

FINANCIAL REGULATION

Fixing Information Gaps: A Legal Highs Approach to NBFIs

Adrian Kubiak
Oscar Bradshaw
Ryan Bunton
Nivedita Dileep
Josephine Kelway
Hubert Kucharski
Cass Hoad Leaftley
Phoebe Skidmore





Leeds Policy Institute **May 2024**

Way 2024

About Leeds Policy Institute

Leeds Policy Institute (LPI) is the first student-run policy unit and think tank located at the University of Leeds. Founded in April of 2023, LPI has united over 60 students across the University of Leeds from a large range of undergraduate and postgraduate degrees to tackle and research both local and national issues that are encapsulated within our six policy divisions of Macro Policy, Social Policy, Urban Planning and Transport, Energy and Environment, Financial Regulation, and Market Interventions.

LPI is dedicated to producing data-driven research from an initial non-partisan position to attract a wide range of talent with varying political beliefs and backgrounds from the University. Through this, we generate organic research conclusions while extending opportunities to all students across the University of Leeds. LPI's research is reviewed by our academic advisory council consisting of lecturers and researchers from the University of Leeds and through this, LPI ensures that all published research conclusions have undergone their respective review process.

The core mission of LPI is to create opportunity and to develop the professional academic, research, and interpersonal skills of students at the University of Leeds. In this year alone, LPI has created opportunities with members presenting at LSE's British Conference of Undergraduate Research while being published in external newspapers such as the Financial Times. LPI is a testament and example to the resilient and innovative spirit that is fostered and shared by all students at the University of Leeds, and we hope that our newly published research will reflect the values and mission of Leeds Policy Institute.

Acknowledgements

First and foremost, LPI would like to thank its partners. The charts and data that you will see in this report would not have been possible without our partnership with Macrobond, the world's largest macroeconomic and financial database, who have kindly offered LPI the rights to operate their integrated analytical software. Through a partnership with the UK's original free-market think tank, the Institute of Economic Affairs (IEA), LPI receives non-controlling funding that allows the institute to support its members by running social events, and workshops, while also facilitating the publishing of physical materials for research dissemination.

Second, we would like to thank the Leeds University Business School (LUBS) and the Economics Department for their ongoing support and assistance in acquiring funding for LSE's BCUR event and dissemination of LPI opportunities across the university respectively. The willingness of faculty to engage with LPI is something that we are immensely grateful for.

Here, we would like to thank Caroline Bentham, who holds a PhD in Financial Economics and Policy from the University of Leeds, for her review of this research paper. Caroline's trusted advice and suggestions - which stem from her past experiences as the Assistant Director in the UK's Department for Business (BEIS), and her posts at EY, as well as the Bank of England - have been instrumental in the finalisation of research conclusions within this report and for this, we would like to thank her for her valuable inputs.

Table of Contents

	1	INTRODUCTION	5
1	1.1	Paper Overview	5
	1.2	Sector Overview	6
	1.3	Maturity and Liquidity Transformations	6
	1.4	Leverage	8
2	2	9	
	2.1	Risk Transmission	9
	2.2	Stress Testing	10
3	3	INFORMATION PROVISION	11
	3.1	Enhancing Data Access	11
	3.2	Refining Market Regulations	12
_	3.3	Standardising Data Norms	14
4	4	CONCLUSION	16
	REI	FERENCES	17





Abstract

Our report aims to address the data provision and information challenges that financial regulators face in the Non-Bank Financial Institution (NBFI) sector. To do so, we split our analysis into two parts. First, to give our readers adequate information regarding the inner workings of the NBFI sector and its significance to macroeconomic stability, we provide a high-level overview of the shadow banking sector. Here, our report covers maturity and liquidity transformation, explaining how they can cause first-mover advantages, whilst using Open-End Funds and Money Market Funds as examples of the use of these mechanisms. Afterwards, we analyse what leverage is and its potential destabilising impacts, using Archegos Capital and Liability-Driven Investments as case studies of the deployment and effects of both synthetic and financial leverage. The report then also explores international interlinkages between shadow banks, as well as the national interlinkages between the traditional banking and the shadow banking sector, emphasising the potential for systemic risk. Then second, our report provides a blueprint for regulators to construct a framework on data collection. To enrich this proposal, we first outline the role of stress testing and provide context on future stress testing of the non-bank financial sector. Then, we propose a regulatory framework for Non-Banking Financial Institutions inspired by Britain's Psychoactive Substances Act where we classify each institution into specific categories with tailored data-reporting standards, incentivising adherence through punitive measures for non-compliance, while also encouraging collaboration between regulators and firms for financial innovation and creating new classifications when necessary.



Adrian Kubiak, Oscar Bradshaw, Ryan Bunton, Nivedita Dileep, Josephine Kelway, Hubert Kucharski, Cass Hoad Leaftley, Phoebe Skidmore

Recommendations

- 1. Regulators must put great effort into filling information gaps within financial markets across various jurisdictions: While regulators are aware that data gaps must be filled, they don't know what data is needed. To fix this, the Bank of England and FPC should organise a market-wide survey to figure out what data gaps need filling in the NBFI sector. This survey should run alongside the Bank's System Wide Explanatory Scenario (SWES) simulation so that the responses of market participants can be cross-referenced with the behaviour of market participants, allowing regulators to infer how poor data amplifies shocks by distorting behaviour under stressful market conditions. When it comes to survey characteristics, the regulators should use the FSB's method of grouping NBFIs by their core economic functions, as these similarities should generate matching risks and data-reporting needs.
- 2. **Future legislation must have two core pillars:** First, it must set a bar for information provision that the FCA considers appropriate. Second, this bar must be flexible, in the sense that it is different for every 'type' of firm to avoid the broad definitions that we see in the FCA handbook.
- 3. Financial regulators could learn from Britain's Psychoactive Substances Act and Drug classification system: Group NBFIs into economic categories, distribute and review a market participants survey, and standardise data-reporting for each classification to reflect their own data-reporting needs. Should the market participant survey reveal that an even more granular approach is required, that too can be accommodated with additional resources.
- 4. **Regulators should form an "Enhanced Disclosure Task Force"**, which improved data reporting standards for traditional banks, for NBFIs. For the proposal to be most effective, an expert, or team of experts, should also be assigned for each NBFI classification to identify key financial and data reporting risks faced by NBFIs.
- 5. While this proposal has a UK focus, UK financial authorities should seek international cooperation: Standardised data reporting across the globe would facilitate the achievement of fairer practices in the NBFI sector.



6. To reduce regulatory costs, firms should self-report their classifications to regulators rather than regulators going out of their way to classify firms: While this could lead to firms with incompatible economic functions misclassifying themselves to avoid higher fine levels, incompatible economic functions are likely to result in the firm's failure to meet the category's data reporting standards. Once identified, regulators can threaten them with additional action.

1 Introduction

1.1 Paper Overview

This paper outlines, explains, and offers an attempt at resolving key issues in risk management in non-bank financial intermediaries (NBFIs) in the UK. Though our research and policy recommendations were focused on the UK's NBFI sector, our findings apply to financial institutions and sectors worldwide.

Through analysis of multiple incidents of financial instability post-GFC and the academic, institutional, and regulatory literature, we identified some critical areas in which NBFIs propagate risk. Additionally, we located a few shortcomings in the current regulatory process. Though many categories of NBFIs exist, our research focused on the fundamental groups that wield the most influence in financial markets: open-ended funds, money market funds and hedge funds (HFs).

In summary, we found that some sources of risk are amplified by high levels of interconnectedness between NBFIs. Those were mainly: (1) The use of sophisticated forms of synthetic leverage, mainly utilised by HFs and similar investment entities that aim for high returns. (2) liquidity mismatches, commonly occurring in liability-driven funds like pension funds, which are susceptible to instability due to first-mover advantages.

Having identified the key sources of instability in the shadow banking sector in the UK, our report proposes several regulatory responses to combat these issues. First, subjecting NBFIs to more carefully designed stress testing procedures aims to ensure that high-risk NBFI positions are identified and altered before a crisis can occur (NBFIs maintain balance sheets more resilient to shocks). Subsequently, we propose a framework for more extensive and uniform data collection from NBFIs to allow regulators to work with complete information, or at least a fuller picture than they currently have. This framework draws parallels with Britain's Psychoactive Substances Act; we classify each institution into specific categories with tailored data-reporting standards, incentivising adherence through

9

punitive measures for non-compliance while encouraging collaboration between regulators and firms for financial innovation and creating new classifications when necessary.

1.2 Sector Overview

While the umbrella term "shadow banking" includes all financial intermediaries outside of regular banking regulation, most regulators propose more precise classifications. The FSB, for instance, uses a narrow measure of NBFI (non-banking financial intermediaries), counting all institutions involved in credit intermediation which pose bank-like financial stability risks (FSB, 2022, p.3). 76.2% of this measure is composed of EF1 entities, which involves "collective investment vehicles with features that make them susceptible to runs" (FSB, 2022, p.3). EF1s have also experienced phenomenal growth, with an increase in total assets of 110% since the global financial crisis, amounting to 51.6 trillion USD worldwide (excluding Russia) (FSB, 2022, p.74).

Given the increasing importance of this sector in shadow banking, this report will focus on the types of risk created by the EF1 component of FSB's narrow measure, namely maturity transformation, liquidity transformation and the use of leverage. The section also includes examples of the types of EF1 institutions that generate these systemic risks.

1.3 Maturity and Liquidity Transformations

Liquidity transformation is a function of traditional financial intermediaries, which is also performed by shadow banks. Liquidity transformation is the process of creating relatively more liquid assets by backing them with relatively more illiquid assets (Chernenko and Sunderam, 2016, p.1). This process is extremely useful for ensuring smooth transactions because it allows individuals and businesses to access funds when needed, even if those funds are tied up in long-term investments. However, it inherently leads to a mismatch between the liquidity of assets and liabilities, which poses significant risks in times of financial distress.

Flattening of the yield curve, particularly likely occurrences during distressful periods, increases firms' risk exposure. On top of the liquidity transformation risk, a related process called maturity transformation, where institutions borrow funds with short-term maturities and subsequently lend those funds with long-term maturities, augments the risk profile of EF1 institutions. Both strategies are



used by OEFs (Open-End Funds) and MMFs (Money Market Funds, which are a subset of OEFs), with maturity transformation being more prevalent in MMFs than other OEFs (Pascual, et al., 2021, p.5).

Both OEFs and MMFs are good examples of assets posing significant liquidity and maturity transformation risks. All OEFs issue shares as new investors pool in or remove them from circulation when investors sell them. For them, a liquidity mismatch is the difference between the redemption terms offered to investors and the time it would take to liquidate its securities without substantially increasing transaction costs (FSB, 2017, p.9). Meanwhile, the subset of MMFs invests in very near-term debt.

Liquidity and maturity mismatch can both result in first-mover exit opportunities for fund investors. During market downturns, investors have an incentive to jump ship, sell shares, and get their funds back without an issue. Investors who remain bear the brunt, being left with shares of a fund backed by illiquid assets, which the manager may be forced to sell at a discount to fulfil redemption requests.

First-mover advantages are especially important for Prime MMFs as they hold non-treasury obligations, a usually less liquid corporate debt with higher inherited risk. This has resulted in a drastic outflow of funds from Prime MMFs during the covid-19 crash of March 2020.

MMF Prime MMF Non-prime MMF 40 30 20 10 0 -10 -20 20 20 20 July ; May Mar.

Figure 1: Cumulative Daily Net Flows into Funds (Relative to January 2, 2020) (Percent)

Source: (Pascual et al., 2021, p.28)



1.4 Leverage

In recent years, Leverage has been a key focus of regulators and critics in the financial sector. Loosely, it can be defined as "a financial technique used to increase exposure, boost returns or take positions that can offset potential losses from other exposures" (FSB, 2023, p.1). More technically, it can be broken down into two key types used widely throughout the shadow banking sector: financial leverage and synthetic leverage. Financial leverage involves investing borrowed funds, often obtained through issuing bonds, loans and repo agreements. Synthetic leverage, on the other hand, is the issue of derivatives like options to increase the potential return of an investment without increasing the amount of capital invested, which has been responsible for worsening several periods of financial instability recently. March 2020's stock price drop is a significant example, as European countries had to control price volatility to deal with the negative liquidity effects (Bessler, W. and Vendrasco, M. 2022. p.2).

HFs are a major institutional class relying on synthetic leverage for their operations. These professionally managed partnerships of private investors' funds rely on a small number of prime brokers. These firms that provide access to clearing services and various forms of leverage (FCA, n.d.), including underwriting of complex derivatives. This relationship results in high concentration levels and interdependence between highly leveraged HFs and prime brokerage firms. This enables "bad bets" by one actor to have broad impacts throughout the financial sector. One hedge fund cannot make its margin calls and defaults causes its counterparty, a prime broker, to bear the brunt of the shock. This prime broker, now seeking liquidity to stabilise its positions and cover its losses, may start closing positions with other HFs that it serves or default altogether, meaning other HFs are now too facing unexpected liquidity requirements and are forced to sell off assets.

The most recent high-profile example of such a series of events is the collapse of hedge fund Archegos Capital in 2022. The fund held leveraged positions in Viacom CBS stock (and others), whose price fell substantially, leading to Archegos facing margin calls, on which it defaulted. This led Archegos' prime brokers (who held the Viacom CBS stock) to sell huge values of the stock, extending the price slide and worsening the losses for other banks exposed to Archegos. The largest bank hit was Credit Suisse, which faced a \$4.7bn loss. (AMRO, 2021). There are other mechanisms through which leverage creates instability. However, the key point is that leverage has the potential to vastly increase risk in the financial sector in an obscure way, often misunderstood by regulators and even the very people creating and utilising these leverage techniques.



Another significant instance of risky leverage is found within LDIs (Liability-Driven Investments). These investments are structured to pay off specific liabilities at a future date and are very popular with defined-benefit pension plans. LDIs are of significant importance to the UK financial sector, with £1.5 trillion (¾ of total GDP) being invested into these products (Chen and Kemp, 2023, p.9). Many pension funds conducting LDIs are often in deficit (meaning their liabilities exceed assets) and use both financial and synthetic leverage to obtain a higher exposure to long-term gilts and to hedge the interest rate and inflation risk in their liabilities (Chen and Kemp, 2023, p.8; Bank of England, 2022). This strategy pays off as long as rates decrease and the value of gilts increases. However, if the interest rates increase due to the use of leverage, the decrease in present value in their gilt holdings may be higher than that of their liabilities (obligations to plan participants), forcing pension funds to use their cash margins or collateral (Chen and Kemp, 2023 p.8). This then leads to an increase in implied leverage, forcing the funds to rebalance to maintain the same level (Bank of England, p.89). This is done through selling some of their assets, which can cause a classic spiral of collateral calls. A good example would be the September 2022 mini-budget episode of increasing yields on UK bonds and pension funds being forced to sell them into an illiquid market (Bank of England, p.92).

There are many tools policymakers and regulators can use to tackle financial instability, specifically that caused by leverage. However, for any of these tools to be effective, the problem of data gaps and mismatches must be solved first. Archegos and LDI were good examples of where data was patchy at best, as was risk management within firms (Alder, 2023). Discrepancies in reporting requirements across different jurisdictions and types of financial institutions mean that those responsible for policing the shadow banking sector are attempting to do so in candlelight. Combining this with the fact that leverage is often hidden within complex financial instruments traded regularly and lacking comprehensive metrics, we can see that effective regulation of shadow banking entities appears to be a near-impossible task.

2 Interlinkages

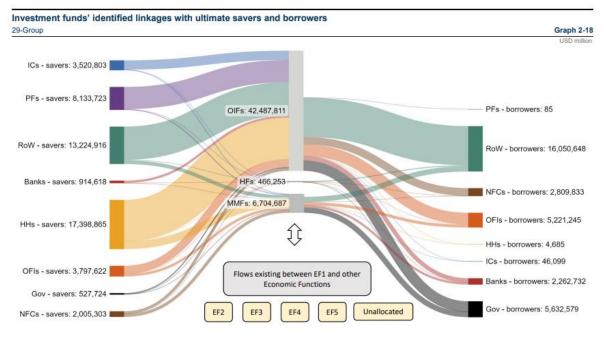
2.1 Risk Transmission

While regulators struggle to identify hidden leverage, doing so is crucial considering the connections and dependencies between financial entities across global markets. These international interlinkages are integral for the efficient operation of international finance, allowing capital to flow where it is most

needed. This interconnectedness means that risk expose in one area, such as the maturity and liquidity transformation within OEFs and MMFs, can be transmitted across the entire network of financial institutions.

Figure 2 highlights key participants in these interlinkages: Hedge Funds (HFs), Money Market Funds (MMFs), and Other Investment Funds (OIFs) — including Open-End Funds (OEFs).

Figure 2: Investment funds' identified linkages with ultimate savers and borrowers (sample of 29 jurisdictions accounting for 80% of world GDP)



Source: (FSB, 2022, p.54)

Similarly, interlinkages between the NBFI entities and the banking sector can spread risk between sectors within an economy through credit counterparty risk. Banks in the UK hold approximately £1.5 trillion of exposures to NBFIs globally, split roughly evenly between lending (including securities financing transactions such as gilt repos) activities and derivatives (Bank of England, 2022, p.68). The bankruptcy of Archegos Capital, for example, has resulted in US\$ 10 billion in losses spread amongst investment banks globally (Bank of England 2022, p.70).

2.2 Stress Testing

The extent to which institutions are vulnerable to market crashes and economic downturns was revealed by the 2008 financial crisis. Since then, bank stress tests have been implemented widely. The analysis consists of constructing hypothetical scenarios of stressed financial market conditions, aiming



to understand the behaviours of financial institutions and how they might interact to amplify shocks in UK financial markets that are core to the country's financial stability (BoE, 2023). The FSB recommends that authorities provide guidance on stress testing as it supports liquidity risk management and mitigates financial stability risk (FSB, 2022).

The Bank of England (BoE) will initiate its first System-Wide Exploratory Scenario (SWES) in June 2023 to enhance the regulation of banks and non-bank financial institutions (BoE, 2023). The SWES is divided into two distinct phases. In the information-gathering phase, the BoE collaborates with financial institutions to collect relevant data. The purpose is to design a realistic stress scenario that will be executed in the subsequent phase. The stress testing phase involves banks, insurers, and fund managers modelling the impact of the designed stress scenario. They outline their behavioural responses to this shock. The BoE then assesses how the initial stress scenario might be affected by the collective actions of the firms. Based on this assessment, the scenario is updated to account for potential amplification effects. Firms are subsequently asked to consider how this revised scenario might influence their behavioural responses (PWC, 2023). These two rounds aim to gain a deeper understanding of amplified market shocks. The results from the SWES will assist the BoE in addressing liquidity mismatches and creating effective plans for financial institutions to manage liquidity in stressed market conditions.

3 Information Provision

3.1 Enhancing Data Access

For policymaking to be effective, regulators must put great effort into filling information gaps within financial markets across various jurisdictions. This is not only because of the systemic significance of NBFIs (Alder, 2023) but also because of the positive externalities that good quality information provision can bring (Caruana, 2011). For market participants, these externalities include greater market stability and lower volatility (Alder, 2023), which can be achieved by rectifying information asymmetries, such as those found in private credit markets (IMF, 2023). For regulators, quality information creates the opportunity for a more granular policymaking approach (Alder, 2023), leading to smarter intervention, which the NBFI sector would benefit from given the fact that it cannot access traditional central bank backstops and liquidity support measures (Ruo and Esti, 2023). Given these facts, it is clear that market participants, as well as regulators, should aim to fill data gaps, yet because

quality data suffers from being a public good, a free-rider effect emerges, and so the market continues to provide poor-quality data (Caruana, 2011; Alder, 2023). Unsurprisingly, regulators are aware of this trait, and a quick review of the regulatory literature shows that regulators themselves are looking towards filling these data gaps within the NBFI sector (Caruana, 2011; Carney, 2012; IMF, 2023; Alder, 2023; FSB, 2022). We have concluded that whilst regulators know data gaps must be filled, they are unaware of what *specific* data is needed by both market participants and regulators, so they offer overgeneralised and broad recommendations instead, which will lead to poor policymaking.

To avoid making such broad recommendations this report proposes a simple solution: Regulators need to be aware of what data is needed, so institutions such as the Bank of England and FPC should organise a market-wide survey to figure out what data gaps need filling in the NBFI sector. This survey should run alongside the Bank's System Wide Explanatory Scenario (SWES) (Bank of England, 2023) simulation so that the responses of market participants can be cross-referenced with the behaviour of market participants, allowing regulators to infer how poor data amplifies shocks by distorting behaviour under stressful market conditions. When it comes to survey characteristics, the regulators should use the FSB's method of grouping NBFIs by their core economic functions (FSB, 2022), as these similarities should generate matching risks and data-reporting needs.

The FCA has stressed that it has seen too many instances of poorly targeted and poor products, as well as misleading or inaccessible information that exploits information asymmetries and leads to negative market outcomes (Grant Thornton, 2022). To pinpoint why these outcomes may manifest, one can look towards the FCA's primary guidance document – the FCA handbook – which includes all the rules and regulations related to the financial sector. When examining the handbook's section on market abuse (MAR), the FCA categorises firms' obligations to prevent market abuse by the specific type of firm (FCA, 2018a). This itself is good practice. By having legislation target specific types of firms, regulators can apply specialised regulatory requirements that fit the needs of consumers and distributors that interact with that firm to ensure that market abuse does not occur. Of course, a limitation of this is that a firm could avoid punishment if it exists outside of the legislative definition.

3.2 Refining Market Regulations

However, the FCA has insured against this outcome as under MAR, there are broad classifications that apply to 'firms,' and under PROD, the FCA not only has the power to introduce temporary rules and



legislation to intervene in failing markets, but also makes another broad classification for 'manufacturers,' which are a firm which creates, develops, issues, and/or designs investments, including when advising corporate issuers on the launch of new investments (FCA, 2018b). As such, this broad definition should prevent firms from dodging legislation. Yet, if this is the case, why does the FCA believe that firms continue to develop poor products while engaging in unsatisfactory communication? There are two reasons for this. The first is that the definition for what constitutes appropriate information is too broad. Under MAR, each type of firm has specific requirements relating to its business (FCA, 2018a). Unfortunately, in PROD, the FCA handbook fails to specify what adequate information provision entails and instead resorts to claiming that "a manufacturer must make available to any distributor of that financial instrument all appropriate information on the financial instrument" with no specific standards as to what appropriate information is (FCA, 2018b).

And second, the FCA relies too much on market participants acting in good faith while having high standards. It is the role of the distributor to understand the financial instruments that it distributes to its clients (FCA, 2018b). Here, a problem arises as this legislation is highly subjective. What is considered a 'good understanding' is not formally defined, and different firms are bound to have varying levels of quality and care in the financial instruments they handle, meaning that not all distributors will act how the FCA expects them to. Moreover, the legislation also assumes that manufacturers will act in good faith and provide all relevant information to distributors, something which they may not do as information asymmetries can create profitable opportunities for manufacturers. While it is true that the FCA can respond to these failures by introducing temporary legislation, which then turns into permanent rules under MAR, this is still a form of ex-post regulation – it is introduced once the market has already failed - and while the FCA does have the power to intervene, the regulatory structure should be designed such that these interventions are not necessary in product markets. Henceforth, the issue lies in the broadness of definitions and the lack of specific standards to which firms must be held accountable. This means that future legislation must have two core pillars. First, it must set a bar for information provision that the FCA considers appropriate. Second, this bar must be flexible, in the sense that it is different for every 'type' of firm so as to avoid the broad definitions that we see in the FCA handbook.



3.3 Standardising Data Norms

The Bank of England has also looked into the problems surrounding data reporting and has found that to improve information provision, common standards that are simple and accessible must be adopted alongside the modernisation of reporting instructions (Bank of England, 2021). The Bank specifically raises concerns over the existence of multiple reporting processes within firms as these create complex reporting rules for regulators while also making business more difficult for firms themselves when they have to transfer data between one another (Bank of England, 2021). While the Bank does recognise that the type of data being reported must match the nature of the business, it equally stresses the importance of adopting common data standards with clearer guidelines and definitions with respect to the information being reported (Bank of England, 2021). To address these issues, financial regulators could learn from another area of market regulation, Britain's Psychoactive Substances Act and Drug classification system. As shown in Table 1 below, once regulators group NBFIs into these economic categories and review the market participants survey, standardised data-reporting could be introduced for each classification to reflect their own data-reporting needs. Should the market participant survey reveal that an even more granular approach is required, that too can be accommodated with additional resources.

Within this framework, there are two reasons as to why a firm may remain unclassified. The first is a simple case whereby firms are uncooperative, so firms must be given a good enough reason to adhere to data-reporting standards. By giving harsher punishments to firms that try to actively avoid data reporting standards by remaining uncategorised, firms are instead incentivised to operate within the regulatory framework as the costs of not doing so are too high. Yet, the second case, where the firm is incapable of providing the right data as its economic functions do not fit within the established classifications, is more complex. Here, both firms and regulators should work together to create new classifications so that these new firms can operate within the regulatory framework. In these cases, we advocate that regulators either suspend their fines or offer remittance to the impacted firm once a solution is reached — such as introducing a new category with specific and streamlined data reporting standards and definitions. This is perhaps the most important characteristic of our regulatory proposal. By acting as a sort of blanket regulation, unclassified firms behave the same way "legal highs" do under the Psychoactive Substances Act, ensuring that all NBFIs remain trapped within the regulatory space, preventing firms from dodging data-reporting standards through financial innovation or by the creation of several subsidiary companies. Yet, by simultaneously offering the opportunity for cooperation between regulators and firms, we still allow for financial innovation to continue, albeit under a



controlled environment. Overall, this leads to a balanced regulatory framework that supports both the provision of good-quality data and financial innovation within the NBFI sector.

Table 1: Overview of Economic Functions, Entity Types, Market Share, Data Provision, and Fine Levels

	EF1	EF2	EF3	EF4	EF5	Unallocated
Typical Entity Types	MMFs, Fixed Income Funds, Mixed Funds, Credit Hedge Funds, Real Estate Funds	Finance companies, leasing/factoring companies, consumer credit companies	securities	Credit insurance companies, financial guarantors, monoline insurers	Securitisation vehicles, structured finance vehicles, asset- backed securities	Other financial auxiliaries
Share (%)	76.20%	6.80%	6.80%	0.20%	7.50%	2.40%
Data Provision	Market Participant Survey needed	Market Participant Survey needed	Market Participant Survey needed	Market Participant Survey needed	Market Participant Survey needed	Market Participant Survey needed
Fine level	Standard	Standard	Standard	Standard	Standard	Above Standard

EF1 (collective investment vehicles with features that make them susceptible to runs); **EF2** (lending dependent on short-term funding); **EF3** (market intermediation dependent on short-term funding); **EF4** (facilitation of credit intermediation); **EF5** (securitisation-based credit intermediation)

Source: (FSB, 2022, p.3)

There are three additional recommendations that could help regulators enact our core regulatory proposal. First, regulators should emulate the strategy taken by regulators in the wake of the financial crisis to enhance data reporting standards. More specifically the formation of the "Enhanced Disclosure Task Force", which improved data reporting standards for traditional banks (Carney, 2012). Here, regulators identified key financial and data reporting risks faced by banks and assigned key experts to each risk area (Carney, 2012). For the proposal to be most effective, an expert, or team of experts, should also be assigned for each NBFI classification — an area of importance that the Bank has already identified (Bank of England, 2021). Second, to reduce regulatory costs, firms should self-report their classifications to regulators rather than regulators going out of their way to classify firms. While this could lead to firms with incompatible economic functions misclassifying themselves to avoid higher fine levels, incompatible economic functions are likely to result in the firm's failure to meet the category's data reporting standards. Once identified, regulators can threaten them with additional action. Finally, while this proposal has a UK focus, UK financial authorities should seek international cooperation to enhance and standardise data reporting across the globe to achieve fairer practices in the NBFI sector.

4 Conclusion

This paper has examined the challenges and potential risks linked with non-bank financial intermediaries (NBFIs) in the UK while also considering their impact on global financial systems. We identified major areas of concern, such as the use of complex investment strategies by hedge funds, the issue of mismatched assets and liabilities, particularly in pension funds, and the high degree of connection between various financial entities. These factors contribute to the spread of financial instability, underscoring the necessity for more effective oversight.

We recommended a more structured approach to data collection, drawing inspiration from existing legislative frameworks and ensuring regulators have a clearer understanding of the sector's activities. By classifying NBFIs according to their primary functions and tailoring data-reporting standards accordingly, we aim to improve compliance and facilitate a more informed regulatory environment. The collapse of entities like Archegos Capital and the liquidity challenges faced by pension funds illustrate the consequences of insufficient regulation and oversight. Our proposed solutions seek to not only close existing data gaps but also to foster a regulatory environment that supports financial innovation while ensuring stability.

Ultimately, while this paper offers a framework for the regulation of NBFIs in the UK, its principles and recommendations have broader applicability. Effective implementation of these proposals could significantly reduce the risk of financial instability both in the UK and internationally, benefiting the entire financial ecosystem. As the financial landscape continues to evolve, it is imperative that regulatory frameworks do so as well to safeguard against future crises.



References

- Alder, A. 2023. The Drive for Data in Non-Bank Financial Intermediation (NBFI). *Financial Conduct Authority*. [Online]. Available from: https://www.fca.org.uk/news/speeches/drive-data-non-bank-financial-intermediation-nbfi.
- Bank of England 2023. System-wide exploratory scenario. *Bank of England*. [Online]. Available from: https://www.bankofengland.co.uk/financial-stability/boe-system-wide-exploratory-scenario-exercise.
- Bank of England. 2022. Financial Stability Report December 2022. Available from: https://www.bankofengland.co.uk/financial-stability-report/2022/december-2022.
- Bank of England. 2021. Transforming data collection from the UK financial sector: a plan for 2021 and beyond. Available from: https://www.bankofengland.co.uk/-
 /media/boe/files/paper/2021/transforming-data-collection-from-the-uk-financial-sector-a-plan.pdf.
- Becard, Y. and Gauthier, D. 2021. Banks, shadow banks, and business cycles. Available from:

 https://www.bankofengland.co.uk/working-paper/2021/banks-shadow-banks-and-business-cycles.

 https://www.bankofengland.co.uk/working-paper/2021/banks-shadow-banks-and-business-cycles.
- Bessler, W. and Vendrasco, M. 2022. Short-selling restrictions and financial stability in Europe:

 Evidence from the Covid-19 crisis. *Journal of international financial markets, institutions & money.* **80**, pp.101612–101612. [Online]. Available from:

 https://www.sciencedirect.com/science/article/pii/S1042443122000907
- Carney, M. 2012. *Enhanced Disclosure Task Force* [Online]. Financial Stability Board. Available from: https://www.fsb.org/wp-content/uploads/r 121029.pdf.
- Caruana, J. 2011. Financial Stability and Risk Disclosure. Available from: https://www.bis.org/speeches/sp111222.pdf.
- Dixon, L., Clancy, N. and Kumar, K.B. 2012. *Hedge Funds and Systemic Risk* [Online]. RAND Corporation. Available from: https://www.jstor.org/stable/10.7249/j.ctt1q60xr.

FCA. n.d Glossary: prime brokerage firm - FCA Handbook. Available from: https://www.handbook.fca.org.uk/handbook/glossary/G2811.html.

FCA. 2018a. 'FCA Handbook MAR'. FCA Handbook https://www.handbook.fca.org.uk/handbook/MAR/1/1.html.

FCA. 2018b. 'FCA Handbook PROD'. FCA Handbook
https://www.handbook.fca.org.uk/handbook/PROD/3/2.html.

FSB. 2023. The Financial Stability Implications of Leverage in Non-Bank Financial Intermediation.

[Online]. Available from: https://www.fsb.org/2023/09/the-financial-stability-implications-of-leverage-in-non-bank-financial-intermediation/.

FSB. 2022. *Global Monitoring Report on Non-Bank Financial Intermediation 2022*. Available from: https://www.fsb.org/2022/12/global-monitoring-report-on-non-bank-financial-intermediation-2022/.

Chernenko, S. and Sunderam, A. 2016. Liquidity Transformation in Asset Management: Evidence from the Cash Holdings of Mutual Funds.

 $Grant\ Thornton.\ 'UK\ Regulatory\ Handbook'.\ Grant\ Thornton,\ November\ 2022.$

https://www2.grantthornton.co.uk/rs/445-UIT-144/images/2022 Grant Thornton UK Regulatory Handbook.pdf.

IMF 2023. Global Financial Stability Report [Online]. Available from:

https://www.imf.org/en/Publications/GFSR/Issues/2023/04/11/global-financial-stability-report-april-2023.

- Jin, D., Kacperczyk, M., Kahraman, B. and Suntheim, F. 2022. Swing Pricing and Fragility in Open-End Mutual Funds. *The Review of Financial Studies*. **35**(1), pp.1–50.
- Ong, L. L. and Sun, W. 2021. The Failure of Archegos Capital Management: Estimating Potential Spillovers to ASEAN+3 Financial Systems. *ASEAN+3 Macroeconomic Research Office AMRO ASIA*. [Online]. Available from: https://amro-asia.org/the-failure-of-archegos-capital-management-estimating-potential-spillovers-to-asean3-financial-systems/.



- PwC. 2023. BoE launches system-wide exploratory scenario exercise. [Online]. Available from:

 https://www.pwc.co.uk/financial-services/assets/pdf/boe-launches-system-wide-exploratory-scenario-exercise.pdf
- Surti, A.G.P., Ranjit Singh, Jay. 2021 Investment Funds and Financial Stability: Policy Considerations. *IMF*. [Online]. Available from: https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/09/13/Investment-Funds-and-Financial-Stability-Policy-Considerations-464654.

