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Shadow Banking: Current Headaches, Old Problems?

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Abstract

Shadow banking was a buzzword among policymakers between 2009 and 2016. Then, it evolved into Non-Bank Financial Intermediation (NBFIs). Then, it ran out of steam. Now it is back again. Why? And should we be worried? “Shadow banking” has had bad press. During the 2007-2008 financial crisis this idea expressed the destabilizing role of activities similar to ‘banking’ but regulated more leniently.

The reality was more a combination between ‘norm evasion’ by market players, and ‘norm forbearance’ by policymakers, who sought to plug the funding gap left by ‘normal’ banking. Fast-forward to 2024, and the activities have changed somehow, but the underpinning problem remains the same. Yes, vast parts of shadow banking have

been regulated, but “conventional” banking has been regulated more strictly, increasing demand for funds, and pressure to migrate to less regulated parts. Policymakers try to have it both ways. Shadow banking at its heart is a problem of coherence in the system, and this will remain unsolved.

Keywords. Shadow banking, arbitrage, boundary, perimeter problem

“I am shocked, shocked to find that gambling is going on in here”

(Captain Renault (Claude Rains); Casablanca)

1. Introduction

Shadow banking was a buzzword in regulatory and policymaking circles right after the Great Financial Crisis (GFC) (2008-2009¹). Then it mutated into the more neutral “Non-Bank Financial Intermediation” (NBFi). Then it ran out of steam, ceding the spotlight to more urgent matters. Now it is back. The forensic examination of different episodes of market turmoil, e.g., March 2020 (COVID), the failure of Archegos Capital Management in March 2021, the 2022 turmoil in some commodities markets, and the stress in UK government bonds in September 2022, all involved NBFi entities, prompting the Financial Stability Board (FSB) to look closely into it.

The results are out. In a letter of 22 July 2024, the FSB Chair urged the G-20 members to act on NBFi,² a call for action supported by a separate report,³ one of just two that the FSB Chair presented to the G-20 meeting in 25-26 July. The IMF too, in its latest Global Financial Stability report (April 2024) highlights the risks arising from private credit funding by non-banks.⁴ In the European Union (EU) the Commission issued its macroprudential review, where it highlighted NBFi's risks,⁵ and a consultation on the adequacy of macroprudential policies for NBFi risks.⁶

Why has shadow banking resurfaced? And should we be concerned? The tentative answers are: “system neglect” and “short-term, yes; long-term... maybe not, since the problem is unsolvable”.

This paper revisits shadow banking.⁷ After GFC reforms shadow banking has changed into NBFi. It is respectable, evolved... and again a source of worries. The FSB stock take mentions old acquaintances, like money-market funds, (MMFs⁸) which were prominent during the GFC, and some new actors, e.g., open-ended funds, their liquidity mismatches,⁹ or margining practices¹⁰ but the tune sounds familiar... because the underlying problem is the same.

NBFi, or shadow banking, is the flip side of banking. If banking is tightly regulated, pressure mounts for financing to migrate towards less regulated parts. However, this logic of “arbitrage” only tells one part of the story. The other part of the story is that policymakers, like all humans, tend to focus on one salient risk at a time, while neglecting overall consistency (“system neglect”¹¹). Monitoring NBFi requires painstaking effort of comparing, analyzing and regulating...

¹ The term was originally coined by Paul McCulley, a senior executive at PIMCO.

² FSB Chair's letter to G20 Finance Ministers and Central Bank Governors: 22 July 2024.

³ FSB Enhancing the Resilience of Non-Bank Financial Intermediation. Progress report. 22 July 2024 (hereafter: FSB NBFi Report 2024).

⁴ International Monetary Fund (IMF) Global Financial Stability Report. The Last Mile: Financial Vulnerabilities and Risks. April 2024, Chapter 2 (hereafter: IMF GFSR 2024).

⁵ European Commission (EC) Macroprudential review, systemic risks relating to NonBank Financial Intermediaries (NBFIs) and their interconnectedness with credit institutions, under Article 513 of Regulation (EU) No 575/2013. Brussels, 24 January 2024. COM (2024) 21 final.

⁶ EC Consultation Document Adequacy of Macroprudential Policies for NBFi, 22 May 2024.

⁷ See my previous article on the topic. D. Ramos-Muñoz “Shadow banking: Money market's odd relationship with the law”. Número 20 Abril 2016. B-6953-2016. Available at: https://www.iefweb.org/wpcontent/uploads/2023/11/shadow_banking-3.pdf

⁸ FSB NBFi Report 2024; FSB Thematic Review on Money Market Fund Reforms. Peer review report. 27 February 2024

⁹ FSB NBFi Report 2024; Revised Policy Recommendations to Address Structural Vulnerabilities from Liquidity Mismatch in Open-Ended Funds, 20 December 2023.

¹⁰ FSB NBFi Report 2024.

¹¹ Cass Sunstein Laws of Fear Cambridge University Press, 2006.

2. Shadow Banking. What is it about?

2.1. Shadow Banking: stabilizing a concept

“Shadow banking” rose to prominence after 2009 because it was an opportune concept. The forensic analysis of the Great Financial Crisis of 2007/2008 revealed the fundamental role played by non-bank financial intermediation (NBFIs) on one side, and the fragilities of the repo market, which had until then come unnoticed.¹² Thus, shadow banking was useful to both denote the idea that a lot of financial market activity took place in unconventional forms, and to connote that such “unconventional” forms could be opaque (or shady), and in need of urgent attention. The Financial Stability Board (FSB) defined “shadow banking” in 2011 as:

“a system of credit intermediation that involves entities and activities outside the regular banking system, and raises i) systemic risk concerns, in particular by maturity/liquidity transformation, leverage and flawed credit risk transfer, and/or ii) regulatory arbitrage concerns”¹³.

The definition itself was vague because it tried two things at once: to define shadow banking as a workable policy concept, and to *give examples* to encompass the risks that were more salient during the crisis.

To understand what is a “shadow bank”, and the difficulties of classification, one just needs to ask, “what is a bank, and why is it a source of risk”. A bank’s defining feature is “maturity transformation”, i.e., a bank is funded by short-term, liquid, money-like liabilities (deposits) and invests in longer-term assets. Thus, no bank can pay back its clients’ deposits and short-term creditors if all these try to redeem their claims at the same time. This would trigger a bank run, which can precipitate a system-wide crisis. More broadly, a bank engages in credit intermediation, i.e., it resorts to debt financing to provide credit (loans), which means that it is very sensitive to underlying funding conditions. More broadly still, a bank is heavily leveraged;

its liabilities representing around 95% of its funding side (equity around 5%), and thus small variations in funding and return conditions can wipe out its equity. Thus, one can define a “shadow bank” very narrowly, as an entity engaging in “maturity transformation” (short-term liabilities; longer-term assets), more broadly, as an entity engaging in credit intermediation, and more broadly still, as a heavily leveraged entity, and that is not regulated as (tightly as) a bank. The FSB definition tries to capture all entities engaging in maturity transformation, and those entities engaging in credit intermediation or excessive leverage, which present concerns of systemic risk or regulatory arbitrage.

This idea can encompass entities like Money Market Funds (MMFs), which are funded by securities that (depending on the MMF conditions) can be redeemable on sight, at a stable Net Asset Value (NAV) (i.e., I can redeem the EUR 2,000 I have invested, the sum I redeem does not depend on the liquidation value of the fund’s assets) like bank deposits and may invest some money in corporate debt. By the same token, it can include other types of funds, as long as they intermediate credit, and are open-ended, or funded by short-term debt.

The concept can also encompass broker dealers, which may fund their clients’ credit positions, and are partly funded by short-term debt (e.g., repos), or securitization vehicles, which may invest in mortgage loans, or bonds, and are funded by short-term debt, etc. The features of these entities, and their activities, may vary a lot, depending on the characteristics of the market and the contract documentation. The important thing is that the concept is elastic enough to capture different types of activities.

Thus defined, the FSB laid out its shadow banking agenda, which comprised classification and measurement, and

¹² Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States 2011, pp. 47-51.

¹³ FSB *Shadow Banking: Strengthening Oversight and Regulation. Recommendations of the Financial Stability Board*, 27 October 2011 (hereafter: FSB *Shadow Banking* 2011).

regulation.¹⁴ The FSB classified shadow banking's (or NBFIs) "economic functions" (EFs) as: (i) management of collective investment vehicles with features that make them susceptible to runs, typical of MMFs, credit hedge funds, real estate investment trusts, (EF1) (ii) loan provision dependent on short-term funding, typical of finance, leasing and consumer credit companies (EF2), (iii) market intermediation dependent on short-term funding, typical of broker-dealers (EF3); (iv) credit creation facilitation, typical of credit insurers, financial guarantors, etc. (EF4); and (v) securitization-based intermediation, typical of securitization or structured finance vehicles (EF5). These five EFs formed the "narrow measure" of NBFIs. A broader measure would include other types of funds, e.g., equity funds, exchange-traded funds (ETFs) etc.

The FSB sought to improve NBFIs regulation proposing a policy toolkit,¹⁵ which prioritized (i) the mitigation of risk exposures by banks to shadow banks, (ii) making MMFs less susceptible to runs, (iii) improving transparency and incentives in securitization, and (iv) mitigating risks in other shadow banking entities, and securities financing transactions.

The FSB policies were echoed by the European Commission,¹⁶ which tried to implement most of these reforms, such as a Regulation of Money Market Funds (MMFs¹⁷) a tightening of securitization rules, both by directly regulating securitization entities and transactions,¹⁸ and indirectly, by adopting Basel III-based onerous prudential requirements on banks' exposures to securitization,¹⁹ and subjected investment firms to bank-like

capital requirements,²⁰ and adopted rules for securities financing transactions.²¹

Interestingly, although most examples of shadow banking risks materialized in US markets, the US was less ambitious and comprehensive in its attempts to regulate shadow banking, with feeble MMFs rules, and a slower and more reluctant adoption of Basel III. This did not prevent it from exiting the GFC earlier. Meanwhile, despite its regulatory zeal, the EU faced a subsequent banking and sovereign debt crisis, and a Non-Performing Loan (NPL) crisis, and today its securitization markets remain subdued.²² Thus, one preliminary lesson seems to be that regulation is important, but strong economic activity and deep, liquid capital markets are important as well.

2.2. Shadow Banking: developments in measurement and regulation in 2011-2023, and current sources of concern

The FSB shadow banking Taskforce identified regulatory priorities. However, shadow banking's main problem was initially a lack of data. Thus, one of the Taskforce's main challenges has been to gather data and develop reliable metrics to understand the phenomenon's size, features and dynamics, and disseminate these by means of periodic reports,²³ and an interactive Dashboard.²⁴ Table 1 offers a summary with selected metrics. Some findings are enlightening.

¹⁴ FSB Shadow Banking 2011, pp. 15-27.

¹⁵ FSB Strengthening Oversight and Regulation of Shadow Banking. An Overview of Policy Recommendations, 29 August 2013 (hereafter: FSB 2013 Shadow Banking Policy Framework).

¹⁶ EC *Green Paper. Shadow Banking*, 19 March 2012, COM(2012) 102 final; and Communication. *Shadow Banking – Addressing New Sources of Risk in the Financial Sector* Brussels, 4.9.2013 COM (2013) 614 final.

¹⁷ Regulation 2017/1131 of 14 June 2017 on money market funds.

¹⁸ Regulation (EU) 2017/2402 on the general framework for securitisation and simple, transparent and standardised securitisation.

¹⁹ Regulation (EU) 2017/2401 amending prudential requirements for credit institutions and investment firms.

²⁰ Regulation (EU) 2019/2033 on the prudential requirements of investment firms.

²¹ Regulation 2015/2365 on transparency of securities financing transactions and of reuse.

²² Joint Committee Advice on the Review of the Securitisation prudential Framework (Banking) 12 December 2022, JC/2022/66, p. 7.

²³ See, e.g., FSB Global Monitoring Report on Non-Bank Financial Intermediation 2023. 18 December 2023 (hereafter: FSB 2023 Global NBFIs Monitoring Report).

²⁴ <https://www.fsb.org/work-of-the-fsb/financial-innovation-and-structural-change/non-bank-financial-intermediation/global-monitoring-report-data/>

Table 1. The size and growth of Non-Bank Financial Intermediation (NBFI)

Measure	NBFI (TOT)	NBFI (narrow - NW)	EF1	EF2	EF3	EF4	EF5	Un-Allocated	Growth 2016/21	
									NW	EF1
Group of 29	217,9	63,1	46,9	5	4,5	0,1	5	1,6	7,8	8,5
US	77,4	19,2	13,3	1,7	1,6	0,1	1,5	1,0	7,8	10,2
China	18,7	10,3	8,9	0,3	0,8	0,0	0,3	-	7,2	9,5
Cayman Islands	13,4	8,1	7,3	0,0	0,0	-	0,8	0,0	10,7	8,8
Luxembourg	16,4	4,3	3,8	-	0,0	0,0	0,3	0,2	7,1	6,6
Ireland	7,3	3,9	2,9	-	0,0	0,0	0,6	0,4	10,4	11
UK	15,2	1,7	0,8	0,7	0,0	0,0	0,1	-	6,8	7,2
Japan	10,9	2,9	0,7	0,6	1,4	-	0,2	-	3,6	-1,5
India	1,9	0,8	0,2	0,6	0,0	0,0	0,0	0,0	17,3	13,2

Source: own elaboration using FSB Dashboard data (2022). USD trill Assets Under Management (AUM).

First, whereas NBFI assets under management (AUM) represent almost half (47,24%) of total financial assets (USD trill 217,9 against 461,2) the “narrow measure” of NBFI, which the FSB monitors more closely, and represents the closer approximation to “shadow banking” is 13,68% (USD trill 63,1).

Second, the relevance of (narrow) NBFI varies widely across jurisdictions. The jurisdictions with the largest NBFI assets (data for 2022) include the United States (USD trill 19,20) China (USD trill 10,2), the Cayman Islands (USD trill 8,07), Luxembourg (USD trill 4,32), and Ireland (USD trill 3,86). The (narrow) NBFI varies widely, also within the type of entity and “function”.

Third, within the “narrow measure”, “economic function” EF1, i.e., management of collective investment vehicles with features that make them susceptible to runs is, on aggregate, the more significant by far, with 74,3% of AUM in 2022. However, this figure masks important variations across jurisdictions, e.g., EF 2 (finance companies) are important in India, Russia, Indonesia or the UK, broker dealers are important in Japan, South Korea, Hong Kong or Singapore, securitization vehicles are important in Italy,

though temporarily (due to the wind down of its still-large stock of NPLs).

Fourth, it is necessary to investigate the combined effect of several characteristics to identify sources of risk.²⁵ Credit assets are a particularly important source of risk, and have grown steadily, including those held by MMFs and other investment funds. Furthermore, the FSB “vulnerability metrics” focus on credit intermediation, maturity transformation, liquidity transformation and leverage. Maturity and liquidity transformation are more present in fixed-income funds (FIFs) or mixed funds, credit intermediation in MMFs, and leverage in financial companies or broker-dealers. Finally, in terms of interconnectedness, banks continue to be net recipients of funds from NBFIs, but this funding has decreased since 2013 (from nearly 8,5% of assets to 6%), while NBFIs’ funding by banks has increased, but remains relatively low (4,5% of assets). The majority of funding was to and from “other financial institutions”, comprising CCPs, hedge funds, trust companies, and unidentified OFIs, suggesting that, beyond aggregate data, there are jurisdiction-specific dynamics.

²⁵ FSB 2023 Global NBFI Monitoring Report, pp. 17, 23-25, 31.

2.3. Shadow Banking: developments in measurement and regulation in 2011-2023, and current sources of concern

“Shadow banking” is more evocative than precise, which is bad for policymaking. Shadow banking is not ‘shady’; all NBFIs activities are perfectly lawful. Nor ‘new’; players and business models are well established. The change of language, into the more “boring” Non-Bank Financial Intermediation (NBFIs) partly reflects this.

The three notes of the FSB framework are (i) financial (in)stability, (ii) regulatory arbitrage, and (iii) credit intermediation outside regular banking. It is the third that separates shadow banking or NBFIs from other sources of financial instability or arbitrage. In practice, one single concept encompasses two different perspectives, the ‘intermediation’ perspective, and the ‘market’, or ‘money’ perspective. Both show that phenomenon is an old one.

1. The ‘intermediation’ perspective, typically the defining one,²⁶ characterizes NBFIs/shadow banking as a ‘boundary problem’ where banks’ maturity transformation is both necessary and risky, which makes public backstopping necessary, which creates a moral hazard problem, which requires tight prudential regulation, which creates an incentive to ‘migrate’ outside the boundaries of tighter regulation, until the activity outside is too large, and destabilizes the system, requiring intervention and a redrawing of boundaries.²⁷ This narrative partly describes the role of securitization-based shadow banking in the GFC, as well as, e.g., trust companies in the 1908 US crisis,²⁸ or bill brokers in the 1857 crisis in England.²⁹ Many financial instability episodes involved ‘unconventional’ parts of the financial

²⁶ See FSB 2013 Shadow Banking Policy Framework.

²⁷ Charles Goodhart “The Boundary Problem in Financial Regulation” In *The Fundamental Principles of Financial Regulation* Geneva Reports on the World Economy 11, 2009, pp. 69-70.

²⁸ Larry Neal “Trust Companies and Financial Innovation, 1897-1914” *The Business History Review* Vol. 45 (1) (1971) p. 37.

²⁹ Walter Bagehot *Lombard Street. A Description of the Money Market* Third edition, London: Henry S. King & Co., 1873, Chapter XI pp. 281-301.

³⁰ Charles Kindleberger *Manias, Panics and Crashes. A History of Financial Crises*. Fifth edition, Wiley, 2005.

³¹ FSB *Strengthening Oversight and Regulation of Shadow Banking. Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos* 29 August 2013.

system.³⁰

2. The ‘market’ or ‘money’ perspective focuses on money markets:³¹ the market of wholesale money-like claims, e.g., the repo market, grows and becomes more fragile, due to the use of new assets as collateral (e.g., securitized assets) or the participation of new actors, e.g., MMFs as net providers of cash. Then, sudden changes in market sentiment lead to a sudden unwinding of positions (de-leveraging) increasing the risk of liquidity shortages and fire sales, like a tragic version of the musical chairs game. This happened in the GFC, but also in other episodes, like the chains of accommodation bills in XVIIIth century Holland.³²

2.4. Shadow Banking and controlling money/credit growth: can policymakers have it both ways?

Shadow banking/NBFIs is not an anomaly, but a defining feature of the monetary system. The debate over whether “money” is a creation of the market, or a creation of the State is old.³³ The reality is that money comprises specific type of claims, e.g., bank deposits, or central bank reserves, which are defined or protected by the law, but are also accepted by the market as a means of exchange/payment.

Money is a debt claim created by contract: bank deposits (the main category of money) are created when a bank identifies a good investment opportunity, grants a loan, and creates a matching deposit.³⁴ Governments can indirectly influence money creation by manipulating market conditions, e.g., central bank policy rates,³⁵ or by limiting the growth of certain types of leverage, e.g., bank debt, by

³² *Ibid* p. 129.

³³ Stephanie Bell “The role of the State and the hierarchy of money” *Cambridge Journal of Economics* Vol. 25 (2001) p. 151; Charles Goodhart “The two concepts of money: implications for the analysis of optimal currency areas” *European Journal of Political Economy* Vol. 14, Issue 3 (1998) pp. 407-432.

³⁴ Michael McLeay; Amar Radia; Ryland Thomas “Money creation in the modern economy” *Bank of England Quarterly Bulletin* Q1 (2014) pp. 14-27.

³⁵ Central bank operations (e.g., repos, or asset purchases) are used to smooth over liquidity demand and supply, and avoid undesirable volatility, which may distort the signalling effect of interest rates. Claudio Borio *Monetary Policy Operating Procedures in the United States, Japan and EMU. A Comparative Assessment*, 2000.

means of prudential regulation, but the loss of control over the creation of money-like claims is not peripheral: it begins close to the core.

If non-bank market actors use contracts to create easily redeemable money-like claims, the State has even more limited control, and must decide case by case whether such 'new' actors are admitted as counterparties of the central bank, and whether they are regulated like banks, e.g., with strict limits on leverage, capital, liquidity, etc.

This will be difficult because contractual conditions will vary. Sometimes the claims will not be money-like, i.e., not redeemable on sight, but short-term, or redeemable on sight, but not at a 'stable' given value (e.g., if I have a bank deposit of EUR 1,000, I expect to receive EUR 1,000 upon redemption; if I redeem an investment fund, I can expect the value resulting from a liquidation of my position). Sometimes the entity will secure the liquid, money-like claim with similarly liquid assets, e.g., government bonds.

And here is the catch: "solving" shadow banking requires governments to perform a level, cool-headed and constant exercise that is excessive to expect from humans. Yes, in theory legislators/regulators can look at the data in the abstract, and conclude that entities of type "X", funded by money-like claims, redeemable on sight at 1/1 value, must be regulated like banks, entities "Y", funded by claims redeemable on sight not at par, but at liquidation value (or with restrictions like redemption fees or "gates") must be subject to some bank-like constraints, e.g., limits to liquidity mismatches, and entities "Z", with short-term (but not money-like) liabilities, and investment in credit assets (loans), must be subject to limits in their leverage. In practice, governments will look at the service the entities provide to their investors and the parties they fund and be

reluctant to impose onerous requirements when those services are important for the government or society. The GFC was full of such examples. The rise of the US securitization market was fueled by US-Government-Sponsored Enterprises (GSEs) (Fannie Mae, Freddie Mac, Ginnie Mae), with leverage higher than banks, and subject to weak supervision,³⁶ because they facilitated housing to millions of Americans.³⁷ MMFs rose as a substitute of bank deposits when Regulation Q capped deposit rates, and (retail) savers sought an equally liquid product to park their savings.³⁸

In other jurisdictions, like China, shadow banking's Wealth management Products (WMPs) were substitutes of bank deposits, again in a context of limited deposit rates,³⁹ and Local Government Finance Vehicles (LGFVs) fostered real estate development.⁴⁰ Policymakers tolerated WMP, and enabled LGFVs.

Thus, shadow banking is not "a problem" that can be "solved". It is a by-product of banking and money, a "grey" area of 'hybrid' claims close to money, and 'hybrid' entities close to banks, but not quite. By regulating banking tightly, governments create an incentive for business to migrate to the grey area, and they will react slowly because the equivalence between shadow banks and banks will not be exact, and because shadow banking will often plug funding gaps that are important for society (e.g., housing or real estate) or governments (e.g., sovereign debt markets).

³⁶ The Financial Crisis Inquiry Report *cit.* p. 40.

³⁷ Discussing this, but with a skeptical view, see David Reiss "Fannie Mae and Freddie Mac and the Future of Federal Housing Finance Policy: A Study of Regulatory Privilege" *Alabama Law Review* Vol. 61 (2010) pp. 925 *et seq.*

³⁸ R. Anton Gilbert "Requiem for Regulation Q: What it did and Why it Passed Away" *Federal Reserve Bank of St. Louis* February 1986, pp. 29-30, 32-33.

³⁹ Shidai Zhang, Kellee S. Tsai 'One system, two shadows': A local public Finance perspective on China's shadow banking system, *China Economic Review* (2023).

⁴⁰ Kenji Ueda; Yuko Gomi "Shadow Banking in China and Expanding debts of Local Governments" *Institute for International Monetary Affairs* (2013).

3. Shadow Banking's Current Problems

3.1. Shadow Banking's current profiles and risks

Current data suggest that the largest NBF1 “function” is the management of funds with features that make them prone to runs (EF1). The main source of risk will be the funds involved in credit markets. This clearly shows in the FSB four policy priorities.

First, the FSB and the IMF reports focus respectively on “**private finance**”, i.e., private equity-private finance, and “**private credit**”, i.e., the funding of middle-market firms, too small to issue public debt, and too large for a single bank, as sources of risk (the IOSCO has also stressed its importance).⁴¹

Upon closer look, however, the FSB analysis provides more questions than answers. Private finance has grown substantially (doubled AUM in the past 4 years, to USD 12 trillion) but this includes private equity as well as private credit. The US represents half of private finance's AUMs, the UK 10%, and the Euro area around 5%; Asia represents 24%, but this includes venture capital.⁴² In fact, the FSB acknowledges that loans are a very small share of “other finance institutions” assets, i.e., private credit is small and struggles to point at specific vulnerabilities in Europe or the UK.⁴³

In the US, where such funds are larger, the IMF Report highlights that North American fund managers manage the practical totality of US private credit funds, but also a large size of funds with focus in Europe, Asia, and other.⁴⁴ However, these funds are typically closed-end, with long redemption dates, which limits their maturity and liquidity transformation, and limited leverage.⁴⁵ This not

only mitigates their risk; it makes it difficult to classify them as “shadow banks”.

Thus, concerns about private credit come from its opacity (more “shadow” than “banking”).⁴⁶ Its risks are hypothetical because there is limited knowledge, as private credit falls outside banks' prudential regulation and bond markets' disclosures.⁴⁷

Secondly, closer to Europe, the FSB also highlighted the risks of MMFs and short-term funding markets.⁴⁸ MMF assets are concentrated in a few jurisdictions, primarily the US, with 58% then the EU, a distant second with 18%, especially in Ireland, France and Luxembourg, and then China, with 17%. MMFs investing in private debt suffered important outflows during the 2020 COVID crisis, both in the US and the EU, despite they had enacted post-GFC reforms following IOSCO's recommendations⁴⁹ (the FSB suggested that IOSCO should revise those recommendations⁵⁰).

The FSB's July 2024 recommendations built on policy proposals from 2021,⁵¹ and a peer review that analyzed their implementation in February 2024.⁵² The FSB proposals try to address MMFs vulnerabilities, with a policy toolkit⁵³ that includes measures to:

1. Reduce the likelihood of destabilizing redemptions, by:
 - a. Imposing redemption costs on investors, e.g., with “swing pricing” (funds can reduce their NAV when falling below certain thresholds);

⁴¹ FSB 2023 Global Monitoring Report, p. 63; IMF GFSR 2024, p. 53; IOSCO Thematic Analysis: Emerging Risks in Private Finance, September 2023.

⁴² FSB 2023 Global Monitoring Report, pp. 65-66.

⁴³ Ibid pp. 66, 68.

⁴⁴ IMF GFSR 2024, p. 55, Figure 2.2., panel 3.

⁴⁵ FSB 2023 NBF1 Global Monitoring Report, p. 64, IMF GFSR 2024, p. 56.

⁴⁶ FSB 2023 NBF1 Global Monitoring Report, p. 69.

⁴⁷ IMF GFSR 2024, p. 56.

⁴⁸ FSB NBF1 Report 2024, p. 9.

⁴⁹ FSB MMF Proposals 2021, pp. 4 (fn. 3) and 20 (Box 4).

⁵⁰ FSB NBF1 Report 2024, p. 6 Table 1, and p. 11.

⁵¹ FSB Policy Proposals to Enhance MMF Resilience. 11 October 2021 (hereafter: FSB MMF Proposals 2021).

⁵² FSB Thematic Review on Money Market Fund Reforms: Peer review report, February 2024 (hereafter: FSB MMF Peer Review).

⁵³ FSB MMF Proposals 2021, pp. 22-37.

- b. Facilitating loss absorption, e.g., with a minimum balance of shares that investors cannot redeem, or capital buffers;
 - c. Reducing threshold effects (e.g., in the EU a decline in liquid assets below a certain threshold can trigger the imposition of redemption fees or gates, and a decline in the valuation can transform the MMF from “stable NAV” to “variable NAV”; both incentivize redemptions when close to the threshold) by removing the ties between thresholds and redemption fees and gates, or eliminating stable NAV.
2. mitigate the impact of large redemptions, by, e.g., limiting eligible assets, or imposing additional liquidity requirements.

Rather than focusing on one single tool, the FSB gives pros and cons for each tool, and then recommends jurisdictions to choose a *combination of coherent* tools that is suitable for its market’s vulnerabilities.

Although the single tools are complex, once combined, the idea is not difficult to understand: MMFs should be cash-like, or investment-like: if cash-like, their bank-like risk could be subject to bank-like measures, e.g., asset eligibility, liquidity, or capital buffers; if investment-like, their measures should ensure that they are investment-like, e.g., imposing redemption costs on investors, or removing the stable NAV. Cash-like MMFs could have a limited role in short-term funding markets for corporates (too risky); investment-like MMFs could have a more prominent role.⁵⁴

Third, the FSB focused on **open-ended funds’ liquidity risk** resulting from liquidity mismatches (i.e., redemption terms not matched by the liquidity of the fund’s assets), and, building on its previous work,⁵⁵ the FSB recommended using a “categorization” approach, to align the redemption terms with the liquidity of the underlying assets, e.g., for funds investing mainly in liquid assets, daily dealing; for funds investing in less liquid assets, less than daily dealing,

or daily dealing, but with liquidity management tools (LMTs) that pass the cost of redemption onto investors, e.g., swing pricing, anti-dilution levies, etc.⁵⁶ The underpinning philosophy is the same as in MMFs: clearer categories avoid the perception that a fund is more liquid than it is. This, however, goes beyond adjusting contractual terms in line with regulation. It requires adjusting investors’ expectations in line with what is socially optimal, to avoid runs.

Fourth and finally, the FSB focused on margining practices.⁵⁷ In derivatives markets counterparties to a derivative must post collateral (typically, cash) to keep the derivative going, which includes initial margin (IM) and variation margin (VM), which evolves with the underlying prices. IM and VM must be tailored to the risk of the derivative. In stressed times, e.g., the spikes in energy prices in 2022, market actors are pressed to post cash despite liquidity is scarce, which also exposes weak practices. The FSB recommendations build on a previous consultation on liquidity preparedness,⁵⁸ and the joint work by the Basel Committee on Banking Supervision (BCBS), the Committee on Payments and Market Infrastructures (CPMI), and the IOSCO, which includes several reviews of margining practices.⁵⁹

Recommendations focus on the margining practices of NBFIs participating in derivatives and other markets. They highlight the need that those NBFIs adopt a more structured approach towards liquidity management as part of their governance, improve their liquidity stress testing, to ensure their preparedness in extreme but plausible scenarios, and improve their collateral management ensure the availability of collateral.⁶⁰

3.2. Current or old challenges?

Shadow banking, or NBFIs is bound to constantly present a different face, but it is a mistake to focus on its superficial details. The reason NBFIs presents a perennial challenge is because it is a flip side, a mirror of ‘conventional’ money

⁵⁴ Ibid, pp. 40-42.

⁵⁵ FSB Revised Policy Recommendations to Address Structural Vulnerabilities from Liquidity Mismatch in Open-Ended Funds, 20 December 2023.

⁵⁶ FSB NBFIs Report 2024, p. 14.

⁵⁷ FSB NBFIs Report 2024, p. 14.

⁵⁸ FSB Liquidity Preparedness for Margin and Collateral Calls. Consultation report, 17 April 2024 (hereafter: FSB Margin Calls Consultation 2024).

⁵⁹ BCBS-CPMI-IOSCO Review of margining practices, September 2022; Transparency and responsiveness of initial margin in centrally cleared markets – Review and policy proposals, January 2024.

⁶⁰ FSB Margin Calls Consultation 2024.

and banking markets, so ignoring those markets means that any efforts are bound to fail.

Consider MMFs. They have changed since the GFC. Post-GFC reforms have “bifurcated” MMFs to ensure that those offering stable/constant (C)NAV only invest in government debt. In the US this is the majority of MMFs. In the EU, CNAVs must invest in public debt, but they switched their investments from “long” government bond holdings (66% in 2020 to 24% in 2022) to “short” repo market exposures (22% 2020, 67% in 2022⁶¹). Policymakers will be reluctant to increase the costs (e.g., by imposing capital buffers) for entities that fund a public debt that has ballooned (60% of GDP in 2008 to more than 100% of GDP in 2024 in the US) and/or are key players in the repo market, which is of central importance in Europe.⁶²

In any event, the “dash for cash” during the COVID crisis in 2020 affected mostly variable NAV (VNAV) MMFs, such as “prime” funds.⁶³ However, these funds are a major source of funding for banks, investing heavily in their Commercial Paper (CP) and Certificates of Deposit (CDs). Thus, MMF fragilities are amplified by their impact in banks’ financing, but the real problem (in Europe at least) is that finance is too reliant on banks and not diversified.

The problem transcends MMFs, though. In the US a concentration of vulnerability has built up, as a handful of highly leveraged funds account for most of the short positions in Treasury futures.⁶⁴ A taste of what this could bring was seen during the COVID crisis: hedge funds’ gross Treasury exposures doubled from 2018 to February 2020, and, during the market turmoil period, they drastically reduced their exposure by 20%. The diagnosis was that this was a measure of liquidity management, i.e., hedge funds exited the turmoil with higher cash holdings and smaller, more liquid portfolios, due to their perceived redemption risk.⁶⁵ Furthermore, another conclusion was

that the supplementary leverage ratio (SLR), which is risk-insensitive (unlike the risk-sensitive capital ratio), penalized safe assets, like Treasuries, and had a negative impact on dealer banks, and market intermediation on Treasuries.⁶⁶ Thus, the measures proposed did not include a closer look (and potential regulation) of the largest hedge funds, but the creation of a Standing Repo Facility (SRF) to allow entities other than primary dealers (including NBFIs) to obtain liquidity from the Fed in the repo market for Treasuries, the central clearing of Treasury repos, and the revision of the leverage ratio, and its impact on credit intermediation.⁶⁷ Thus, not “regulatory”, but “enabling” measures. The Fed created an SRF, but it limited it to banks (dealer banks, state and federally chartered banks, and foreign banks).⁶⁸

Thus, a deeper analysis of this episode shows that, rather than a problem of “shadow banking”, the real problem is how to stabilize the US Treasury market, which is primarily due to the US large deficits.⁶⁹ Regulation can make certain MMF categories sounder. However, the problem will migrate to the less sound categories, e.g., “prime” MMFs and hedge funds, subject to greater redemption risks. Following a “shadow banking” logic, the authorities should impose more stringent leverage and liquidity requirements to those entities. Instead, the proposals suggested allowing those firms to trade with the Fed, and relaxing leverage requirements on the more regulated dealer banks. Why? Because as much as leverage and financial stability are a concern, ensuring that the Treasury market remains liquid is a greater concern.

A similar analysis of the European landscape shows that, although NBFIs’ funding of the CP/CD market constitutes a source of fragility, policymakers will be reluctant to regulate it more tightly because this would make CP/CD funding costlier, banks are overly dependent on CP/CD, and the real economy is overly dependent on banks.

⁶¹ FSB MMF Thematic Review, 2024, p. 11.

⁶² FSB MMF Policy proposals, 2021, p. 9 Figure 2. The Euro area repo market is closer in size to the US repo market.

⁶³ Ibid p. 18, Figure 4.

⁶⁴ IMF GFSR 2024, p. 38, Figure 1.28, Panel 4.

⁶⁵ Mathias S. Kruttli, Phillip J. Monin, Lubomir Petrasek, Sumudu W. Watugala “Hedge Fund Treasury Trading and Funding Fragility: Evidence from the COVID-19 Crisis” Finance and Economics Discussion Series 2021-038.

⁶⁶ Group of Thirty Working Group on Treasury Market Liquidity (2021). U.S. Treasury Markets: Steps Toward Increased Resilience; Darrell Duffie

“Resilience redux in the US Treasury market”. Jackson Hole Symposium, Federal Reserve Bank of Kansas City, August 2023; Giovanni Favara, Sebastian Infante, Marcelo Rezende “Leverage Regulations and Treasury Market Participation: Evidence from Credit Line Drawdowns” (August 30, 2024).

⁶⁷ Group of Thirty Working Group on Treasury Market Liquidity (2021).

⁶⁸ See <https://www.newyorkfed.org/markets/standing-repo-facility-counterparties#:~:text=In%20order%20to%20be%20eligible,securities%20holdings%20equal%20to%20or.>

⁶⁹ Darrell Duffie “Resilience redux in the US Treasury market” (2023).

Warnings about the excessive growth of “private funds”, especially “private credit funds”, is probably seen less with concern than with envy in some European quarters, given that these funds have reached a large size only in the US.⁷⁰ Initial analysis struggles to pinpoint instances of maturity and liquidity transformation. More data are needed, since these markets are opaque. However, the rise of private funds is part of a trend of firms moving away from bank financing and ‘public’ capital markets, so the question is why these have become so unattractive. Measures to increase scrutiny over private funds could be combined with measures that make bank and capital market funding more attractive. Sadly, in the EU the Capital Markets Union (CMU) often seems more a declaration of good intentions than an actual plan.

Thus, a superficial analysis of shadow banking, or NBFIs nowadays, suggests changes in entities and activities. Go one level deeper, though, and the choices and trade-offs become more familiar. Risk and fragility can be reduced if NBFIs, like credit funds, are subject to more demanding rules on leverage and liquidity, which limit their ability to engage in maturity transformation and credit intermediation. Why not introduce macro-level leverage/liquidity limits, then? First, because it would be costly to implement and monitor. Second, because these measures would negatively impact the funding of private and public debt. In those conditions, it is unlikely that the measures towards NBFIs will be regulatory in nature. It will be likelier to find “enabling” measures that enable NBFIs

access certain markets, while not imposing more stringent rules.

On an even deeper level, the current picture of shadow banking is a reflection of the structural problems of financial markets across the World, i.e., the difficulty to accommodate the growing needs of public debt financing (in the US and EU), or the excessive reliance on bank financing in the EU. If those problems are not addressed, NBFIs will be a source of distraction. Indeed, shadow banking’s more salient features during the GFC were more closely associated with practices in the US. Despite that, the EU determinedly regulated both banks and the different components of shadow banking, including investment firms, securitization or MMFs. Even if NBFIs assets under management (AUM) have grown in Europe less than in the US, improved resilience may have come at the cost of dearer access to financing.

Needless to say, should there be another financial crisis, policymakers will harden their views, and frown upon the growing “perimeter problem”, the old shadow banking toolkit will be dust-off, and enabling measures will be relegated to second stage. Such is the logic (or lack thereof) of shadow banking regulation.

⁷⁰ Supra previous point 1.

4. Conclusions

Shadow banking is a puzzling phenomenon because it varies depending on the depth at which it is examined. In the abstract, it is a simple idea: financial intermediation consisting in investments funded by money-like or short-term liabilities that tends to avoid the stricter regulation imposed on banks. In more detail, the concrete examples of “shadow banking” or Non-Bank Financial Intermediation (NBFIs) vary widely across time and jurisdiction, depending on the relative pressure of different regulatory regimes. The answer to these specific instances, however, normally lies in a combination of more stringent rules on leverage and liquidity for the new types of activities, and a revision of the rules for banks and other regulated institutions, when they are unnecessarily stringent.

Go even deeper, however, and NBFIs are like a “mirror” of the financial system’s structure. As such mirror, it tends to offer an unflattering picture, where public authorities try to have their cake and eat it too. Before the Great Financial Crisis (GFC) the rise of shadow banking in the US was prompted by government efforts to facilitate access to housing, using securitization to mobilize secondary markets for that purpose. After the crisis, securitization was the way to clean up bank balance sheets of Non-Performing loans (NPLs) in countries like Italy. In China, despite not having had a major financial crisis, Wealth Management Products (WMPs) and different types of investment vehicles have been convenient sources of financing for a real estate boom. The tightening of bank regulation creates the “motive” for activity to migrate away from banking, yes, but it is normally the features of the financial system, the financing gaps, which need to be plugged with governments help, or acquiescence, which provide the “opportunity”

As developed economies move past the GFC and the COVID crisis with very large stocks of public debt, parts of shadow banking/NBFI (MMFs and credit funds) evolved to help manage that stock. In the US, it is also adapting to fill the gap in private (corporate) funding, perhaps due to a crowding out by public funding.

In the EU NBFIs help finance bank debt, and banks finance the economy. Indeed, the small size of NBFI in the EU is not necessarily a good thing, as it reflects the lack of funding diversification. Currently, banks remain comparably large, and capital markets comparably small. During the GFC the US suffered a more severe initial shock, but exited the crisis earlier, while the EU linked a financial crisis with a sovereign and ‘conventional’ crisis, of banks and NPLs.

Thus, asking “how can we solve shadow banking?” leads to failure. Asking, like the FSB does, “how can we make NBFI more resilient?” is more constructive, though it requires constant vigilance. Asking “what can shadow banking teach us about our financial system?” is probably the right and pertinent question. It is, however, one that leads to inconvenient truths.

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Nov	2015	DT	¿Un reto a las crisis financieras? Políticas macroprudenciales	Pablo Martínez Casas
Oct	2015	NT	Revitalizando el mercado de titulaciones en Europa	Rosa Gómez Churruga y Olga I. Cerqueira de Gouveia
Abr	2015	NT	Ganancias de competitividad y deflación en España	Miguel Cardoso Lecourtois
Ene	2015	DT	Mercado energético mundial: desarrollos recientes e implicaciones geoestratégicas	Josep M. Villarrúbia
Dic	2014	DT	China's debt problem: How worrisome and how to deal with it?	Alicia García y Le Xía
Nov	2014	NT	Crowdequity y crowdlending: ¿fuentes de financiación con futuro?	Pilar de Torres
Oct	2014	NT	El bitcoin y su posible impacto en los mercados	Guillem Cullerés
Sep	2014	NT	Regulación EMIR y su impacto en la transformación del negocio de los derivados OTC	Enric Ollé
Mar	2014	DT	Finanzas islámicas: ¿Cuál es el interés para Europa?	Celia de Anca

Dic	2013	DT	Demografía y demanda de vivienda: ¿En qué países hay un futuro mejor para la construcción?	José María Raya
Nov	2013	DT	El mercado interbancario en tiempos de crisis: ¿Las cámaras de compensación son la solución?	Xavier Combis
Sep	2013	DT	CVA, DVA y FVA: impacto del riesgo de contrapartida en la valoración de los derivados OTC	Edmond Aragall
May	2013	DT	La fiscalidad de la vivienda: una comparativa internacional	José María Raya
Abr	2013	NT	Introducción al mercado de derivados sobre inflación	Raúl Gallardo
Abr	2013	NT	Internacionalización del RMB: ¿Por qué está ocurriendo y cuáles son las oportunidades?	Alicia García Herrero
Feb	2013	DT	Después del dólar: la posibilidad de un futuro dorado	Philipp Bagus
Nov	2012	NT	Brent Blend, WTI... ¿ha llegado el momento de pensar en un nuevo petróleo de referencia a nivel global?	José M.Domènech
Oct	2012	L	Arquitectura financiera internacional y europea	Anton Gasol
Sep	2012	DT	El papel de la inmigración en la economía española	Dirk Godenau
Jun	2012	DT	Una aproximación al impacto económico de la recuperación de la deducción por la compra de la vivienda habitual en el IRPF	José María Raya
Abr	2012	NT	Los entresijos del Fondo Europeo de Estabilidad Financiera (FEEF)	Ignacio Fernández
Mar	2012	M	La ecuación general de capitalización y los factores de capitalización unitarios: una aplicación del análisis de datos funcionales	César Villazon y Lina Salou
Dic	2011	NT	La inversión socialmente responsable. Situación actual en España	M ^a Ángeles Fernández Izquierdo
Dic	2011	NT	Relaciones de agencia e inversores internacionales	Aingeru Sorarrin y Olga del Orden
Oct	2011	NT	Las pruebas de estrés. La visión de una realidad diferente	Ricard Climent
Jun	2011	DT	Derivados sobre índices inmobiliarios. Características y estrategias	Rafael Hurtado
May	2011	NT	Las pruebas de estrés. La visión de una realidad diferente	Ricard Climent
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Dic	2010	NT	Opciones reales y flujo de caja descontado: ¿Cuándo utilizarlos?	Juan Mascareñas y Marcelo Leporati
Nov	2010	NT	Cuando las ventajas de TIPS son superada por las desventajas: el caso argentino	M. Belén Guercio
Oct	2010	DT	Introducción a los derivados sobre volatilidad: definición, valoración y cobertura estática	Jordi Planagumà
Jun	2010	DT	Alternativas para la generación de escenarios para el stress testing de carteras de riesgo de crédito	Antoni Vidiella
Mar	2010	NT	La reforma de la regulación del sistema financiero internacional	Joaquín Pascual Cañero
Feb	2010	NT	Implicaciones del nuevo Real Decreto 3/2009 en la dinamización del crédito	M. Elisa Escolà y Juan Carlos Giménez
Feb	2010	NT	Diferencias internacionales de valoración de activos financieros	Margarita Torrent
Ene	2010	DT	Heterodoxia Monetaria: la gestión del balance de los bancos centrales en tiempos de crisis	David Martínez Turégano
Ene	2010	DT	La morosidad de banco y cajas: tasa de morosidad y canje de créditos por activos inmobiliarios	Margarita Torrent
Nov	2009	DT	Análisis del TED spread la transcendencia del riesgo de liquidez	Raül Martínez Buixeda