debt. Moreover, EU banks hold debt securities issued by Irish SPEs, while international banks registered in Ireland are connected with foreign non-bank entities through intragroup holdings. Domestic linkages between banks and non-bank entities are less pronounced in Ireland.

In Luxembourg, domestic interconnections result from deposits of Luxembourg funds and assets held under custody at domestic banks, while the most relevant cross-border linkages arise from Luxembourg funds' holdings of debt securities issued by foreign banks.

In some other EU countries, the NBFI sector remains smaller relative to the size of the economy, except for Belgium, with linkages mainly reflecting deposits, securities holdings and cross-border relationships through the distribution of investment funds domiciled in Luxembourg and Ireland.

The UK banking system has links to various types of non-bank entities through the provision of finance and other services, such as operational support. Banks facilitate a large proportion of the leverage used by many non-bank entities as the counterparty to derivatives transactions (such as interest rate swaps) and securities financing transactions (including repo agreements and margin lending transactions). A small number of large UK and US headquartered banks provide the majority of these services to NBFIs that operate in the UK.

Asian financial centres, notably Singapore and Hong Kong, describe material international, linkages, concentrated in loans and deposits. In Singapore, exposures arise mainly from bank lending to funds, trusts, and corporate treasuries, while cross-border linkages are driven by bank loans to regional non-bank entities. In Hong Kong, banks' claims on non-bank financial institutions are largely to central counterparties, public financial institutions, and finance arms of corporate groups and non-bank financial institutions owned by banking groups. India, by contrast, reports strong domestic funding dependencies of non-bank entities on commercial banks, with over half of their funding sourced from the banking system. Cross-border exposures remain limited, mainly through external commercial borrowings and bond issuance.

In Latin American jurisdictions, interlinkages are predominantly domestic and funding-based. Brazil's financial system is characterised by investment funds acting as the main link between banks and non-banks, with banks intermediating liquidity between fund and the central bank via repo and reverse repo operations.

Argentina and Chile also emphasise funding relationships, as pension and money market funds provide deposits and liquidity to banks. Mexico reports similar channels, although data constraints limit visibility over cross-border exposures. Overall, the region's linkages are largely domestic, with limited integration into global markets.

The interlinkages between Swiss banks and both domestic and foreign non-bank entities are material, with global interlinkages mainly reflecting the international operations of the country's largest bank. These international exposures encompass not only on-balance-sheet items but also off-balance-sheet positions, including contingent liabilities such as committed credit lines, guarantees and credit derivatives, primarily vis-à-vis international non-bank entities. By contrast, domestically-oriented banks' exposures to NBFI are mainly driven toward central mortgage bond institutions and non-bank entities' deposits holdings.

In the Cayman Islands, cross-border exposures primarily stem from Cayman-domiciled investment and hedge funds and captive insurers that maintain banking and financing relationships with global banks abroad. Domestically, interlinkages are mainly between Cayman-licensed banks and these Cayman-domiciled non-banks through deposit and cash-management relationships, while direct credit exposures remain limited.

In other jurisdictions such as Australia, interlinkages reflect pension funds maintaining sizeable deposit, debt, and equity exposures to domestic banks and using derivatives for hedging, while securitisation and private credit connect finance companies and banks.

2.5.3. Cross-border and cross-sectoral spillovers in recent stress events

The March 2020 "dash for cash" episode illustrated how NBFI funding linkages can quickly propagate liquidity stress across the financial system globally.[39] During March 2020, large redemptions and asset sales by investment funds led to declining bond-market liquidity, elevated margin calls, and tighter U.S. dollar funding conditions. Many funds raised liquidity by selling domestic and foreign assets, including corporate bonds, commercial paper and government securities, in some cases selling more assets than needed to meet redemptions. This led to an increase in deposits, for example, held by domestic and foreign funds at banks in Luxembourg.[40] At the same time, procyclical asset sales contributed to sharp price declines, which in turn affected banks' trading books and collateral valuations, tightening margins and reducing market-making capacity. Outflows from non-government debt MMFs curtailed short-term funding markets for non-financial corporates and banks, prompting central banks in the U.S. and euro area to restore market functioning.

The UK gilt market episode in 2022 illustrated how leveraged liability-driven investment (LDI) strategies in pension funds can amplify stress in sovereign bond markets.[41] Sharp increases in gilt yields led to collateral value declines in repo transactions and triggered margin calls on derivative positions used by LDI funds, prompting forced asset sales to raise liquidity. LDI funds domiciled in Ireland and Luxembourg, which managed assets on behalf of UK pension schemes, were among those selling long-dated UK government bonds, thereby amplifying market illiquidity and price declines. The episode underscored the potential for leverage and insufficient liquidity preparedness in non-bank institutions to amplify stress in core government bond markets.

More idiosyncratic stress events include the failure of the financial services company Greensill Capital and the closure of funds investing into related products, as well as the collapse of Archegos Capital Management in 2021. These cases highlighted vulnerabilities arising from leveraged trading and complex structures, leading to losses concentrated in a few globally active banks.[42] For instance, Archegos used total-return swaps to take large, highly concentrated positions in a small number of equities, often across multiple prime brokers that had limited visibility of the family office's aggregate exposures.[43] When the underlying stock prices fell and margin calls could not be met, the rapid unwinding of these positions triggered significant losses across several global banks, exposing weaknesses in counterparty risk management, collateral practices, and transparency of cross-border derivatives transactions.

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

40 In Q1 2020, deposits from foreign investment funds at Luxembourg banks increased by €5bn (+18%). Similarly, deposits held by Luxembourg funds at Luxembourg banks increased by €15bn in Q1 2020 (+14%). For a more detailed discussion, see Box A in the ECB/ESRB report "Financial stability risks from bank-NBFI linkages" (forthcoming) and sub-section 1.8.5 in Banque centrale du Luxembourg (2025), *Revue de Stabilité financière*.

41 Chen, R.; and E. Kemp (2023) Putting Out the NBFIRE: Lessons from the UK's Liability-Driven Investment (LDI) Crisis*, IMF Working Paper WP/23/210*, 29 September 2023.

42 FINMA (2023), FINMA concludes Greensill proceedings against Credit Suisse, Press Release, February; FINMA (2023), FINMA concludes Archegos proceedings against Credit Suisse, Press Release, July.

43 FSB (2024), *Liquidity Preparedness for Margin and Collateral Calls: Final report*, December.

2.5.4. *Portfolio overlaps and common asset exposures in selected jurisdictions*

A limited number of jurisdictions have conducted dedicated analyses of portfolio overlaps. Authorities with granular, security-level holdings data have applied cosine similarity, simple overlap ratios, and liquidity-weighted measures to quantify common exposures across sectors.[44,45] In some cases, these measures have been incorporated into stress-testing frameworks to assess potential price effects from asset sales and resulting valuation losses. In others, available data allow for descriptive or exploratory assessments focusing on key asset categories where overlapping holdings are most likely.

Survey responses indicate that portfolio overlaps between banks and non-bank entities are primarily concentrated in fixed-income instruments, notably sovereign and investment-grade corporate bonds, which serve as key assets for liquidity management, collateral use, and prudential requirements. In some jurisdictions, overlaps are domestically focused, reflecting home bias in sovereign and bank bond holdings, whereas in others, they extend to internationally traded sovereign securities such as U.S. Treasuries, euro area government bonds, or UK gilts. Insurance companies and pension funds tend to overlap with banks in long-maturity sovereign bonds, consistent with their asset-liability management strategies, while investment funds exhibit stronger overlap through short- and medium-term government or corporate bonds. Equities and other higher-risk assets play a limited role, as banks' equity holdings are generally small, while funds and insurers maintain more diversified exposures.

In some emerging markets, particularly where non-bank financial institutions such as finance companies or insurers are primarily domestically focused and subject to strict investment or leverage regulations, portfolio overlaps with banks are limited. These entities tend to invest largely in domestic government and corporate bonds and face restrictions on cross-border asset holdings, resulting in a lower degree of correlated exposures. In some financial centres, structural features, such as a large share of funds managed from abroad, limited domestic bank securities holdings, or captive insurers linked to non-resident groups, also explain low overlap across resident sectors.

More specifically, in the euro area, portfolio overlaps seem to be most pronounced in the sovereign bond space, especially between banks and ICPFs, with significant cross-country dispersion. In some euro area countries, there are also significant overlaps in equity holdings, e.g. between investment funds and banks. Corporate bond portfolios display generally less overlap across sectors. These patterns are illustrated in Graph 2-9, which shows portfolio overlaps by sector and jurisdiction.

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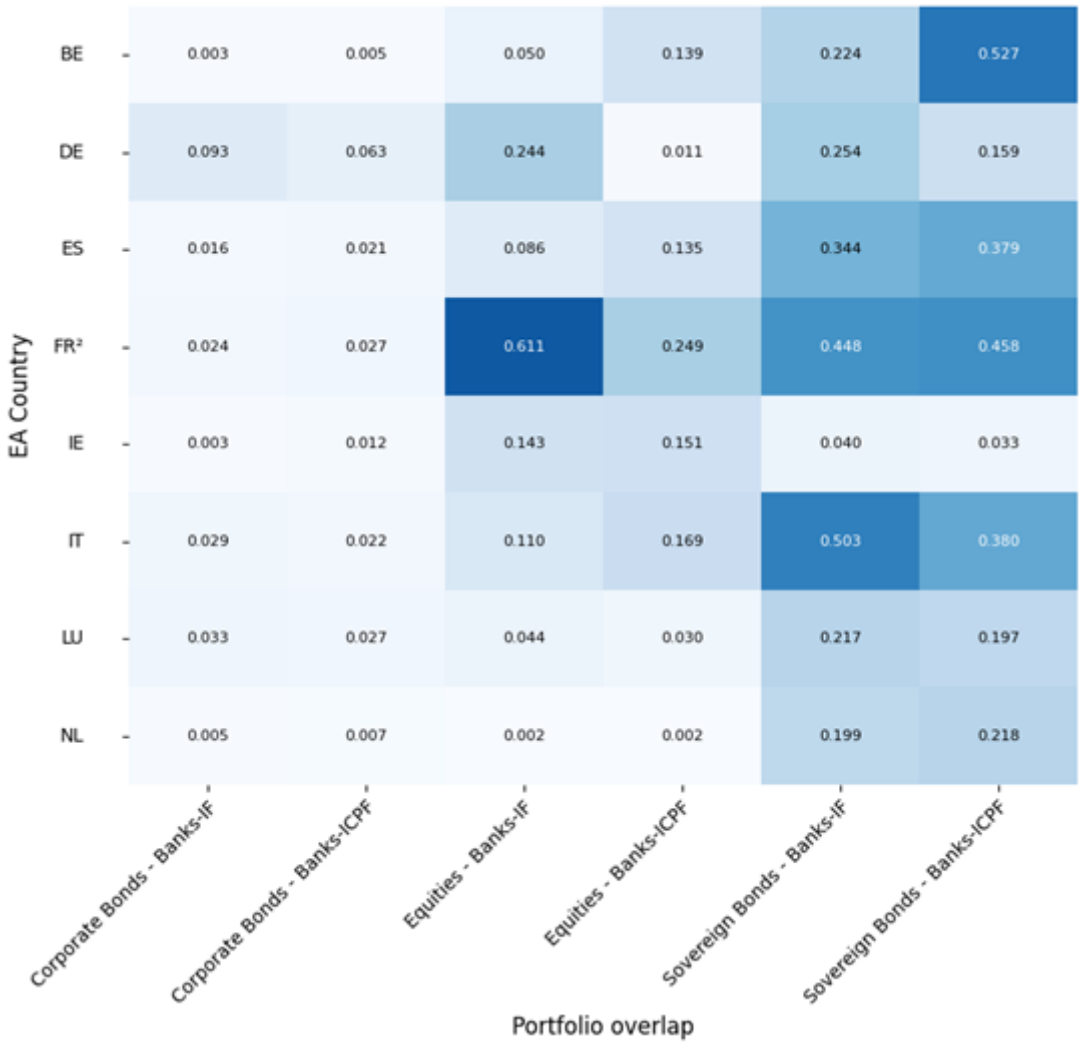
44 Monetary Authority of Singapore (2024), Fire Sale Contagion from Investment Funds under Liquidity Stress, *Financial Stability Review 2024*, Box C, November 2024; ECB (2020), The role of bank and non-bank interconnections in amplifying recent financial contagion, *Financial Stability Review*, Box 6, 19 May 2020.

45 Cosine similarity defined as $\cos(A,B) = \frac{A.B}{\|A\|.\|B\|}$ with $\|A\| = \sqrt{\sum_{k=1}^{n} A_k^2}$ measures the similarity of individual security holdings within a given asset class, irrespective of portfolio size. A value close to 1 means the two portfolios hold the same instruments in the same relative proportion, while a value close to 0 indicates limited common exposures. For example, if a bank has a $100 million portfolio, of which it holds $60 million in Asset A and $40 million in Asset B, while an investment fund has a $2 billion portfolio, of which it holds $1.2 billion in Asset A and $800 million in Asset B, the cosine similarity will be 1 because both entities allocate 60% and 40% to Asset A and B, respectively.

Portfolio overlap for the Euro Area[1]

Cosine similarity at Individual Securities Identification Number (ISIN)-level **Graph 2-9**



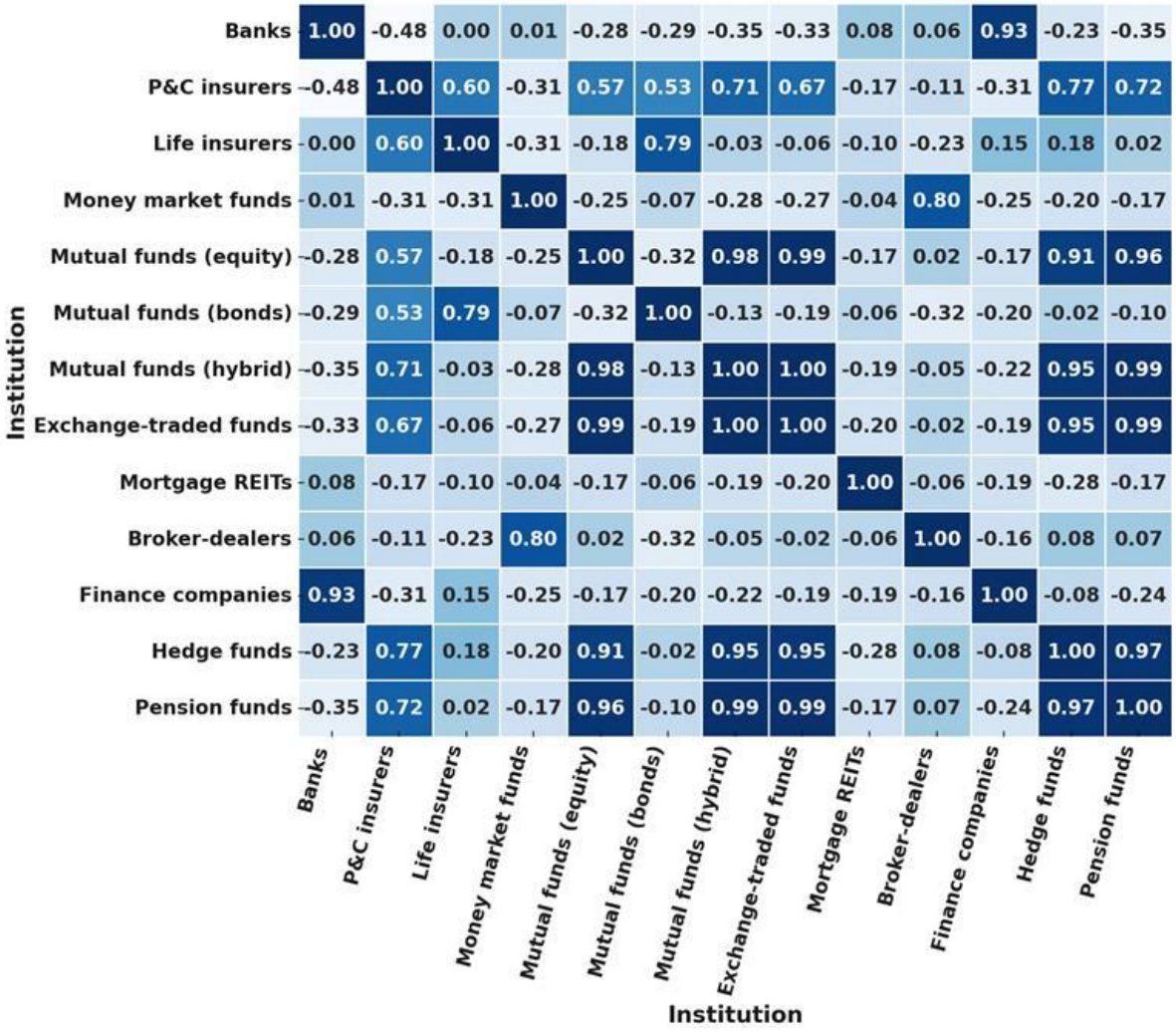
[1] Values represent cosine similarity scores computed at the ISIN level to assess portfolio overlap between sector pairs (banks vs investment funds, banks vs insurance and pension funds) within each jurisdiction. The measure compares normalised portfolio weight vectors across individual securities within three asset classes: corporate bonds, equities, and sovereign bonds. A score near 1 indicates substantial overlap in holdings, while values close to 0 suggest limited common exposures. The metric is size-independent, focusing solely on portfolio composition. [2] The relatively high equity portfolio similarity between French banks and French investment funds does not appear to stem from any unique characteristics of French investment funds. Rather, further analysis suggests that the equity portfolios of French banks are more closely aligned with those of euro area investment funds in general, a pattern that is less pronounced for other euro area banks.

Source: ECB Securities Holdings Statistics (SHSS), Q4 2024. Based on ISIN-level holdings for banks (S122), investment funds (S123–S124), and insurance corporations/pension funds (S128–S129). Asset categories include corporate bonds, equities, and sovereign bonds as defined in SHSS classifications. FSB calculations.

In the US, banks' linkages with NBFI entities via the portfolio overlap channel are highest with finance companies, with a correlation coefficient of 0.93 (coefficient close to +1 indicates highly similar portfolio structures, while values near 0 or negative suggest divergent asset allocations). For all other NBFI entity types covered in the analysis, the correlation coefficient with banks is much lower – withing a range of -0.48 to 0.08. Specifically, the second-highest degree of interconnectedness is with mortgage REITs (0.08), followed by broker-dealers (0.06).

Portfolio overlap for the US[1]

Correlation coefficient **Graph 2-10**



[1] The correlation coefficients shown in this analysis measure the degree of similarity between the portfolio compositions of major financial institution types. Each coefficient is calculated as the Pearson correlation between two institutions' normalized portfolio weight vectors, where portfolio weights represent the share of total assets held in each asset class. The normalisation ensures comparability across institutions of different sizes. A coefficient close to +1 indicates highly similar portfolio structures, while values near 0 or negative suggest divergent asset allocations.

Source: All underlying data are derived from the Federal Reserve's Financial Accounts of the United States (Flow of Funds, Z.1 release) for 2021:Q4, which report consolidated balance sheet exposures of U.S.-domiciled financial intermediaries. The correlation matrix is based on the "Cross-Holding Matrix" published in Cetorelli, Landoni, and Lu (2023), "Monitoring Banks' Exposure to Nonbanks: The Network of Interconnections Matters," Federal Reserve Bank of New York, Liberty Street Economics; FSB calculations.

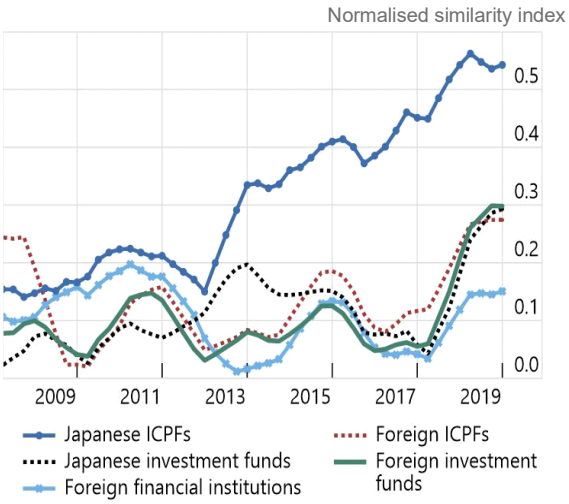
In Japan, linkages seem to be most pronounced between domestic financial institutions (banks) and ICPFs, which have been steadily rising since 2013, according to data up to the end of 2019 (Graph 2-11, LHS). Portfolio overlaps between domestic banks and foreign entities are less pronounced but have also increased since 2018, potentially reflecting a move towards more internationally oriented portfolios.[46]

[46] A confirmation of this finding can be seen in Chart V-2-4, left panel, of Bank of Japan (2025), *Financial Stability Report*, April.

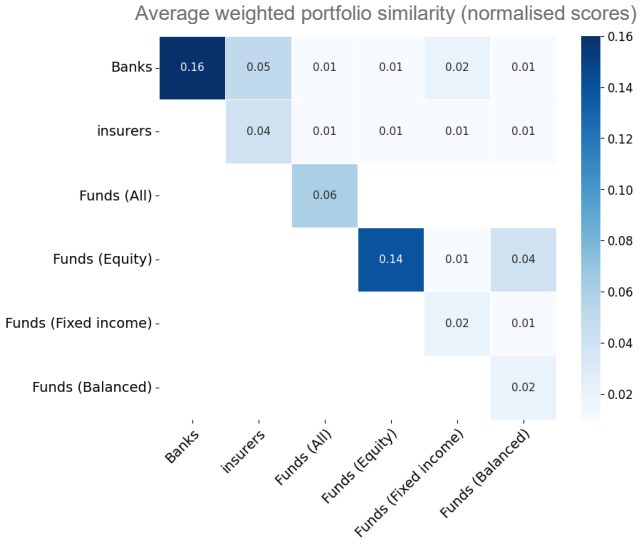
In Singapore, portfolios tend to be most similar within sectors, particularly among banks and equity funds (Graph 2-11, RHS), while cross-sector similarities remain limited. In particular, banks' and insurers' portfolios show little overlap with those of investment funds. Where overlaps do exist, they are largely confined to common holdings of Singaporean equities and sovereign debt.

Portfolio overlap analysis for Japan and Singapore **Graph 2-11**

Portfolio overlap between Japanese financial institutions and other entities[1]



Portfolio similarity across sectors in Singapore[2]



[1] Portfolio overlap is 4-quarter backward moving averages. Portfolio overlap is measured using a normalised similarity index ranging from 0 (no overlap) to 1 (identical portfolios). The graph illustrates the degree of portfolio similarity between Japanese financial institutions and other entities, including domestic insurance companies and pension funds (ICPFs), domestic investment funds, foreign financial institutions, foreign ICPFs, and foreign investment funds, over the period 2008 to 2019. The increase in overlap with domestic ICPFs since 2013 reflects a rebalancing of portfolios away from Japanese government bonds (JGBs) toward riskier assets, while the rising overlap with foreign investment funds highlights Japanese institutions' growing exposure to overseas securities. Latest data as the October-December quarter of 2019. For details, see BOX 5 of Bank of Japan's Financial System Report, April 2021, and Figure 4 in Hogen, Y., Y. Kasai, Y. Shinozaki (2025), Rise of NBFIs and the global structural change in the transmission of market shocks, *Journal of Financial Stability*, Volume 79, 101419. [2] Average weighted portfolio similarity (normalised scores). The table reports normalised similarity scores between 0 (no overlap) and 1 (identical portfolios) for the asset holdings of major financial sectors in Singapore as at end-December 2023. The diagonal entries show the average similarity of portfolios within each sector, which is below 1 because institutions in the same sector do not hold identical portfolios, indicating diversification within sectors.

Source: EPFR Global, Haver Analytics, BOJ; Mas; FSB calculations.

2.5.5. Data challenges in assessing NBFI interlinkages in selected jurisdictions

Survey responses highlight four recurring data challenges in analysing linkages between banks and non-bank entities.

Data availability and reporting

Many jurisdictions report difficulties in obtaining sufficiently detailed data on specific non-bank financial subsectors or instruments. In particular, granular counterparty and instrument breakdowns are often missing, especially for cross-border or offshore transactions. Regulatory data on private markets, such as private equity, private credit, and hedge funds, remain incomplete in several jurisdictions.

Significant cross-border data blind spots persist, as exposures of domestic banks to foreign hedge funds, private credit funds, or offshore affiliates are frequently excluded from local reporting frameworks or available only in aggregated form. Some authorities note that

derivatives, repo, and other securities financing transactions involving non-resident entities are only partially captured due to limitations in regulatory scope. Jurisdictions hosting large international financial centres also highlight that many domestic entities are managed from abroad, limiting access to transactional or counterparty-level data. In addition, regulatory and operational fragmentation, such as derivatives trades being cleared or reported in other jurisdictions, creates further challenges in tracing exposures and identifying foreign counterparties.

Several authorities also emphasise that data timeliness remains a constraint, particularly for funds and insurers reporting only annually or with long delays. During periods of market stress, higher-frequency data collections, such as daily or weekly mark-to-market valuations, are seen as necessary to better monitor liquidity pressures and potential contagion dynamics.

Data quality

Several authorities cite data-quality issues, including missing or inconsistent ISIN-level reporting for securities and collateral in derivatives and securities-financing datasets, which constrains the integration of exposures across markets. Basic data-entry and aggregation errors are also reported, particularly where reporting entities differ in technical capability and data-management systems. Even where datasets are robust and validated, delayed or infrequent reporting can reduce their usefulness for near-real-time financial-stability monitoring.

Finally, many jurisdictions underline that assessing portfolio overlaps and correlated exposures remains challenging due to non-harmonised identifiers, inconsistent sector classifications, and infrequent reporting.

Data use

Authorities emphasise the need for more harmonised, frequent, and integrated datasets to assess vulnerabilities in the NBFI sector, as current analysis remains resource-intensive and hindered by inconsistent classifications across datasets.

A few authorities successfully use large granular datasets for financial-stability analysis. Even where such data exist, their analytical use for financial-stability monitoring remains constrained by several factors. Linking datasets across reporting regimes (e.g. derivatives, securities financing transactions and securities-holdings databases) remains difficult and resource-intensive, as extensive reconciliation work is required when identifiers or classifications are not harmonised. The absence of established methodologies for assessing systemic interlinkages, pricing derivatives, or quantifying margin calls further limits the ability to exploit available data effectively.

Some authorities also note limited visibility over cross-sector exposures when institutions hold their own assets in custody. The absence of standardised analytical frameworks and delayed data reporting further hampers the regular monitoring of exposures and contagion channels.

Data sharing

Legal and operational barriers to data sharing remain a recurring challenge. Several authorities note that confidentiality restrictions limit the exchange of granular microdata, particularly across borders. In many jurisdictions, existing frameworks allow data sharing among domestic agencies but prohibit the cross-border exchange of transaction- or entity-level information. The absence of harmonised identifiers and the use of divergent reporting templates further complicate cross-jurisdictional data integration. Some respondents also stress that enhancing the sharing of existing official datasets across jurisdictions would add more value than obtaining additional commercial data sources.

3. The Narrow Measure of NBFI

This section explores the narrow measure of NBFI in greater detail. The narrow measure consists of NBFI entities involved in credit intermediation activities that could give rise to bank-like vulnerabilities. This section presents trends and vulnerability metrics for each of the five EFs within the narrow measure (see Annex 6 for a description of the metrics). Each EF contains multiple entity types and, where data permits, this section explains business model and vulnerability specificities (see also Graph 1-6, in section 1.3). This year's report also includes relevant findings from the FSB's securitisation evaluation report (see Box 3).[47]

3.1. Collective investment vehicles with features that make them susceptible to runs (EF1)

EF1 comprises collective investment vehicles with features that make them susceptible to runs (in particular fixed income funds,[48] mixed funds,[49] short-term government MMFs, non-government/longer maturity MMFs, credit hedge funds, and mREITs). Collective investment vehicles are a means for investors to efficiently diversify risk exposures by pooling their resources with those of other investors to purchase portfolios of assets. Collective investment vehicles can dampen shocks to the financial system by distributing losses from a stress event across several investors. However, some collective investment vehicles that engage in maturity and/or liquidity transformation or employ leverage can become susceptible to liquidity pressures because of heightened investor redemption requests or margin call dynamics, which may cause these vehicles to sell assets at a significant discount and potentially amplify liquidity strains in times of stress.[50] In many jurisdictions, structural features of EF1 entities help mitigate potential liquidity pressure and run-risk dynamics. Moreover, policy tools to further address potential liquidity and other vulnerabilities are also available in many jurisdictions.[51] The FSB's approach in this report is, however, to look at vulnerabilities on a pre-mitigant basis to maximise comparability across jurisdictions.

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47 FSB (2025), *Evaluation of the Effects of the G20 Financial Regulatory Reforms on Securitisation: Final report*, January.

48 Including fixed income exchange-traded funds (ETFs).

49 Including mixed ETFs.

50 See FSB (2024), *Enhancing the Resilience of Nonbank Financial Intermediation: Progress report*, July.

51 See Box 2-1 in FSB (2023), *Global Monitoring Report on Non-Bank Financial Intermediation 2023*, December.

3.1.1. EF1 asset growth

In 2024, almost all entity types experienced growth, with notable increases in fixed income funds and short-term government MMFs. Other funds also grew, although this was primarily driven by the growth of open-ended collective money trusts in China (Graph 3-1). Fixed income funds continued to account for the largest proportion of EF1 (23.2%), followed by MMFs (short-term government, non-government or longer maturity, and undefined, 10.7%, 3.2% and 6.9%, respectively, for a total of 20.8%), credit hedge funds (17.5%), and mixed funds (15.5%). Consigned financial planning entities are found only in China, where they represented the main EF1 entity type (40.6% of Chinese EF1 assets) and experienced a 10.5% increase.[52]

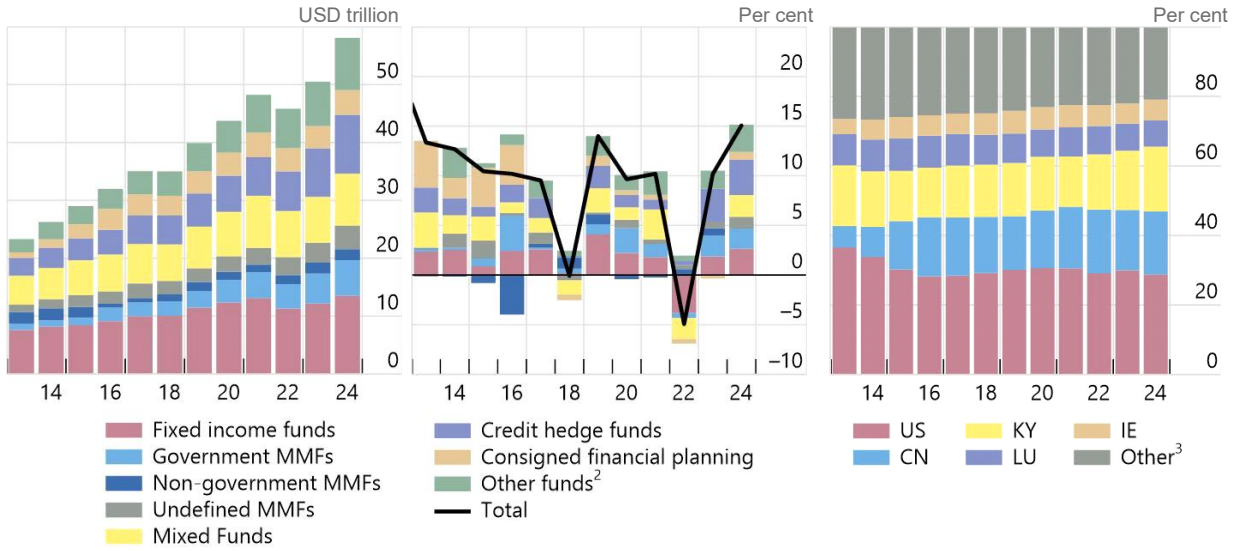
EF1 growth was also widespread across all jurisdictions. EF1 growth rates above 20% were experienced in several advanced economies (Hong Kong, Italy, and the Cayman Islands) and emerging market economies (Chile, China and Mexico). These growth rates largely reflected investor appetite given the respective interest-rate environments. Hong Kong registered a 47.4% increase, driven by net MMF inflows during the year as a result of investor appetite in the prevailing high-interest rate environment. Italy's growth of 20.2% was mainly driven by inflows into fixed income funds, given their relatively attractive yields. Chile's 26.1% growth was driven by inflows against a backdrop of growing aggregate savings in 2024. Mexico's 20.1% growth was driven by inflows into fixed income funds, likely due to investors seeking to lock in higher yields amid the decreasing interest rate environment. Graph A1-19 in Annex 1 provides an overview of EF1 growth across jurisdictions. The United States continued to account for the largest share of EF1, followed by the Cayman Islands, China, Luxembourg, and Ireland – together accounting for 79.0% of EF1 assets (Graph 3-1, RHS).

[52] 'Consigned Financial Planning' is a product offered by commercial banks to their customers. The product's assets are managed by the bank or an asset management subsidiary. Since these assets do not contribute to the banks' capital requirements, consigned financial plannings are classified in the narrow measure conservatively, in agreement with Chinese authorities.

Economic Function 1

29-Group **Graph 3-1**

EF1 by entity type[1] | Contributions to EF1 growth | EF1 by jurisdiction



[1] Includes data for Russia up until 2020. [2] Other funds include investment funds not displayed separately, such as referenced investment funds, external debt investment funds, equity funds, currency funds, asset allocation funds, other closed-end funds, and funds of funds. Equity funds include open-ended equity funds holding more than 20% credit assets. [3] Other jurisdictions in *29-Group* not displayed separately.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

3.1.2. EF1 vulnerability metrics

Several vulnerability metrics remained elevated for MMFs, fixed income funds, and mixed funds. Measures of liquidity transformation remained elevated for mixed funds, government and non-government/longer maturity MMFs, and fixed income funds (Annex 1, Graphs A1-20 and Graphs A1-21). MMFs and fixed income funds do not invest in equity instruments and therefore also have elevated levels of credit intermediation. Fixed income funds displayed higher levels of maturity and liquidity transformation than mixed funds and non-government/longer maturity MMFs, because mixed funds typically allocate a smaller proportion of assets to credit assets, and non-government/longer maturity MMFs have limits on the maturity and creditworthiness of assets that they hold. Balance sheet leverage remained relatively low for all EF1 fund types (Annex 1, Graph A1-20).[53] Hedge funds' leverage metrics are published by the International Organization of Securities Commissions (IOSCO) on an annual basis.[54]

Distributional data for the metrics were reported by up to 17 jurisdictions, which helps in assessing vulnerabilities in the tail. Graph 3-2 shows the distribution of each metric across jurisdictions. The main takeaways from this data remained fairly constant year-on-year:

[53] For EF1 entities, balance sheet leverage is measured as total financial assets under management (AUM) / net asset value (NAV)

[54] Therefore, jurisdictions' 2025 submissions did not include vulnerability metrics for credit hedge funds in the narrow measure. Nb, IOSCO leverage metrics include synthetic leverage. IOSCO (2024), *Investment Funds Statistics Report*, January.

- In almost all jurisdictions, credit intermediation was concentrated for MMFs and widely distributed for mixed funds.[55] In a few jurisdictions, fixed income funds' credit intermediation exhibited long tails, mostly because they invested indirectly in credit assets via other funds.

- In most jurisdictions that reported data, maturity transformation in fixed income funds was high overall,[56] while that of mixed funds displayed dispersed levels. Maturity transformation was compressed in MMFs, except for one jurisdiction which showed highly dispersed tails.

- MMFs' liquidity transformation risk metrics displayed a range of values across and within jurisdictions. This may indicate diversity among individual fund holdings. High-liquidity transformation for fixed income and mixed funds was present in most jurisdictions.

- The majority of jurisdictions reported relatively low leverage across all EF1 entity types; however, there were a couple of outlier jurisdictions in the case of mixed funds.[57]

- Some of the dispersion between jurisdictions may also reflect challenges faced by some participating authorities with respect to data quality and the application of definitions.

- Vulnerability metrics were also collected for other EF1 entities which were not categorised as MMFs, fixed income funds, mixed funds, or hedge funds (Graph A1-22). The expanded data collection is intended to support providing a more complete dataset on vulnerability metrics. However, given the heterogeneous nature of the grouping – as illustrated by the varied metric values, with high balance sheet leverage and liquidity transformation for some of these fund types – it is difficult to fully assess the nature of the vulnerabilities.

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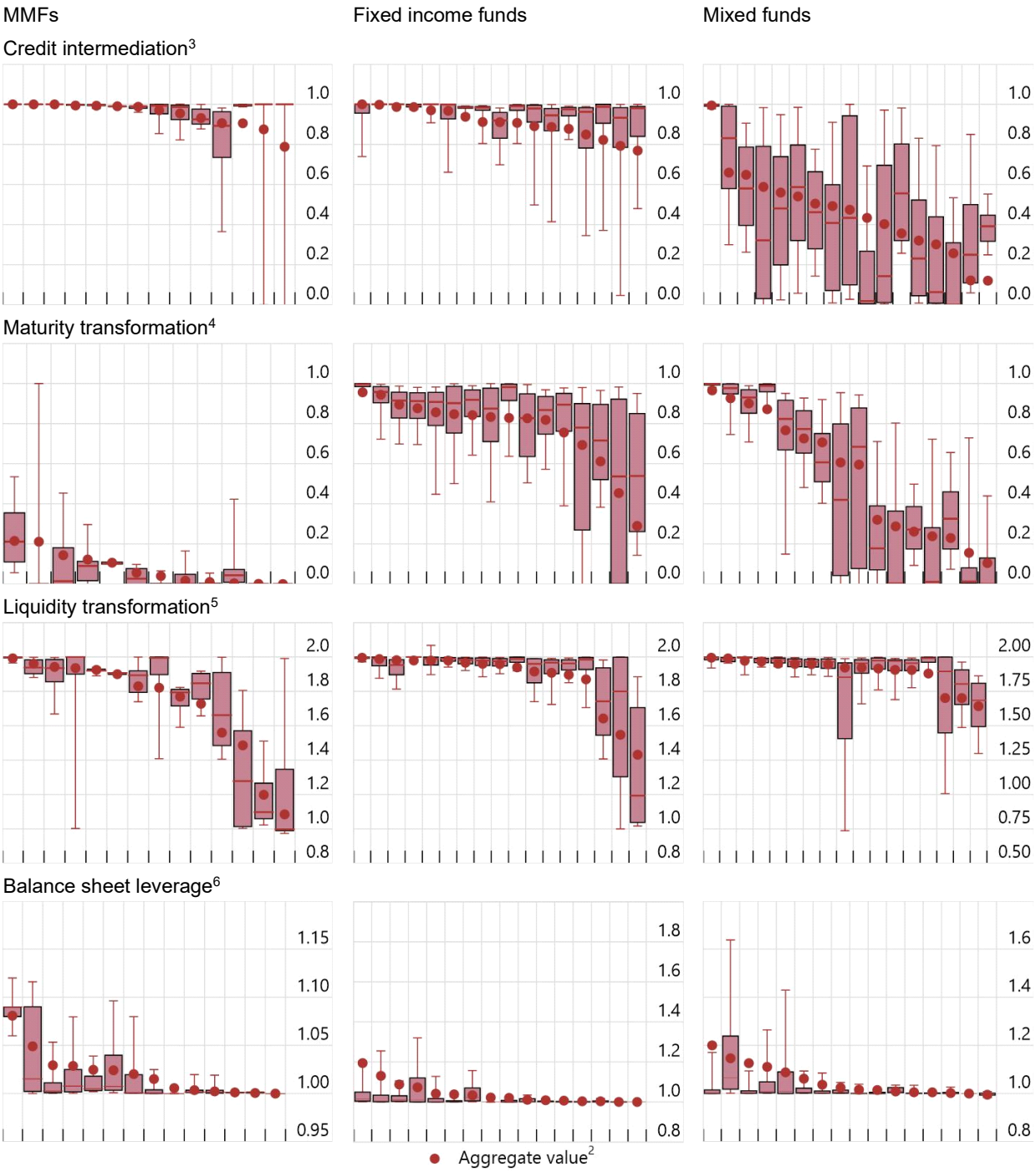
55 Mixed funds are investment funds that invest in a mix of equity and fixed income instrument classes. Funds with at least 20% of AUM invested in credit assets are considered to perform sufficient credit intermediation to be considered for inclusion in the narrow measure.

56 Fixed income funds making use of other funds to invest in credit assets exhibited lower levels of maturity transformation.

57 Such cases may be due to reporting approaches: for instance, some jurisdictions include all EF1 funds that are not fixed income funds, MMFs, or hedge funds, in the mixed funds category, while others include only those funds corresponding to the mixed funds definition of their respective statistical reporting

EF1 vulnerability metrics within jurisdictions[1]

Graph 3-2



Each box plot represents a jurisdiction's data submission and reflects data from many individual entities within that jurisdiction. Box plots show medians, interquartile ranges, and 10th-90th percentiles

[1] Jurisdictions have been anonymised. [2] Vulnerability metric calculated using a jurisdiction's aggregated balance sheet data. [3] Credit assets / AUM (CI1). [4] (Long-term assets – non-redeemable equity – long-term liabilities) / AUM (MT1). [5] (AUM – liquid assets + short-term liabilities + redeemable equity) / AUM (MT1). [6] AUM / Net Asset Value (leverage 1).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

3.2. Loan provision dependent on short-term funding (EF2)

EF2 entities engage in loan provision that is typically dependent on short-term funding. Finance companies, the long-standing dominant EF2 entity type, often specialise in areas such

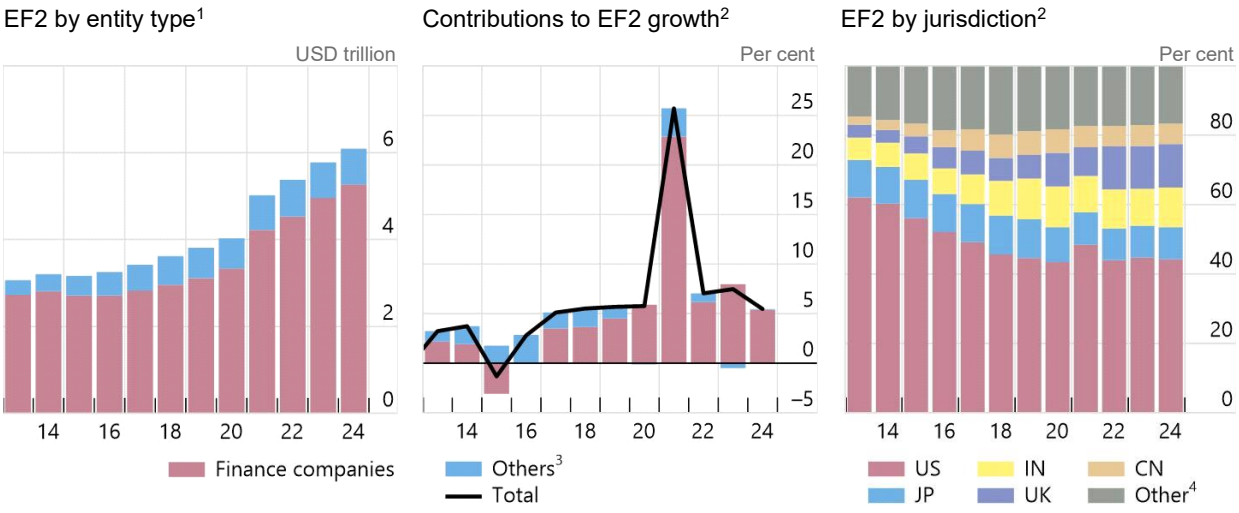
as consumer finance, auto finance, retail mortgage provision, commercial property finance, and equipment finance. Entities engaged in these activities tend to either compete with banks or offer services in niche markets where banks are not active players and often concentrate their lending activities in specific sectors partly because of their expertise. As a result of such specialisation, companies may become highly exposed to cyclical sectors. Finance companies that rely on short-term or wholesale funding may amplify cycles in these sectors or serve as a means of shock transmission to the sectors they serve, if they are unable to roll over these short-term liabilities. Further, finance companies that offer deposit-like products to the retail sector may raise further risks for households and creditors, especially as such products may not be covered by jurisdictions' deposit insurance schemes and may be susceptible to runs. Where data permit, finance companies that are prudentially consolidated into banking groups are excluded from EF2. Finally, recent FSB work has highlighted that finance companies holding CRE loans may be particularly vulnerable to CRE losses. This year's data collection exercise therefore sought to begin improving the analysis of potential lending provided by finance companies to CRE – the results are summarised in box 2.

3.2.1. EF2 asset growth

Global EF2 assets grew 5.5% in 2024 and reached $6.1 trillion (Graph 3-3, LHS). The United States contributed around one third of the global EF2 asset growth, followed by India and the United Kingdom – reflecting the large share they held of EF2 assets (these three jurisdictions held 68.2% of total EF2 assets). The positive trend was observed globally, with only a few exceptions: Germany, Hong Kong, and Indonesia reported notable declines of -31%, -22.7%, and -12.6%, respectively.

Finance companies continued to be the main contributor to EF2 asset growth

29-Group **Graph 3-3**



[1] Includes data for Russia up until 2020. [2] The increase in 2021 reflects a structural break in the United States data as the approach here is to benchmark to a comprehensive 5-year survey; absent these structural changes, EF2 asset growth in the US in 2021 would have been roughly flat. [3] Includes more granular finance company types, such as leasing companies or mortgage lending companies but only for a few jurisdictions, therefore grouped together. [4] Other jurisdictions in 29-Group not displayed separately.

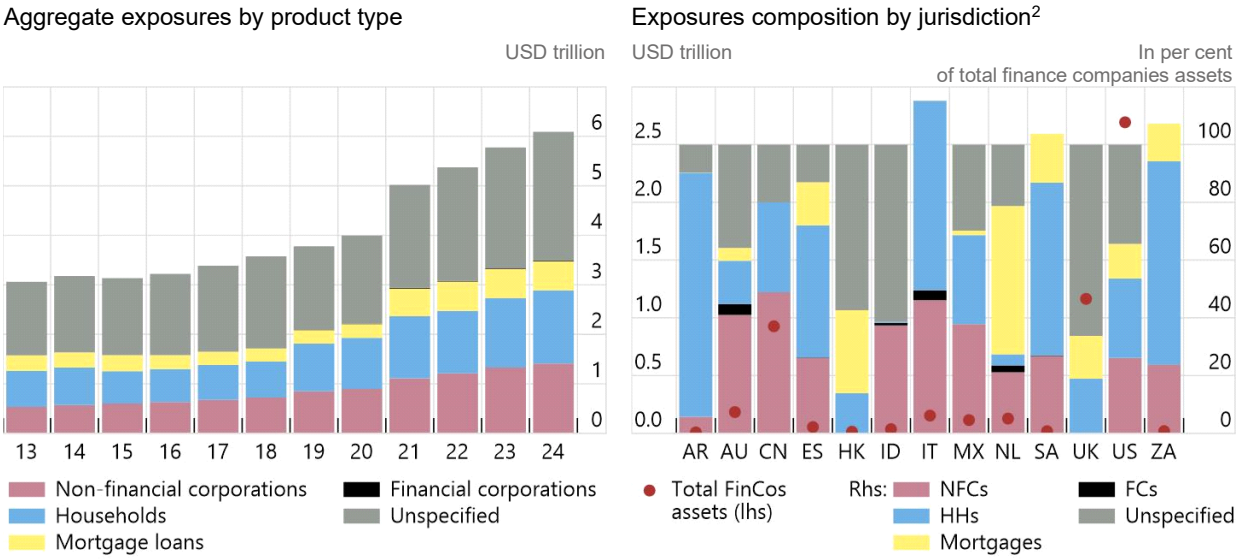
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Starting with the 2025 global monitoring exercise, some jurisdictions began contributing granular EF2 exposures by product type to enhance understanding of the lending activities conducted by EF2 entities. The new data shows that – of the identified exposures – the increase in EF2 lending can largely be attributed to increased lending to Non-Financial Corporations and households (Graph 3-4, LHS), which accounted for 25.6% and 23.1% of the overall growth in 2024, respectively.

In aggregate, loans to households (excluding mortgages) represented the largest share of identified activity, comprising 42.3% of identified exposures, followed by loans to Non-Financial Corporations at 40.4%, and mortgage loans at 16.9%. Loans to Financial Corporations, however, were negligible, accounting for just 0.5% of identified exposures. This breakdown primarily reflects the composition of exposures in the United States and, to a lesser extent, China, as their size significantly influences the global picture. In the United States, finance companies play a key role as a source of debt, providing substantial financing to both consumers and businesses. Although mortgage credit constitutes only a modest portion of their portfolios, finance companies account for a significant share of residential mortgage originations. Their business lending portfolios include credit and leases to finance inventory (such as car dealerships), accounts receivable, and the acquisition of motor vehicles and equipment. However, the predominant lending activities vary considerably across jurisdictions (Graph 3-4, RHS). For example, in Hong Kong and the Netherlands, residential mortgage lending represents the largest category. This could be driven by high property prices, investment preference and low default rates[58], which make such lending particularly attractive in these jurisdictions.

EF2 exposures[1]

Graph 3-4



[1] The increase in 2021 reflects a structural break in the United States data as the approach here is to benchmark to a comprehensive 5-year survey; absent these structural changes, EF2 asset growth in the US in 2021 would have been roughly flat. [2] Totals greater than 100% reflect differences in data sources and/or methodologies used by jurisdictions to measures EF2 exposures compared to finance companies' total financial assets.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

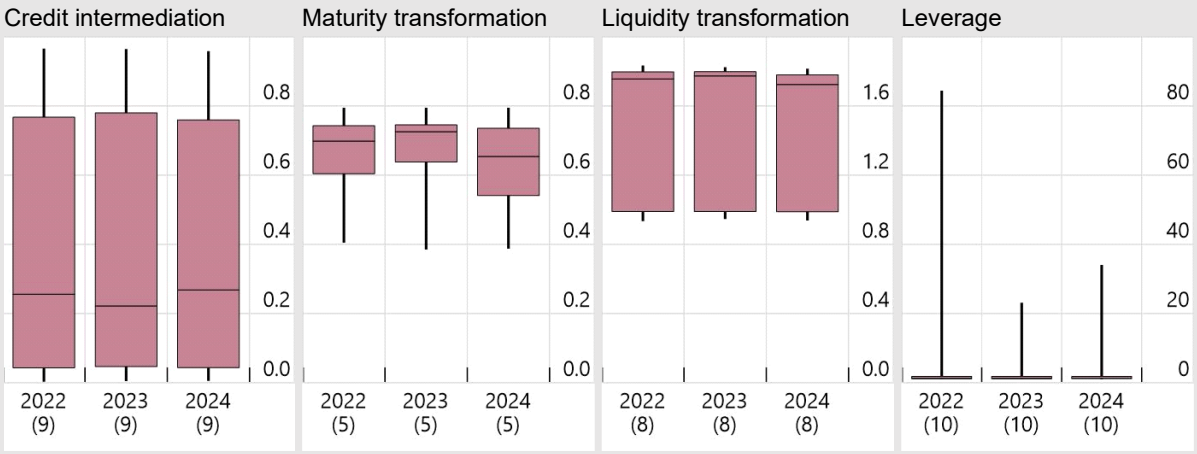
[58] Committee on the Global Financial System (2023), *Macroprudential policies to mitigate housing market risks*, December.

Box 2: Exposures to real estate

In June 2025 the FSB published a report on vulnerabilities in non-bank commercial real estate (CRE) Investors.[59] The report sought to provide an overview of non-bank entities investing in CRE and assess their vulnerabilities. Because of data limitations, the report focused its assessment of vulnerabilities on real estate investment trusts and property funds. It identified vulnerabilities linked to liquidity mismatches in open-ended funds, pockets of highly leveraged entities, and valuation uncertainty and lagged loss recognition. In this year's monitoring exercise, participating authorities provided, for the first time, vulnerability metrics for real estate investment trusts and funds (REITFs) classified into EF1. Graph B1 suggests, in line with previous findings, that liquidity transformation among REITFs is relatively high, and that there is a pocket of REITFs with high levels of leverage.

Vulnerability metrics for REITFs

Ratios for the last three years — **Graph B1**



Notes: REITF is for real estate investment trust and fund. The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. The sample size, in bracket, indicates the number of jurisdictions submitting the relevant data. Each jurisdiction's data submission reflected data from many individual entities within that jurisdiction.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

This GMR attempts to identify the most important non-bank market participants, a key data gap. The FSB's CRE report published in June identified several data gaps linked to (1) CRE market data; (2) the identification of all CRE market participants; (3) the details of the exposure to CRE on the asset side of balance sheets; (4) the counterparts on both sides of the balance-sheets; and (5) banks' range of exposures to CRE. This year's GMR collected data on both mREITFs and eREITFs (including those classified as non-financial corporations under the system of national accounts (SNA)), as well as on EF2 entities' exposures to real estate (as a proxy for finance companies' exposure). The objective was to provide a more comprehensive overview of exposures to real estate, in particular CRE.

Graph B2 provides the overview of non-bank exposures to real estate and suggests that eREITFs are the dominant entity at global level. mREITFs appear relevant in five jurisdictions: Brazil, Canada, Korea, the Netherlands, and the United States.[60] Mortgage loans provided by finance companies seem to be material in a few jurisdictions only: the Netherlands, the United Kingdom, and the United States. The overall exposure to real estate amounts to $4.4 trillion.

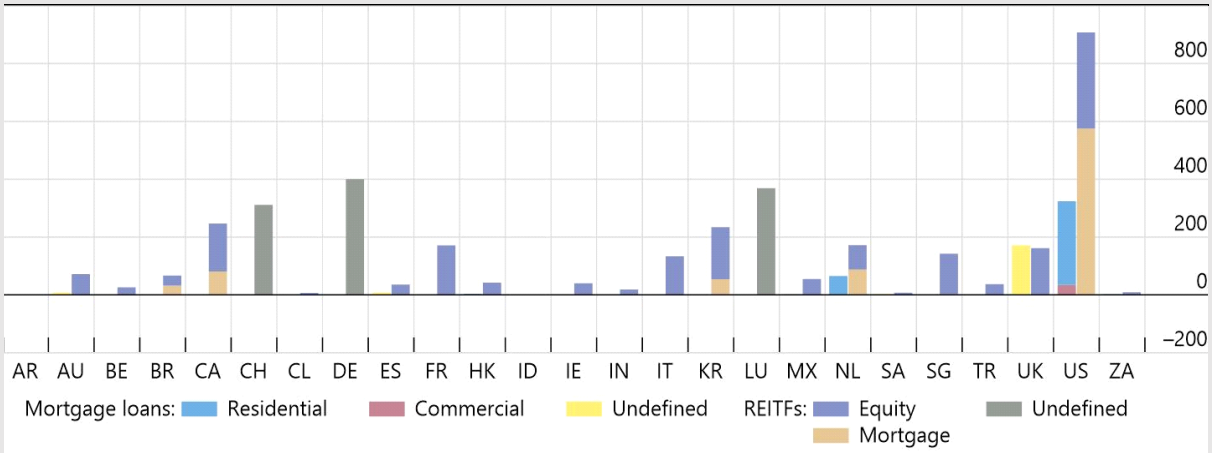
59 FSB (2025), *Vulnerabilities in Nonbank Commercial Real Estate Investors*, June.

60 For Canada, these comprise mortgage finance companies (MFCs) and mortgage investment companies (MICs).

Non-bank real estate investors

In USD billion

Graph B2



Notes: REITF is for real estate investment trust and fund. The mortgage loans were collected for entities classified into EF2 and therefore do not include mortgage loans held by other entities (such as the broader 'finance companies' sector or REITs).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

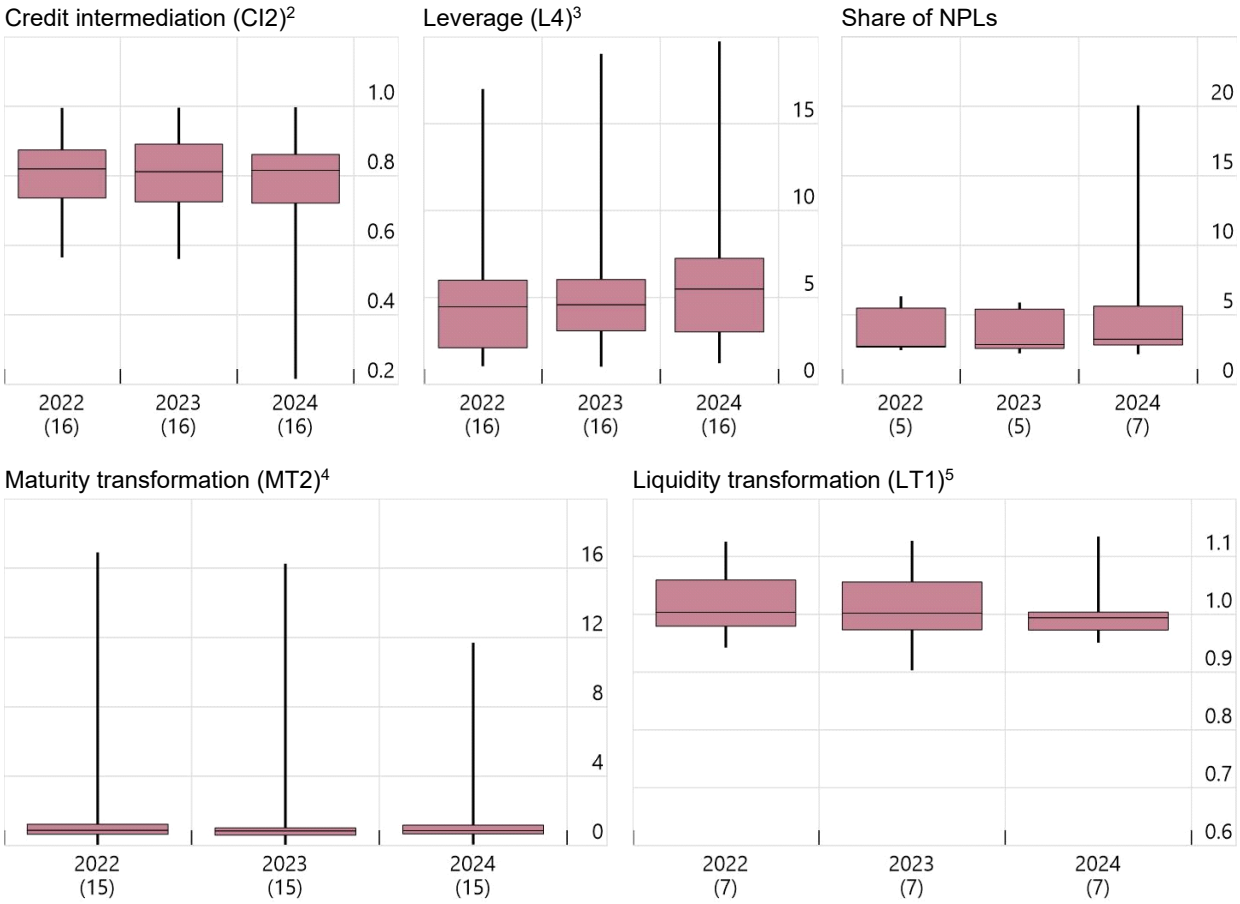
3.2.2. EF2 vulnerability metrics

Finance companies' leverage remained high in several jurisdictions (Graph 3-5).[61] Across the jurisdictions which reported data, loans represented on average 66.7% of total finance companies' assets, reflecting their business models. Median maturity transformation slightly increased in 2024. At the same time, out of 15 reporting jurisdictions, four exhibited decreases in this metric, including the jurisdiction with the highest level of maturity transformation in 2023. This reduced the range for the metric and highlights that finance companies possibly decreased the duration of the loans they issued. Already elevated leverage levels further increased, with large variations in the distribution, notably because of highly leveraged entities (among OFIs, finance companies also exhibited the highest debt-to-asset ratio, Graph 2-5, RHS). In 12 jurisdictions out of the 16 which reported data, total liabilities were more than three times higher than equity. The level of liquidity transformation was close to one in most reporting jurisdictions and slightly lower than the previous year across them, reflecting the fact that finance companies' assets are not liquid in most cases. Seven jurisdictions also reported data on NPL ratios showing an increase in this metric. While the upper tail of the distribution became substantially longer, this was due however to one jurisdiction providing data for 2024 but not for previous years.

61 Leverage for finance companies is measured as total liabilities / equity.

Vulnerability metrics for finance companies were stable over the three previous years[1]

Ratios for the last three years **Graph 3-5**



The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. Changes in the distribution across years might be related to changes in the sample of jurisdictions that provided data.

[1] The sample size indicates the number of jurisdictions submitting the relevant data. Each jurisdiction's data submission reflected data from many individual entities within that jurisdiction. [2] Loans / total financial assets (CI2). The sample of reporting jurisdictions in 2024 represented 89% of FinCos' total assets. [3] Total liabilities / equity (L4). The sample of reporting jurisdictions in 2024 represented 89% of FinCos' total assets. [4] Short-term liabilities / short-term assets (MT2). The sample of reporting jurisdictions in 2024 represented 88% of FinCos' total assets [5] (Total financial assets - liquid assets (narrow) + short-term liabilities) / total financial assets (LT1). The sample of reporting jurisdictions in 2024 represented 60% of FinCos' total assets.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

The use of short-term wholesale funding by finance companies remained largely the same in 2024 for most jurisdictions, with only one notable increase. Finance companies in Hong Kong became even more heavily dependent on short-term wholesale funding by 4.5 percentage points, reaching a share of 82.8% (See Annex 1, Graph A1-23 for EF2 use of short-term wholesale funding).[62] Overall, in six jurisdictions, short-term wholesale funding represented more than 20% of finance companies' total assets.

Starting with the 2024 global monitoring exercise, some jurisdictions contributed percentile data for the vulnerability metrics of EF2 entities. While the number of jurisdictions

[62] For Hong Kong, the ratio of short-term assets to short-term liabilities of finance companies continued to be close to 1 in 2024, which means little maturity transformation.

providing this information has increased for the 2025 exercise, only a few jurisdictions are able to provide such data. Data collected are presented in Annex 1, Graph A1-24 and suggest some pockets of highly leveraged entities and entities with significant maturity transformation. Distributions for credit intermediation suggest a wide dispersion.

3.3. Intermediation of market activities dependent on short-term funding (EF3)

EF3 consists of intermediation activities dependent on short-term funding, including secured funding of client assets, and securities financing transactions. EF3 activities are overwhelmingly performed by broker-dealers, which accounted for 98.1% of EF3 assets, while the remaining 1.9% were custodial accounts and securities finance companies (Graph 3-6, LHS). Broker-dealers fulfil several important functions, including providing short-term credit to their clients in covering their positions, supplying liquidity through market-making activities, facilitating trading activities, providing brokerage or investment advice to clients, publishing investment research, and helping raise capital for corporations. Data permitting, broker-dealers that are owned by, and hence prudentially consolidated into, banking groups are excluded from EF3 and the narrow measure. Given that broker-dealers are the predominant EF3 entity type, the vulnerability metrics analysed in this section focus exclusively on broker-dealers.[63]

Broker-dealers are a critical part of financial intermediation chains, in particular by facilitating other entities' trading in securities and providing liquidity to securities markets. Any vulnerabilities materialising in this sector, therefore, have the potential to spread quickly through the financial system, especially during periods of already scarce market liquidity. As a result, broker-dealers may face vulnerabilities as they use leverage or engage in a significant degree of maturity and liquidity transformation. Based on median leverage metrics across the 29-jurisdictions, broker-dealers do employ higher leverage than other economic function entities and such vulnerabilities could amplify shocks or cause them to spill over to impact the wider economy.[64] Broker-dealers may also be vulnerable to roll-over risk or runs by lenders if they are leveraged, particularly if their funding is primarily dependent on short-term market-based funding (e.g. repos). As covered in section 2.3, if financial leverage is not properly managed it creates a vulnerability that can propagate strains through the financial system. For example, leveraged investors may amplify and propagate shocks if they unwind positions quickly to raise cash. Thus, broker-dealers may be exposed more generally to the risk of dysfunction in short-term funding markets, particularly when counterparty risk management practices are insufficiently robust.

3.3.1. EF3 assets exhibited the second-largest percentage growth of any EF in 2024

EF3 total assets experienced growth of 5.8% to $4.9 trillion in 2024, following the 11.7% increase recorded in 2023 (Graph 3-6, LHS). EF3's share in total narrow measure assets stood at 6.4%, making it the second smallest economic function by asset size. Assets of broker-dealers

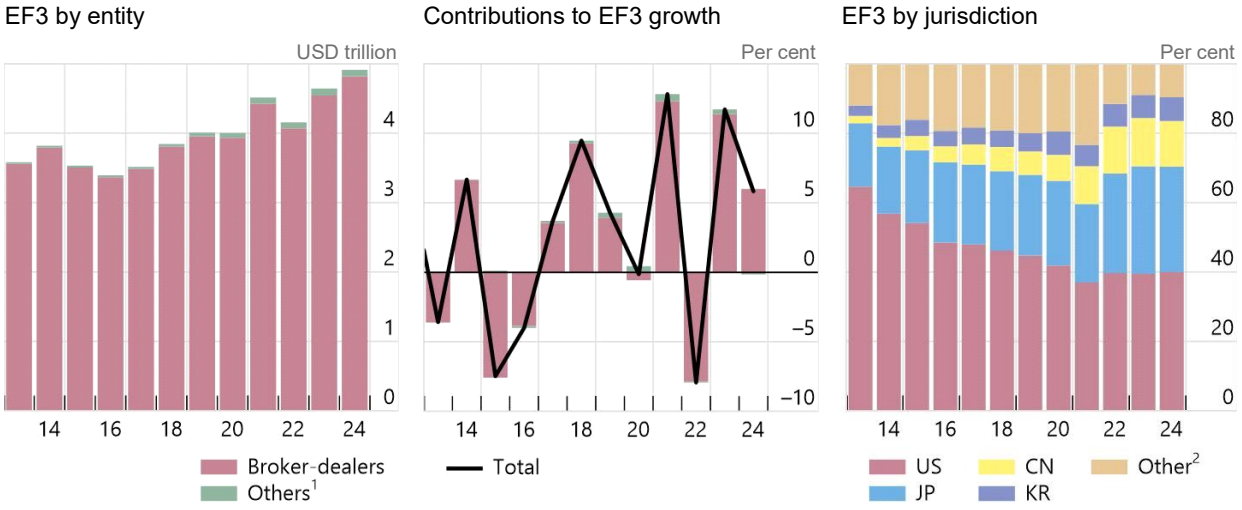
63 Due to data limitations, vulnerability metrics for some jurisdictions include broker-dealers that are prudentially consolidated.

64 In some jurisdictions, these vulnerabilities of broker-dealers are generally mitigated by the fact that the transactions are secured with liquid securities (i.e. securities that have a ready market) as collateral, and the balance sheets of the broker-dealers are composed almost exclusively of cash and liquid securities.

prudentially consolidated into banking groups were 60.9% of total broker-dealer assets and were not included in EF3 or the narrow measure. The four largest jurisdictions by EF3 assets (the United States, Japan, China and Korea) accounted for 90.3% of total EF3 assets (Graph 3-6, RHS).

Broker-dealers' assets increased in 2024

29-Group **Graph 3-6**



[1] Others include securities finance companies and dealers. [2] Other jurisdictions in *29-Group* not displayed separately.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

The United States contributed 49.1% to EF3 asset growth, and combined with Japan, China, and Korea, accounted for 79.6% of total growth of EF3 assets. For 2024 advanced economies contributed the most to total percentage growth. EF3 assets in EMEs grew at a slightly slower rate (3.0%) than assets in AEs (6.4%) and the EME share of total EF3 assets remained low at 15.2%. Among AEs, the highest share of EF3 asset growth was attributed to the United States and its share in global EF3 assets increased to 40.0%. Four advanced economies recorded a decrease in EF3 assets in 2024 (France, Luxembourg, the Netherlands, and Italy); meanwhile all EMEs except Brazil, recorded positive growth.[65]

3.3.2. EF3 vulnerability metrics exhibited mixed trends

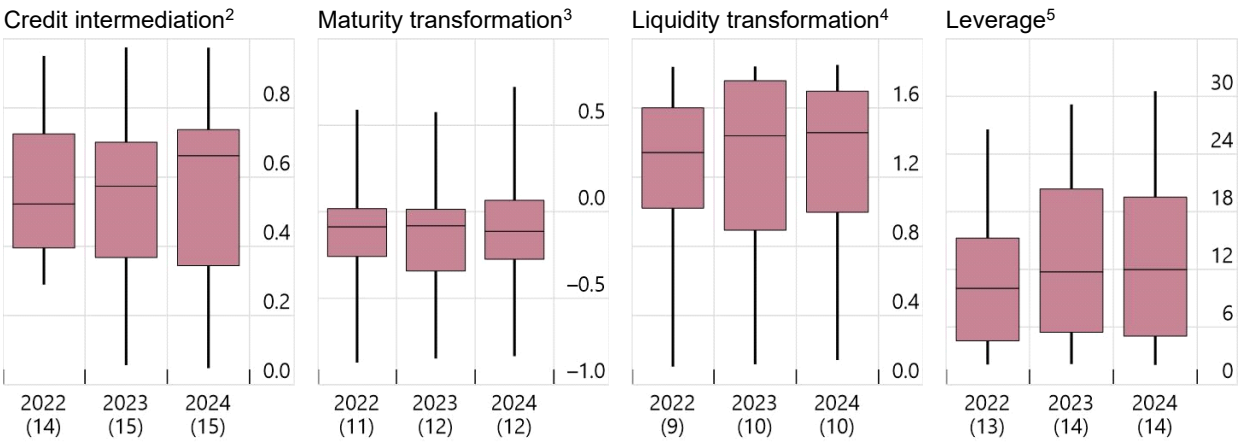
Broker-dealers' credit assets continued to grow in 2024 (5.3%), compared to the 5-year average growth rate of 7.2% between 2019 and 2023. Similarly, broker-dealer loan assets grew 5.2% in 2024; the average growth rate for the preceding five-year period was 12.0%.

Aggregate vulnerability metrics displayed an increasing trend in credit intermediation, liquidity transformation, and leverage (Graph 3-7). Median liquidity transformation increased to 1.34 in 2024 from 1.26 in 2022. This indicates increases in short-term liabilities and/or declining liquid assets. Liquid assets, defined as cash-like instruments, likely decreased due to lower interest rates, which made holding these assets less attractive.

65 The decrease in Brazil was mainly due to the merger of two EF3 entities within the same financial group, as part of an internal restructuring process, and to a reduction in market activities by one significant firm.

Vulnerability metrics in 2024

Vulnerability metrics for broker-dealers[1] **Graph 3-7**



The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. Changes in the distribution across years might be related to changes in the sample of jurisdictions that provided data.

[1] The number in parentheses indicates the number of jurisdictions submitting the relevant data. Each jurisdiction's data submission reflects data from many individual entities within that jurisdiction. The coverage for these vulnerability metrics is higher than 100%. This is because some jurisdictions classifying higher total assets in the vulnerability metrics data than in the classification data, after subtracting prudentially consolidated entities into banking groups from the latter. [2] Credit assets / total financial assets (CI1). The sample of reporting jurisdictions in 2024 represented 92% of broker dealers' total assets. [3] (Long-term assets - equity - long-term liabilities) / total financial assets (MT1). The sample of reporting jurisdictions in 2024 represented 27% of broker dealers' total assets. [4] (Total financial assets - liquid assets (narrow) + short-term liabilities) / total financial assets (LT1). The sample of reporting jurisdictions in 2024 represented 63% of broker dealers' total assets. [5] Total financial assets/equity (L1). The sample of reporting jurisdictions in 2024 represented 92% of broker dealers' total assets

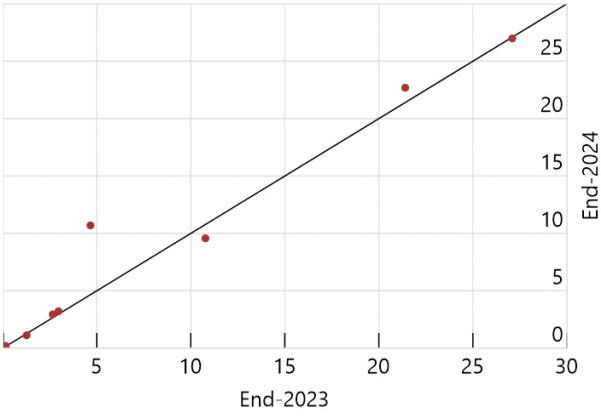
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Starting with the 2024 global monitoring exercise, some jurisdictions contributed percentile data for the vulnerability metrics of EF3 entities. From the data collected, broker dealers exhibited similar aggregate levels of leverage with some significant variation in the extreme values (see Annex 1, Graph A1-25). Liquidity and maturity transformation also vary significantly within distributions, suggesting that the category of broker-dealers covers a wide range of business models.

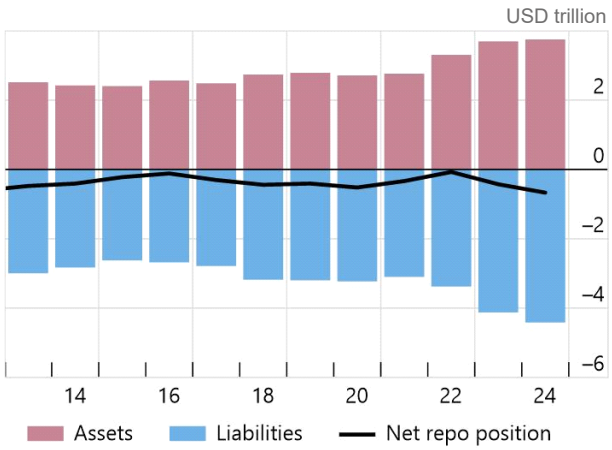
The net repo position for broker-dealers remained negative in 2024, having declined for the second year in a row, as repo liabilities remain the main source of funding for broker-dealers. Repo assets increased less than repo liabilities in 2024 (7.1% vs 1.4%) resulting in a more negative net repo position (see section 2.2 and graph 3-8, RHS). In addition, data collected from members suggested that 65.0% of wholesale total funding, excluding repo funding, was short-term by end–2024 thereby contributing to trends described above on maturity and liquidity transformation. Wholesale total funding grew 6.8%, while the short-term component of wholesale funding grew less than 1%. As highlighted in section 2.2, repo represented a greater proportion of funding than wholesale funding; within wholesale funding, loans constituted the main component (Graph 2-4).

Broker-dealers increased their negative net repo position in 2024 **Graph 3-8**

Debt-to-equity ratios[1]



Broker-dealers' repo assets and liabilities[2]



[1] Includes data from 8 jurisdictions representing 38.6% of total EF3 assets. [2] For Australia, Brazil, Canada, Chile, Spain, Hong-Kong, Indonesia, India, Japan, Korea, Mexico, the Netherlands, Singapore, the United Kingdom and the United States.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

3.4. Facilitation of credit intermediation (EF4)

EF4 entities, such as financial guarantors and monoline insurers, provide credit enhancements by insuring structured securities and other financial products, including residential mortgages. They offer guarantees to banks and non-bank financial institutions, often using off-balance-sheet commitments and derivatives. By facilitating the transfer of credit risk, EF4 entities play a role in credit creation, attracting investors and lenders who seek to manage portions of the credit risk associated with loans and debt securities. However, EF4 entities can amplify financial vulnerabilities if credit, liquidity, or counterparty risks are mispriced, or if incentives are misaligned. The pricing of credit protection should reflect the creditworthiness of both borrowers and guarantors, but market inefficiencies, such as asymmetric information, may hinder this. These inefficiencies may lead to an oversupply of credit during economic booms, while during downturns, they may overly restrict credit supply, exacerbating boom-bust cycles.

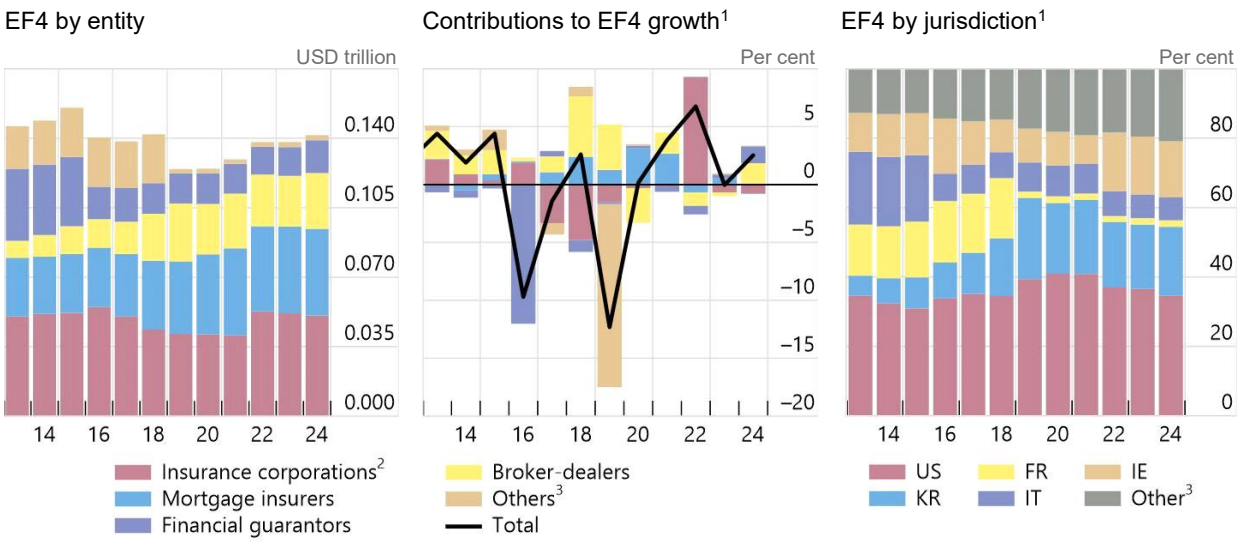
The role of EF4 entities, and the potential vulnerabilities they pose, may be significantly understated due to the difficulty of capturing off-balance-sheet exposures and the lack of vulnerability metrics. Balance sheets for credit insurers often do not reflect the nominal value of credit exposures, especially when derivatives are used to provide credit protection. Only four jurisdictions report off-balance-sheet assets for EF4 entities, and the relatively small size of EF4 assets compared to total financial assets contributes to sparse data availability.

EF4 continued to be the smallest economic function at $142 billion, with its share of the narrow measure stable at 0.2% in 2024. Nine jurisdictions classified some of their insurance corporations into EF4. Five jurisdictions reported mortgage insurers as EF4 entities. Other identifiable entity types engaged in EF4 were broker-dealers and financial guarantors. Broker-dealers, exclusively in Korea, accounted for 19.9% of EF4 assets. These broker-dealers provided securitisation services to structured finance vehicles as well as guarantees, credit, and liquidity lines as part of this service. Financial guarantors (in Argentina, Switzerland, Spain, Italy, and the United Kingdom) accounted for another 11.6% of EF4 assets. Total EF4 saw a slight increase, with mixed trends across different entity types: insurance corporations and mortgage

insurers saw a slight decline, which was more than offset by increases for broker-dealers and financial guarantors (Graph 3-9).

Growth in EF4 was driven by financial guarantors and mortgage insurers

29-Group **Graph 3-9**



[1] The decline in "Others" in 2020 is linked to the reclassification of one specific entity in France as a public administration entity. This also explains the reduction in 2020 in EF4 assets for France shown in the right-hand side chart above. [2] The growth in insurance corporations' assets in 2022 is due to an increase in the number of entities classified by Ireland as EF4. [3] Includes SFVs and special purpose vehicles (SPVs). [3] Other jurisdictions in *29-Group* not displayed separately.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

3.5. Securitisation-based credit intermediation (EF5)

EF5 includes entities that are involved in securitisation-based credit intermediation (e.g. issuing asset- or mortgage-backed securities and collateralised loan obligations (CLOs)). It also includes entities such as investment funds or trust companies that finance illiquid assets by raising funds from markets. Banks and NBFI entities use securitisation for funding diversification, revenue generation, and regulatory capital and accounting benefits, with or without the transfer of assets and risks from the securitisation entities. By facilitating the transfer of credit risk off-balance-sheet, securitisation reduces funding costs for both bank and non-bank entities and promotes the availability of credit to the real economy. Nonetheless, securitisation may contribute to a build-up of excessive credit, maturity/liquidity transformation, or leverage. Vulnerabilities arising from securitisation-based credit intermediation may be more prominent in financial systems with relatively weak lending standards. The securitisation market is also sensitive to sudden reductions in market liquidity, particularly in the case of complex or opaque securitisations.

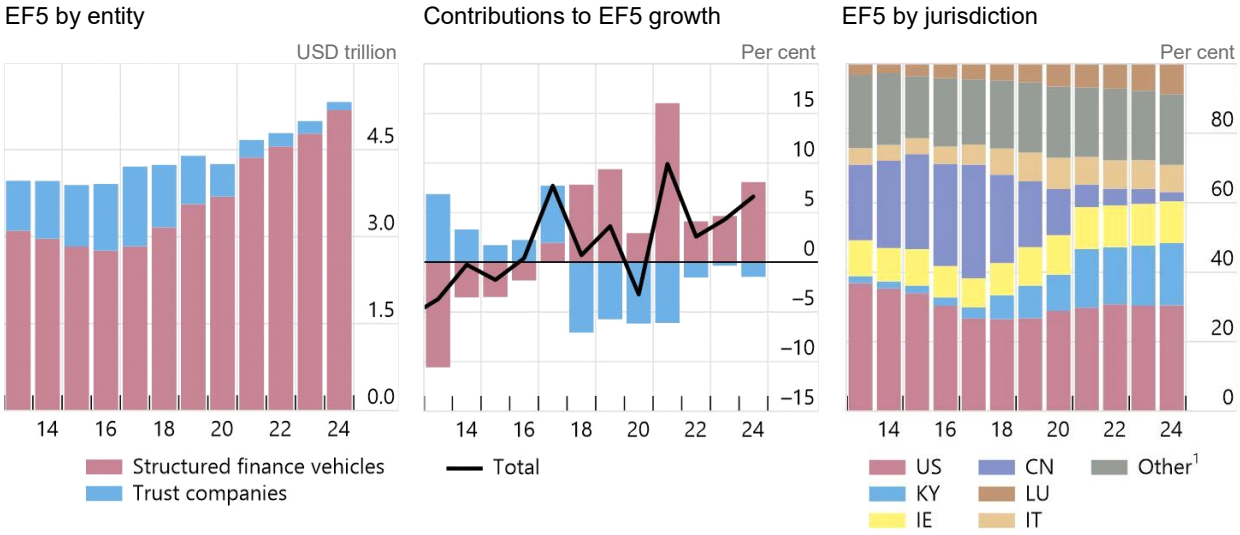
3.5.1. EF5 asset growth

Global EF5 assets increased 6.6% in 2024 to $5.3 trillion (Graph 3-10). EF5's share of the narrow measure was 7.0%, a slight decrease compared to the previous year (Graph 1-6). The United States, the Cayman Islands, Ireland, Luxembourg, Italy, and China accounted for just under 80% of global EF5 assets (Graph 3-10, RHS). EF5 consisted of structured finance vehicles and trust companies (only in China), which represented 97.3% and 2.7% of EF5 assets, respectively.

The two entity types within EF5 have exhibited different trends. The proportion of trust companies in EF5 has continued to decrease since 2017, largely driven by tighter regulations and enhanced monitoring of securitisation issuances in China. Indeed, EF5 assets in China decreased 34.1%, further reducing its share of global EF5 assets to 2.7% (Graph 3-10, RHS). Structured finance vehicles, on the other hand, have continued to grow; such assets classified into EF5 increased 8.5% in 2024. This growth was driven by increases in jurisdictions such as Luxembourg (20.1%), the Cayman Islands (10.5%), the United States (7.1%), and Ireland (6.6%).

Structured finance vehicles continued to be the main entity type in EF5

29-Group **Graph 3-10**



[1] Other jurisdictions in 29-Group not displayed separately.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

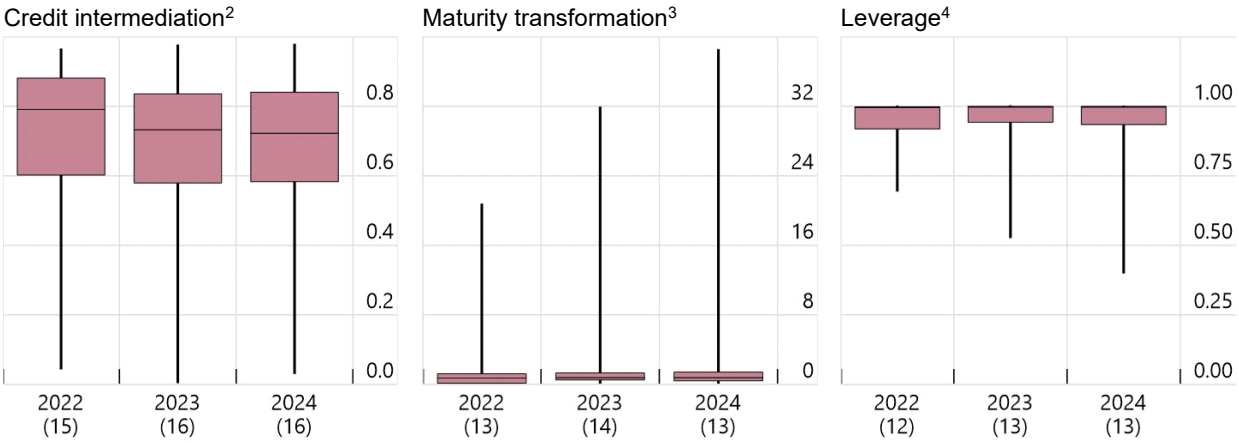
3.5.2. EF5 vulnerability metrics

Structured finance vehicles classified into EF5 continued to engage in a significant degree of credit intermediation, particularly through the issuance of debt securities backed by loan portfolios. The median ratio of loans (on the asset side of the balance sheet) to total financial assets was 0.72 in 2024 (Graph 3-11, LHS). High values for this metric indicated that these entities typically intermediated more loans than bonds. However, in some jurisdictions, SFVs also engaged significantly in credit intermediation through the securitisation of debt securities. There were also a couple of jurisdictions that consistently showed a very low level of credit intermediation. Two reasons explain this: (i) some of these SFVs invested in debt securities (tradeable and securitised loans), which are excluded from the metric calculation since it focuses on loans; (ii) some others of these SFVs acquired loan portfolios through special purpose vehicles or trusts, and a look-through approach was not applied to calculate the metric.

Maturity transformation of structured finance vehicles remained low across most jurisdictions in 2024, as the maturities of liabilities and assets were closely matched (Graph 3-11, middle panel). The median ratio of short-term liabilities to short-term assets (both less than or equal to 12 months) was 0.78 across the 13 reporting jurisdictions. However, the highest value for this metric increased significantly, indicating that maturity transformation risks are growing in one jurisdiction.

Leverage remained elevated in 2024, with most jurisdictions reporting a ratio above 0.9 (Graph 3-11, RHS).[66] The median ratio remained close to one, reflecting the limited equity held by SFVs. However, some jurisdictions reported lower leverage due to substantial equity issuance by SFVs.

Credit intermediation and leverage remained stable, while maturity transformation increased slightly in 2024[1] **Graph 3-11**



The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. Changes in the distribution across years might be related to changes in the sample of jurisdictions that provided data.

[1] The number in parentheses indicates the number of jurisdictions submitting the relevant data. Each jurisdiction's data submission reflected data from many individual entities within that jurisdiction. [2] Loans / total financial assets (CI2). The sample of reporting jurisdictions in 2024 represented 80% of SFV total assets. [3] Short-term liabilities / short-term assets (MT2). The sample of reporting jurisdictions in 2024 represented 70% of SFV total assets. [4] (Total financial assets – equity) / total financial assets (L5). The sample of reporting jurisdictions in 2024 represented 51% of SFV total assets.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Box 3: Policy tools for EF5 entities

Policy tools for EF5 aim to address the misalignment of incentives which occurred in certain securitisation structures in the run up to the 2008 global financial crisis. They seek to improve transparency, address conflicts of interest, strengthen the regulatory capital treatment for banks' securitisation exposures by improving risk sensitivity and reducing cliff effects, and align incentives associated with securitisation.

Earlier this year the FSB published the final report of its evaluation of the effects of the G20 Financial Regulatory Reforms on Securitisation.[67] This box therefore uses the findings from that report to illustrate the extent of policy tools for EF5 entities across jurisdictions that participate in the GME. The evaluation report focussed, in terms of scope, on the collateralised debt/loan obligation (CDO/CLO) and the nongovernment-guaranteed part of the residential mortgage-backed securities (RMBS) markets; and, in terms of reforms, on the International Organization of Securities Commissions (IOSCO) minimum retention recommendations to address incentive problems and the Basel Committee on Banking Supervision (BCBS) revisions to prudential requirements for banks' securitisation-related exposures. These reforms aimed to address the vulnerabilities in the securitisation market that contributed to the amplification of losses during the 2008 global financial crisis.

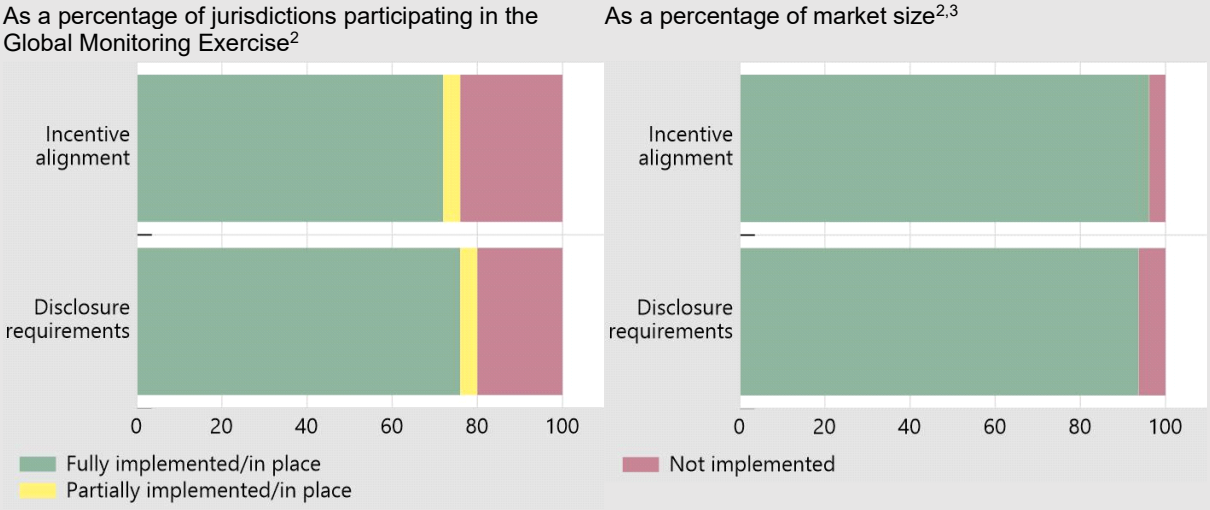
66 For EF5 entities, leverage is measured as (total financial assets – equity) / total financial assets.

67 FSB (2025), Evaluation of the Effects of the G20 Financial Regulatory Reforms on Securitisation: Final report, January.

As at end 2024, adoption of the IOSCO recommendations on incentive alignment approaches for securitisation had been fully implemented by 72% of jurisdictions that participate in the GME, which represented over 96% of total EF5 assets (Graph C1).[68] As for IOSCO disclosure requirements, 76% of participating jurisdictions had fully implemented the requirements, representing over 93% of the market (Graph C1).

Implementation of incentive alignment reforms for securitisation is uneven[1]

29-Group **Graph C1**



[1] Switzerland reports that it lacks an active domestic securitisation market. [2] Six EU members that provided data are presented as separate jurisdictions; data not presented for CL and KY. [3] Market size based on value of EF5 assets in 2024.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

The forms of risk retention differ across markets – the most used forms are horizontal and vertical risk retention methods. The IOSCO recommendations did not specify forms of risk retention, and different jurisdictions have permitted different modalities as summarised in table C1.

Table C1: Risk retention requirements in selected participating jurisdictions

Jurisdiction	Legal entity subject to obligations	Minimum level	Permitted forms	Exceptions
China	Originators, original equity holder or its affiliates of debt-type and future operating income-type special plans	5% net economic interest	Horizontal, vertical	
EA	Originator, sponsor or original lender	5% net economic interest	5 different modalities including horizontal and vertical	Securitisations of assets guaranteed by government institutions or institutions with a risk weight of ≤ 50% or by multilateral development banks. (This is not an

[68] The Cayman Islands and Chile are not included in this data.

				exhaustive overview of applicable exceptions.)
UK	As for EA	As for EA	As for EA	As for EA
Japan	Originator, sponsor, and investor (indirect)	5% net economic interest or equivalent amount of credit risk	Horizontal, vertical, combined L shape	
US	Sponsor, originator	5% net economic interest	Horizontal, vertical, combined L shape (i.e. 5% in total of horizontal and vertical), asset specific options	Qualified RMBS[69] and certain other loans, open-market CLOs (per 2018 court decision[70]). (This is not an exhaustive overview of applicable exceptions.)

69 A qualified mortgage is a mortgage that meets certain requirements for lender protection and secondary market trading under the Dodd-Frank Act. To be eligible for a qualified mortgage, borrowers must meet certain requirements based on an analysis of the ability to repay their mortgage (according to their income, assets, and debts). Qualified mortgages can be eligible for purchase, guarantee or insurance by a government-sponsored enterprise such as Fannie Mae and Freddie Mac (see Box 8 of FSB (2025), *Evaluation of the Effects of the G20 Financial Regulatory Reforms on Securitisation: Final report*, January).

70 See section 4.2 and Box 6, ibid.

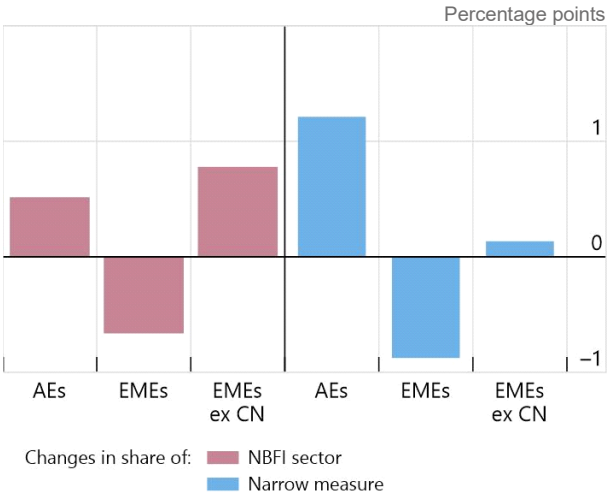
Annex 1: Statistical Annex

Section 1

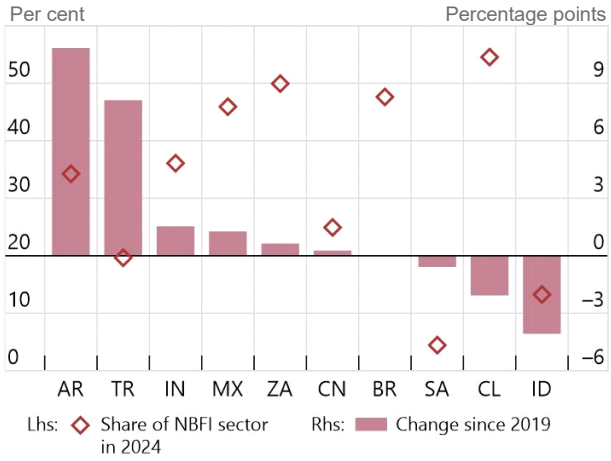
The relative importance of NBFI has remained stable in AEs and EMEs

Graph A1-1

Changes in the share[1] of NBFI sector and narrow measure as a percentage of total financial assets for AEs and EMEs over the last five years



Change in the share[2] of NBFI assets in each EME over the last five years



[1] Shares of the NBFI sector and narrow measure are calculated as aggregated financial assets of the NBFI sector and narrow measure of each region divided by aggregated total financial assets of the region. [2] Shares of the NBFI sector for each jurisdiction are calculated as financial assets of the NBFI sector of a jurisdiction divided by total financial assets of the jurisdiction.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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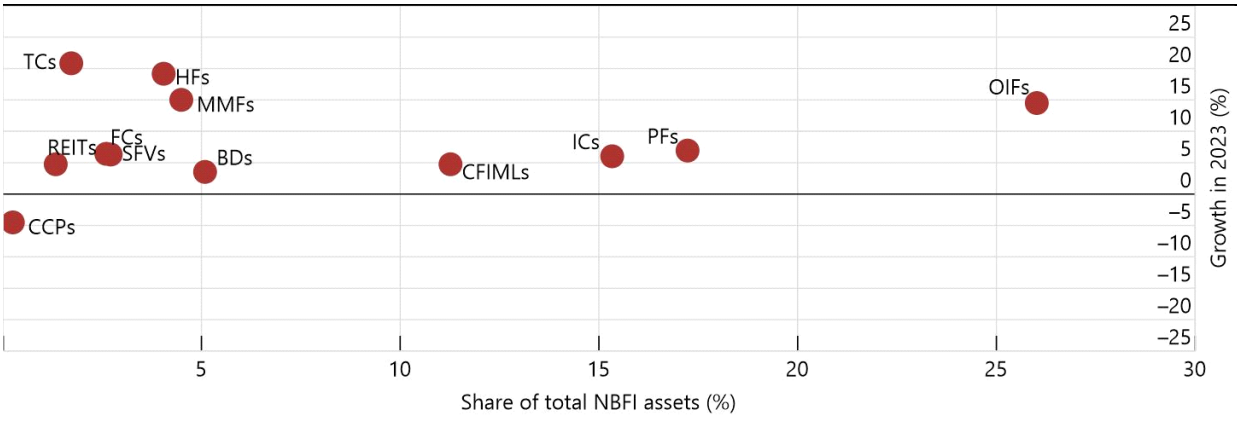
Size vs. growth in 2024 of major NBFI subsectors

Graph A1-2



Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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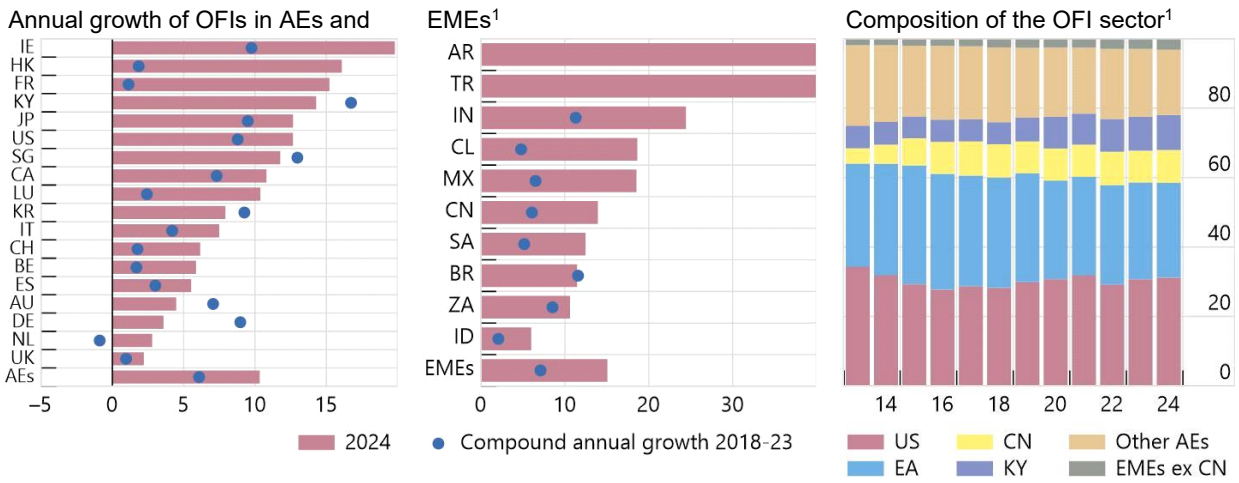
Other Financial Intermediary (OFI) size and growth by jurisdiction

In per cent

Graph A1-3



[1] **The bars for Argentina and Türkiye are not shown entirely because they are particularly high compared to the rest of the jurisdictions.** [2] **OFI assets by jurisdiction, *21+EA-Group*.**

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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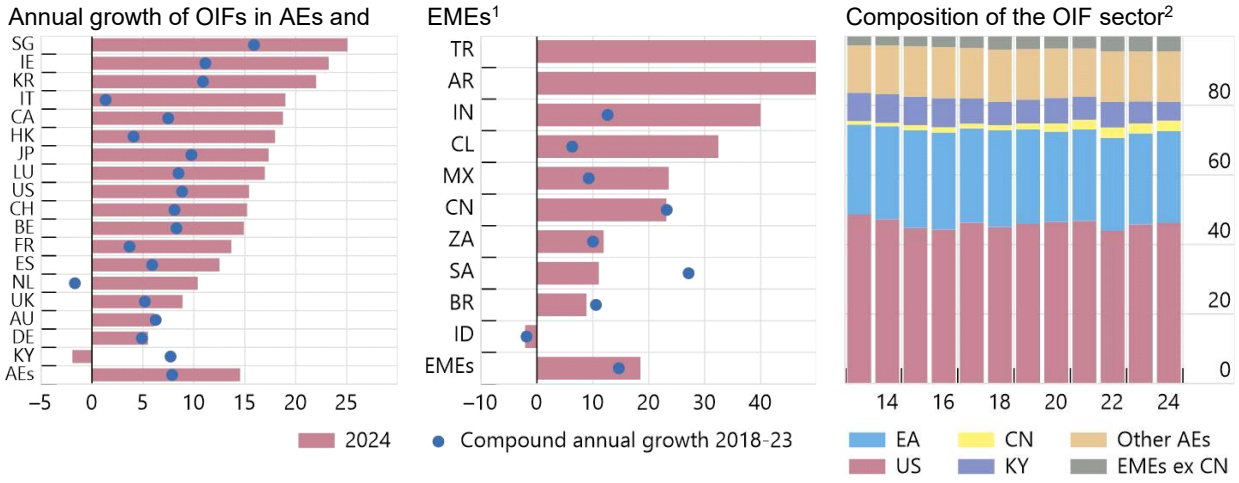
Other Investment Fund (OIF) size and growth by jurisdiction

In per cent

Graph A1-4



[1] **The bars for Argentina and Türkiye are not shown entirely because they are particularly high compared to the rest of the jurisdictions.** [2] **OIF assets by jurisdiction, *21+EA-Group*.**

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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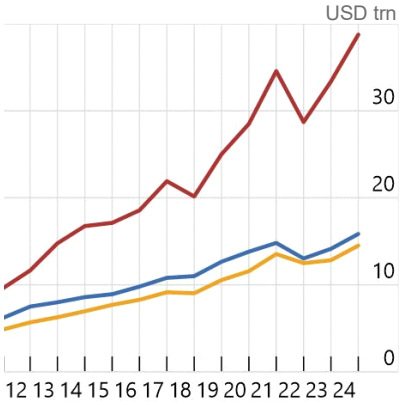
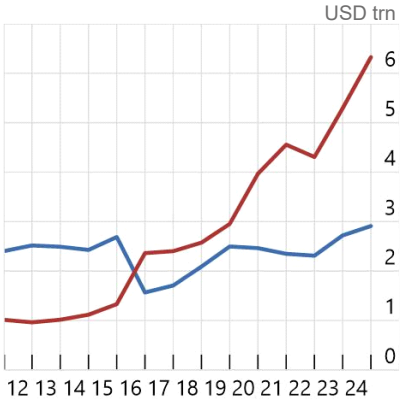
AUM increased in 2024 for most types of investment fund

Graph A1-5

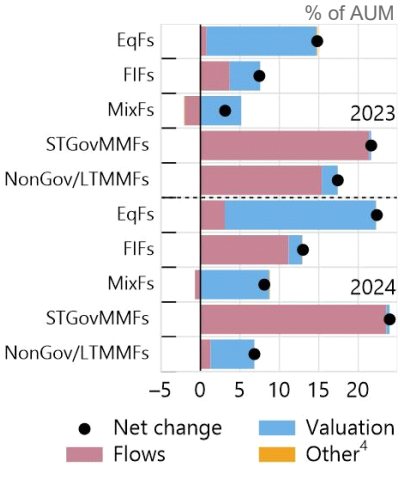
Other investment fund asset composition[1]



MMF assets by type[1]



Change in funds' total assets split between flows and valuation effects[3]



EqFs = equity funds; FIFs = fixed income funds; MixFs= mixed funds; MMFs = Total MMFs; STGovMMFs = Short-term government MMFs; NonGov/LTMMFs = non-government/ longer-term maturity MMFs. Annual data (end of period) provided by 28 reporting jurisdictions.

[1] In 2024 the breakdown of changes of total assets into flow and valuation effects of equity funds, fixed income funds and other funds, was available for 59.3%, 71.6% and 48.2% of their total reported assets, respectively. For short-term government MMFs and non-government/ longer-term maturity MMFs, the breakdown was available for 67.6% and 68% of their total reported assets, respectively. [2] Other funds such as mixed funds, referenced investment funds, external debt investment funds, currency funds, asset allocation funds, etc. [3] Estimated based on the data reported by a sub-sample of jurisdictions. [4] "Other" represents changes attributable to factors other than fund flows and valuation (e.g. changes in leverage and sample adjustments).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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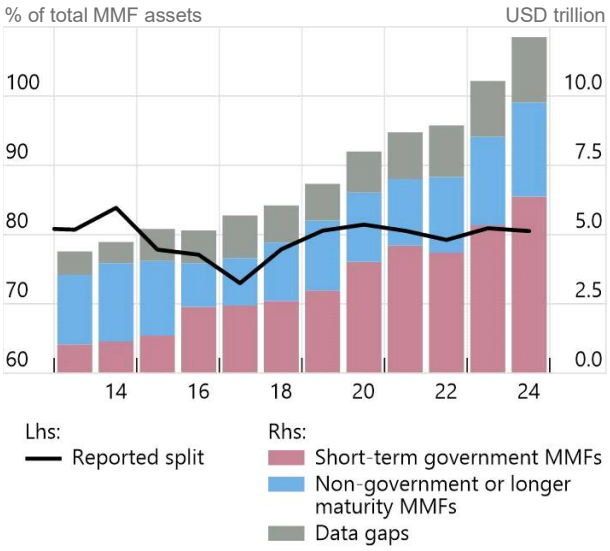
MMF split per type

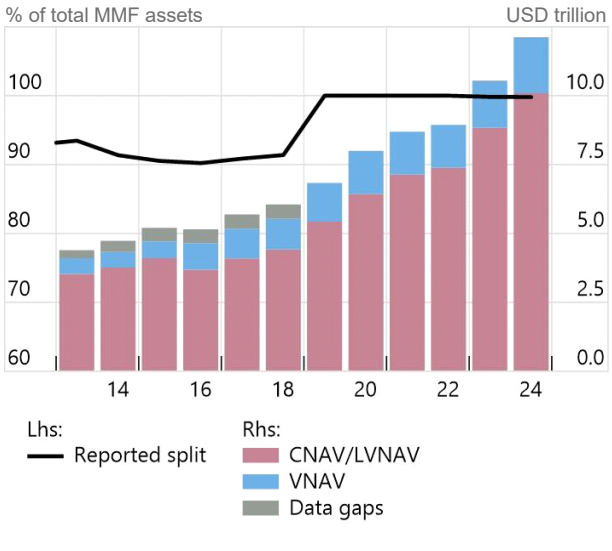
29-Group

Graph A1-6

Short-term government MMFs vs. non-government or longer maturity MMFs



Accounting split between MMFs



Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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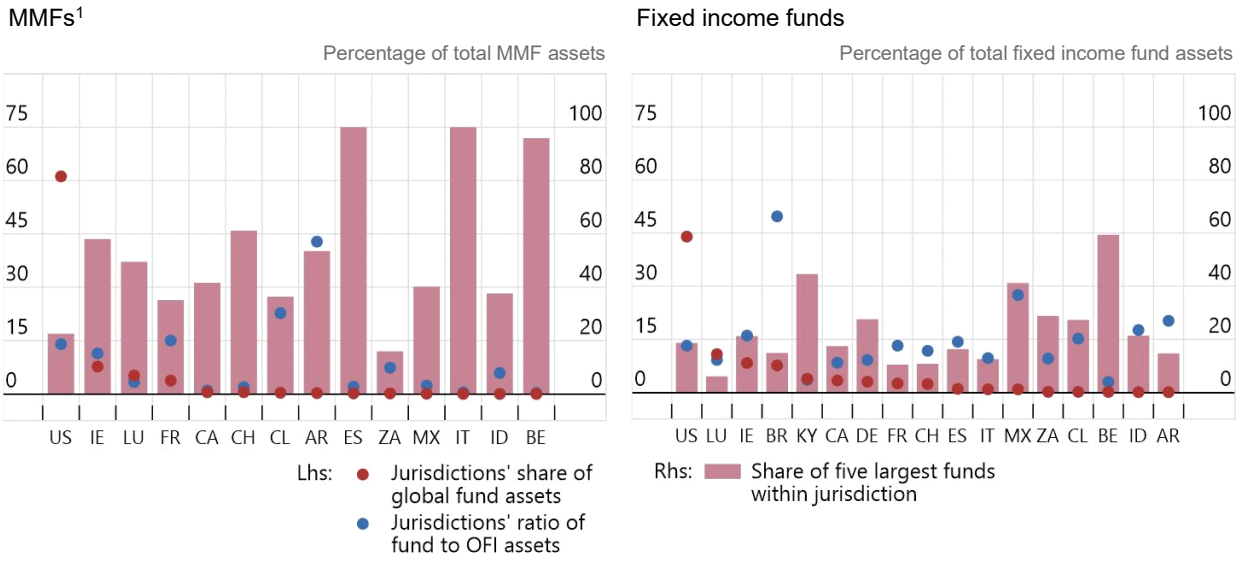
Five largest entities' share of total assets, by fund type and jurisdiction

29-Group **Graph A1-7**



[1] In Spain and Italy there were only 4 MMFs.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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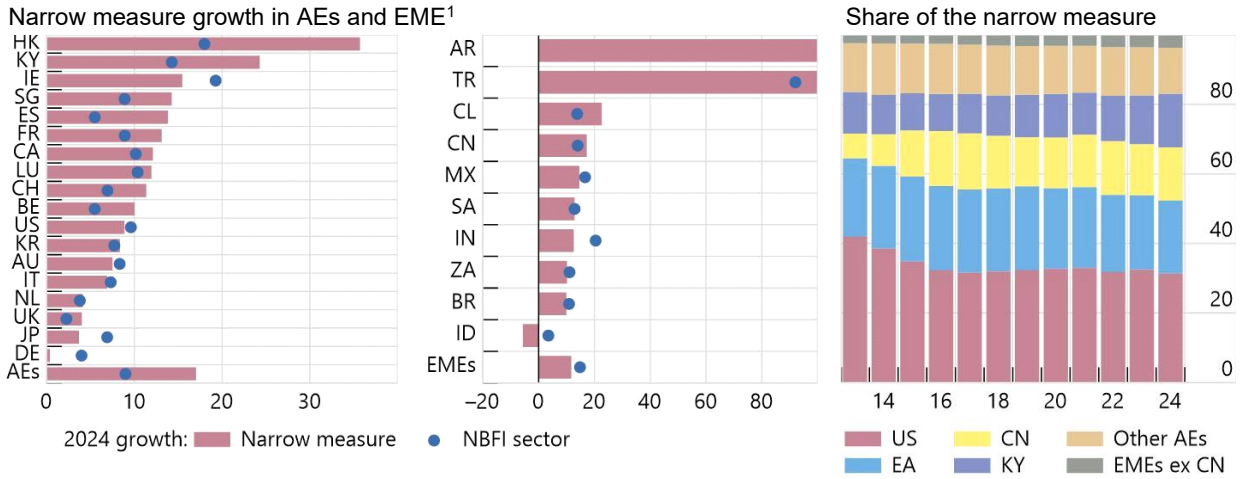
Narrow measure size and growth by jurisdiction

In per cent, 29-Group **Graph A1-8**



[1] The narrow measure and NBFI sector growth rates for Argentina of 124.7% and 103.2%, respectively, are not shown entirely because they are particularly high compared to the rest of the jurisdictions. Similarly, the narrow measure growth rate for Türkiye's of 131.6% is not shown. Aggregates are computed as a weighted average on the basis of rolling GDP weights.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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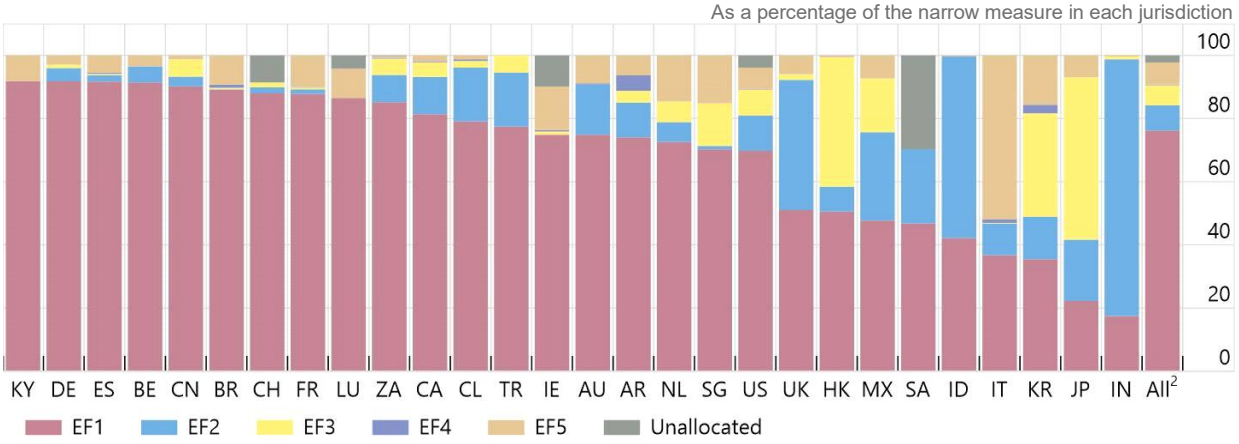
EF1 remained the largest economic function in 24 jurisdictions at end-2024[1]

Economic function classification by jurisdiction at end-2024 **Graph A1-9**



Unallocated = assets of entities that were assessed to be involved in NBFI, but which could not be assigned to a specific economic function.

[1] Net of entities prudentially consolidated into banking groups.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

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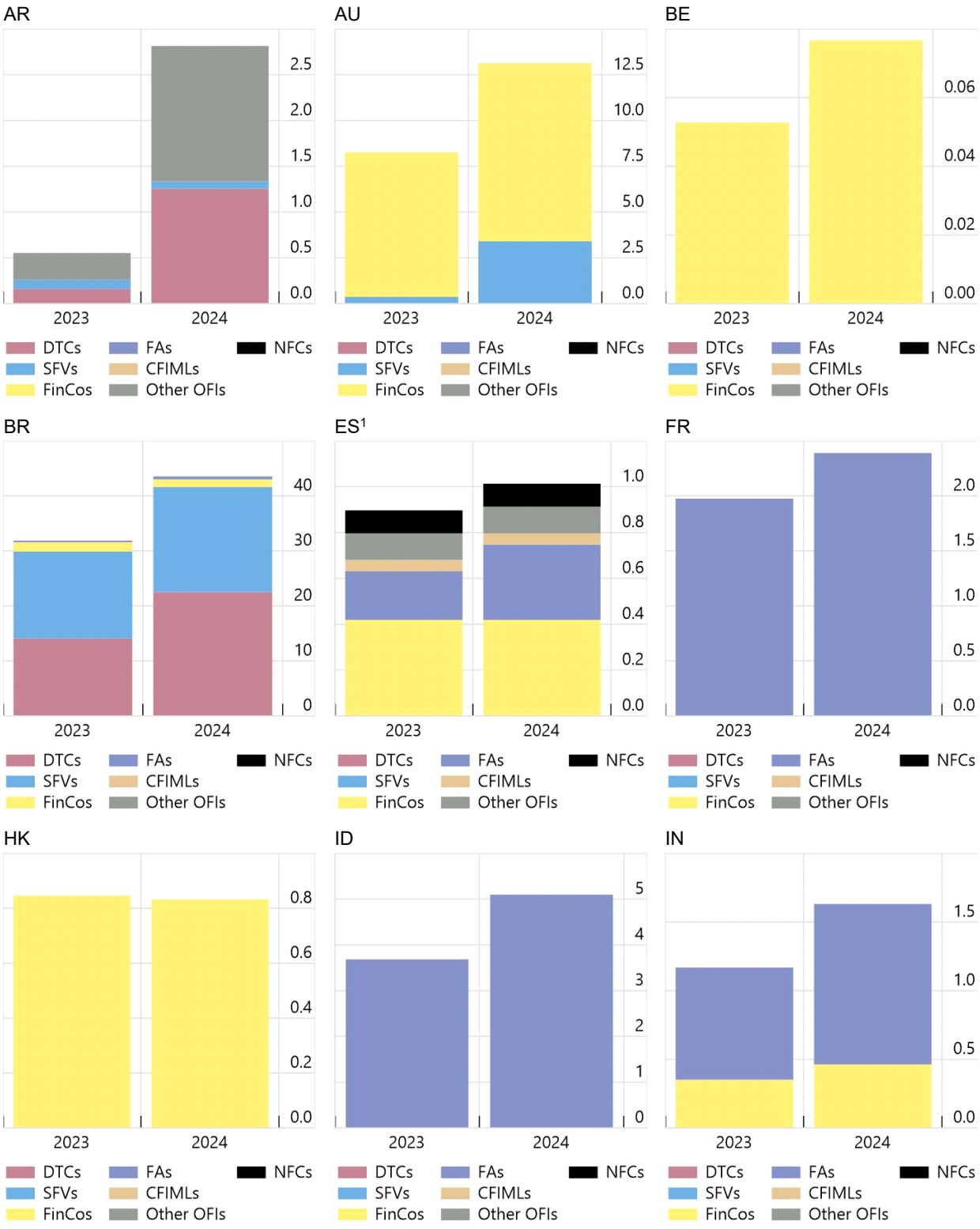
Detailed fintech lending by jurisdiction

In USD billions

Graph A1-10



[1] 2024 data available only for FAs, for other entity types 2023 data is carried over.

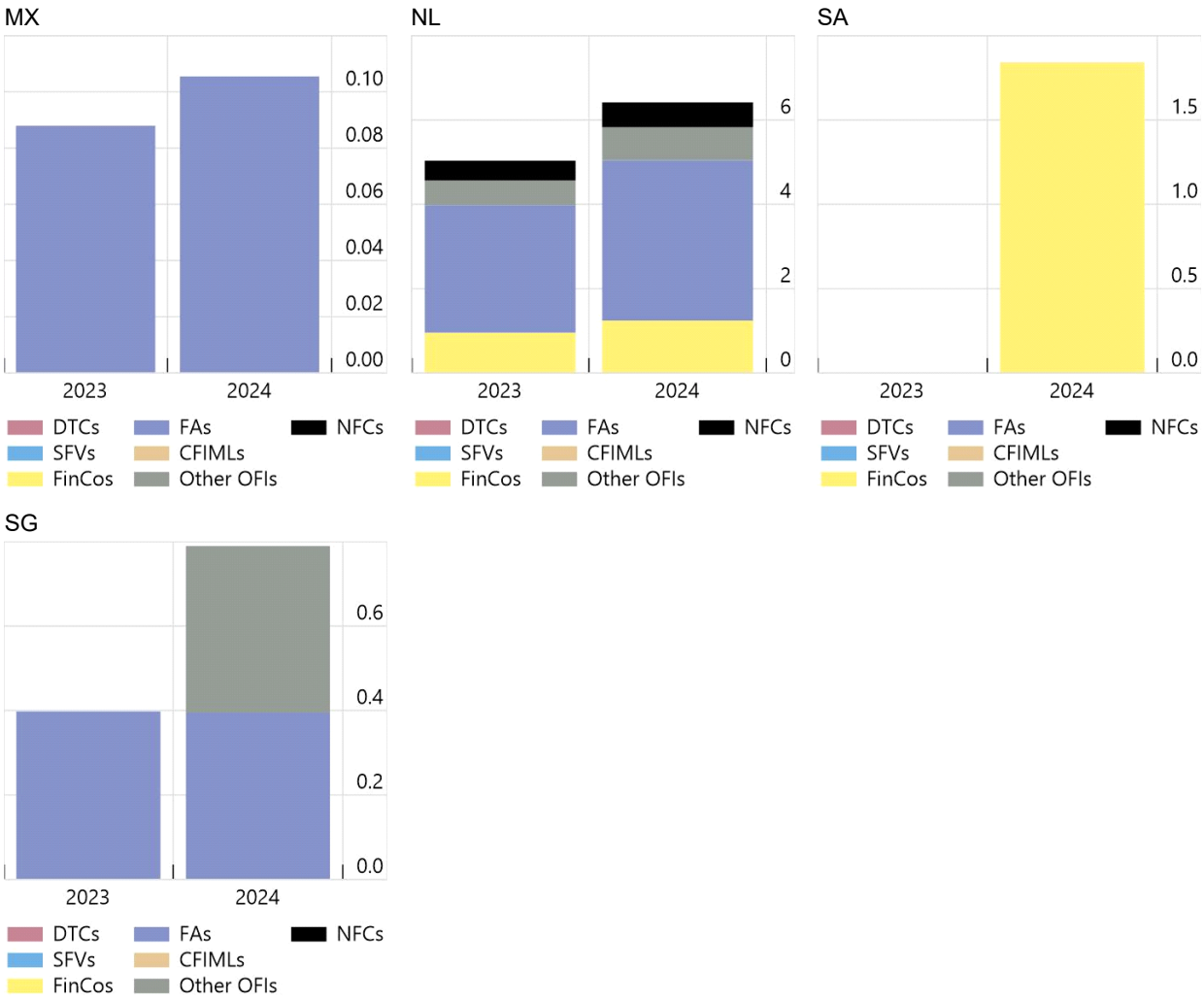
DTCs is for non-bank deposit taking corporations. Given that some non-bank intermediaries may be using fintech auxiliaries (e.g. peer-to-peer platforms) to provide fintech lending, the graph may include some double counting.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Detailed fintech lending by jurisdiction (continued)

In USD billions

Graph A1-10



DTCs is for non-bank deposit taking corporations. Given that some non-bank intermediaries may be using fintech auxiliaries (e.g. peer-to-peer platforms) to provide fintech lending, the graph may include some double counting.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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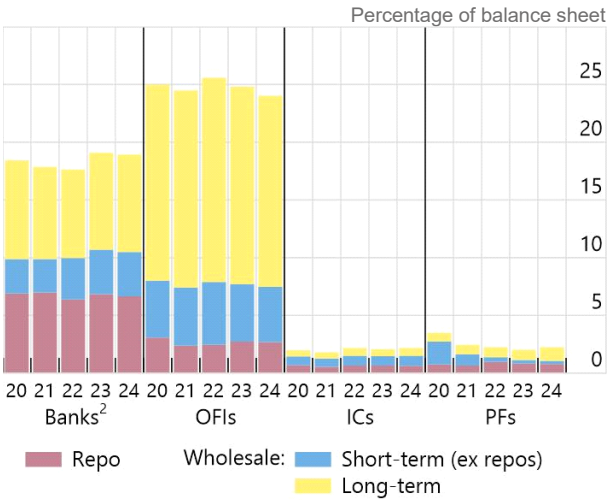
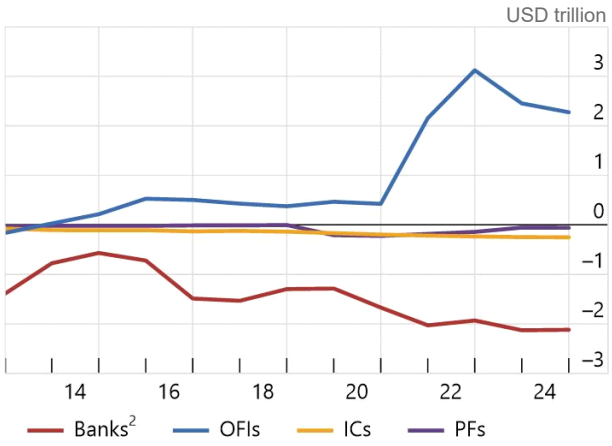
OFIs' net level of repo assets decreased in 2024 but remained high

21+EA-Group **Graph A1-11**

Funding of entities by source[1]



Net repo position[3]



[1] Short-term funding is defined as wholesale funding whose residual maturity is less than 12 months. [2] All deposit-taking corporations. [3] Repo assets less repo liabilities. Assets related to repo transactions on the buyer's (collateral-taker, cash-provider) balance sheet. Liabilities related to repo transactions on the seller's (collateral-provider, cash-taker) balance sheet. Does not include data for Russia.

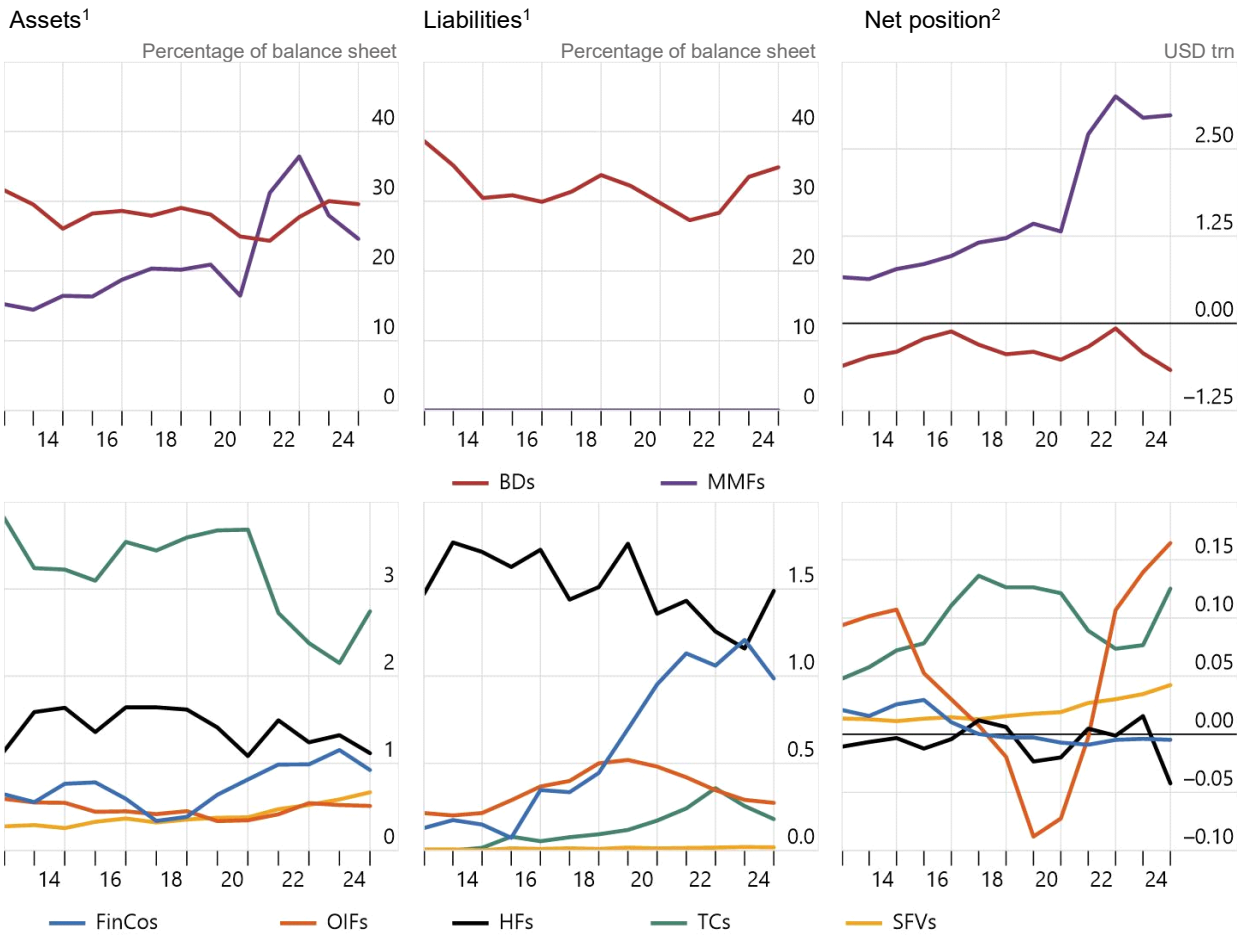
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data).

Return to main text

BDs' net repo positions declined in 2024

21+EA-Group

Graph A1-12



[1] Assets related to repo transactions on the buyer's (collateral-taker, cash-provider) balance sheet. Liabilities related to repo transactions on the seller's (collateral-provider, cash-taker) balance sheet. MMF repo liabilities were slightly above zero and therefore not visible in the upper-middle panel. [2] Repo assets less repo liabilities.

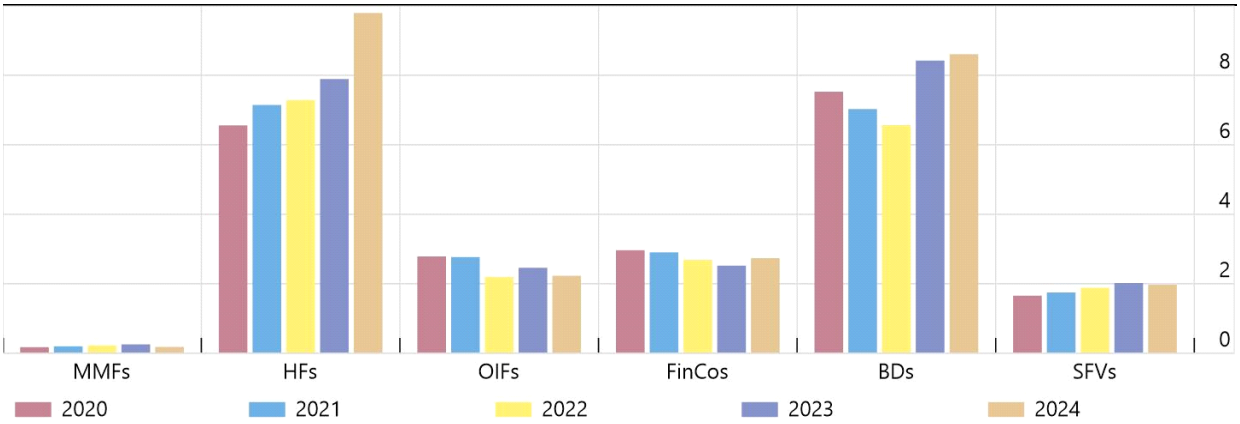
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Return to main text

Short-term wholesale funding against deposits held[1]

Ratio, 29-Group

Graph A1-13



[1] This ratio is calculated by dividing short-term wholesale funding with deposit assets; the absolute value of the net repo position (repo assets less repo liabilities) is considered a source of liquidity if positive (i.e. is added to the denominator) or increases liquidity demand if negative (i.e. is added to the numerator). Wholesale funding includes all non-deposit on- and off-balance sheet funding sources, particularly market funding, but excluding equity. The wholesale funding of investment funds includes institutional client investments.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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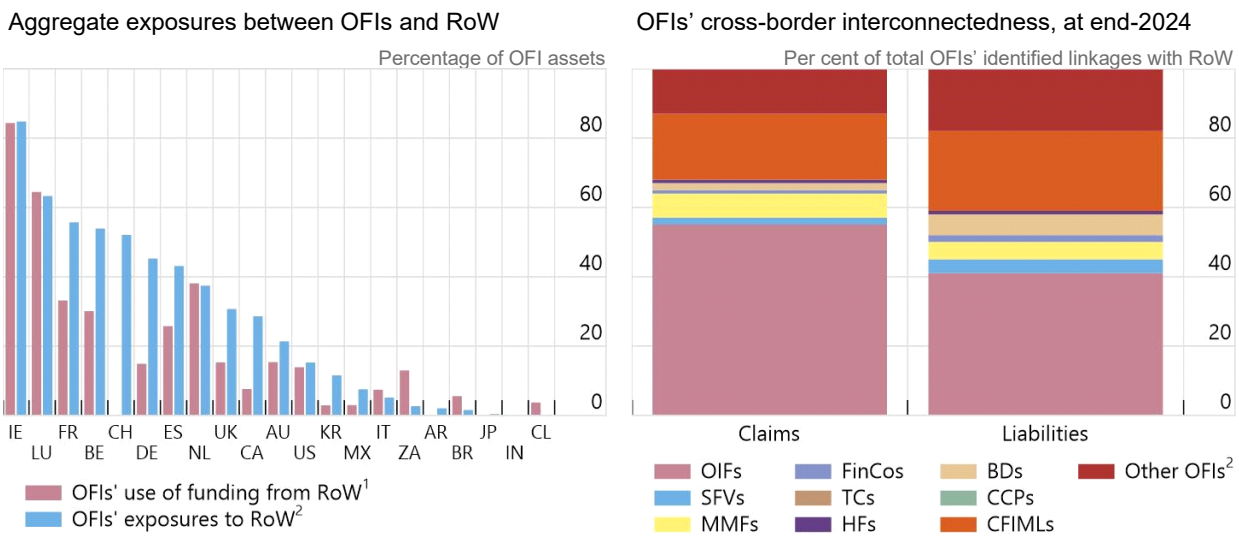
Cross-border interconnectedness

29-Group

Graph A1-14



[1] OFIs' liabilities to the RoW as a share of OFI assets. [2] OFIs' claims to the RoW as a share of OFI assets. [2] Includes REITs, fixed income funds and other unidentified OFIs.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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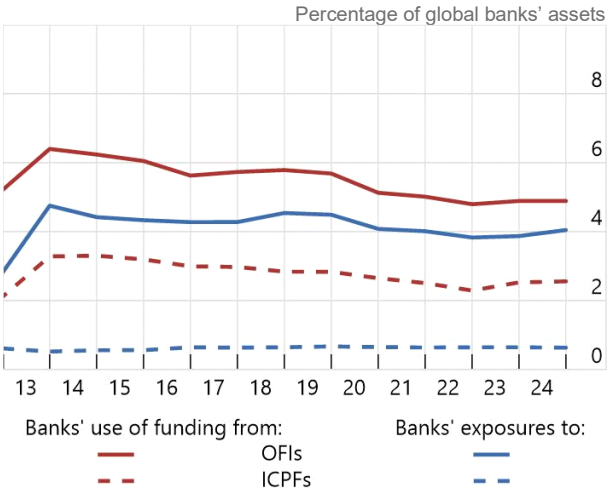
Banks' and NBFI interconnectedness

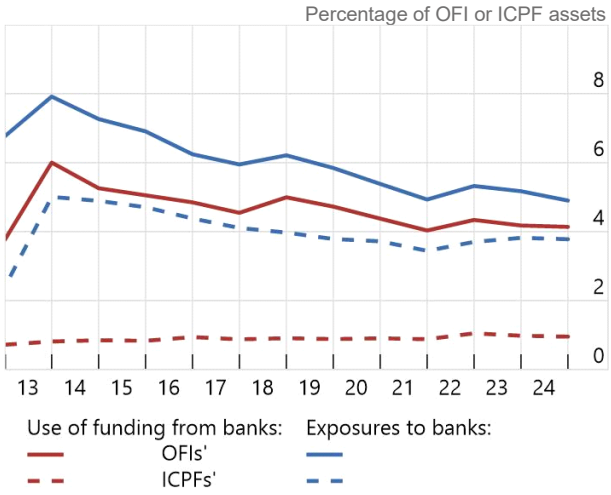
21+EA-Group

Graph A1-15

Banks' interconnectedness with OFIs and ICPFs[1]



Interconnectedness of NBFI sector with banks[1]



[1] The sharp rise in OFI linkages in 2013 partly reflects availability of euro area aggregate data from 2013 onwards.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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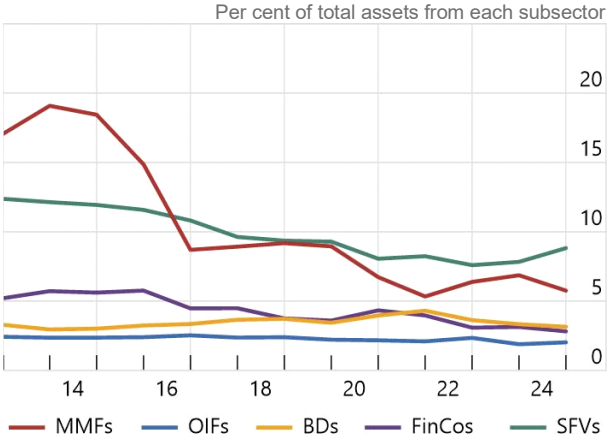
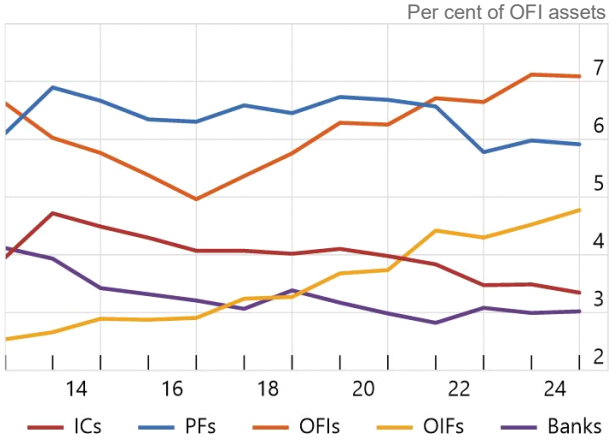
OFI deposits and use of funding

Graph A1-16

OFI deposits – selected entities[1]



OFIs' use of funding[2]



[1] Includes data from 16 jurisdictions. [2] OFIs use of funding from ICs = OFIs' liabilities to ICs as a share of OFI assets. OFIs use of funding from PFs = OFIs' liabilities to PFs as a share of OFI assets. OFIs' use of funding from OIFs is based on data reported on a consolidated basis by jurisdictions, net of entities prudentially consolidated into banking groups.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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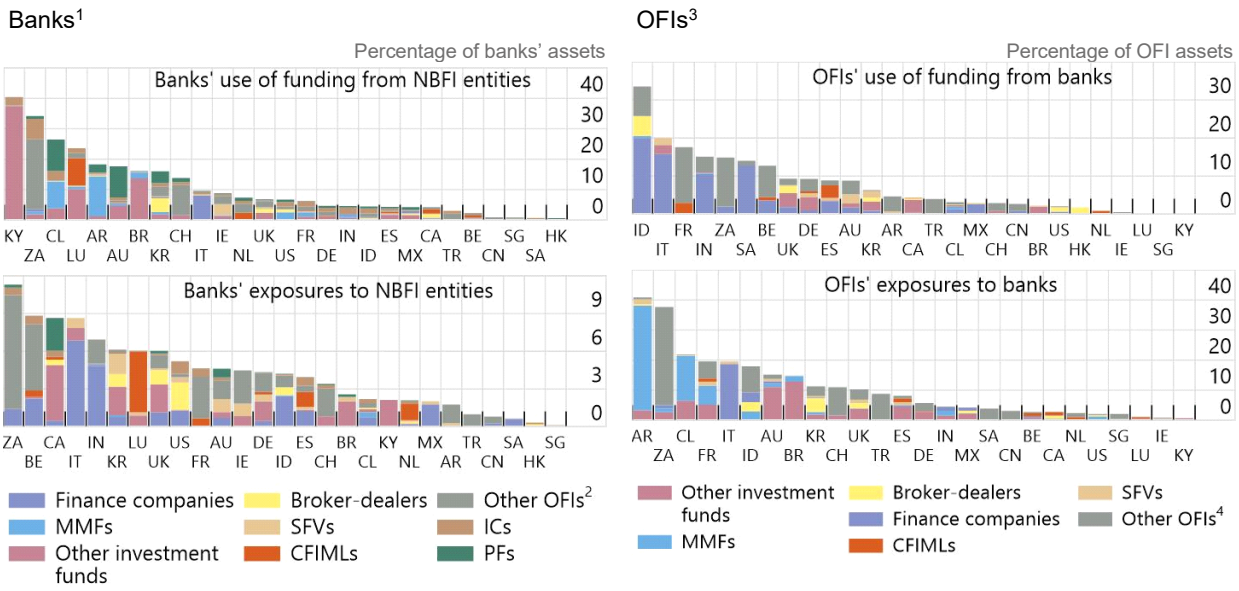
Banks' and NBFI interconnectedness by jurisdiction

29-Group **Graph A1-17**



[1] For upper (lower) panel, banks' use of funding from (exposure to) the corresponding NBFI sub-sector, net of prudential consolidation (where data permits), as a share of bank assets. [2] "Other OFIs" includes CCPs, hedge funds, trust companies, and unidentified OFIs. [3] For upper (lower) panel, banks' claims on (liabilities to) the corresponding OFI sub-sector, net of prudential consolidation (where data permits), as a share of OFI assets. [4] 'Other OFIs' includes CCPs, hedge funds, trust companies, captive financial institutions and money lenders, and unidentified OFIs.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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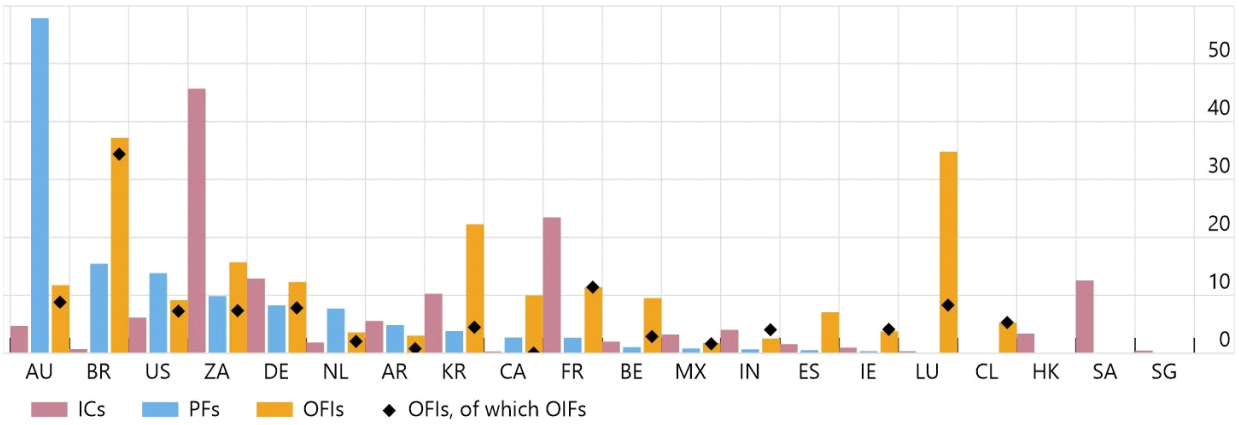
OFIs' use of funding from NBFI per jurisdiction

End-2024, as a percentage of OFI assets **Graph A1-18**



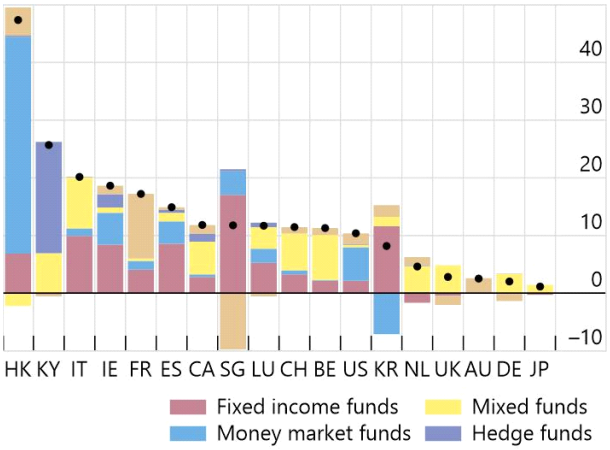
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Contributions to EF1 growth varied across jurisdictions

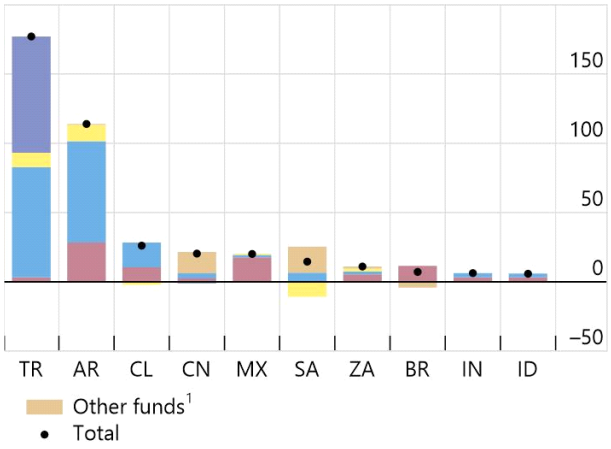
In per cent

Graph A1-19

Contribution to EF1 growth in advanced economies



Contributors to EF1 growth in emerging market economies



[1] Other funds include investment funds not displayed separately, such as referenced investment funds, external debt investment funds, equity funds, currency funds, asset allocation funds, other closed-end funds, and funds of funds. Equity funds include open-ended equity funds holding more than 20% credit assets.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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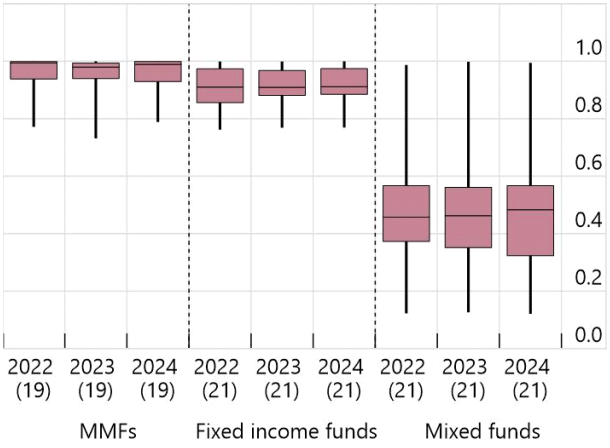
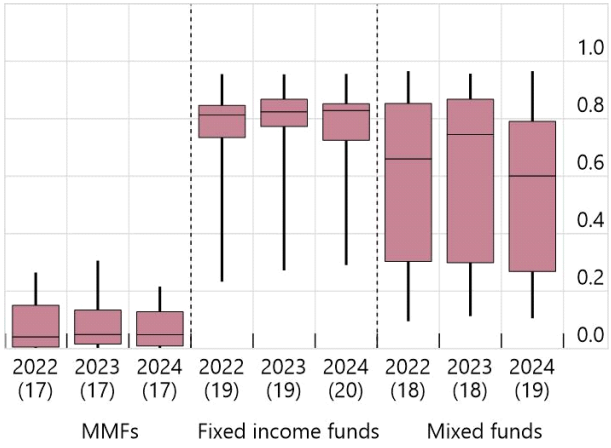
EF1 vulnerability metrics

Graph A1-20

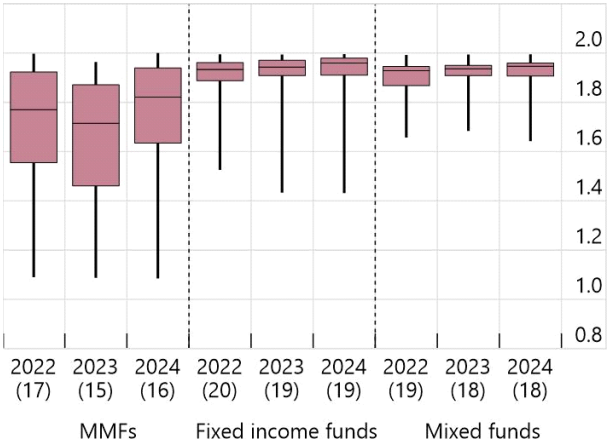
Credit intermediation[1]



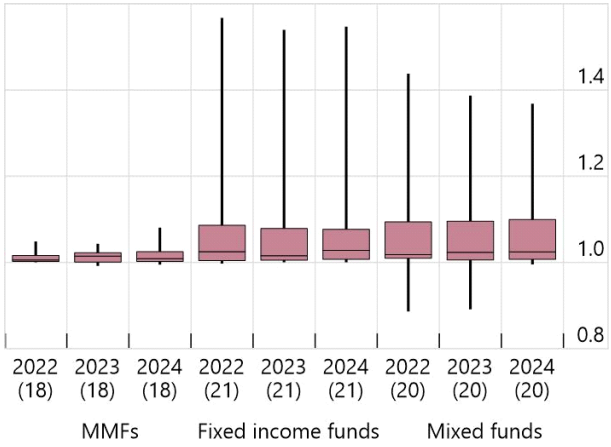
Maturity transformation[2]



Liquidity transformation[3]



Balance sheet leverage[4]



The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. The sample size indicates the number of jurisdictions submitting the relevant data. Each jurisdiction's data submission reflects data from many individual entities within that jurisdiction. Changes in the distribution across years might be related to changes in the sample of jurisdictions that provided data. The sample of reporting jurisdictions in 2024 represents 92.7% of total fixed income funds' assets, 70% of mixed funds' assets and more than 100% of MMFs funds' assets. The coverage of these vulnerability metrics is higher than 100% due to some jurisdictions using a sample that includes entities prudentially consolidated into banking groups to calculate vulnerability metrics, while such entities are excluded from those classified into the narrow measure.

[1] Credit assets / total financial assets (CI1). [2] Long-term assets – equity – long-term liabilities) / total financial assets (MT1). [3] (Total financial assets - liquid assets + short-term liabilities + redeemable equity) / total financial assets (LT1). [4] Total financial assets / equity (leverage 1).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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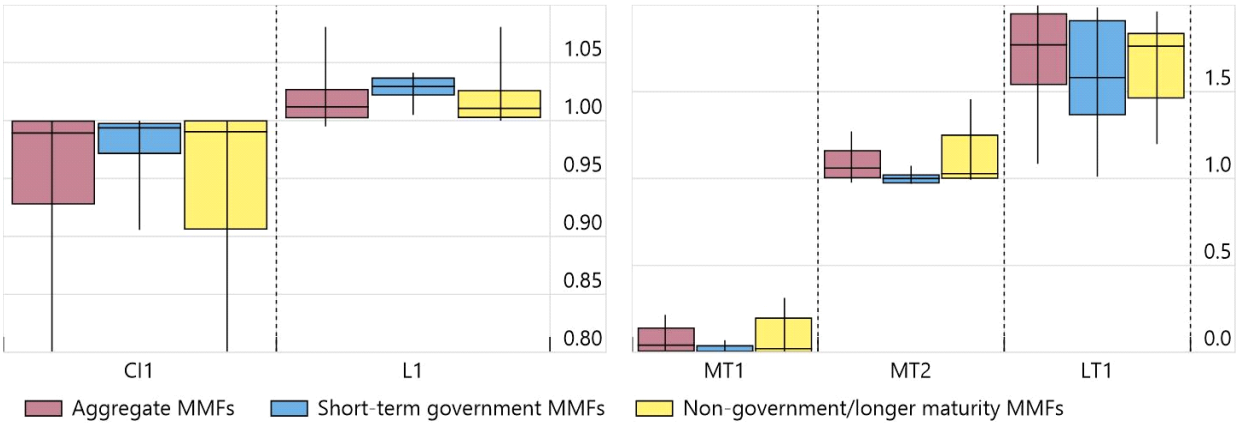
Vulnerability metrics for MMFs split by type[1]

Graph A1-21

Credit intermediation and leverage in 2024

Maturity transformation and liquidity transformation in 2024



[1] The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. Changes in the distribution across years might be related to changes in the sample of jurisdictions that provided data. The sample of reporting jurisdictions in 2025 provided for a coverage higher than 100%, because some jurisdictions used a sample that includes entities prudentially consolidated into banking groups to calculate vulnerability metrics, while such entities were excluded from those classified into the narrow measure. Ten jurisdictions reported metrics for non-government/longer maturity MMFs, and 4 for short-term government MMFs. Does not include data for Russia.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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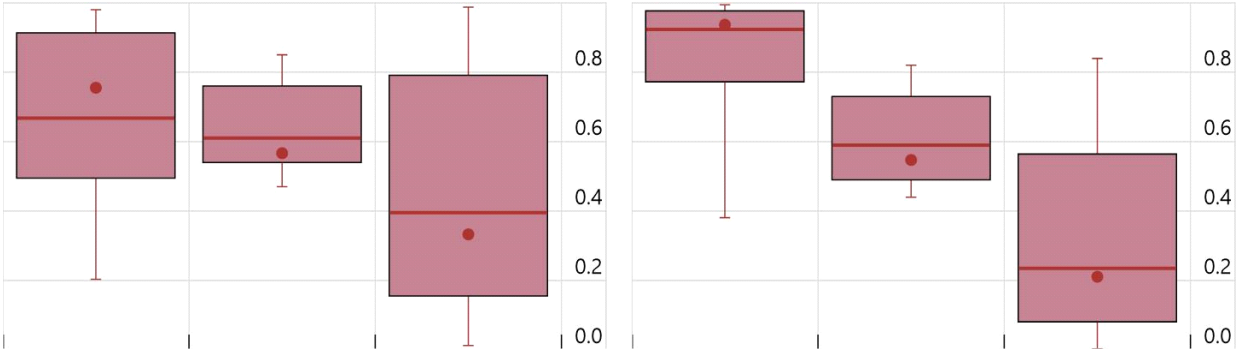
Other EF1 entity types percentile data

Graph A1-22

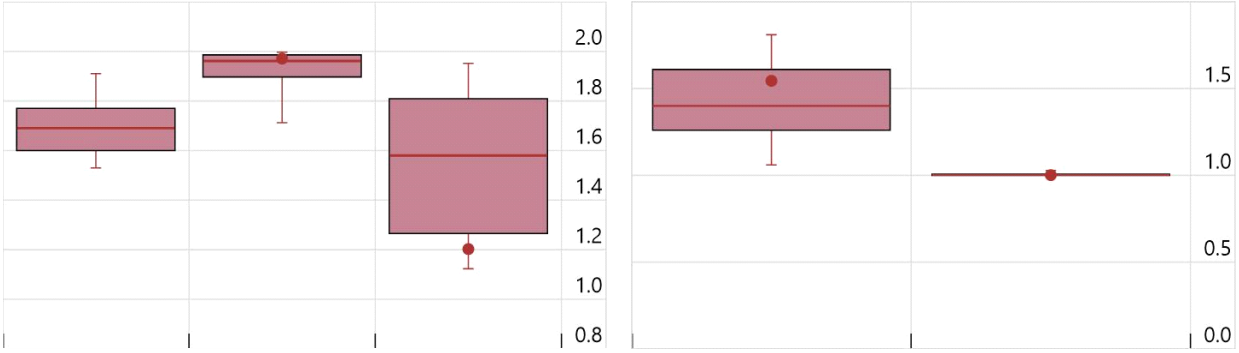
Credit intermediation[1]

Maturity transformation[2]



Liquidity transformation[3]

Balance sheet leverage[4]



[1] Credit assets / total financial assets (CI1). [2] Long-term assets – equity – long-term liabilities) / total financial assets (MT1). [3] (Total financial assets - liquid assets + short-term liabilities + redeemable equity) / total financial assets (LT1). [4] Total financial assets / equity (leverage 1).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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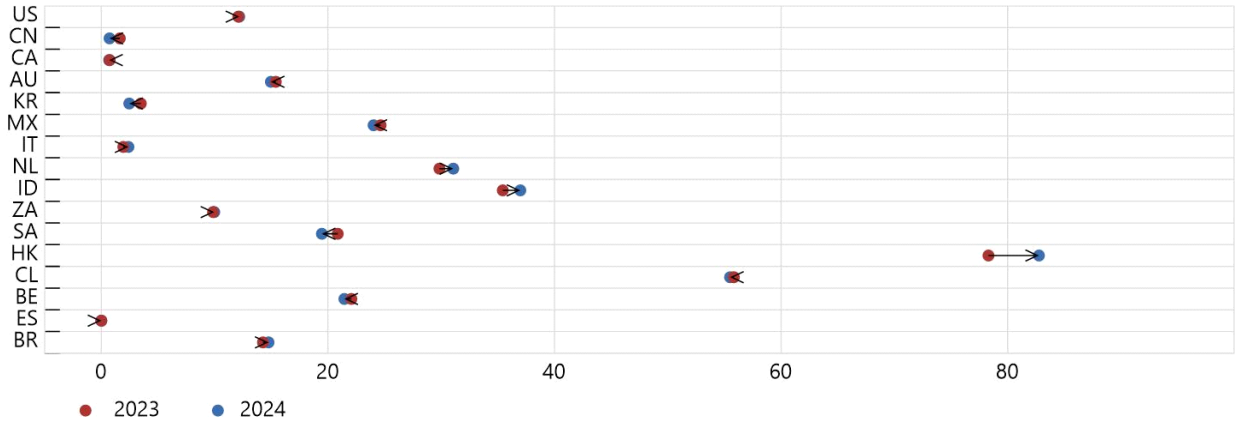
Use of short-term wholesale funding by finance companies – year-on-year changes[1]

As a percentage of total finance companies' assets

Graph A1-23



[1] Includes only jurisdictions that provided short-term wholesale funding data for both years.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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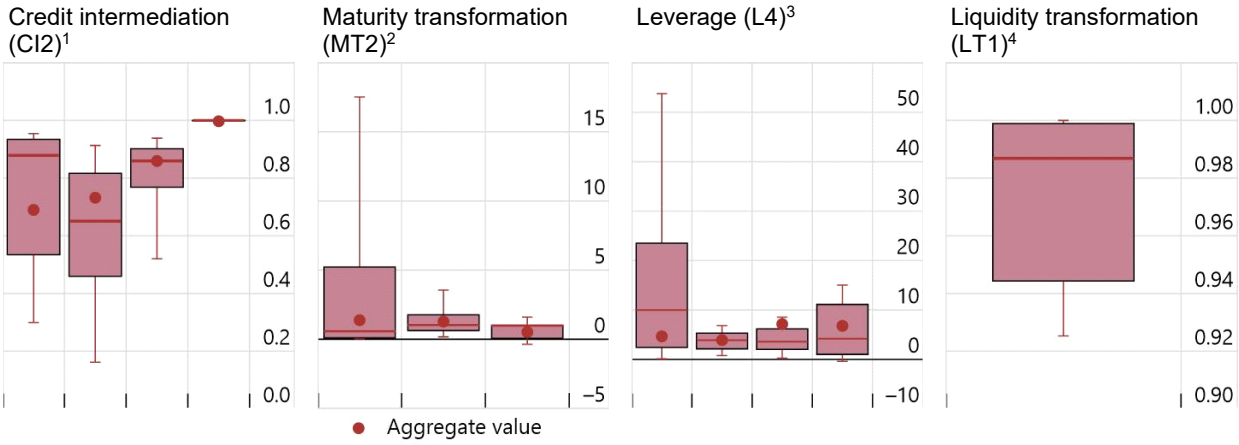
Percentile vulnerability metrics for finance companies in 2024

Ratios

Graph A1-24



Each box plot represents a jurisdiction's data submission and reflects data from many individual entities within that jurisdiction. Box plots show medians, interquartile ranges, and 10th-90th percentiles.

[1] Loans / total financial assets (CI2). [2] Short-term liabilities / short-term assets (MT2). [3] Total liabilities / equity (L4). [4] (Total financial assets – liquid assets (narrow) + short-term liabilities) / total financial assets (LT1).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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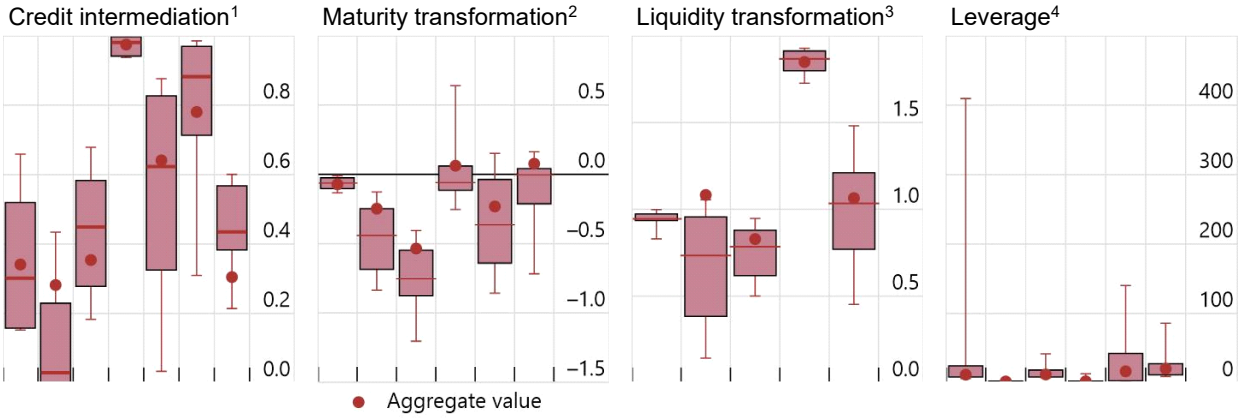
Percentile vulnerability metrics for broker-dealers in 2024

Graph A1-25



Each box plot represents a jurisdiction's data submission and reflects data from many individual entities within that jurisdiction. Box plots show medians, interquartile ranges, and 10th-90th percentiles

[1] Credit assets / total financial assets (CI1). [2] (Long-term assets – equity – long-term liabilities) / total financial assets (MT1). [3] (Total financial assets – liquid assets (narrow) + short-term liabilities) / total financial assets (LT1). [4] Total financial assets/equity (L1).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

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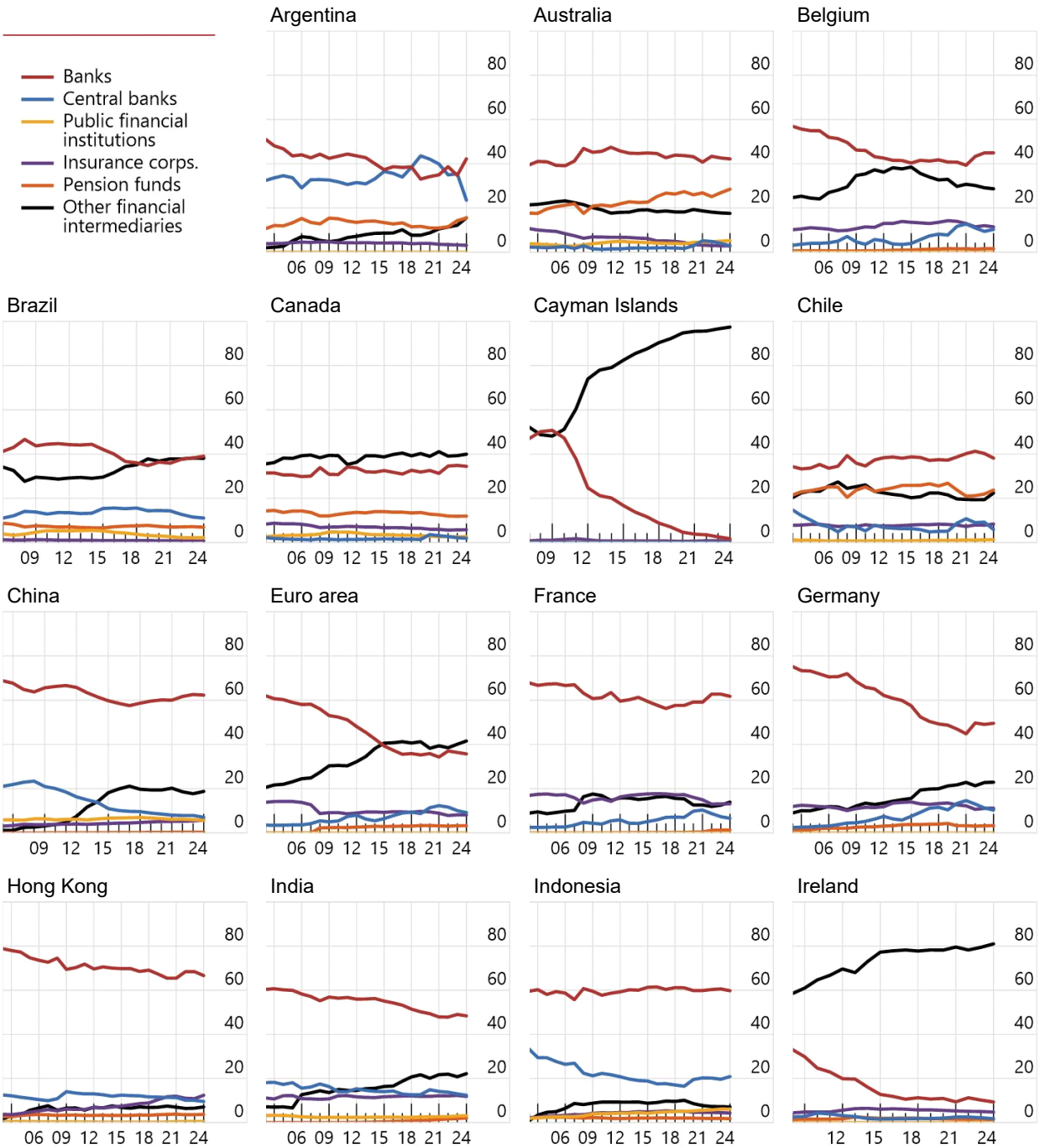
Annex 2: Jurisdiction-specific financial sectors

Share of total national financial assets by jurisdiction[1]

In per cent

Graph A2-1



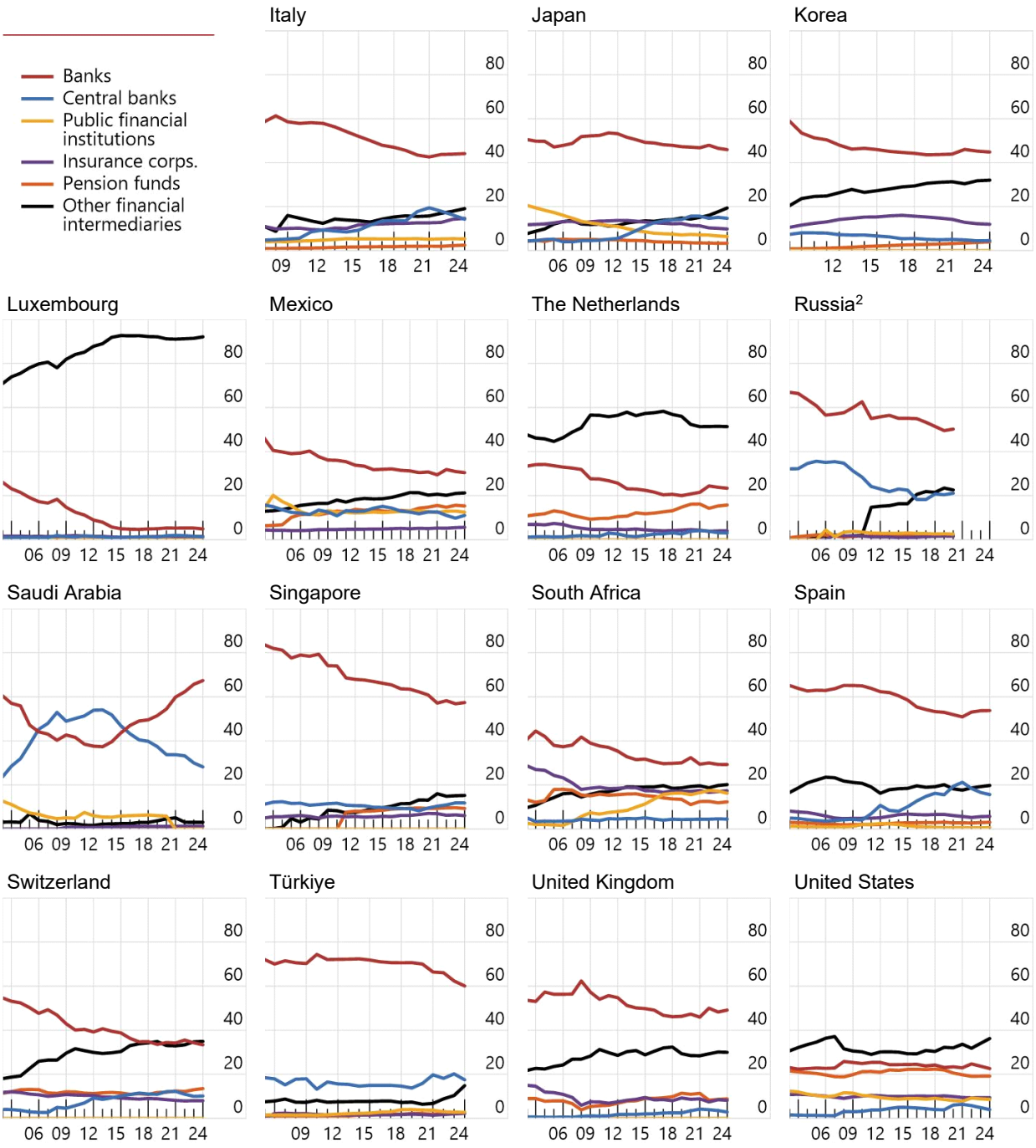
[1] Based on historical data included in jurisdictions' 2025 submissions. Exchange rate effects were netted out by using a constant exchange rate (from 2021).

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Share of total national financial assets by jurisdiction[1]

In per cent

Graph A2-2



[1] Based on historical data included in jurisdictions' 2024 submissions. Exchange rate effects were netted out by using a constant exchange rate (from 2021). [2] Data for Russia up until 2020.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data) and 2021 submission for Russia; FSB calculations.

Annex 3: Summary table

Moving from NBFI to the narrow measure: 29-Group, in USD trillion

	NBFI sector	NBFI components				Excluded from narrow measure[1]	Narrow measure of NBFI	Narrow measure components					
		ICs	PFs	OFIs	FAs			EF1	EF2	EF3	EF4	EF5	Unallocated
2008	95.2	17.7	19.1	57.1	1.2	65.2	30.0	13.3	3.3	5.4	0.1	5.8	2.0
2009	100.4	19.2	20.7	59.0	1.5	72.7	27.7	14.1	3.0	3.4	0.1	6.1	1.1
2010	108.0	20.6	22.6	63.3	1.5	80.5	27.5	15.3	3.0	3.1	0.1	5.0	1.0
2011	111.5	21.3	23.6	65.1	1.4	83.2	28.3	17.0	3.0	3.2	0.1	4.4	0.6
2012	121.7	22.9	25.2	72.0	1.5	89.9	31.8	20.6	3.0	3.4	0.1	4.1	0.6
2013	131.7	24.0	28.0	78.1	1.5	97.3	34.4	23.3	3.1	3.3	0.1	4.0	0.6
2014	144.1	25.9	29.6	87.6	1.8	106.3	37.8	26.3	3.2	3.5	0.1	4.0	0.6
2015	151.6	26.7	30.3	92.6	1.8	111.4	40.2	29.0	3.2	3.3	0.2	3.9	0.7
2016	164.1	28.1	32.1	101.6	2.0	120.8	43.3	32.0	3.3	3.1	0.1	3.9	1.0
2017	176.4	29.6	34.2	110.1	2.2	129.4	47.0	35.0	3.4	3.2	0.1	4.2	1.0
2018	176.0	29.8	34.5	109.2	2.3	128.5	47.5	35.0	3.6	3.5	0.1	4.2	1.0
2019	193.6	32.9	38.0	119.8	2.6	140.6	53.0	39.9	3.8	3.6	0.1	4.4	1.1
2020	209.3	35.2	40.2	131.1	2.7	152.1	57.2	43.8	4.0	3.6	0.1	4.3	1.3
2020[2]	208.7	35.1	40.2	130.6	2.7	151.6	57.1	43.8	4.0	3.6	0.1	4.2	1.3
2021[2]	229.0	36.9	42.8	146.2	3.1	165.4	63.6	48.2	5.0	3.9	0.1	4.7	1.6
2022[2]	215.5	34.3	38.6	139.6	3.1	153.8	61.7	45.8	5.4	4.0	0.1	4.8	1.5
2023[2]	232.3	36.7	41.3	151.1	3.4	164.7	67.6	50.5	5.8	4.6	0.1	5.0	1.6
2024[2]	254.9	38.9	44.1	168.2	3.7	178.6	76.3	58.1	6.1	4.9	0.1	5.3	1.7

NBFI = Non-bank financial intermediation; ICs = Insurance corporations; PFs = Pension funds; OFIs = Other financial intermediaries; FAs = Financial auxiliaries; Unallocated = included in narrow measure but not allocated to a particular EF. As in previous reports, the 29-Group sample is used for the narrowing down section of this report because of its greater granularity. Therefore, all the aggregates shown in this table relate to the 29-Group sample and might deviate from the aggregates discussed in Section 1 (which relies mainly on the 21+EA-Group).

[1] Includes NBFI entities classified outside the narrow measure, prudentially consolidated into banking groups, or that are part of the statistical residual. [2] Does not include data for Russia.

Sources: Jurisdictions' 2025 submissions (national sectoral balance sheet and other data) and 2021 submission for Russia; FSB calculations.

Annex 4: Main development per major NBFI subsectors

	Size at end-2024 and growth/contraction year-on-year (yoy) for the *29-Group*
Insurance corporations	• $38.9 trillion • 6.0% yoy • 4.6% yoy for AEs • 13.8% yoy for EMEs
Pension funds	• $44.1 trillion • 6.9% yoy • 6.6% yoy for AEs • 15.9% yoy for EMEs
MMFs	• $12.1 trillion • 15.0% yoy • 13.6% yoy for AEs • 21.7% for EMEs
Hedge Funds	• $11.3 trillion • 19.2% yoy • 21.0% for AEs • -0.6% for EMEs
Real estate investment trusts and funds (REITs)	• $3.8 trillion • 7.3% yoy • 6.6% yoy for AEs • 21.4% yoy for EMEs
Other investment funds – i.e. excluding MMFs, hedge funds, and REITs – (OIFs)	• $69.1 trillion • 14.5% yoy • 14.2% for AEs • 18.5% for EMEs
Finance Companies	• $7.5 trillion • 5.7% yoy • 4.5% for AEs • 12.0% for EMEs
Broker-dealers	• $12.7 trillion • 2.9% yoy • 2.8% for AEs • 4.3% for EMEs
Structured finance vehicles	• $6.5 trillion • 6.7% yoy

	Size at end-2024 and growth/contraction year-on-year (yoy) for the *29-Group*
	• 6.1% for AEs • 38.9% for EMEs
Trust companies	• $4.9 trillion • 20.8% yoy • 8.4% for AEs • 23.6% for EMEs
Captive financial institutions and money lenders (CFIML)	• $26.8 trillion • 6.5% yoy • 6.7% for AEs • 3.0% for EMEs
Central counterparties	• $0.6 trillion • -4.5% yoy • -5.2% for AEs • 28.2% for EMEs

Annex 5: Narrowing down and exclusion of NBFI entity types from the narrow measure of NBFI

The FSB's methodology of narrowing down entities in the NBFI sector to an activity-based narrow measure of NBFI involves two steps.

1. The first step casts a wide net to capture an aggregate measure of the financial assets of entities that engage in NBFI (the NBFI sector – discussed in Section 1). Such NBFI entities include ICs, PFs, OFIs and financial auxiliaries.

2. The second step narrows the focus to credit intermediation activities that could give rise to vulnerabilities because they involve liquidity/maturity transformation or use of leverage, resulting in the FSB's narrow measure of NBFI.[71] To accomplish this narrowing, the FSB classifies a subset of the NBFI entities into the five EFs shown in Table 0-1.[72]

Authorities assess non-bank financial entities' business models, activities, and associated vulnerabilities and classify relevant entities into one or more of the five EFs using the following steps:[73]

1. ***Insurance corporations, pension funds, financial auxiliaries and OFIs not classified into any of the five EFs* are excluded.** These entities, which do not tend to directly engage in credit intermediation or have been assessed as not being involved in liquidity/maturity transformation, leverage, and/or imperfect credit risk transfer, totalled $164.5 trillion at end-2024. OFIs not classified into any EF in the 2024 monitoring exercise include mainly captive financial institutions and money lenders ($20.3 trillion) and equity funds, including equity ETFs ($34.9 trillion). Details of these and other OFIs not included in the narrow measure are listed below.

2. ***Entities prudentially consolidated into banking groups are excluded*.** These entities are part of a banking group and already subject to consolidated prudential regulation and supervision (i.e. Basel framework),[74] including for maturity/liquidity transformation, leverage, and imperfect credit risk transfer, and are therefore excluded from the narrow measure.[75] These banking group consolidated entities typically include bank-owned/affiliated broker-dealers, finance companies and SFVs. Self-securitisation (or retained securitisation) assets are also excluded from the narrow measure, as under prudential consolidation rules they are treated as banking groups' own assets.[76] The

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71 This second step is based on FSB (2013), *Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities*, August. The Experts Group periodically reviews the composition of the narrow measure in light of better data and analysis.

72 Entities may also be included in an unallocated category, which captures OFIs that the relevant authorities assessed as giving rise to bank-like financial stability risks, but which could not be assigned to a specific economic function. Some entity types may be classified into more than one economic function. In those instances, an entity's assets are proportionately allocated between the economic functions into which it was classified so as to only count once towards the jurisdiction's narrow measure.

73 In some cases, the determination to exclude entities from the narrow measure incorporates authorities' supervisory judgement.

74 See Basel Committee on Banking Supervision, Basel Framework.

75 Non-bank entities that are not prudentially consolidated into banking groups, but are individually subject to Basel-equivalent regulation, are not excluded from the narrow measure.

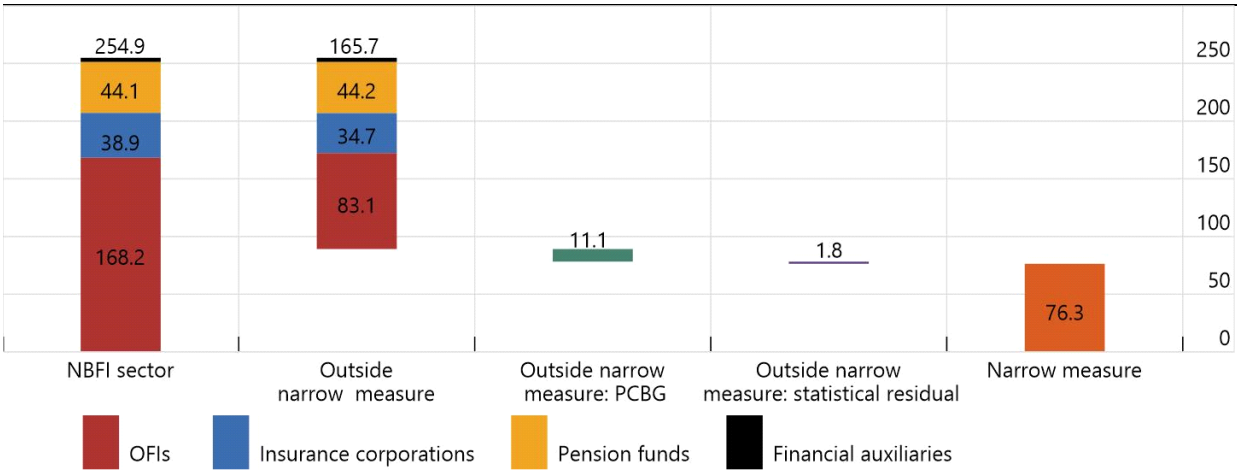
76 Self-securitisation/retained securitisation vehicles take loans from a bank and turn these into debt securities to be used by the same bank as collateral, should the need arise, for accessing central bank funding.

amount of prudentially consolidated assets, including self-securitisation, as of end-2024 was $11.1 trillion.

3. **The statistical residual category**, consisting of residuals generated in some jurisdictions' national financial accounts (NFA), is excluded from the narrow measure. These residuals are the difference between a jurisdiction's total OFI financial assets, as they are published in sectoral balance sheet statistics, and the sum of all known sub-sectors therein. In theory this residual should be zero, but may be the consequence of inconsistencies between "top-down" NFA estimates and "bottom-up" coverage of OFI sub-sectors, as well as challenges in aligning these two approaches, and differences in data granularity. These residuals totalled $1.8 trillion at end-2024 (0.7% of NBFI assets). The narrow measure excludes these residuals, given uncertainty about the actual entities/activities included in this residual and in order to avoid major inconsistencies across jurisdictions.

Narrowing down the NBFI sector

29-Group at end-2024, in USD trillion **Graph A5-1**



PCBG = assets of classified entity types which are prudentially consolidated into a banking group; Statistical residual = reported residual for OFIs generated by the difference between total OFIs and the sum of all known sub-sectors therein. Does not include data for Russia.

Sources: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Exclusion of OFI entity types from the narrow measure

29-Group at end-2024, in USD trillion **Graph A5-2**

OFIs also includes CFIMLs; CFIMLs = captive financial institutions and money lenders; Equity REITs = real estate investment trusts and real estate funds; Bank hold. comp. = bank holding companies; Trusts = trust companies; CCPs = central counterparties; PCBG = prudentially consolidated into banking groups. Does not include data for Russia.

Sources: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

In addition to the five EFs, the narrow measure also includes $1.7 trillion of assets that are included in an "unallocated" category. This category includes non-bank financial entities that authorities did not assign to a specific EF, but either assessed these entities to be involved in credit intermediation or could not determine that they should be excluded from the narrow measure.[77]

The FSB's monitoring methodology allows for excluding from the narrow measure entities included in NBFI that either do not engage in significant credit intermediation or engage in credit intermediation but were prudentially consolidated into a banking group. Accordingly, for the 2025 monitoring exercise, authorities performed a classification assessment and a series of mutual reviews to arrive at the narrow measure and excluded $81.9 trillion of OFI assets that were included in the NBFI sector. This Annex provides a breakdown of those non-bank entity types that were excluded from the narrow measure and the reasons for exclusion.

- **Captive financial institutions and money lenders** are either (i) part of non-financial corporations and used for the pass-through of capital; or (ii) consolidated into banking groups and thus excluded from the narrow measure.

- **Equity funds** invest principally in equity securities and are not involved in credit intermediation. Equity funds and ETFs referencing equity indices that do not hold more than 20% of their AUM in credit-related assets are excluded from the narrow measure. These funds often hold a modest amount of cash and highly-liquid fixed income assets for cash management purposes.

[77] Over time the size of this unallocated NBFI category may decrease to some extent as authorities, with better data and analysis, will be able to classify them into one of the five economic functions or exclude them from the narrow measure. In some cases, however, the entities or activities will remain in the unallocated category, as they are assessed to be involved in credit intermediation but do not fit into one of the economic functions.

- **Trust companies** exist in several jurisdictions. In Singapore and South Africa, they provide a range of administrative and advisory services to individual clients but are not CIVs. Korean trust accounts are separately managed (not via CIVs) and closed-end with limited leverage. Mexican trust companies that were not classified in the narrow measure invest mainly in equities of non-listed companies and infrastructure projects. Several types of Chinese trusts were excluded from the narrow measure including property trusts (which can invest only in non-financial assets), some non-bank-affiliated single money trusts and collective investment trusts (unleveraged, closed-end and/or invest primarily in equity assets).

- **eREITs** and real estate funds that invest in equities or directly in real estate have been excluded from the narrow measure as they do not engage in credit intermediation (in contrast with mREITs).

- **Others** consist of relatively small OFI entity types.

- **Mixed/other funds** in Brazil, Hong Kong, India, Ireland, Korea, Luxembourg, the Netherlands and Türkiye were assessed to be either not engaged in material credit intermediation, or presenting only negligible liquidity and maturity transformation risks and with immaterial leverage, or are not CIVs. For example, Discretionary Funds in Indonesia have been assessed not to be CIVs as they are separately managed and invest mostly in equities. South Africa did not classify fund of funds that invest in only equity or real-estate funds in the narrow measure.[78]

- **CCPs** were excluded from the narrow measure because of the absence of credit intermediation. With both sides of the balance sheet typically matched, CCPs are not engaged in bank-like activities such as leverage or liquidity/maturity transformation. However, their collateral management activities may involve elements of liquidity/ maturity transformation.

- **Closed-end funds** with limited maturity/liquidity transformation, and that are not leveraged, are not considered susceptible to runs in the same way that open-ended funds are, and have generally not been classified in the narrow measure unless a jurisdiction chose to include them following a conservative approach.

- Certain **broker-dealers** in some jurisdictions (Belgium, Hong Kong, Indonesia, Ireland, and the Netherlands) were excluded from the narrow measure as these entities are not engaged in credit intermediation (i.e. they act as “pure” brokers/agents for clients).

- **Finance companies** in India and the Netherlands whose short-term funding is less than 10% of overall assets, as well as finance companies in China that provide internal financing and serve more as a treasury function, were not classified in the narrow measure.

- Certain **hedge funds**, in Canada, India, Ireland, Luxembourg, and the Netherlands, that largely do not engage in credit intermediation are excluded from the narrow measure.

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78 In Brazil, approximately one-third of mixed funds remained within the scope of the narrow measure.

A small portion of hedge funds in Luxembourg and the Netherlands was excluded from the narrow measure as they are closed-ended and do not employ leverage and thus were assessed to not pose significant financial stability risks.

The inclusion of NBFI entities or activities in the narrow measure is based on a conservative (inclusive) assessment of the vulnerabilities associated with credit intermediation. The conservative assessment has two features:

(i) Authorities classify entities on a pre-mitigant basis – that is, authorities assume a scenario in which policy measures have not been adopted or risk management tools are not exercised. Classification into an EF does not constitute a judgement that potential policy measures to address vulnerabilities of NBFI entities and activities are inadequate or ineffective, nor does it necessarily reflect a judgement that credit intermediation outside of the banking system represents arbitrage that undermines existing regulation.

(ii) Authorities may exclude NBFI entities from the narrow measure if data are available and the analysis of the data and rationales for exclusion provide sufficient grounds for exclusion by participating jurisdictions, in light of the methodology and classification guidance used in the FSB's annual monitoring exercise.

The conservative (inclusive), pre-mitigant approach helps improve data consistency across jurisdictions and facilitates construction of global measures of intermediation activity. However, 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 of these activities may have significantly reduced or addressed these financial stability risks.[79]

[79] For example, the narrow measure currently includes certain types of investment funds, such as certain MMFs and fixed income funds, with specific structural features that may mitigate risks (such as asset allocation requirements, liquidity risk management requirements, limits on leverage, prohibitions on loan origination, and investment restrictions).

Annex 6: Vulnerability metrics

Box A6-1: Vulnerability metrics

On- and off-balance sheet items and vulnerability metrics*

Examples of vulnerability metrics	Definition and range
Credit intermediation (CI) $\text{CI1} = \frac{\text{credit assets}}{\text{total financial assets}}$ $\text{CI2} = \frac{\text{loans}}{\text{total financial assets}}$	These metrics compare the amount of credit assets and loans held by a particular entity type to its total assets (**CI1** and **CI2**, respectively) – in the case of CI1 for EF1 entities, the denominator is AUM. As loan assets are part of wider credit assets, CI2 can be viewed as a sub-set of CI1. These metrics fall between 0 and 1, with higher values showing more involvement in credit intermediation, while "0" indicates no involvement in credit intermediation.
Maturity transformation (MT) $\text{MT1} = \frac{\left(\begin{matrix}\text{long-term assets} - \text{equity} \\ - \text{long-term liabilities}\end{matrix}\right)}{\text{total financial assets}}$ $\text{MT2} = \frac{\text{short-term liabilities}}{\text{short-term assets}}$	**MT1** is the portion of long-term assets (>12-month maturity) funded by short-term liabilities (≤ 30 days) (i.e. not funded by equity or long-term liabilities or, in the case of EF1 entities, by non-redeemable equity), scaled by the entity type's total financial assets (or, in the case of EF1 entities by AUM). It falls between −1 and +1, with 0 indicating no maturity transformation, and negative values implying negative maturity transformation. **MT2** is the ratio of short-term liabilities to short-term assets. A value of 1 indicates that short-term liabilities are fully covered with short-term assets. Above 1, increases in the ratio indicate that there could be short-term funding dependence. Ratios from 0 to 1 indicate negative maturity transformation.
Liquidity transformation (LT) $\text{LT1} = \frac{\left(\begin{matrix}\text{total financial assets} - \text{liquid assets (narrow)} \\ + \text{short-term liabilities}\end{matrix}\right)}{\text{total financial assets}}$ $\text{LT2} = \frac{\left(\begin{matrix}\text{total financial assets} - \text{liquid assets (broad)} \\ + \text{short-term liabilities}\end{matrix}\right)}{\text{total financial assets}}$	**LT** measures the amount of less-liquid assets (total financial assets minus liquid assets) funded by short-term liabilities (and/or shares redeemable for cash or underlying assets in the case of EF1 entities), approximated by short-term liabilities minus liquid assets (under a narrow definition for **LT1** and a broad definition for **LT2**).** Total financial assets (or AUM in the case of EF1 entities) are also added to the numerator to obtain interpretable results, with a value of "1" indicating no liquidity transformation (i.e. all near-term demands on liquidity are supported by liquid assets) and "2" indicating that assets are less liquid and are funded by short-term liabilities, including redeemable equity.
Leverage (L) $\text{L1} = \frac{\text{total financial assets}}{\text{equity}}$ $\text{L2} = \frac{\text{total financial assets} + \text{total off balance sheet exposures}}{\text{equity}}$ $\text{L3} = \frac{\text{gross notional exposure (GNE)}}{\textit{net asset value (NAV)}}$ $\text{L4} = \frac{\text{total liabilities}}{\textit{equity}}$ $\text{L5} = \frac{(\text{total financial assets} - \text{equity})}{\textit{total financial assets}}$	**L1** is the ratio of total financial assets to equity (or AUM to NAV in the case of EF1 entities). The results can be interpreted as a financial leverage ratio or equity multiplier; however, these are not risk-based measures. Although this measure enables comparisons across entity types, **L2** tries to take into account non-bank financial entities' leveraging or de-leveraging through the use of derivatives and other off-balance sheet transactions (i.e. synthetic leverage). Additional measures for leverage were considered on the basis of data availability. For example, a non-equity ratio (**L5**) was used for SFVs instead.
Non-performing loans (NPLs) $\text{NPL} = \frac{\text{non} - \text{performing loans}}{\textit{loans}}$	**NPLs** are calculated or EF2 entities.

* For EF1 entities, the collected balance sheet data and calculated vulnerability metrics were expanded to also include assets under management (AUM) instead of total financial assets, Gross Notional Exposure and Net Asset Value (to calculate leverage ratios), and non-/redeemable equity (as a form of long-/short-term liability). Ratios related to imperfect credit risk transfer were also considered in past monitoring exercises. However, collected data were not sufficient to allow any meaningful conclusions. In particular, off-balance sheet data items such as off-balance sheet credit exposures were often not available across jurisdictions.

** Liquid assets are difficult to measure as the liquidity of an asset at any given time is contingent on a number of external factors. For the purposes of the FSB's monitoring exercise, liquid assets are considered to be all assets that can be easily and immediately converted into cash at little or no loss of value during a time of stress (see also characteristics and definition of High-Quality Liquid Assets (HQLAs) in Part 1, Section II.A in the Basel Committee on Banking Supervision (BCBS), (2013). Two definitions of liquid assets are used in this exercise: in the narrow definition, liquid assets include only cash and cash equivalents; in the broad definition, liquid assets include HQLAs, which can include cash and cash equivalents, but also certain debt and equity instruments that meet certain liquidity characteristics (subject to concentration limits and haircuts).

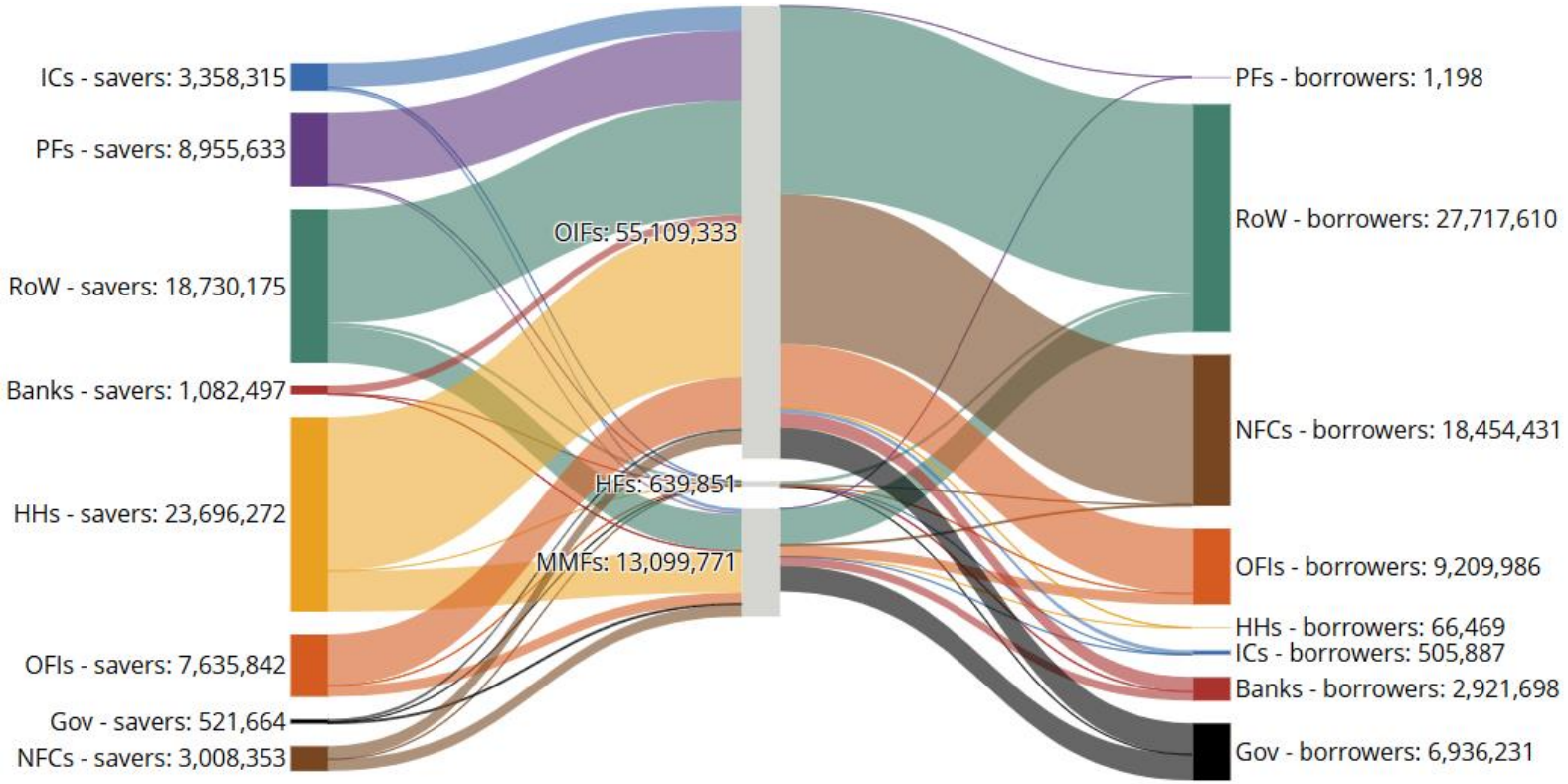
Annex 7: Sankey charts

Investment funds' identified linkages with ultimate savers and borrowers

29-Group

Graph A7-1

USD million



Only the data of jurisdictions that reported linkages to investment funds are reflected. Does not include data for Russia. Data for OIFs include data for REITs, fixed income funds and mixed funds, as well as for investment funds that were not classified in EF1. The size of OIFs', HFs' and MMFs' balance sheet was estimated by taking the maximum of savings from all ultimate savers and borrowings from all ultimate borrowers.

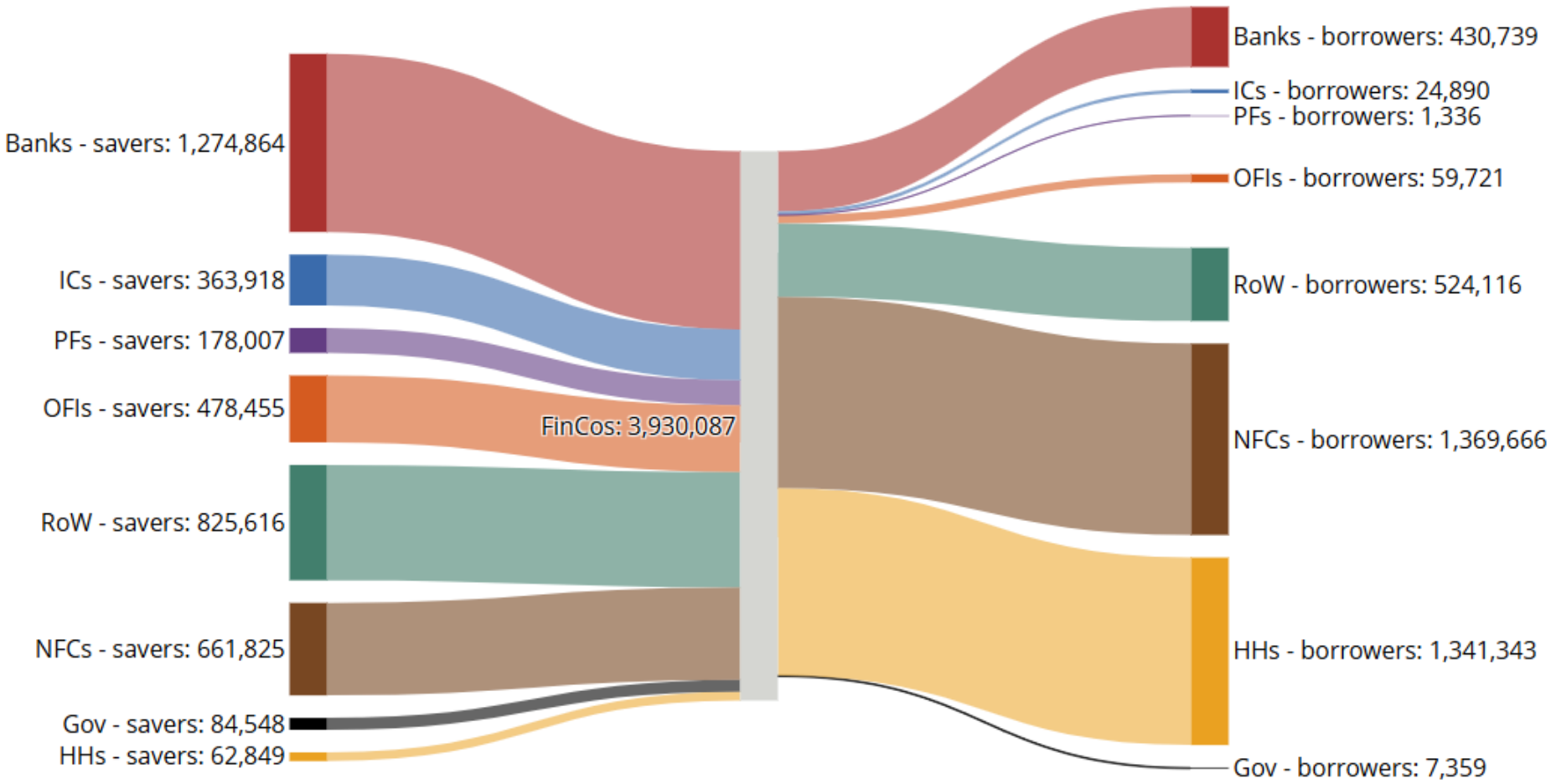
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Finance companies' identified linkages with ultimate savers and borrowers

29-Group

Graph A7-2

USD million



Does not include data for Russia. The size of FinCos balance sheet was estimated by taking the maximum of savings and borrowings.

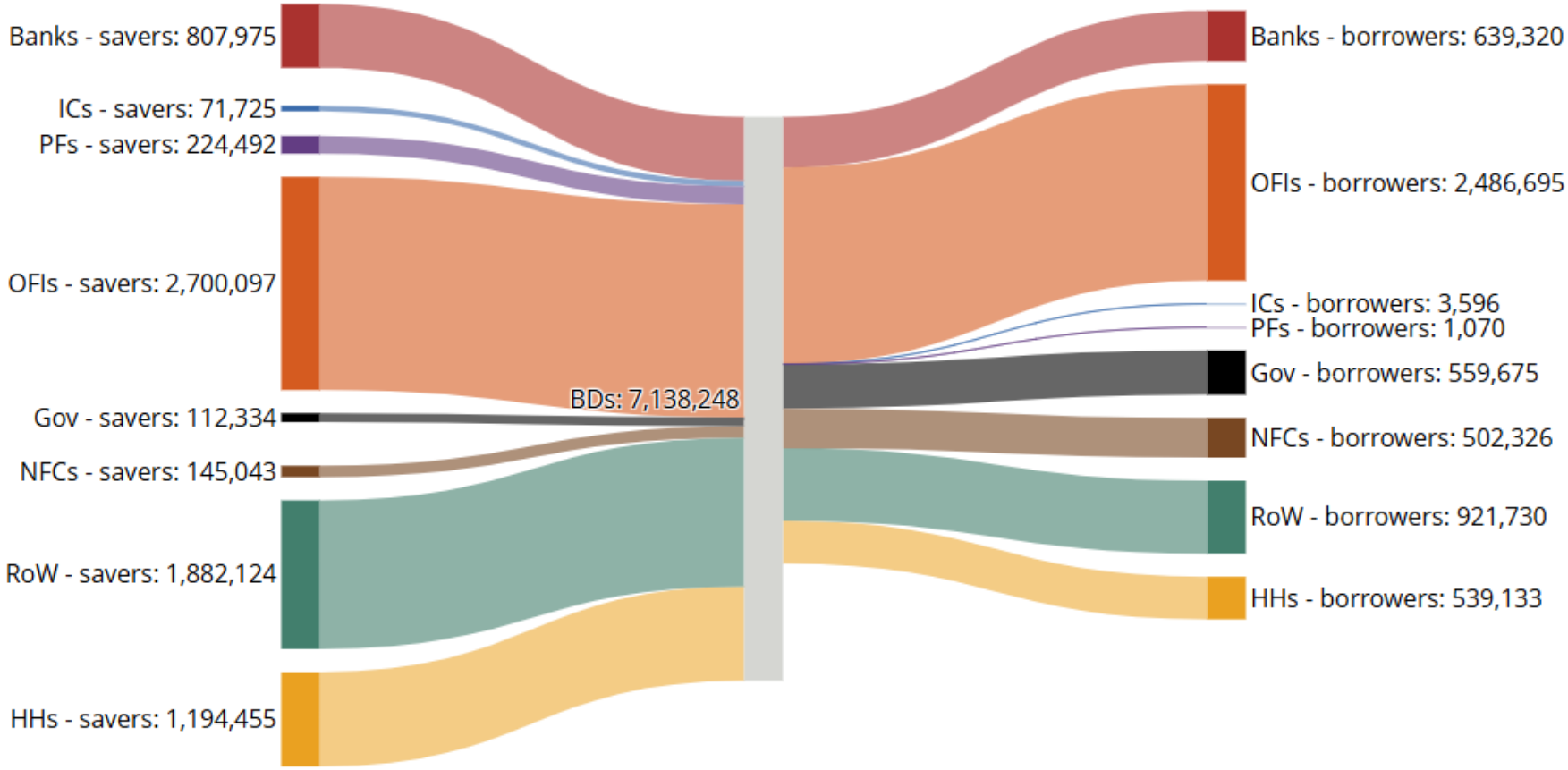
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations

Broker-dealers' identified linkages with ultimate savers and borrowers

29-Group

Graph A7-3

USD million



Graph shows data from 17 participating jurisdictions that reported exposures of financial market participants to broker-dealers. Does not include data for Russia. The household sector appeared large because of the classification of hedge funds into this sector in the United States. The size of broker-dealers' balance sheet was estimated by taking the maximum of savings and borrowings

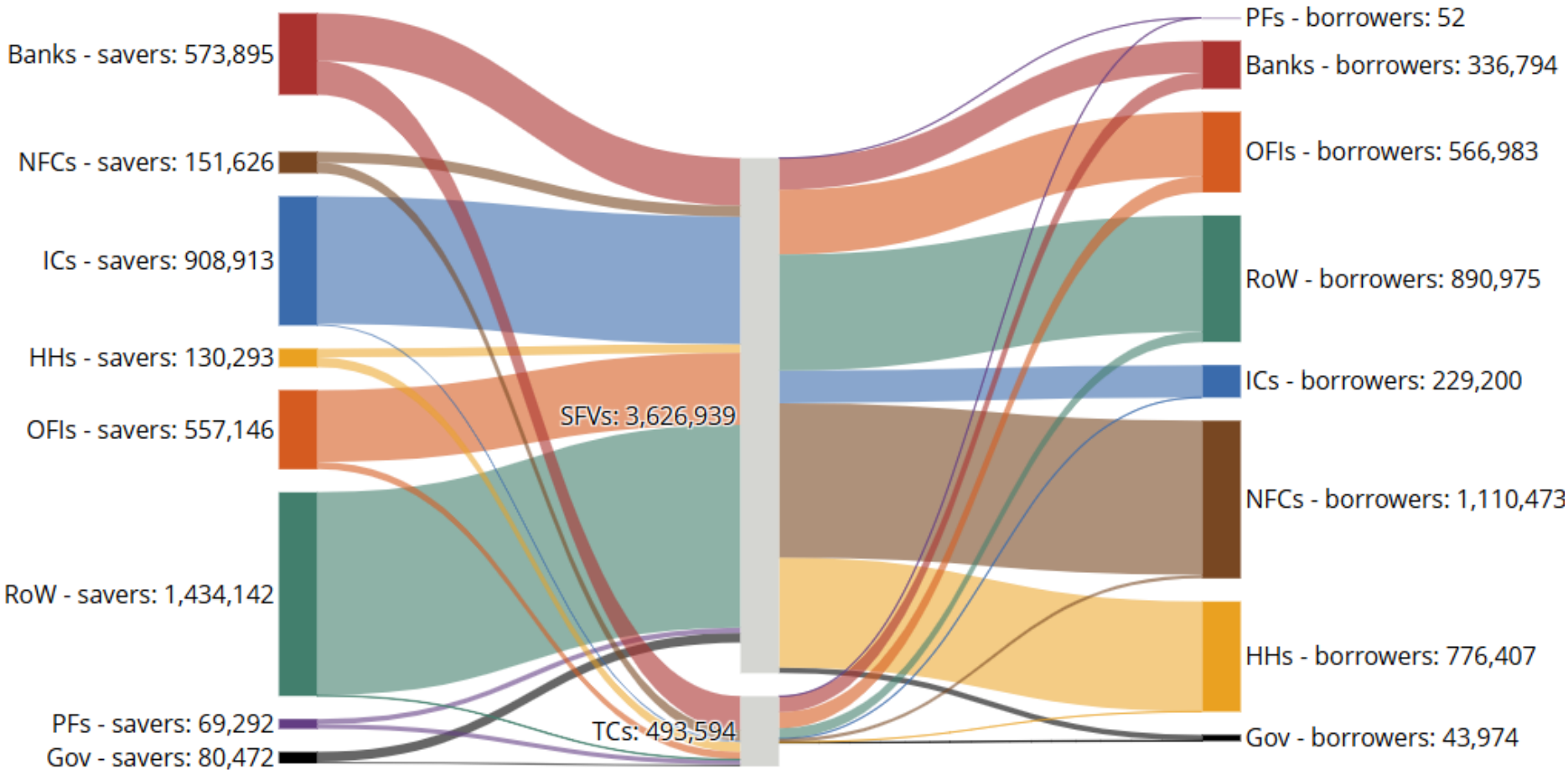
Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Trust companies' and structured finance vehicles' identified linkages with ultimate savers and borrowers

29-Group

Graph A7-4

USD million



Does not include data for Russia. The size of TCs' and SFVs' balance sheet was estimated by taking the maximum of savings and borrowings.

Source: Jurisdictions' 2025 submissions (national sector balance sheet and other data); FSB calculations.

Abbreviations

AEs	Advanced economies
AUM	Assets under management
BDs	Broker-dealers
CCPs	Central counterparties
CFIMLs	Captive financial institutions and money lenders
CIS	Collective investment scheme
CIV	Collective investment vehicle
CLOs	Collateralised loan obligations
EF1	Collective investment vehicles with features that make them susceptible to runs
EF2	Lending dependent on short-term funding
EF3	Market intermediation dependent on short-term funding
EF4	Facilitation of credit intermediation
EF5	Securitisation-based credit intermediation
EMEs	Emerging market economies
eREITs	Equity real estate investment trusts and real estate funds
FIFs	Fixed income funds
FinCos	Finance companies
HFs	Hedge funds
ICs	Insurance corporations
ICPFs	Insurance corporations and pension funds
ISIN	International securities identification number
MMFs	Money market funds
mREITs	Mortgage real estate investment trusts and real estate funds
NBFI	Non-bank financial intermediation
NFA	National financial accounts
OFIs	Other financial intermediaries
OIFs	Other investment funds
PFs	Pension funds
P2P	Peer-to-peer
REITs	Real estate investment trusts and real estate funds
RoW	Rest of the world
SFVs	Structured finance vehicles
SPVs	Special purpose vehicles
TCs	Trust companies