BEYOND THE REGULATORY PERIMETER: ADDRESSING ACCOUNTABILITY GAPS AND STRENGTHENING GOVERNANCE IN DIGITAL LENDING ECOSYSTEMS

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ABSTRACT

The rapid expansion of digital lending has transformed financial inclusion by enabling technology-driven credit delivery through mobile applications and platform-based ecosystems. However, this transformation has also generated significant regulatory challenges, particularly in relation to hidden control structures, algorithmic misconduct, and cross-border enforcement gaps. This paper examines the emerging problem of regulatory perimeter arbitrage in digital lending architectures, where unregulated entities such as Lending Service Providers (LSPs) operate behind licensed banks and NBFCs while exercising substantial control over underwriting, pricing, data processing, and recovery practices. It argues that traditional entity-based regulation is increasingly inadequate in platformized credit markets.

The paper further explores the role of supervisory informatics and computational detection tools, including Reg Tech and Sup Tech systems, complaint analytics, anomaly detection, network mapping, and AI-based monitoring, in identifying patterns of predatory pricing, data misuse, and coercive recovery. It contends that computational supervision is essential for detecting hidden operational control in large-scale digital credit ecosystems.

Finally, the paper analyses the need for polycentric governance involving regulators, app stores, data protection authorities, financial intelligence units, and law-enforcement agencies to address misconduct spanning multiple jurisdictions and technological intermediaries. The study proposes a substance-over-form regulatory framework centered on de facto lender recognition, technological auditability, and coordinated transnational enforcement.

Keywords: Regulatory Perimeter Arbitrage, LSP Accountability, Sup Tech and Algorithmic Auditing, Polycentric Governance, De Facto Lender Recognition

1. Introduction: The Mirage of Inclusion

In 2021, over a dozen individuals in Telangana, India, died by suicide after being subjected to coercive debt recovery by digital lending apps that had disbursed small-ticket loans within minutes, then weaponised borrowers' contact lists to shame them into repayment. [1]By 2022, the Reserve Bank of India (RBI) had received over 2,500 complaints against digital lenders in a single year, with allegations ranging from unauthorised data harvesting to interest rates exceeding 3,000% per annum on an annualised basis (RBI, 2022). These were not fringe actors. Many operated legally, not as lenders, but as technology platforms contracted to licensed banks and Non-Banking Financial Companies (NBFCs)[2].

This paradox of regulatory legitimacy enabling regulatory evasion sits at the heart of what this paper terms the shadow rail problem in digital finance. [3]The infrastructure of credit has been disaggregated: origination, underwriting, collections, and customer servicing are now modular functions distributed across legally distinct entities. The result is a system in which accountability is perpetually deferred, always belonging to some other entity in the chain. Regulators, built for a world of integrated financial intermediaries, find themselves supervising only the visible tip of an architecture whose most consequential operations remain invisible.

2. Regulatory Perimeter Arbitrage and Functional Disintermediation

2.1 The Architecture of Invisibility

The "traditional" model of financial regulation is based on an assumption, that the credit

[1] Author: Reserve Bank of India (Working Group on Digital Lending) Title: *Report of the Working Group on Digital Lending including Lending through Online Platforms and Mobile Apps* Date: 18 November 2021 (the complaint data of 2,500+ was drawn from this report and cited by regulators through 2022) Relevant section: Chapter on Consumer Protection; the report records over 2,500 complaints received via the RBI's 'Sachet' portal against Digital Lending Apps (DLAs), predominantly promoted by unregulated entities or small NBFCs. Link:https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/DIGITALLENDINGF6A90CA76A9B4B3E84AA0EBD24B307F1.PDF

[2] RBI (2021) — Scale-Based Regulation Discussion Paper Reserve Bank of India, *Discussion Paper on Revised Regulatory Framework for NBFCs: A Scale-Based Approach*, February 2021. https://fidcindia.org.in/wp-content/uploads/2021/01/RBI-22-02-21-Discussion-Paper-on-Revised-Regulatory-Framework-for-NBFCs-A-Scale-Based-Approach.pdf — pp. 4–7, Annex 1

[3] Author: Dirk Zetzsche, Ross Buckley, Douglas Arner, and Jànos Barberis Title: "From FinTech to TechFin: The Regulatory Challenges of Data-Driven Finance" Publication: *New York University Journal of Law and Business*, Vol. 14, No. 2, pp. 393–446 Date: 2018 Relevant section: The paper argues that financial regulation was historically built around the regulated entity as the integrated credit provider, and that platform-based intermediation unbundles this assumption by separating the lender of record from the entity exercising functional control — directly paralleling the paper's point. Link (SSRN): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2959925

provider is the entity that is subject of the regulation. This has been a long-standing belief in the lending sector that has been proven wrong by digital lending. As LSP model has emerged, where technology companies design, price and provide loans and a licensed bank or NBFC bears the legal liability and control of the asset on its balance sheet, it has ushered in an imbalance between liability and control.

As per [4]a study by RBI's own working group on digital lending, 300 out of a total of 1100 lending apps on major app stores were operated by entities regulated by RBI or State Governments in India. The remainder of 800 were in the business as LSPs or fintechs or with arrangements of nebulous legal nature. In one country, this ratio roughly reflects the extent of functional disintermediation in its national market: One regulated unit for every three and a half working platforms.

This evasion is generally set-up by one of three corporate structures. Under the nominee model, the NBFC having a limited capital and operational ability lends the licence to LSP which carries out everything else except the licence. The NBFC's balance sheet forms the basis for the NBFCs business, whereas the management is not based on the balance sheet. In a passthrough model, the funds of the loans go from the regulated bank, to the LSP, to the borrower's account; the LSP receives fees which are designed to not be considered interest with the intention to stay away from regulatory oversight. The cross border holding model is set up with the LSP majority owned by an outside entity, usually in a country with unclear beneficial ownership registers, and enforcement communication and asset recovery is virtually impossible.

2.2 First-Loss Default Guarantees and Regulatory Arbitrage

One of the more advanced varieties of perimeter arbitrage that exists is First Loss Default Guarantee (FLDG). [5]Under an FLDG the LSP guarantees borrowings from the lenders, thereby taking the credit risk on their lendings without having to obtain a lending licence. This was addressed expressly by [6]RBI's Digital Lending Guidelines 2022 wherein the RBI has set the

[4] Author: Reserve Bank of India (Working Group on Digital Lending; Chairman: Jayant Kumar Dash, Executive Director, RBI) Title: Report of the Working Group on Digital Lending including Lending through Online Platforms and Mobile Apps Date: 18 November 2021 Link: https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/DIGITALLENDINGF6A90CA76A9B4B3E84AA0EBD24B307F1.PDF

[5] Chherawala & Vaidya (2023) — FLDG structure and regulatory arbitrage Tasneem Chherawala and Alka Vaidya, "Digital Lending and Default Loss Guarantee," *NIBM Working Paper Series*, No. WP 30, August 2023.

[6] Author: Reserve Bank of India Title: *Guidelines on Digital Lending* (Master Direction) Date: 2 September 2022 Relevant section: Guidelines on Default Loss Guarantee (DLG), capping FLDG arrangements at 5% of the

cap of 5% on the FLDG in the loan portfolio. Enforcement, however, has been sporadic due to the need to find these "technology service fees" or "marketing spend" FLDG arrangements which requires in-depth forensic accounting, not the type of forensic accounting that most supervisory examinations do.

The general background of the [7]literature on shadow banking reveals that when there is a stricter regime in one area, e.g. on balance sheet risk, structural innovation occurs that moves risk to less controlled counterparties (Pozsar et al., 2013; FSB, 2022). [8]This is what has been reproduced in the digital lending space in an incredible timeframe – and with lower costs on corporate structuring compared to the costs of regulation.

2.3 Outsourcing Accountability Vacuum

The [9]RBI guidelines on outsourcing (2017) and also the updated guidelines (2022) mandate regulated entities to exercise accountability with respect to all the outsourced functions and mandate barring arrangements that would make supervisory access difficult. The contractual design of LSPs often comes in the form of a non-compliant contract in practice. SLA's are drawn up to make sure that LSP functions are considered "technology services" instead of "financial services," and regulated firms regularly deny having operational knowledge of their LSP partners practices when dealing with consumers.

The 2023 study by the Digital Lenders Association of India revealed that more than 60% of consumer complaints that were redirected by the digital lending app ended up being deflected by the NBFC ("contact the technology provider") as well as the LSP ("contact the lending

loan portfolio; also covers outsourcing standards for LSPs. Link: https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=12382

[7] Authors: Zoltan Pozsar, Tobias Adrian, Adam Ashcraft, and Hayley Boesky Title: "Shadow Banking" Published in: *FRBNY Economic Policy Review*, Vol. 19, No. 2 Date: December 2013 Relevant section: The article documents how stricter capital regulation of balance-sheet risk drives structural innovation that relocates risk to less-regulated counterparties — the dynamic the paper draws on for comparison with digital lending perimeter arbitrage. Link (SSRN): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2378449 Link (NY Fed): https://www.newyorkfed.org/research/staff_reports/sr458.html

[8] Author: Financial Stability Board Title: *Global Monitoring Report on Non-Bank Financial Intermediation 2022* Date: 20 December 2022 Relevant section: The report documents how regulatory tightening of on-balance-sheet risk drives activity toward less-regulated NBFI entities — the structural dynamic cited by the paper in the digital lending context. Link: https://www.fsb.org/2022/12/global-monitoring-report-on-non-bank-financial-intermediation-2022/ Full PDF: https://www.fsb.org/uploads/P201222.pdf

[9] Author: Reserve Bank of India Title (2017): *Master Directions – Managing Risks and Code of Conduct in Outsourcing of Financial Services by Banks* Date: 9 November 2017 Link: https://www.rbi.org.in/Scripts/BS_ViewMasDirections.aspx?id=11160 The updated 2022 provisions are incorporated within the Digital Lending Guidelines linked above.

partner"), leading to a vicious circle of accountability that has to be broken by regulatory action to allow the problem to be resolved (DLAI, 2023). It is not a coincidence that this is featured in the architecture, it's part of the functional design of the architecture.

Supervisory Informatics and Computational Detection of Market Misconduct

3.1 The Limits of Conventional Supervision

The [10]Skills of the Problem Solver Traditional bank examination, in which loan accounts are sampled and reviewed on-site periodically, looks at the aggregate portfolio metrics, isn't designed for the platforms that process millions of micro-transactions a day and have thousands of loan accounts. [11]Through LSP arrangements digital lenders can originate and close a loan in less than three minutes, dynamically price the loan with their proprietary algorithms and trigger automated recovery sequences before the loan is even recorded in their quarterly supervisory report.

This temporal mismatch is added by an informational mismatch. In contrast, conventional supervisors don't gather and don't have analytical systems to appreciate granular behaviour information like application usage designs, topology of social systems, geolocation past, or metadata of contact lists, which are used to train the danger and pricing algorithms of digital lenders. The adoption of [12]SupTech by central banks in emerging economies has been found to be very limited in terms of internal capacity to audit algorithmic credit decision systems, even though nearly all regulated lenders have implemented such systems (BIS, 2023).

3.2 Complaint Analytics as a Leading Indicator

If well organized and evaluated, [13]consumer complaints are one of the most promising early

[10] Claessens, Frost, Turner & Zhu (2018) "Fintech Credit Markets Around the World: Size, Drivers and Policy Issues," *BIS Quarterly Review*, September 2018, pp. 29–49. https://www.bis.org/publ/qtrpdf/r_qt1809e.pdf — pp. 38–44 (regulatory challenges of high-velocity digital credit origination and the inadequacy of existing supervisory frameworks)

[11] Basel Committee on Banking Supervision (2018) *Sound Practices: Implications of Fintech Developments for Banks and Bank Supervisors*, February 2018. https://www.bis.org/bcbs/publ/d431.pdf — pp. 28–36 (limitations of periodic on-site examination for algorithmically driven, high-frequency lending platforms)

[12] BIS/Cambridge SupTech Lab (2023) *State of SupTech Report 2023*, Cambridge Centre for Alternative Finance, 2023. https://cambridgesuptechlab.org/wp-content/uploads/2024/03/Cambridge-State-of-SupTech-Report-2023.pdf — pp. 66–76 (Strategic Adaptation and Capacity Building)

[13] CFPB (2021) — Consumer Response Annual Report Consumer Financial Protection Bureau, *Consumer Response Annual Report: January 1 – December 31, 2020*, March 2021. https://files.consumerfinance.gov/f/documents/cfpb_2020-consumer-response-annual-report_03-2021.pdf — pp. 3–9 (Complaint Volume and Supervisory Prioritisation)

predictors of systemic misbehaviour that financial regulators have. In the United States the Consumer Financial Protection Bureau (CFPB) followed through on this principle by issuing an average of 14 months prior to enforcing against predatory auto lenders and debt collectors after spikes in complaints (CFPB, 2021).

The [14]supervised scheme for the ombudsman scheme by RBI in India has resulted in more than 700,000 complaints in FY22-23, with complaints on digital lending increasing by 68% compared to the previous year; this could be interpreted as an indicator of the fact that if the complaints had been detected in real-time instead of periodic reporting, the RBI might have been able to respond to the issue sooner (RBI, 2023)[15]. The methodological challenge is related to the extraction of the complaint signals. Complaint volume is a noisy measure and can be influenced by campaigning efforts to drive up the number of complaints and reporting irregularities amongst different platforms.

The narratives of complaints (natural language processing to identify recovery language, unauthorised access to data or failure to provide rate transparency) need to be more precisely detected, as do the patterns of complaints identified by analysing the network of complaints (by originating platform or district), and the patterns of complaints identified by [16]cross-referencing complaint narratives with app store reviews (an under-used data source that often identifies misconduct patterns long before complaints are reported to regulators).

3.3 Network Mapping and Beneficial Ownership Analytics

It is not just a legal issue, it's a data issue with the opacity of LSP ownership structures. To map beneficial owners of digital lending platforms, information from corporate registries, financial intelligence unit (FIU) filings, developer accounts on the app stores, and payment gateways would need to be cross-referenced by no single supervisory authority, but it is essential that they are all integrated.

[14]CFPB (2021) — Supervisory Highlights Consumer Financial Protection Bureau, *Supervisory Highlights, Spring 2021*, October 2021. https://files.consumerfinance.gov/f/documents/cfpb_semi-annual-report-spring-2021_2021-10.pdf — pp. 4–6 (Prioritised Assessments and Enforcement)

[15] RBI (2023) — Ombudsman Scheme Annual Report Reserve Bank of India, *Annual Report of the Ombudsman Scheme 2022–23*, March 2024. https://www.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1366 — pp. 1–5 (Complaint Volume and Category Analysis)

[16] BIS Innovation Hub & MAS (2022) *Project Ellipse: Prototype Supervisory Analytics Platform*, May 2022. https://www.mas.gov.sg/news/media-releases/2022/bis-innovation-hub-and-monetary-authority-of-singapore-develop-prototype-supervisory-analytics-platform

Some of the cases where [17]SupTech is starting to emerge in this area include regulators mapping corporate ownership networks through a graph-based approach in Singapore and the UK's FCA (which is doing so in the UK), which can identify common beneficial owners that exist across seemingly unrelated lending platforms.

Since 2019, the [18]Financial Action Task Force (FATF) has recommended that network mapping is a key AML/CFT tool (FATF, 2019) and that this approach is being used in the supervision of digital lending. The proposed Digital India Trust Agency (DIGITA) is a proposed initiative in India that is expected to do just this, but is currently not in operation (as of 2024) due to the lack of resources and conflicts in sharing data between agencies.

3.4 Algorithmic Bias and Predatory Pricing Detection

One form of 21st century market abuse is a classification system based on algorithm-based systems that systematically price borrowers from lower income geographies, from certain caste and ethnic communities, or those who demonstrate stress indicators through their digital behaviour higher than those of others.

It is discrimination that is done through a mathematical process, it is not done by policy but it is the same thing as if it were. When digital lending algorithms are built for developing economies using historical default data, the algorithms were found to systematically reproduce socioeconomic and geographic biases found in the sample, effectively levying a "poverty premium" on borrowers in the lowest income deciles of 4-8 percentage points on the annualised interest rate, after accounting for credit risk [19](Fuster et al. 2022).

It is difficult to detect this type of abuse because it involves a counterfactual exercise – how would the interest rate be charged to a borrower with the exact same financial profile but different demographic profile. It's a complex method but not impossible. In mortgage lending, the CFPB has created a legal and technical precedent in using matched pair testing that digital

[17]Avramović (2023) "Digital Transformation of Financial Regulators and the Emergence of SupTech: A Case Study of the FCA," *Harvard Data Science Review*, Vol. 5, No. 2, 2023. https://hdsr.mitpress.mit.edu/pub/palmqnaw/release/1 — Section 4

[18] FATF (2019) Financial Action Task Force, *Guidance for a Risk-Based Approach: Virtual Assets and Virtual Asset Service Providers*, June 2019. https://www.fatf-gafi.org/content/dam/fatf-gafi/guidance/RBA-VA-VASPs.pdf — pp. 34–40 (Risk-Based Approach to Supervision; Beneficial Ownership and Network Mapping)

[19]Fuster, Goldsmith-Pinkham, Ramadorai & Walther (2022) "Predictably Unequal? The Effects of Machine Learning on Credit Markets," *The Journal of Finance*, Vol. 77, No. 1, February 2022, pp. 5–47. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3072038 — pp. 5–15 (Disparity in Rates and Demographic Impact)

lending regulators have been hesitant to follow.

4. Transnational Digital Lending and polycentric governance and regulatory enforcement

4.1 The Jurisdictional Fragmentation Problem

It may be incorporated in Cayman Islands with operational base in China / Vietnam; Listed on app stores operated by foreign firms such as Google Play / Apple App Store; Processing payments via a payment app regulated by the RBI in India; Collecting debt via agents regulated (or not) at the state level under money-lending acts; Harvesting borrower data under a privacy framework enforced by the [20]Ministry of Electronics and Information Technology (MEITY) in India. Each regulatory touchpoint has a different authority, access to information, enforcement authority and incentives. This jurisdictional disaggregation is no coincidence.

Many predatory platforms are engineered by the corporations in a deliberate way that takes advantage of those regulatory authorities' weaknesses. According to a report by the [21]Financial Stability Board (FSB) in 2023, one of the main ways that consumer protection obligations are being avoided across the world is through jurisdictional arbitrage in the digital finance sector, which impacts an estimated 200 million digital credit borrowers in Asia alone (FSB, 2023).

4.2App Stores as De Facto Regulators

The least theoretically developed aspect of digital lending governance is that of the role of app store platforms as de facto regulatory intermediaries. India's regulated markets have an almost monopoly distribution access for all consumer-facing digital lending apps via Google Play and Apple App Store. In 2021, the RBI issued a notice demanding the delisting of unauthorised lending apps, but did not have direct enforcement powers over the app stores – a process that needed a lengthy diplomatic and legal process to be resolved, in part. This is an opportunity to governance which has been underutilized. Apple and Google have now embraced the policy:

[20] Ministry of Electronics and Information Technology / RBI (2023) — App Store Whitelist Reserve Bank of India, *Guidelines on Digital Lending — Digital Lending Apps Whitelist*, February–June 2023. https://www.medianama.com/2023/02/223-whitelist-digital-lending-apps/ — Full article (online source; no page number)

[21] FSB (2023) — Jurisdictional Arbitrage and Consumer Protection Financial Stability Board, *Enhancing the Resilience of Non-Bank Financial Intermediation: Progress Report*, October 2023. https://www.fsb.org/2023/10/enhancing-the-resilience-of-non-bank-financial-intermediation-progress-report-2023/ — pp. 1–8 (Cross-Border Consumer Protection Gaps and Jurisdictional Arbitrage)

financial service applications need to provide evidence of regulatory authorisation in the target markets, which if strictly applied, would be the most widely applicable type of entry control in digital lending. The RBI's June 2023 guidelines on digital lenders to be public "whitelisted" in a database of verified regulatory status were partially aimed at ensuring that app stores have a verified database of regulatory status. But implementation of app store policy is not always uniform: the RBI has not been monitoring the Google Play Store and a 2023 survey by the Internet Freedom Foundation revealed that more than 60 apps were making lending representations without RBI approval, despite the addition of this app whitelist [22](IFF, 2023).

4.3 Financial Intelligence Units and Cross-Border Enforcement

Financial intelligence units (FIUs) are an untapped resource in polycentric digital governance of lending. FIUs have a statutory duty to accept Suspicious Transaction Reports (STRs) from payment aggregators and banks, which should also be filing STRs if they are aware of any patterns of transactions that could be linked to money laundering or fraud. FIU analytics should be able to identify the financial signature of the flow of funds from predatory digital lenders, which is defined as loans made in small amounts, collected quickly and sent across borders frequently.

The Egmont Group[23] coordinates the FIU cooperation through 166 Group members, and has produced typology documents relating to digital lending-related money flows, but the translation of these typologies into operational supervisory intelligence sharing is still in its early stages. As of 2023, there were only 23 active bilateral information sharing arrangements specifically on digital lending misconduct amongst the 166 members of the Egmont Group (Egmont Group, 2023).[24] This number will have to grow exponentially.

4.4 Data Protection Authorities as Consumer Protection Proxies The function of the Data Protection Authorities (DPAs) as proxies for consumers' rights protection. [25]Data protection

[22] IFF (2023) — Unauthorised Lending Apps Despite RBI Whitelist Internet Freedom Foundation, *RTI Analysis: RBI Whitelist and Unauthorised Digital Lending Apps on Google Play Store*, 2023. https://internetfreedom.in

[23] Egmont Group (2023) — FIU Bilateral Arrangements Egmont Group of Financial Intelligence Units, *Annual Report 2022/2023*, July 2023. https://egmontgroup.org/wp-content/uploads/2023/07/Egmont-Group_AnnualReport_2021-22_FINAL_07-31-23_SINGLE-PGS_WEB.pdf — pp. 10–18 (Information Exchange and Bilateral Arrangements)

[24] FATF–Egmont Group, *Trade-Based Money Laundering: Trends and Developments*, November 2020. https://www.fatf-gafi.org/en/publications/Methodsandtrends/Trade-based-money-laundering-trends-and-developments.html — pp. 5–12 (FIU Typologies and Cross-Border Financial Flows)

[25] Ministry of Law and Justice, Government of India (2023) — Data Protection Board Government of India, *The*

violations are inextricably bound up with the issue of digital lending misconduct. The collection of contact lists, location information and behavioural metadata, both in the process of underwriting and through 'coercive recovery' is a systemic breach of data subject rights in virtually any contemporary data protection regime.

However, there is a lack of coordination between data protection authorities (DPAs) and financial regulators on enforcement. A simultaneous enforcement mechanism of the Data Protection Board and RBI for violations of digital lending data – stating that the data protection violation triggers financial supervisory violation and vice versa – would mean that the combined penalties would be much more punitive than penalties on digital lending violations or on data protection violations separately.

Recommendations for closing the gaps in the Governance process

Recommendation 1: It is that the principal should be held personally liable for LSP conduct. Regulatory authorities need to implement a non-disclaimable principle in law that requires the full civil and regulatory responsibility for any consumer harms arising from the activity of their LSP partners for licensed entities – irrespective of contractual allocation of the responsibility.[26] This is similar to the respondeat superior in employment law and principal-agent in agency law. However, [27]RBI's Digital Lending Guidelines 2022 were in the same direction but failed to go so far as to make it non-disclaimable liability. Complete adoption would remove the above discussed circular accountability void and provide strong motivation to the licensed organizations to do proper diligence on their LSP partners.

Recommendation 2: Algorithmic Audit Mandates with Independent Verification. All digital lenders with a certain origination limit should be made to submit annual algorithmic audits by the RBI-empanelled third party auditors. [28]These audits should identify certain types of price

Digital Personal Data Protection Act, 2023, 11 August 2023. https://www.meity.gov.in/writereaddata/files/Digital%20Personal%20Data%20Protection%20Act%202023.pdf — ss. 27–30 (Establishment, Powers and Functions of the Data Protection Board of India)

[26] Van Loo, Rory (2020) "The Revival of Respondeat Superior and Evolution of Gatekeeper Liability," *Georgetown Law Journal*, Vol. 109, pp. 141–200. https://scholarship.law.bu.edu/faculty_scholarship/1037/ — pp. 141–160

[27] RBI (2022) — Digital Lending Guidelines Reserve Bank of India, *Guidelines on Digital Lending*, 2 September 2022. https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=12382 — Annex I, Para 3–5 (RE accountability for LSP conduct)

[28] MAS (2018) — FEAT Principles Monetary Authority of Singapore, *Principles to Promote Fairness, Ethics, Accountability and Transparency (FEAT) in the Use of Artificial Intelligence and Data Analytics*, November 2018. https://www.mas.gov.sg/publications/monographs-or-information-paper/2018/feat — Full document

discrimination, such as through counterfactual simulation methodologies, which are generally termed "demographic price discrimination. The audit reports should be made available to the supervisory authority in their entirety, and a non-confidential overview report made public for accountability. This is one approach Singapore's Monetary Authority has taken with its Fairness, Ethics, Accountability and Transparency (FEAT) [29]principles, which are an approach worthy of being utilised more widely.

Recommendation 3 : A Real-Time Complaint Analytics Dashboard with Regulatory Tripwires. To establish a centralised real-time complaint analytics system that can ingest input of data from the integrated ombudsman, app store reviews, social media monitoring and payment aggregator anomaly reports and make it available to the [30]RBI and the equivalent authorities. Platforms should have statistical tripwires that when their complaint rate, recovery-related complaint ratio, or average effective interest rate, fall below certain thresholds, it would trigger an automatic supervisory review, without awaiting the annual examination cycle. There's a model to some degree [31](the CFPB's Consumer Sentinel Network), but an automated tripwire system that has been rolled out broadly has not yet been accomplished anywhere.

Recommendation 4: Compulsory Beneficial Ownership Register with access to App Store. In all jurisdictions in which they are distributed, app stores should be legally obligated to check the authorisation of each financial services app that is distributed by a named, verified jurisdiction authority. This should be correlated with the [32]real-time regulatory whitelist API which should automatically remove apps with lapsed regulatory status. This distorts the app store platforms to become active, intermediate agents in regulation (and well suited to this role, and what they are capable of doing and have the market power to be).

[29] MAS (2022) — FEAT Implementation Review Monetary Authority of Singapore, *Implementation of Fairness Principles in Financial Institutions' Use of AI/ML*, 2022. https://www.mas.gov.sg/-/media/MAS-Media-Library/publications/monographs-or-information-paper/IMD/2022/Info-Paper-on-Implementation-of-Fairness-Principles-in-FIs-Use-of-AIML-Final.pdf — pp. 4–12

[30]RBI (2023) — Ombudsman Scheme Annual Report Reserve Bank of India, *Annual Report of the Ombudsman Scheme 2022–23*, March 2024. https://www.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1366 — pp. 1–5

[31] FTC (2024) — Consumer Sentinel Network Data Book Federal Trade Commission, *Consumer Sentinel Network Data Book 2024*, March 2025. https://www.ftc.gov/system/files/ftc_gov/pdf/csn-annual-data-book-2024.pdf — pp. 1–5 (multi-agency complaint aggregation and law enforcement access)

[32] RBI / MeitY (2023) — Digital Lending App Whitelist Medianama, "Whitelist of Approved Digital Lending Apps Sent to App Stores: Finance Ministry," February 2023. https://www.medianama.com/2023/02/223-whitelist-digital-lending-apps/ — Full article

Recommendation 5: A Multilateral Digital Credit Governance Compact. [33]The FIUs/digital finance supervisors of the G20 should sign a binding Digital Credit Governance Compact, which would include: (a) a mutual recognition framework for supervisory findings, including automatic review for digital lending misconduct of findings from regulators in different jurisdictions where the same beneficial owner is involved; (b) mandatory information-sharing protocols between FIUs, DPAs and financial regulators relating to digital lending misconduct; and (c) a joint technical assistance programme to build capacity in SupTech for emerging market regulators, which are most exposed to predatory digital lenders but least resourced to enforce.

6. Conclusion

Digital lending is one of the most intractable issues in modern financial governance, as it involves three of the most daunting aspects of today's financial governance: disaggregation of financial intermediation, opacity of algorithmic systems, and transnational nature of technology-mediated commerce.[34] These challenges are all manageable on their own but are highly compounded when taken together to form the governance failure that exists. It was not an outlier. None of the deaths in Telangana were out of the ordinary.

These were the outward face of a structural shape that sought to ensure that harm and accountability are separated as much as possible. [35]Building this distance will not simply be another set of rules, but a re-thinking of supervisory architecture – one that places responsibility at the point of operational control, and acts swiftly when bad behaviour arises, and coordinates action in the entire geography of digital commerce. The financial imagination must always be at the pace of the regulatory imagination. The shadow rail's design was quite sophisticated, carried out by the intermediaries. The governance response needs to be as sophisticated, and much more timely.

[33] FSB (2023) — G20 Cross-Border Payments Roadmap Financial Stability Board, *G20 Roadmap for Enhancing Cross-Border Payments: Priority Actions*, February 2023. https://www.fsb.org/2023/02/fsb-details-actions-for-the-next-phase-of-the-g20-roadmap-for-enhancing-cross-border-payments/ — Priority Theme 2 (Legal, Regulatory and Supervisory Frameworks)

[34] Zetzsche, Birdthistle, Arner & Buckley (2020) "Digital Finance Platforms: Toward a New Regulatory Paradigm," *University of Pennsylvania Journal of Business Law*, Vol. 23, No. 1, 2020. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3532975 — pp. 1–20 (disaggregation of financial intermediation and the inadequacy of entity-based supervisory architecture)

[35] Buckley, Arner & Zetzsche (2023) *FinTech: Finance, Technology and Regulation*, Cambridge University Press, 2023. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4486054 — Chapter 1 (the pace of financial innovation outrunning regulatory capacity; need for supervisory architecture centred on operational control)