

Box A

Risks from Investment Funds and the COVID-19 Pandemic

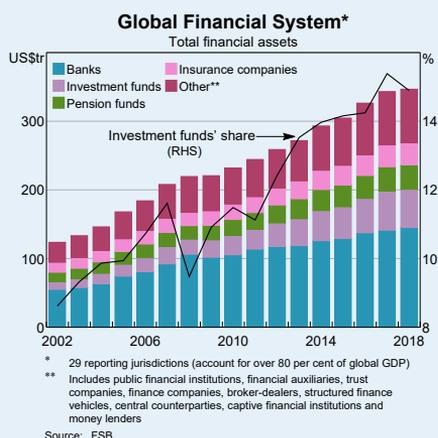
Globally, investment funds are important providers of funding to the real economy and other financial institutions.^[1] They provide benefits such as allowing investors to get exposure to a wide range of assets and offer an alternative to banks as a source of finance to the real economy. But given their size, characteristics and linkages with other parts of the financial system, they are a potential source of systemic risk. As investment funds have grown as a share of the global financial system, they have increasingly been a focus of regulators. Particular attention has been paid to those funds with leverage and liquidity mismatches, which have the potential to amplify price declines in times of stress.

Investment funds weathered the market turmoil in March without large disruptions and only limited use of measures such as redemption restrictions (which limit redemptions for a certain time) and swing pricing (where redemption prices are adjusted to account for transaction costs). This owes partly to earlier regulatory reforms and unprecedented actions by central banks. However, some funds reduced leverage abruptly, which contributed to market dislocation, including in government bond markets that serve as key pricing benchmarks.^[2] While some of the risks in investment funds have been unwound, some remain and, given their size, investment funds still have the potential to exacerbate asset price falls and possibly contribute to market dysfunction.

The size of the investment funds sector has increased significantly in recent years

Investment funds have more than US\$50 trillion in assets under management. They have grown as a share of the global financial system over the past decade to account for 15 per cent of system assets, with open-ended funds accounting for the majority of investment funds' assets (Graph A.1). Several factors have contributed to the growth of investment funds, including regulatory reforms following the global financial crisis (GFC) that made riskier lending and own-account trading less attractive to banks.

Graph A.1



Liquidity mismatches and leverage in some funds can amplify price declines in times of stress

Open-ended funds allow investors to redeem their investment directly from the fund.

These funds can pose greater risks to financial stability than closed-end funds, which have a fixed number of units on issue. To meet a large demand for redemptions, open-ended funds have to sell assets. If funds' sales are large relative to demand to buy the assets, then such sales can substantially depress prices of these underlying assets. A large demand for redemptions is more likely when market conditions are strained and investors are more risk averse, with strong demand for cash and widespread selling of riskier assets.

Open-ended investment funds with illiquid assets can encounter greater difficulty fulfilling investor redemption demands and their asset sales have a larger price impact. Funds that invest primarily in corporate debt or real estate – which tend to be illiquid – account for about one-quarter of open-ended funds' assets. In recent years, some fixed income funds, particularly those focused on high-yield bonds, have shifted their portfolios toward riskier and less liquid holdings, such as lower-rated and longer-duration bonds. Stress tests by the International Monetary Fund (IMF) estimated that funds accounting for about one-sixth of all fixed income fund assets might not have enough liquidity to meet redemptions in the event of a redemption shock.^[3] If a fund experiences a liquidity shortfall, it may employ tools such as redemption gates or swing pricing. These tools can help funds manage their liquidity when demand for redemptions is high, but they can also exacerbate demand for redemptions (including in other similar funds) by creating

an incentive for investors to redeem before such tools are deployed.

There are funds that use leverage to supplement funds contributed by investors, thereby magnifying investment returns and losses. Leverage can cause funds' activities to amplify price falls. Investment funds can obtain leverage either by borrowing or with derivatives. Leverage can result in funds needing to sell assets when prices are falling, in order to avoid the fund's gearing increasing or to pay margin calls on loan-funded positions or derivative holdings. Leverage is used by many types of funds, but some hedge funds have very high leverage, particularly those that pursue 'relative value' and 'macro' strategies.^[4]

Some investment funds could transmit stress to banks

Investment funds provide funding to banks by investing in bank debt and equity, deposits and securitised assets (including through repurchase agreements). If this funding is substantial and is suddenly restricted, banks' access to funding could decline and costs increase. As a result, credit supply to the real economy can decline and its cost increase. Indeed, the reliance of US and European banks on short-term credit provided by money market funds (MMFs) is widely recognised as having amplified stress in these banking systems during the GFC.

Working in the other direction, investment funds also borrow from banks to obtain leverage, creating credit risk for banks (although these loans are typically a small share of bank assets). Similarly, derivatives exposures between investment funds and banks can expose each to losses in the event of counterparty failure. Stress can also run from banks to investment funds through a

number of other channels, including the potential for withdrawal of bank credit lines used to manage funds' cash flow, or the reduced availability of custodial and trading services which are essential for investment funds' operations.

Almost one-third of the world's 50 largest asset managers are owned by banks. When banks own or sponsor investment funds, reputational concerns can incentivise banks to support their funds in times of liquidity stress. For example, during the March 2020 turmoil, BNY Mellon and Goldman Sachs purchased assets from their prime MMFs (which invest in highly rated commercial paper) to improve their liquidity positions amid large outflows.^[5] The GFC also saw banks in Europe and the United States provide support for investment funds run out of their asset management business.

Prior actions by regulators have moderated some risks in investment funds ...

Over the past decade or so, regulators globally have undertaken work to assess and enhance the resilience of non-bank entities, including investment funds, while preserving their benefits. This work has included the following.

- Addressing banks' exposures to investment funds and other non-bank financial institutions, including by requiring that higher risk weights are applied to banks' exposure to non-bank entities.
- Mitigating liquidity and maturity mismatches, and leverage in non-bank financial institutions. Of note, there were steps to reduce the susceptibility of MMFs to runs, including their conversion from constant 'net asset value' (NAV) to

variable NAV structures so as to be more resilient to redemptions.^[6]

- The International Organization of Securities Commissions (IOSCO) issued recommendations in 2018 to further address liquidity mismatches in funds, including that regulators should impose stricter liquidity management requirements for funds offering quicker redemptions rights, and funds should conduct stress testing as part of effective liquidity management. In 2019, IOSCO proposed more consistent and comparable measures of fund leverage.

These reforms reduced risks and helped investment funds weather the turmoil in markets in March, when there were heavy redemption pressures across a wide range of funds. Use of liquidity management tools was limited, although in Europe funds with a total of €100 billion in assets applied redemption restrictions or other extraordinary liquidity measures. Many of these funds had investments in less liquid fixed income and real estate assets. Investors who withdrew their investments might have done so because they expected liquidity management tools to be used, which could have prevented a complete withdrawal. This could have contributed to the selling pressures seen across a wide range of funds.

... but some classes of investment funds still contributed to substantial disruption in markets ...

While investment funds were generally able to meet the heavy redemption pressures in March, leverage and liquidity mismatches in some funds materially amplified market stress. Sales by these funds contributed to large price falls and a significant tightening in financial conditions. For example, highly

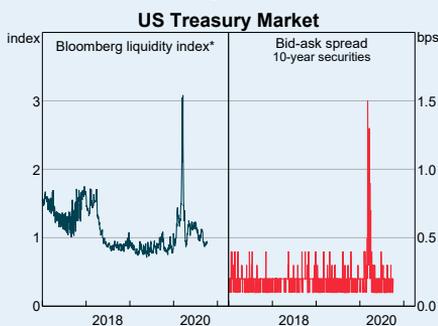
leveraged hedge funds that engaged in ‘basis’ trades contributed to dislocation in the US Treasury market when they were forced to unwind positions quickly as price fluctuations led to margin calls.^[7] This added to a broader widespread selling of US Treasuries, which overwhelmed the capacity of dealers to intermediate markets, leading to impaired market functioning for a few weeks (Graph A.2). Given that US government bonds are a widely used pricing benchmark, this had a widespread impact on other asset markets. Similar dynamics were also present in other government bond markets, including in Australia.

‘Volatility targeting’ funds were also forced to rapidly unwind positions, contributing to sharp price falls. Volatility targeting funds use leverage to meet a targeted level of volatility of their returns. This encourages greater leverage when asset price volatility is low and causes assets to be sold when volatility increases. Some volatility targeting funds, such as risk parity funds, had also relied on negative correlations between equity and bond returns to manage portfolio volatility. However, returns on bonds and equities became positively correlated in March 2020 as both asset classes were sold by

investors to raise cash. This sudden increase in correlation led to additional selling by volatility targeting funds. Estimates of the size of volatility targeting funds vary, but generally indicate that the sector is now large enough to contribute materially to asset price swings over short time horizons.^[8]

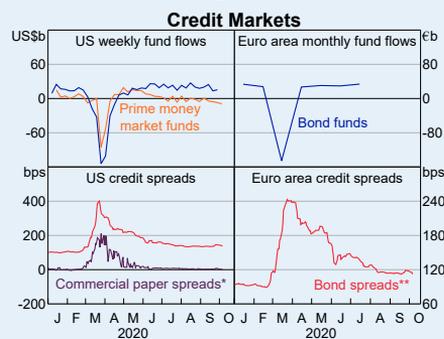
Investors made large withdrawals from a range of investment funds as demand for cash increased and risk sentiment deteriorated (Graph A.3). Investors withdrew almost US\$140 billion from US prime MMFs in March, which made it considerably more difficult and expensive for banks and other corporations to raise short-term funding.^[9] MMFs in other jurisdictions, including the United Kingdom, also experienced large outflows. Investors withdrew large sums from fixed income funds (about US\$315 billion in March), which caused funds to sell large volumes of corporate bonds, leading to liquidity problems.^[10] Reflecting illiquidity in bond markets, some fixed income exchange traded funds traded at discounts in excess of 5 per cent relative to their NAV.^[11]

Graph A.2



* Average difference between modelled and actual yields for US Treasury securities with at least one year to maturity; larger values can indicate lower liquidity
Sources: Bloomberg; Tradeweb

Graph A.3



* Three-month non-financial commercial paper spread to overnight indexed swap

** Investment grade option adjusted swap

Sources: ICE Data used with permission; Refinitiv

... and significant interventions by central banks were needed to restore market function

The disruption in financial markets threatened a sharp tightening in financial conditions and hence an amplification of the economic downturn. Central banks, therefore, provided unprecedented policy support to restore orderly market functioning.^[12] Actions included liquidity provision to banks and some investment funds and the establishment of facilities to purchase financial assets, including government bonds, commercial paper, corporate bonds and asset-backed securities. Overall, they were effective in restoring orderly market functioning and contributed to a quick recovery in financial market conditions.

Regulators also took actions to ease the impact of the market disruption on funds. Several jurisdictions delayed certain filing or reporting deadlines for funds, and some regulators allowed for temporary and targeted exemptions from rules regarding swing pricing, borrowing or related-party transactions. The market disruption in March underscores the importance of ongoing work by the Financial Stability Board (FSB) to better understand the links in the financial system. The FSB is currently working on mapping the interconnections across different parts of the financial system, especially between non-bank financial institutions and the banking system. The Australian Securities and Investments Commission is a member of the working group conducting this mapping work and related analysis. ✎

Endnotes

- [1] Investment funds includes equity, bond, money market, real estate, hedge and mixed funds.
- [2] For Australian context see Finlay R, Seibold C, and Xiang M (2020) 'Government Bond Market Functioning and COVID-19', *RBA Bulletin*, June, pp 11-20.
- [3] International Monetary Fund (2019) 'Global Financial Stability Report', October, Chapter 3.
- [4] European Securities and Markets Authority (2020) 'Annual Statistical Report: EU Alternative Investment Funds 2020'.
- [5] Both the broker-dealer and asset management operations of banks are 'ring fenced' from banks' other operations in several jurisdictions under post-crisis regulatory reforms.
- [6] For example, see IOSCO (2018) 'Open-ended Fund Liquidity and Risk Management – Good practices and Issues for Consideration', February. In short, constant NAV funds tightly limit variability in their share price, whereas variable NAV funds offer more variability. As such, constant NAV funds are seen as prone to large redemptions because they provide investors with a 'first mover advantage'. By contrast, daily fluctuations in the share price are a feature of variable NAV funds, thereby investors are more used to (and tolerant of) losses (and gains), making them less prone to redeem in a financial crisis.
- [7] For more information on basis trades and their effect on fixed income markets, see Schrimpf A, Shin H, Sushko V (2020) 'Leverage and margin spirals in fixed income markets during the Covid-19 crisis', *BIS Bulletin*, April.
- [8] The IMF estimated the size of volatility funds at US\$810-835 billion ('Global Financial Stability Report', October 2017, Chapter 1), the BIS reported estimates of more than US\$1 trillion in funds that could be labelled volatility targeting (see reference in footnote 7) and the ECB reported a figure of up to US\$2 trillion ('Financial Stability Review', May 2020, Box 2).
- [9] Based on data from ICI – Investment Company Institute.
- [10] Bank of England (2020) 'Financial Stability Report', August.

[11] Aramonte S and Avalos F, 'The recent distress in corporate bond markets: cues from ETFs', *BIS Bulletin*, April.

[12] For a more detailed discussion of the central bank response see Bank of England (2020), 'Financial Stability Report', August, Box 7.

