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The rise of non-bank financial institutions:
implications for monetary policy

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The rise of non-bank financial institutions: implications for monetary policy

Key takeaways

- *Non-bank financial institutions (NBFIs) have grown significantly in recent years, mainly driven by the growth of investment funds, including hedge funds. These changes reflect the role of bond markets, which have expanded on the back of surging government debt.*
- *The rise of NBFIs adds uncertainty to monetary policy transmission, as there could be dampening and amplifying effects. Investment funds appear to strengthen transmission while at the same time making it less stable.*
- *Greater uncertainty about transmission due to structural changes in the financial system reinforces the principle of a gradual policy approach while at the same time calling for flexibility in adjusting policy.*

The Great Financial Crisis put in motion a major structural change in the global financial system, with non-bank financial institutions (NBFIs) assuming a greater role in financial intermediation. This Bulletin documents the rise of NBFIs over the past two decades, examines their influence on monetary policy transmission and discusses the implications for central banks.

The rise of NBFIs: some key facts

The NBFI sector has grown rapidly in recent years. In major advanced economies (AEs), total NBFI assets now average around 400% of GDP, significantly surpassing the size of the banking sector (Graph 1.A). The NBFI sector is relatively smaller in emerging market economies (EMEs), but there too, it has surpassed the banking sector in terms of assets in the median economy.¹ Nevertheless, there is significant heterogeneity in the size of the NBFI sector across countries and in its growth over the past few decades.

The NBFI universe is vast and varied, encompassing a wide range of players with diverse business models. Three broad groups of NBFIs can be distinguished: insurance companies and pension funds (ICPFs); investment funds (which include mutual funds, exchange traded funds, money market funds and hedge funds); and non-bank lenders, including finance companies. Over the past two decades, the expansion of the NBFI sector has been driven by the growth of investment and hedge funds (Graph 1.B).

The growing heft of NBFIs has been accompanied by a rise in bond financing, reflecting mainly a shift in financial activity from lending to the private sector towards financing the government (Graph 1.C). NBFIs have played a key role in intermediating this shift. In many bond markets, they are important long-term

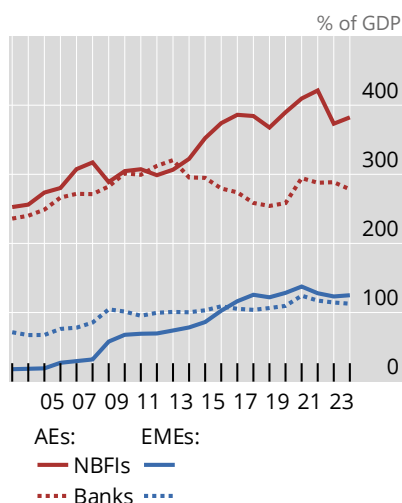
¹ Although NBFI assets have grown relative to those of banks, in some economies there are strong interconnections between intermediaries in the two sectors (Acharya et al (2024)).

investors. Additionally, hedge funds have been playing an increasingly significant role in core bond markets through their holdings of bonds using leverage.²

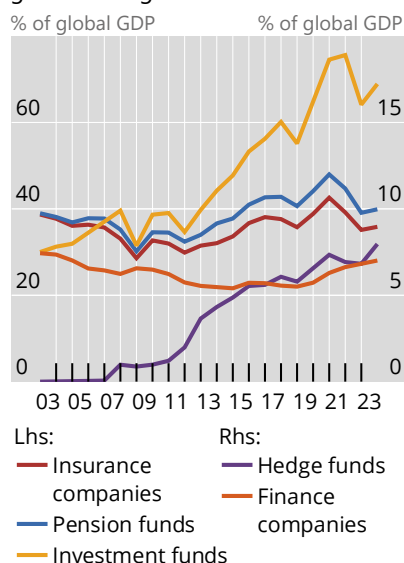
Financial intermediation has shifted from banks to NBFIs

Graph 1

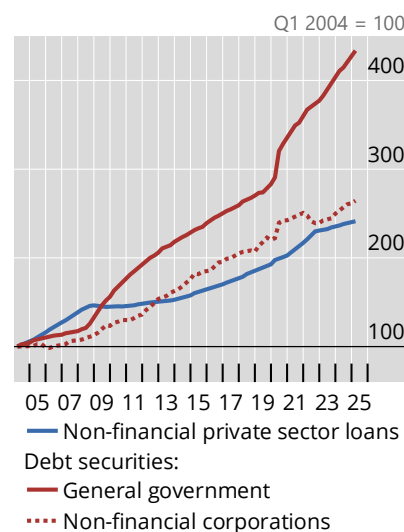
A. Financial assets of NBFIs have overtaken those of banks^{1, 2}



B. Investment funds are driving global NBFI growth^{1, 3}



C. The rise in bond financing⁴



¹ Total financial assets. ² Medians across seven AEs and 12 EMEs. ³ Investment funds include money market funds and other investment funds, but exclude hedge funds, real estate investment trusts and real estate funds. The sample covers 29 economies as reported by the Financial Stability Board and subject to data availability. See FSB (2024) for details. ⁴ Loans and government debt at nominal value. GDP-PPP weighted average of indices for AU, CA, CL, CZ, EA, GB, JP, PL and US.

Sources: FSB (2024); IMF; national data; BIS.

NBFIs and the transmission of monetary policy

NBFIs can influence monetary policy transmission in several ways. They may alter the strength of transmission, introduce state dependence in the propagation of monetary impulses and affect cross-border monetary spillovers.

NBFIs and the strength of monetary policy transmission

Monetary policy transmission initially works by changing short-term interest rates, but further transmission depends on how financial intermediaries adjust their lending and investments. In a bank-based financial system, the pass-through of policy rates to retail lending rates is a critical link in the price transmission channel. Additionally, the quantity of bank lending may be affected through the bank lending channels of transmission. In market-based systems, the transmission along the market yield curve takes a more prominent role, and new transmission channels working through NBF balance sheets may affect credit supply and market dynamics more broadly.

The rise of NBFIs raises the question of whether they have dampened or amplified monetary policy transmission. To date, the evidence suggests that the answer depends on the type of NBFI. On the whole, NBFIs have diminished the importance of bank-specific transmission channels, as the greater availability of bond financing and the growth of non-bank lenders offer a “spare tire” – an alternative source of

² See BIS (2025) for a more detailed discussion.

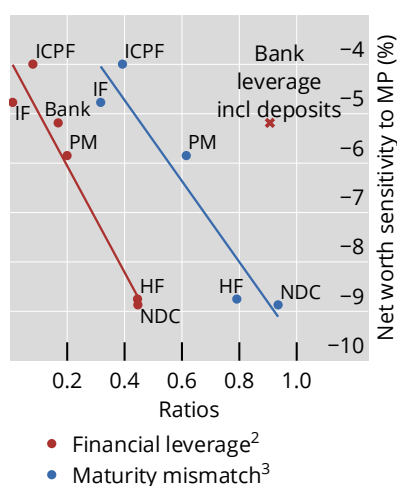
funding. The overall effect will, however, depend on the relevance of NBFI-specific transmission channels. These channels vary across different NBFIs, depending on the institutions' specific business model.³

Differences in NBFI balance sheets influence the strength of transmission. For investment funds, liquidity mismatches and leverage in some segments of the sector can trigger adjustments in asset holdings which amplify transmission. In the case of bond mutual funds, liquidity mismatches that amplify the effects of fund inflows and outflows (redemptions) can strengthen the transmission of monetary policy along the yield curve and more broadly to financial conditions. For hedge funds, high leverage, coupled with their risk-taking and arbitrage strategies, can magnify transmission through portfolio adjustments. ICPFs may amplify or dampen monetary transmission. On the one hand, their duration mismatches can generate procyclicality, amplifying the transmission to long-term rates. On the other hand, the stability of their liabilities and low cash flow variability can have a dampening effect. For non-bank lenders, differences in financial structures determine whether they strengthen or dampen monetary policy. For private credit funds, low leverage and long-duration liabilities may dampen monetary transmission; for finance companies, high leverage and dependence on short-term financing, giving rise to maturity mismatches on their balance sheets, may amplify it (Banerjee and Serena (2024)).

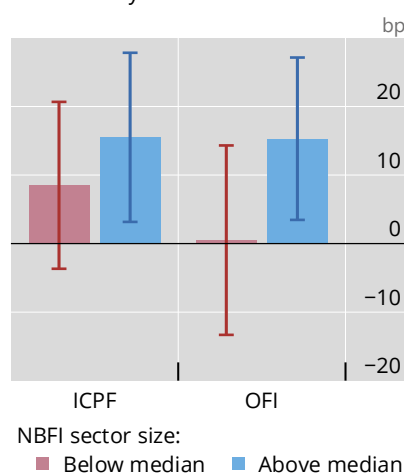
NBFIs and monetary policy transmission

Graph 2

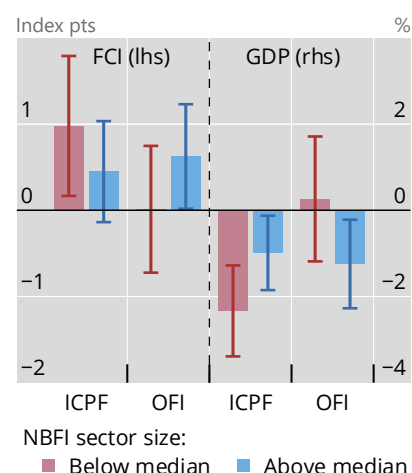
A. Leverage and maturity mismatch amplify transmission to net worth¹



B. OFIs amplify transmission to long-term bond yields...^{4, 5}



C. ...as well as to FCIs and real GDP^{4, 6}



¹ X-axis: averages across financial ratios of firms grouped by NAICS classifications. Y-axis: impact of a 100 basis point (bp) monetary policy shock on equity prices (as a proxy for net worth) after nine quarters estimated from local projections. ICPF = insurance companies and pension funds; HF = hedge funds, defined as investment fund companies with leverage; IF = investment funds, defined as investment fund companies with no leverage; NDC = non-deposit credit institutions (includes finance companies); PM = portfolio management companies (includes private credit lenders). See online annex for details. ² Ratio of financial debt (excluding deposits) to assets. ³ (Current liabilities + Deposits)/(Non-current assets). ⁴ ICPF = insurance companies and pension funds. OFI = other financial institutions. Above (below) median: total assets of the given NBFI sector as a ratio to GDP above (below) the median across countries in a given year. Error bars show 90% confidence intervals. See online annex for details. ⁵ Contemporaneous impact of a 100 bp monetary policy shock on 10-year government bond yields. ⁶ Impact of a 100 bp monetary policy shock on the Financial Conditions Index (FCI) and GDP after eight and 12 months, respectively.

Sources: FSB (2024); Bloomberg; Finaeon; LSEG Datastream; Macrobond; Goldman Sachs Global Investment Research; S&P Global Market Intelligence; national data; BIS.

Some of these channels are reflected in the impact of monetary policy on the net worth of different types of NBFIs, proxied here by institutions' stock prices, which can influence lending and risk-bearing capacity (Adrian and Shin (2010)). Micro-level cross-country data suggest that the net worth of NBFIs with higher leverage and larger maturity mismatches, two of the amplifying factors that we can measure in the

³ See Gelos (2025) for a recent survey on the channels and further references.

data, is more sensitive to monetary policy (Graph 2.A). Within investment funds, hedge funds with high leverage are more affected by monetary policy compared with unleveraged investment funds and ICPFs. Among non-bank lenders, non-deposit credit intermediaries, such as finance companies with high leverage and maturity mismatches, also tend to be more affected by monetary policy compared with portfolio management companies, which include private credit and equity firms.⁴

The presence of NBFIs shapes the transmission of policy rate changes to long-term yields and broader measures of financial conditions. Cross-country estimates suggest that a larger ICPF sector and in particular a larger sector of “other financial institutions” (OFIs), which include money market funds, hedge funds, other investment funds and finance companies, amplify the transmission along the yield curve (Graph 2.B). A larger OFI sector is also associated with stronger transmission to broader financial conditions, while a larger ICPF sector seems to dampen it, probably due to more stable balance sheets (Graph 2.C).

The different amplifying or dampening effects of NBFIs are also visible in estimates of the aggregate transmission to real GDP (Graph 2.C). A larger OFI sector seems to amplify the impact, while ICPFs seem to dampen it. However, the statistical uncertainty around the estimates is large, reflected in wide and generally overlapping confidence bands around the point estimates. In sum, as the OFI sector has grown in relative importance compared with other NBFIs, it appears likely that the transmission of monetary policy has also strengthened. However, considerable uncertainty about the extent of this effect remains, as reflected in wide confidence bands around the estimates.

NBFIs and the state dependence of monetary transmission

The rise of NBFIs may make the effects of monetary policy more state dependent since NBFI funding conditions and risk attitudes may be more volatile than those of banks. The impact of policy rate changes on long-term yields may depend on NBFIs’ leveraged trading activity, in particular from hedge funds, which in turn depends on the availability of funding liquidity and margins in repo markets.

Specifically, when arbitrage activity, and hence leverage, is higher, a change in the price of leverage through higher policy rates would be expected to have stronger repercussions on hedge funds’ asset allocations and hence on bond yields and financial conditions. Indeed, when trading activity is high, supported by higher leverage, policy rate changes have a larger impact on bond yields and financial conditions. For instance, a 100 basis point shock to US policy rates results in a 120 basis point increase in 10-year yields when trading activity and leverage is high, while it has barely any impact when they are low (Graph 3.A). Broader measures of financial conditions have similar results.

In contrast, low trading activity and leverage tend to strengthen the impact of central bank bond purchases on long-term rates. When hedge funds are less active, there is less trading activity that smooths out the impact of bond purchases on yields. As a result, bond purchases by central banks can have a greater impact on long-term yields. Event study analysis supports this notion, suggesting that bond purchases are more effective in influencing long-term rates when trading activity is low, while their effect is essentially nil when activity is high (Graph 3.B).

NBFIs and monetary spillovers

The growing role of NBFIs in the global financial system may also amplify cross-border monetary policy spillovers through portfolio adjustments of globally active NBFIs. Indeed, estimates indicate that US monetary policy shocks exert a stronger effect on flows from investment funds relative to total portfolio flows (Graph 3.C). This effect is especially strong in EMEs, where US monetary policy tightening leads to a significant drop in gross inflows from these investment funds. Thus, when investment funds make up a

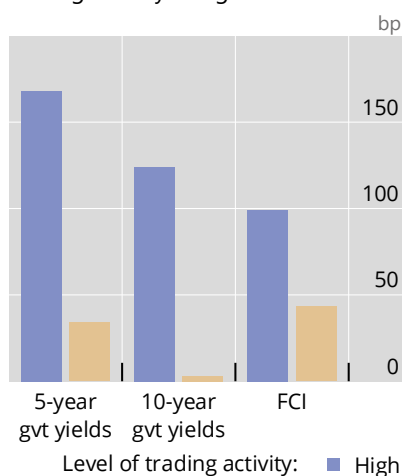
⁴ Graph 2.A highlights the uniqueness of bank deposit liabilities. The leverage-net worth relationship holds for banks when based on their wholesale liabilities (red dot) but not when including deposit liabilities (red cross). Banks also differ from NBFIs in the illiquidity of their (loan) assets compared with the marketable securities typically held by NBFIs.

large share of cross-border flows, domestic government bond yields tend to become more sensitive to changes in US monetary policy.

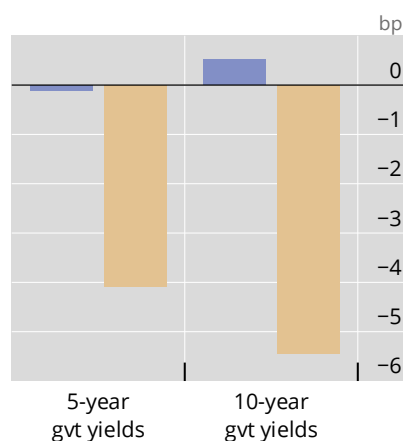
NBFI trading activity influences monetary policy effectiveness

Graph 3

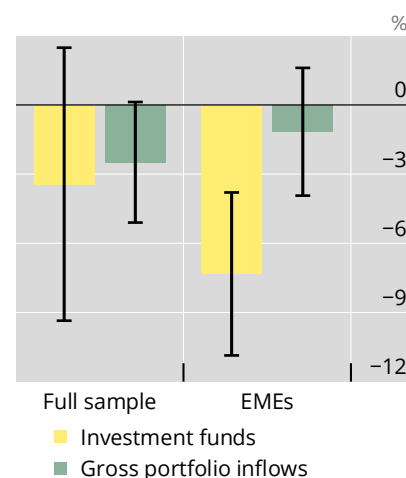
A. Policy rate changes have stronger financial effects when hedge fund trading activity is high...^{1, 2}



B. ...but asset purchase announcements are more effective when it is low^{1, 3}



C. Impact of US monetary shocks on cross-border flows⁴



¹ Level of trading liquidity proxied by the yield curve noise measures of Hu et al (2013) on the day before an Federal Open Market Committee meeting. ² Impact of a 100 basis point (bp) policy rate shock on yields and the Financial Conditions Index (FCI). ³ Impact of asset purchase announcements on yields. ⁴ Impact of a 100 bp US monetary policy shock on NBFI cross-border inflows at a one quarter horizon from local projections; error bars show 90% confidence intervals. See online annex for details.

Sources: Ashtari-Tafti et al (2025); Eren et al (2023); Hu et al (2013); IMF; LSEG Datastream; LSEG Lipper; Goldman Sachs Global Investment Research; BIS.

Globally active NBFI exposure to exchange rate movements and foreign currency assets can also impinge on monetary policy transmission. Foreign investment funds with unhedged currency exposure tend to amplify the propagation of financial shocks, as exchange rate changes, especially vis-à-vis the US dollar, can affect their balance sheet valuations, leading to significant portfolio adjustments (see Hofmann et al (2020)). At the same time, adjustments to the foreign currency hedging ratios of large insurance companies or pension funds with significant foreign assets can lead to large and non-linear exchange rate effects that may not align with the domestic monetary policy stance (Steffenson et al (2024)).

Implications for central banks

The rise of NBFIs adds uncertainty to monetary policy transmission. While some NBFIs may dampen transmission, others may strengthen it. Overall, the evidence seems to suggest that aggregate monetary transmission may have become stronger in the wake of a growing role of OFIs in financial intermediation. Yet, uncertainty around monetary transmission via NBFIs is high. Indeed, the finding that a larger role of OFIs in the economy strengthens transmission is only partly consistent with the macro-financial dynamics observed during the recent hiking cycle. While financial conditions tightened by more than in previous tightening cycles, the real economy has been relatively resilient (Avalos et al (2023)).

Greater uncertainty would seem to reinforce the classical Brainard (1967) attenuation principle of a gradual policy adjustment; at the same time it makes the case for a high degree of flexibility to adjust the course of policy in response to changing conditions.⁵ This suggests managing uncertainty about monetary transmission through a meeting-by-meeting approach, continually using analytical tools and historical

⁵ Interestingly, the seminal paper by Brainard (1967) was motivated by the rise of NBFIs in the United States in the 1960s and the uncertainty about monetary transmission it brought with it.

evidence to monitor the strength of transmission to the real economy and ultimately inflation, with the possibility to adjust the course of policy in a timely manner.

NBFIs may disrupt transmission by amplifying adverse financial shocks. The growing role of players with high leverage (hedge funds) or redemption risks (bond mutual funds) in core bond markets might at times raise illiquidity and even systemic risks. These vulnerabilities were exposed in recent financial stress episodes with NBFIs at their epicentre. Central banks have often acted as market-makers or buyers of last resort, deploying asset purchases to calm financial stress and protect the transmission of monetary policy. However, such responses also raise new challenges to avoid misinterpretation as monetary accommodation, to minimise the central bank's exposure to credit and market risk and to avoid incentivising excessive risk-taking. The greater role of NBFIs in the financial system also raises challenges for central bank operational frameworks, which are traditionally geared to banks. It raises the key questions of whether, which and under what conditions NBFIs should be granted access to central bank liquidity.

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