International Finance, Spring 2024
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Financial Stability and Non-bank Financial Institutions: Materials for Class on Wednesday March 27 2024

The readings for class 3 focused on some issues relating to the regulation of banks, and, in particular, the bank failures of early 2023. The documents illustrate financial regulators thinking about new types of risk and how regulation may be adapted to deal with those risks. In this class we will be thinking about ways in which firms that are not regulated as banks may pose risks to the banking system.[2]

The Basel Committee document showed that some of the risks bank regulators worry about relate to the activities of non-bank financial firms—firms not regulated as banks but which engage in bank-like activities:

> Three structural trends also affected the global banking system during the period following the GFC and shaped the backdrop to the turmoil. These factors may have not played a direct role in triggering the banking turmoil but may have indirectly contributed to some of the fragilities discussed in this section. First, non-bank financial intermediation (NBFI) grew significantly and now accounts for around 50% of total global financial assets, a 20% increase since 2008. This growth saw a range of complex and opaque channels of bank interconnections with NBFI. Second, a cryptoasset ecosystem quickly emerged; cryptoassets' market valuation grew from about $16 billion six years ago to nearly $3 trillion in 2021 before falling back to a valuation of just over $1 trillion at the beginning of March 2023. While the global banking system's direct exposures to cryptoassets are limited – amounting to just under €4 billion, or 0.004% of total exposures as of end-June 2022 – they are concentrated in a small number of banks. Third, and more generally, the ongoing digitalisation of finance saw advances in faster payment / settlement services and on-demand access to banking services through mobile apps, thereby facilitating the ability of depositors to move their funds.[3]

Non-bank financial intermediation was an issue before the Global Financial Crisis, and at

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[2] Remarks by FDIC Chairman Martin J. Gruenberg at the Exchequer Club on the Financial Stability Risks of Nonbank Financial Institutions (Sep. 20, 2023) ("Since nonbanks do not have direct access to the public safety net, they are generally not subject to the same degree of regulation and supervision as banking organizations. As a result, they often have less transparency in their operations, as well as reliance on excessive leverage and volatile funding sources.")

[3] Basel Committee on Banking Supervision, Report on the 2023 Banking Turmoil (Oct 2023), at 5 (footnotes omitted).

that time was referred to as shadow banking.[4] Securitization was part of the shadow banking landscape: income streams such as credit card receivables, or interest payments on mortgages were packaged together and debt securities were issued where the interest would be paid from the income stream. These transactions became extremely complex, and securitization was a focus of regulation after the crisis.[5] Securitizations were meant to transfer credit risks away from the banks that originated the income-producing transactions, but there were other transactions which transferred credit risks and which also became problematic, such as credit default swaps, which caused the failure of AIG, an insurance company.[6] When, after the Global Financial Crisis, regulators focused particular attention on global systemically important financial institutions (G-SIFIs)[7] they worried about non-bank financial institutions such as insurance companies, as well as about banks.[8]

Regulators continue to worry about non-bank financial intermediation when it involves maturity or liquidity transformation, or leads to an increase in leverage (the amount of debt) because these involve systemic risk. The Financial Stability Board says that " The diversity and growing involvement of non-bank entities in credit provision has led to more interconnections, including on a cross-border basis, meaning that stress in the sector can be transmitted more

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[4] *See*, *e.g.*, Many Financial Institutions That Act like Banks Are Not Supervised like Banks at https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Shadow-Banks.

[5] *Cf.* Financial Stability Board, Evaluation on Effects of G20 Reforms on Securitisation, Summary Terms of Reference (Aug. 30, 2023) at 2 ("A number of regulatory reforms have since been introduced to address the information asymmetries and incentive problems associated with these forms of securitisation. They involved increases in required capital in relation to banks' securitisation-related exposures; improving disclosures and facilitating standardisation; and addressing incentive problems through retention requirements and by enhancing the rating process."(footnote omitted)).

[6] *Cf.* Jonathan G. Katz, *Who Benefited from the Bailout?*, 95 MINN. L. REV. 1568, 1575 (2011) ("By purchasing a CDS, banks could avoid writing down—for regulatory capital calculations—the value of the security covered by the CDS. In 2008 alone, AIG had written more than $300 billion in CDSs for banks. If AIG failed, banks relying upon these CDSs would be forced to take enormous reductions in regulatory capital calculations." (footnotes omitted))

[7] *See, e.g.*, https://www.fsb.org/work-of-the-fsb/market-and-institutional-resilience/global-systemically-important-financial-institutions-g-sifis/; Financial Stability Oversight Council, Guidance on Nonbank Financial Company Determinations, 88 Fed. Reg. 80110 (Nov. 17, 2023).

[8] Money market funds were also considered to involve similar risks, but whereas sone insurance companies were identified as SIFIs, this was not the case for money market funds. FSOC designated AIG, GE Capital, Prudential Financial and Metlife , but subsequently rescinded the designation of GE Capital, AIG and Prudential Financial. *See* https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/fsoc/designations. Metlife's designation was held to be arbirary and capricious and therefore invalid. Metlife v FSOC 177 F. Supp. 3d 219 (D.D.C. 2016).

widely to other parts of the financial system and to the broader economy."[9] One example of this sort of connection is the collapse of Archegos Capital Management (a firm to which Credit Suisse was exposed) which "transmitted material stress to a number of large financial institutions."[10]

The Financial Stability Board is the organization which monitors international financial stability,[11] and works with the G20, regularly updating the G20 on progress in improving financial regulation.[12] The FSB works with standard-setting bodies to develop principles and standards of financial regulation,[13] and also engages in peer review to evaluate implementation of international standards in specific jurisdictions,[14] or more generally.[15] The Financial Stability Board regularly monitors non-bank financial intermediation, and states that this monitoring is a key part of its efforts to enhance financial system resilience.[16] The February 2024 letter to G20 Finance Ministers and Central Bank Governors identified "the potential mismatch between the liquidity of fund investments and daily redemption of fund units in open-ended funds (OEFs)" as a "key vulnerability in asset management" as part of its focus on non-bank financial intermediation.[17] The letter also stated that the FSB is working on policies to address leverage and enhance the ability of non-banks to manage liquidity.

Money Market Funds have been a particular issue for regulators. In 2021 the Financial

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[9] https://www.fsb.org/work-of-the-fsb/financial-innovation-and-structural-change/non-bank-financial-intermediation/.

[10] Gruenberg, *supra* note 2.

[11] In 1999, in response to the Asian financial crisis the Financial Stability Forum was established to bring together representatives of national central banks, supervisory authorities and treasury departments, international financial institutions (e.g. the IMF and the World Bank), international regulatory and supervisory groupings, committees of central bank experts and the European Central Bank. It was renamed and given a new mandate by the G20 as the Financial Stability Board in 2009.

[12] *See, e.g.*, FSB Chair's Letter to G20 Leaders (Sep. 5, 2023).

[13] *See, e.g.*, IMF & Financial Stability Board, IMF-FSB Synthesis Paper: Policies for Crypto-Assets (Sep. 7, 2023).

[14] *See, e.g.*, Financial Stability Board, Peer Review of Italy (Jan. 18, 2024).

[15] *See, e.g.*, Financial Stability Board, Thematic Peer Review on Money Market Fund Reforms: Summary Terms of Reference and Request for Public Feedback (Aug. 16, 2023).

[16] *See, e.g.*, Financial Stability Board, Global Monitoring Report on Non-Bank Financial Intermediation 2023 (Dec. 18., 2023) at 4.

[17] FSB Chair's Letter to G20 Ministers and Central Bank Governors (Feb. 20, 2024). The FSB has been working with IOSCO on these issues. *Id.*

Stability Board published proposals to enhance the resilience of money market funds, noting that these funds can be subject to sudden redemptions or runs, and that it may be hard for them to sell assets, especially when markets are stressed (liquidity issues).[18] The report describes these funds as follows:

> MMFs are open-ended investment funds that are managed with the aim of providing principal stability, daily liquidity, risk diversification and returns consistent with prevailing money market rates. MMFs are not homogeneous and their structure and risk characteristics differ across jurisdictions. MMFs are important providers of short-term financing for financial institutions (especially dollar funding for banks headquartered outside the US), corporations, and governments. They are also used by retail and institutional investors to invest excess cash and manage their short-term liquidity needs. While MMFs invest mostly in short-term debt instruments, their shares are redeemable on demand and many investors tend to treat MMFs as cash-like. Non-public debt MMFs are particularly active in the commercial paper (CP), negotiable certificates of deposit (CDs) and repo markets.[19] Secondary markets for CP and CDs are generally not liquid as investors, including MMFs, tend to buy and hold these instruments to maturity.
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> MMFs are subject to two broad types of vulnerabilities that can be mutually reinforcing: they are susceptible to sudden and disruptive redemptions, and they may face challenges in selling assets, particularly under stressed conditions. The first type of vulnerability arises from the fact that MMFs engage in liquidity transformation, are used for cash management by investors, and are exposed to credit risk. In addition, regulatory thresholds for some MMFs may cause investors to pre-emptively redeem to avoid the consequences of a fund crossing those thresholds (cliff effects), while certain types of investors (notably institutional investors) may amplify redemption risks. Taken together, these features can contribute to a first-mover advantage for redeeming investors in a stress event and thus make individual MMFs, or even the entire MMF sector, susceptible to runs. The second type of vulnerability arises because some MMFs hold financial instruments that have limited liquidity, even under normal market conditions. In practice, these two types of vulnerabilities have been significantly more prominent in non-public debt MMFs.

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[18] Financial Stability Board, Policy Proposals to Enhance Money Market Fund Resilience (Oct. 11, 2021).

[19] The repo market involves short term loans collateralised by securities (often Treasuries). One party to the transaction sells securities to another and agrees to repurchase the securities at a higher price. The increase in price is the equivalent of interest on the loan. *See, e.g.*, Jeffrey Cheng & David Wessel, What is the Repo Market, and Why Does it Matter? (Jan. 28, 2020) at https://www.brookings.edu/articles/what-is-the-repo-market-and-why-does-it-matter/ . The reverse repo market allows firms, such as money market funds, to exchange their surplus cash for securities and earn a return on the transaction.

> Some features of MMFs and their uses may also give rise to system-wide vulnerabilities. For example, similarities in portfolios may present contagion risks among MMFs, as strains on one fund may affect others that hold similar assets. Common features in fund structure and regulation, such as thresholds, may cause investors to react to news about one fund by redeeming shares from other funds. The usage of MMFs for cash management and specialised financial functions, such as to meet margin calls, may add a common component to MMF flows that exacerbates stress. The susceptibility of non-public debt MMFs to sudden and disruptive redemptions in episodes of stress has been evident in a number of jurisdictions and triggered by different shocks, most notably in the US and Europe in September 2008 and March 2020.[20]

In February 2024 the Financial Stability Board published a thematic peer review which noted that progress in implementing its recommendations from 2021 had been uneven, although some jurisdictions had implemented changes to their rules for these funds before 2021.[21] The report also noted significant variations in minimum liquidity requirements.[22]

Because of money market funds' importance in short-term funding markets they compete with banks. So we don't just need to worry about runs on money market funds and liquidity risks there, we also need to worry about whether deposit funding of banks is stable.[23] Money market funds are an important source of funding for banks, and, in the US, in particular for Federal Home Loan Banks.[24]

In the US the Financial Stability Oversight Council (FSOC) was established to monitor the stability of the financial system under the Dodd-Frank Act, the US legislative response to the

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[20] Proposals to Enhance Money Market Fund Resilience at 2. *Cf.* Board of Governors of the Federal Reserve System, Financial Stability Report (May 2023) at 3 ("Overall, domestic banks have ample liquidity and limited reliance on short-term wholesale funding. Structural vulnerabilities remained in short-term funding markets. Prime and tax-exempt money market funds (MMFs), as well as other cash investment vehicles and stablecoins, remained vulnerable to runs. Certain types of bond and loan funds experienced outflows and remained susceptible to large redemptions, as they hold securities that can become illiquid during periods of stress. Life insurers continued to have elevated liquidity risks, as the share of risky and illiquid assets remained high.")

[21] Financial Stability Board, Thematic Review on Money Market Fund Reforms (Feb. 27, 2024), at 4.

[22] *Id*. at 5 ("The extent to which existing minimum liquidity requirements are calibrated appropriately to address MMF vulnerabilities has not been examined, but there is a significant variation between jurisdictions and MMF types, with minimum daily requirements ranging from 5% to 25% and minimum weekly requirements ranging from 15% to 50% of assets under management.")

[23] *See, e.g.*, Iñaki Aldasoro & Sebastian Doerr, Who Borrows from Money Market Funds?, BIS Quarterly Review (Dec. 4, 2023), p 47, at 48 ("when policy rates rise, AUM increases by about 34 cents for every dollar decline in bank deposits.") AUM stands for assets under management.

[24] *Id.* at 52.

Global Financial Crisis.[25] For this class we will read a recent publication of FSOC on an Analytic Framework for Financial Stability Risk Identification, Assessment, and Response, which suggests a very broad role for FSOC in addressing financial stability issues in the US. Recently FSOC has focused on nonbank financial intermediation,[26] climate-related financial risk, Treasury market resilience, and risks related to digital assets.[27] In its 2023 Annual Report, FSOC identified the use of AI as an emerging vulnerability in the financial system:

> This year, for the first time, the Council has identified the use of AI in financial services as an emerging vulnerability in the financial system. AI has the potential to spur innovation and drive efficiency, but its use in financial services requires thoughtful implementation and supervision to manage potential risks. The use of AI, including machine learning, in financial services has been growing over time. This use may be poised to accelerate due to the broad introduction of generative AI tools early this year. Generative AI models use large datasets to identify patterns that allow the generation of new content including text, software code, images, and other media. Many AI approaches present "explainability" challenges that make it difficult to assess the suitability and reliability of AI models and to assess the accuracy and potential bias of AI output. In addition, the reliance of AI systems on large datasets and third-party vendors introduces operational risks related to data controls, privacy, and cybersecurity.[28]

One component of non-bank financial intermediation is private credit. The idea of private credit is that non-banks lend directly to privae businesses, and the lenders are often private credit funds whose investors include pension funds, insurance companies and wealthy individuals.[29] The loans typically carry a floating rate of interest and do not trade in a secondary market and so there is a lack of transparency. Because of a lack of secondary market trading, private credit loans are generally held to maturity, and valuations may be more optimistic than is appropriate. The lack of data about the market means that it is not easy for regulators to assess the risks.[30] In the period before interest rates began to rise, many investors were inclined to search for yield, which

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[25] Dodd-Frank Wall Street Reform and Consumer Protection Act, Public Law 111–203, 124 Stat. 1376 (2010).

[26] *See* FSOC Statement on Nonbank Financial Intermediation (Feb. 4, 2022).

[27] *See* https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/fsoc.

[28] FSOC, Annual Report 2023, at 9.

[29] Fang Cai & Sharjil Haque, Private Credit: Characteristics and Risks (Feb. 23, 2024) at https://www.federalreserve.gov/econres/notes/feds-notes/private-credit-characteristics-and-risks-20240223.html.

[30] *Id.*

meant investing in riskier assets, and private credit was part of this phenomenon.[31] At the same time, banks were lending less.[32] The extent to which private credit involves risks to the broader financial system depends on factors such as the quality of the loans, the impact of any major defaults on investors in private credit, such as insurance companies, and the extent to which the structure of private credit funds insulates them from sudden significant withdrawals.[33]

Another recent development which raises some questions is the use by banks of synthetic risk transfers. Banks are interested in being able to transfer credit risk to reduce their needs for capital, and private fund managers (hedge funds, private equity funds and private credit funds) have been willing to take on the credit risks associated with loan portfolios for a financial return. Synthetic risk transfers are complex debt instruments.[34] In September 2023 the Federal Reserve, which had previously not wanted to allow capital relief for these transactions, relaxed its approach.[35]

Banks have incentives to structure their business to reduce their needs for capital. But passing on risks to other entities may also have implications for financial stability. And this type of activity also raises some questions about how we should think about innovation. Is financial innovation beneficial or does it involve risks we don't understand? The answers will depend on precisely what is happening. But we do know that innovative financial activity has often caused problems in the past when those who are involved do not understand what is happening.

This leads us to think about the use of AI by financial market participants and crypto-assets and financial activity involving these assets. On issues raised by AI I am assigning a paper by two economists who write about systemic risk. We will think about some issues relating to crypto-assets later. For now we should note that the more interconnected activities relating to crypto-assets are with the traditional financial system the more we need to worry about financial stability risks in that context. Stablecoins, which are designed to have their value pegged to a currency, commodity or other financial instrument, are of more concern than cryptocurrencies

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[31] *See, e.g.*, Sam Boocker and David Wessel, What Is Private Credit? Does it Pose Financial Stability Risks? (Feb. 2, 2024) at https://www.brookings.edu/articles/what-is-private-credit-does-it-pose-financial-stability-risks/.

[32] But see Eric Platt & Harriet Clarfelt, Banks Strike Back at Private Credit in 'Aggressive' Push to Win Deals, Financial Times, (Feb. 26, 2024).

[33] Boocker & Wessel, *supra* note 31.

[34] *See, e.g.*, Matt Wirz & Peter Rudegeair, Big Banks Cook Up New Way to Unload Risk, Wall St, Journal (Nov. 7, 2023).

[35] *Id.*

whose value fluctuates significantly and stablecoins are designed to be used to make payments.[36]

[36] Bank of England, What is a Stablecoin? (Updated Nov. 6, 2023) at https://www.bankofengland.co.uk/explainers/what-are-stablecoins-and-how-do-they-work.