



# SHADOW BANKING: EXPANDING FRONTIERS IN INNOVATION AND RISK

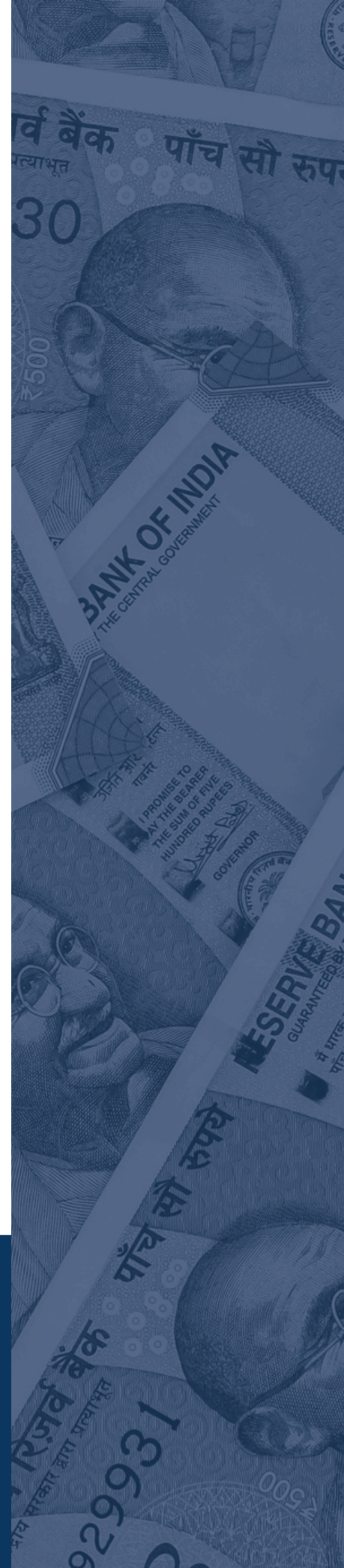
RESEARCH PAPER

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# SHADOW BANKING: EXPANDING FRONTIERS IN INNOVATION AND RISK

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## Abstract

The research paper focuses on the emergence and growing trends of shadow banking in the Indian Context, with an added focus on exploring the emerging frontiers in shadow banking. Our study undertakes a multidimensional analysis aimed at situating the evolution of shadow banking with a comparative analysis of major economies, including the US, the UK, the EU and China. We undertook the comparative analysis to examine the relationship between various variables associated with frontiers, including Gold Lending, Fintech Lending and Microfinance Hybrids, on parameters such as the lending rates and the market size to analyse the growth of the industry and also macroeconomic indicators such as financial inclusion and a risk analysis. We then mapped our empirical findings against various international case studies to highlight various gaps and divergences in regulatory responses. Through this, we mapped various policy recommendations that necessitate the regulation of interest rates and the creation of a framework to monitor information asymmetry, lack of coordination and institutional failures in maintaining capital for the Indian Economy by borrowing insights from the comparative analysis and an overview of the growth of the sector in India's banking ecosystem.

**Keywords:** Shadow banking, frontiers of shadow banking, microfinance hybrids, financial inclusion

**JEL Classification:** G23, G01, E44, E51

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## 1. Introduction

Over the past thirty years, India's financial system has changed drastically, and shadow banking set-ups like Non-Banking Financial Companies (NBFCs) have become important intermediaries. There are three interconnected factors shaping India's new shadow banking

frontiers. The first is that the sector's increasing role in financial inclusion is inextricably linked to economic growth, despite concerns regarding regulatory problems and liquidity mismatches. Second, new models of credit distribution and scoring

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are being introduced by technological advancements, like peer-to-peer lending, digital NBFCs, and fintech platforms, which are morphing the face of shadow banking. Third, there is a need to strike a balance between promoting digital innovation and maintaining stability because the growing interdependence of shadow banks and traditional banks can increase systemic risks. Our research paper analyses various new frontiers in shadow banking, with a focus on the Indian subcontinent.

## 2. Methodology

This paper employs a qualitative framework to examine the systemic risk implications of shadow banking across three emerging frontiers in the Indian financial landscape: gold-backed lending, microfinance institutions (MFIs), and fintech-driven digital credit. The post-2016 period is selected as the temporal boundary, coinciding with landmark structural shifts including demonetisation, the mainstreaming of UPI, and a series of regulatory interventions by the Reserve Bank of India.

Data is sourced from publicly available institutional repositories, including RBI Annual and Monetary Policy Reports, NPCI transaction data, MFIN Micrometre Reports, and NABARD financial inclusion surveys.

The qualitative dimension contextualises these findings through comparative policy analysis of frameworks advanced by the FSB, FSOC, IMF, and EU, evaluating regulatory adequacy against the quantitative risk signals identified. Together, these methods enable a structured, evidence-based assessment of where regulatory gaps persist and where systemic vulnerabilities remain underaddressed.

## 3. Literature Review

Broadly defined by the Financial Stability Board (FSB), shadow banking is the "credit intermediation involving entities and activities outside the regular banking system". It has emerged as a significant component of the global financial architecture.<sup>1</sup> Shadow banking in most major economies operates within a partially regulated environment and functions as an alternative and complementary source of credit to traditional banking. The FSB's 2023 Global Monitoring Report estimates that non-bank financial intermediation (NBFIs) accounts for nearly 49% of global financial assets.<sup>2</sup>

Globally, MFIs (Micro Finance Institutions) extend small-value credit to underserved populations, predominantly low-income individuals and women in developing economies. They are generally excluded from conventional banking. MFIs are key

<sup>1</sup> Financial Stability Board. (2011). Shadow banking: Strengthening oversight and regulation.

<sup>2</sup> Financial Stability Board. (2024). Global monitoring report on non-bank financial intermediation 2023.

instruments of financial deepening. They have a developmental function in expanding credit access beyond the commercial banking perimeter.

A second major segment involves the financing of infrastructure and large-scale capital projects, where shadow banking entities channel funds from capital markets into long-term assets. This role places shadow banks in deep structural interdependence with traditional banks, mutual funds, and debt markets. Hence, this interconnectedness significantly increases vulnerability in funding chains during periods of stress.

The funding architecture of shadow banking entities is a critical differentiator from traditional banks. Commercial banks draw on relatively stable retail deposit bases; non-bank financial intermediaries rely heavily on wholesale funding instruments, including commercial papers, repurchase agreements, and debentures. Hence, we can identify this maturity mismatch, where short-term liabilities finance long-term assets, as the defining structural risk of the shadow banking system, and the primary mechanism through which liquidity stress in wholesale markets can rapidly propagate into broader financial instability.

## 4. Digital Reforms vs. Traditional Reforms

The 2008 crisis, even today, described as the worst since the 1929 Great Depression, continues to remain unsettled. The roots of the problems originated due to multiple defaults in the US subprime mortgage market and the associated market for complex credit derivatives in August 2007.<sup>3</sup>

The Basel III reforms implemented post-2008 mandated banks to have a CET1 capital of at least 7%, liquidity ratios in the form of LCR and NSFR, and a leverage ratio of at least 3%.<sup>4</sup> The gradual stripping of legacy components, of Tier 1 capital meant that there was a potential loss of 60% in capital buffers, whereas risk weightings were set to increase by almost 200%, thereby increasing capital costs for banks. The structural shift in long-term liquidity funding also increased costs for banks, thereby reducing credit availability. At the same time, the IMF intervened in the worst-hit countries, namely Hungary, Iceland, and Ukraine, by setting up short-term liquidity facilities to ease funding pressures in emerging economies.

Despite India being outside the epicentre, major efforts were made to delineate the unrest- Dr D. Subbarao, Former Governor,

<sup>3</sup> Gross NPAs reduce from 9.11% to 2.58% from March 2021 to March 2025. (n.d.).

<sup>4</sup> Basel Banking Norms - A Primer. (n.d.).

RBI, devoted a considerable part of his “Mid-term Review of the Annual Policy Statement for the year 2008–09” made on October 24, 2008, to indicate how India is coping with and managing the crisis.

The AQR initiated by RBI in 2015, which aimed at cleaning and fully provisioning bank balance sheets, revealed a large number of NPAs. The transparent recognition of stressed assets as NPAs and provisioning of expected losses of stressed loans, which were not provided for earlier under the flexibility of restructured loans, was provided for. Further, all schemes for restructuring stressed loans were withdrawn. The gross NPAs of PSBs, as per RBI data on global operations, increased primarily due to recognition of stressed assets as NPAs from Rs. 2,79,016 crore as on 31.3.2015, to Rs. 6,84,732 crore as on 31.3.2017, to Rs. 8,95,601 crore as on 31.3.2018, and declined by Rs. 1,06,032 crore as on 31.3.2019, due to the Government’s 4R’s strategy of recognition, resolution, recapitalization, and reforms, and have resulted in a reduced figure of Rs. 7,89,569 crore as on 31.3.2019, as revealed by provisional data reported by RBI on 2.7.2019.<sup>5</sup>

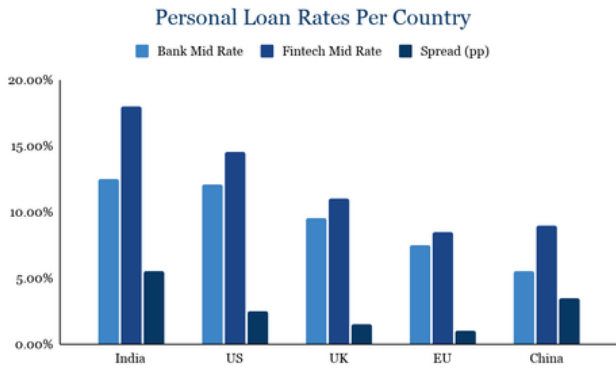
The government has put in place a comprehensive strategy of 4Rs, i.e., recognition of NPAs transparently, resolution of stressed assets, recapitalisation of PSBs, and

reforms in PSBs and the overall financial system for a responsible and clean system. Additionally, post the IL&FS crisis (2018), the RBI significantly tightened regulatory oversight on Non-Banking Financial Companies (NBFCs) regarding ALM (Asset Liability Management) and capital adequacy.

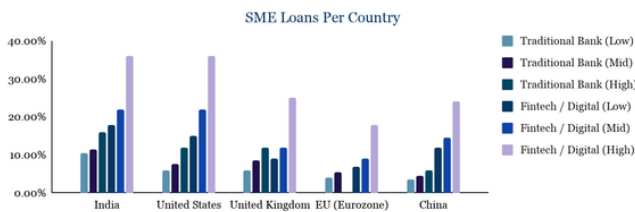
Currently, IndiaStack- a set of API allowing governments, businesses, and startups to utilise a unique digital infrastructure- has revolutionised financial inclusion and formalised the shadow economy. India Stack Global has been launched to showcase the India Stack and its building blocks globally. At present, it includes 15 key projects- Aadhaar, UPI, U-WIN, API Setu, DigiLocker, Aarogya Setu, Government eMarketplace, UMANG, Diksha, eSanjeevani, eHospital, eOffice, eCourt, POSHAN Tracker, and NCD Platform.

It allows for 67 billion identity verifications, 14.05 trillion INR monthly real-time mobile payments and 8.6 billion volume of monthly real-time mobile payments. This rapid transition not only reflects broader technological change but also signals a structural shift in the Indian landscape.

<sup>5</sup> Klein, P. (2018). Basel III: Finalising post-crisis reforms



Graph 1: Personal Loan Rates Per Country as a comparison between traditional and fintech bank rates



Graph 2: SME Loans Per Country with categorisation for fintech vs traditional bank loan rates

(RBI, KPMG/BCG India Fintech Report 2023 Oliver Wyman / Accenture, EBA Risk Dashboard, PBOC Monetary Policy Report Q4 2023, JD Finance, WeBank)

## 5. Emerging Frontiers

### 5.1. Gold NBFCs

Shadow banking, in its essence, is very collateral-intensive. Gold collateral has always played an important role in various financing activities within the Indian subcontinent. Even recently, banks have seen a notable increase in their exposure to unsecured loans. A 2024 PwC report<sup>7</sup> focuses on how gold is taking precedence over other borrowing instruments.

Gold loans themselves act as a catalyst for bringing retail and MSME borrowers into the formal credit system. For instance, leading NBFCs like Muthoot Finance have outperformed broader indices, with 40%+ year-to-date gains in 2025<sup>8</sup>. By digitising the gold loan process, they can increase customer acquisition and reduce bank fraud risks.

In India, the current market penetration as of FY2024 was 5.6%. On the basis of a CAGR forecast conducted by ICRA, we believe the Gold NBFCs' sector could reach a projected value of over \$15 Trillion Dollars by 2030. Additionally, time-series forecasting using RBI data also indicates that gold loan demand is counter-cyclical, which rises during periods of economic uncertainty, thereby positioning gold NBFCs as a stabilising force in India's shadow banking system<sup>9</sup>.

In February 2026, the RBI proposed the removal of regulatory approval for gold-based NBFCs as the institutions surpassed the threshold of over 1000 branches. This relaxation is likely to drive significant growth and improve operational flexibility<sup>10</sup>.

However, it would be unwise to disregard challenges associated with the rise in Gold NBFCs. They have systemic risks, such as the newer provisions mandated by the RBI.

<sup>7</sup> PwC India. (2025). Striking gold: Rise of India's gold loan market. PricewaterhouseCoopers.

<sup>8</sup> Economic Times BFSI. (2025). Gold loan market in India: NBFCs leading the expansion.

<sup>9</sup> EY India. (2025). RBI circular on gold lending (August 2025): Impact assessment. Ernst & Young.

<sup>10</sup> Economic Times BFSI. (2025). RBI's new proposals: A game changer for NBFCs and gold loan sector.

One such provision dampens the allure of NBFCs by promoting a shift towards traditional banking structures by stating that while NBFCs shall incorporate in their lending policies the maximum permissible LTV (Loan to Value) ratios for different loan categories secured by eligible gold, based on their internal risk assessment, it must not exceed 75%–85% of the value of the gold. This would lead borrowers to shift to shorter-tenure loans or to pledge additional gold to meet the stricter LTV requirement, causing a shift towards banks.

Also, heavy reliance on gold price stability exposes them to volatility. In times of stress, liquidity mismatches can spill over into the wider financial system, which creates contagion effects similar to those seen in the IL&FS crisis for other NBFC segments <sup>11</sup>.

## 5.2. Fintech

Fintech is the next frontier of shadow banking, and it represents the shift in credit intermediation from traditional and collateral-based systems to the more data-based and platform-based systems. Fintech enables non-traditional entities to provide financial services in a scalable manner, outside the full ambit of prudential regulations, thereby extending the shadow banking system.<sup>12</sup>

This evolution of the shadow banking system is the most fundamental extension of the original rationale of the shadow banking

system.

According to the Reserve Bank of India, Fintech platforms have started originating loans and have partnered with NBFCs or banks to hold these loans on their balance sheets.<sup>13</sup> This is the co-lending and outsourcing model of the shadow banking system.

Fintech also represents the extension of the shadow banking system, in the form of a widening of credit availability. Using the digital public infrastructure in the country, Aadhaar, UPI, and account aggregators have enabled low-cost and high-scale lending to first-time and thin-file borrowers in a way that is not possible through traditional forms of collateral-based lending, such as gold loans.<sup>14</sup>

This is reflected in the fact that the digital lending market in the country has crossed the milestone of \$350 billion<sup>15</sup> in cumulative disbursements, and the digital personal loan market has crossed the milestone of ₹1.39 lakh crore.<sup>16</sup> However, according to critics, unlike the gold loan market, which is collateral-based, the fintech-based lending is largely unsecured and relies on complex and opaque algorithms.

<sup>11</sup> NIBM India. (2025). Indian Banking and Finance Review 2025 (Chapter 6). National Institute of Bank Management.

<sup>12,13</sup> Reserve Bank of India. (n.d.).

<sup>14</sup> Digital Banks: A Proposal for Licensing & Regulatory Regime for India. (2022). In NITI Aayog.

<sup>15</sup> S&P Global. (2023, July 15). China's shadow banking sector declines under regulatory crackdown.

<sup>16</sup> KPMG. (2025). India's fintech evolution. . . from growth to resilience.

### 5.3. Peer-to-Peer lending

PTP lending is a form of shadow banking that revolves around online (outside of the traditional banking institutions) loan grants. A PTP Lending company essentially collects a service fee in return for its services. It is driven by competitive pricing and has rapidly grown over the years across 20+ countries. The website matches borrowers and lenders, then upon settlement of the amount, the party makes the fee payment, after which the website administers the loan amount. The nature of such loans is generally personal or business loans. Customers of PTP platforms are always attracted by lower interest rates and flexible lending standards. Furthermore, research on China's P2P lending industry indicates a significant impact on P2P lending economic indicators, with the mediating role of SME performance. The financing difficulties faced by the SMEs were also bridged by the P2P industry.

#### *Risk Dimensions*

i) The literature on peer-to-peer loan market performance focuses predominantly on microlevel variables connected to individual borrower or loan characteristics. Borrower attributes such as financial strength and effort in preparing the loan listing play a crucial role in securing funding, while a higher borrowing amount, poor credit history, and previous borrowing failures negatively affect

success.

ii) Another aspect is Macprudial leakage wherein, due to policy tightening, traditional banks reduce lending while shadow banks increase the volume of lending. This, as a matter of fact, is a common phenomenon as witnessed in both the US and the UK.

iii) Unregulated P2P expansion as a consequence of P2P proliferating in the simulated economies leads to lower GDP and unemployment, whilst increasing the consumer leans towards corporate loans. This lending stimulates consumption in the short run while failing to build a productive capital base for the future.

The role of the shadow banking sector is also regarded as having contributed to the housing market collapse and the subsequent world financial crisis, which began in 2008. However, the irony is that the world financial crisis is the same crisis that paved the way for the success of P2P lending. Though the crisis resulted in banks incurring substantial losses and thereby becoming more stringent in the disbursement of loans, the crisis also led to widespread dissatisfaction among borrowers with commercial banks. This is the reason for the emergence of more innovative forms of lending and borrowing. In the aftermath of the global financial crisis of 2007–2008, direct

finance through the medium of P2P lending has come to the fore as a new form of finance for borrowers who do not possess high credit ratings, especially for households and small and medium-sized enterprises. Stricter capital regulations have resulted in a shift in the amount of credit from banks to P2P lending, and the shadow banking sector has increased its loan originations from 20% in 2007 to 75% in 2015 in the FHA mortgage segment.

#### 5.4. Microfinance Hybrids

Microfinance hybrids are occupying an even more important position at the intersection of development finance and shadow banking. These organisations combine the format of microfinance institutions (MFI) with market-oriented funding systems, such as securitisation, fintech platforms, and intermediation of credit providers, which have resulted in intermediaries that are virtually unregulated by traditional prudential regulations.

These include asset-backed securities (ABS), a digital lending platform assembling portfolios of microloans to be sold to institutional investors blended finance structures which combine concessional development capital with commercial tranches, and peer-to-peer microfinance platforms which are facilitated by fintech. Early commercialisation was preceded by such entities through

Compartamos Banco in Mexico, and SKS Microfinance (which has since become Bharat Financial) in India, but the next generation of hybrids is structurally more sophisticated, using technology, offshore SPVs, and layered capital structures.

The FSB Economic Functions structure acknowledges a number of characteristics that bring microfinance hybrids into the shadow banking fold squarely. They carry out maturity transformation where they finance long-term microloans with short-term capital market instruments. They use leverage, particularly in securitised structures. And they transfer credit risk imperfectly, often retaining first-loss tranches while distributing senior risk to institutional investors with limited visibility into underlying borrower quality. Crucially, most microfinance hybrids in emerging markets and developing economies (EMDEs) fall outside banking regulation entirely, supervised neither as banks nor as capital market participants.

The IMF and World Bank have flagged that NBFIs growth in EMDEs is fastest precisely where regulatory capacity is weakest. Microfinance ABS issuance has grown substantially across South Asia, Sub-Saharan Africa, and Latin America, often structured through offshore SPVs in Mauritius, the Cayman Islands, or Luxembourg to access

international capital. This creates cross-border opacity that national regulators cannot penetrate. The 2010 Andhra Pradesh microfinance crisis demonstrated how overleveraged MFI structures could collapse systemically at a regional level. A more interconnected, capital-market-funded version of that structure now exists at a global scale.

Gaps in Regulation still Persist: No binding international standard specifically addresses microfinance hybrid structures. The FSB's NBFI monitoring excludes most EMDEs where these entities are concentrated. AIFMD and SEC frameworks reach only where fund managers are domiciled in regulated jurisdictions. The result is a growing class of shadow intermediaries that combine financial inclusion narratives with systemic risk characteristics that remain almost entirely unmapped by existing policy frameworks.

## 6. Comparative Analysis

Gold-based lending is structured very differently across major economies. The table below provides a summary of various metrics followed in these countries.

METRICS	INDIA	USA	UK	EU	CHINA
Primary Lenders	NBFCs (Muthoot, Manappuram, IIFL)	Pawnshop and collateral lenders	Secured bullion market (LBMA)	Banks (under Basel III/CRR)	Shadow banking trusts, lenders
LTV Ratio Cap	75% (85% for loans <₹2.5L from Apr 2026)	40–60%	No fixed ratio (market-driven)	Bank-determined (risk-weighted)	Informal/ opaque
Regulatory Body	Reserve Bank of India	State-level regulators	LBMA, FCA	ECB, national regulators	People's Bank of China
Market Structure	Formal, low procedures	Licensed but segregated	Market-driven, formal	Bank-centric, institutional	Shadow banking (declining post-2017)

Table 1. Comparison of gold-based lending in major economies.

*(Market Reports World, London Bullion Market Association (LBMA), European Banking Authority, Norton Rose Fulbright)*

India has emerged as a leader in terms of its formal loan infrastructure, with regulatory evolution (LTV increase to 85% from April 2026) supporting growth. The structure is very formal and accessible in nature, and has regulations to promote inclusion compared to market-driven structures such as those in the UK, US and the EU. In China, the shadow banking sector has historically relied on trust products and underground lending, sometimes backed by commodities like gold. These loans were opaque, with high risk and informal LTV ratios.

Regulatory crackdowns since 2017 by the People’s Bank of China (PBoC) have reduced gold-linked trust lending, but commodity-backed financing remains a feature of shadow banking.

The next comparison focuses on the fintech sector, a growing frontier in the field of shadow banking in major economies.

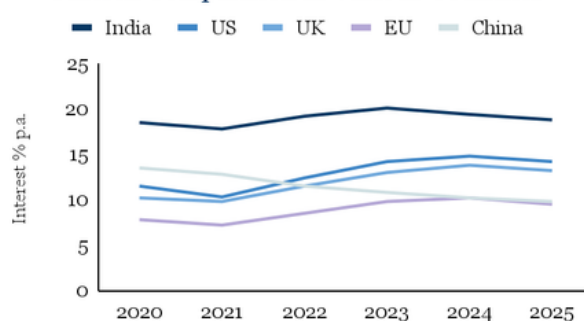
METRICS	INDIA	USA	UK	CHINA
Market Size (2025)	Projected USD 350B by 2030	USD 40B+	USD 16.2B (projected to triple by 2034)	USD 3T shadow banking sector (2023)
Growth Rate (CAGR)	~20% (NBFC-P2P)	High (market-driven)	Rapid (automation-driven)	Slowing (post-2020 regulation)
Key Players	NBFC-P2P platforms	Zest AI, LendingClub, Earnest	Fintech lenders, legacy banks	Ant Group, Jiedaibao, MYBank, WeBank
AI Adoption	Growing	Advanced (AI underwriting, fraud detection)	75%+ of financial firms use AI	Central to SME financing (AI scoring, blockchain)
Primary Regulator	RBI (Digital Lending Guidelines 2022)	CFPB, state attorneys general	Bank of England, FCA	People's Bank of China
Key Regulatory Concerns	Data privacy, predatory lending	Algorithmic bias, fragmented oversight	Legacy bank adoption lag	Balancing innovation with systemic risk

Table 2. Comparison of fintech lending in major economies.

(Reserve Bank of India, Inc42, Mordor Intelligence, Consumer Financial Protection Bureau, IMARC Group, European Banking Authority, KPMG)

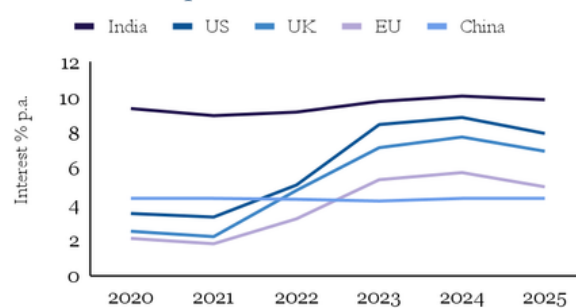
A glance at the table indicates the strong growth of the US in terms of its fintech revolution and innovative capabilities, signalled by advanced AI adoption and high market-driven tendencies. This amalgamation has also occurred in the UK, although it faces adoption lags. In China and India, they are governed by regulatory bodies that lead to systemic risks and privacy and inclusion barriers.

Fintech Comparison in Various Countries



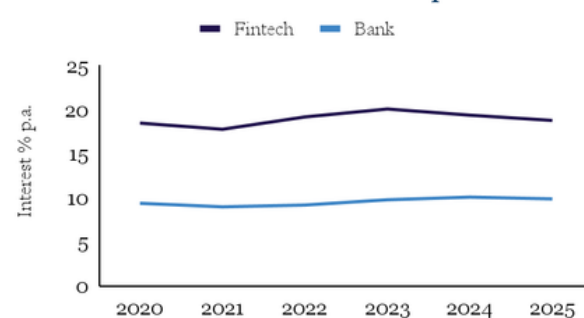
Graph 3: Fintech Comparison in five countries

Bank Comparison in Various Countries



Graph 4: Bank Comparison in given countries

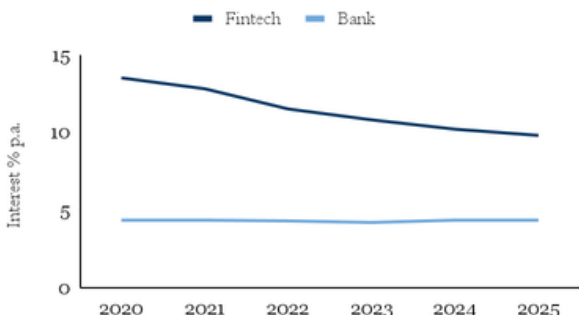
India's Bank and Fintech Comparison



Graph 5: India’s Bank and Fintech Comparison

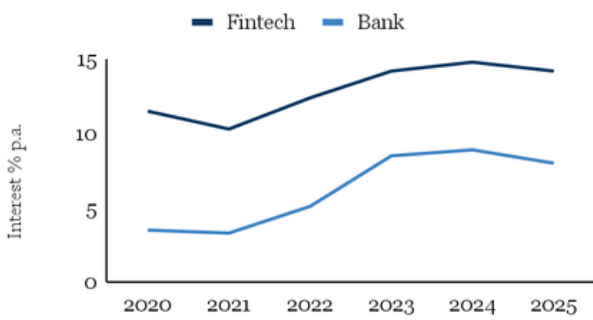


China Bank and Fintech Comparison



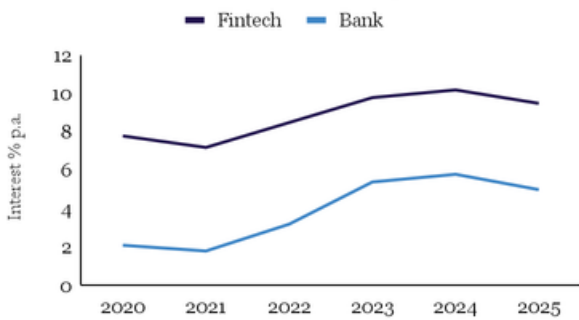
Graph 6: China Bank and Fintech Comparison

US Bank and Fintech Comparison



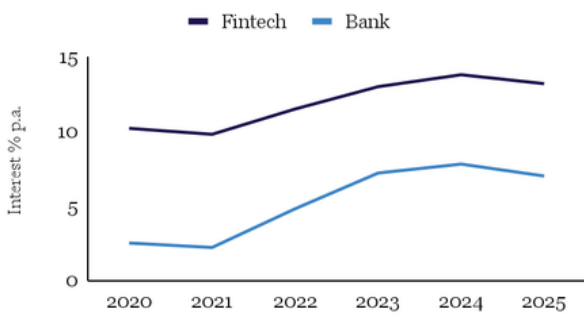
Graph 7: US Banks and Fintech Comparison

EU Bank and Fintech Comparison



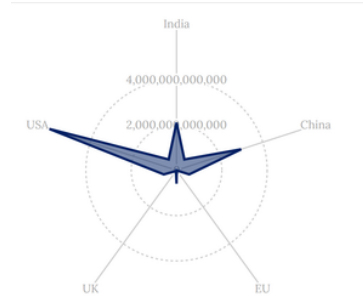
Graph 8: EU Banks and Fintech Comparison

UK Bank and Fintech Comparison



Graph 9: UK Banks and Fintech Comparison

(Reserve Bank of India, IndiaStat, House of Commons Library, UK Parliament, World Bank Development Indicators)



Graph 10: Fintech Market Sizes

(PWC India, Grand View Research, CRIF High Mark)

### Microfinance Hybrids

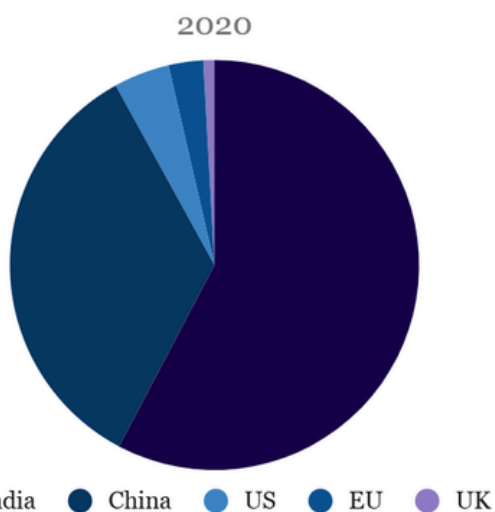
Hybrid microfinance mechanisms aim to improve financial inclusion. Within the shadow banking sector, it is still at its early stages in most countries; however has been well amalgamated in various others.

METRIC	INDIA	USA	UK	EU	CHINA
Gross Loan Portfolio	₹3,75,030 Cr (~USD 44B) as of Mar 2025	USD 80M+	£287M CDFI lending (2024)	Up to €25,000 per loan	90% of global big-tech lending
Unique Clients Served	7.8 crore (~78 million)	Data not specified	99% prv declined borrowers	198 active providers	35M+ SMEs (MYBank)
YoY Growth	-13.5% (Mar 2025)	Nascent, subsidy-reliant	Growing but limited scale	Uneven growth	Declining post-2020 regulation
Funding Model	Market-driven + regulatory support	Govt subsidies+ fintech	Blended finance (public + private)	Public guarantees, EIF risk-sharing	Big-tech lending + co-lending partnerships
Digital Infrastructure	Aadhaar, UPI, account aggregators	AI scoring, automated portals	Digital outreach, automation	Varied by member state	Alipay data, fully automated credit
Key Issues	Over-indebtedness, loan waiver sensitivity	High servicing costs, subsidy reliance	Scale limitations, funding reliance	Complex	Caps, leverage restrictions

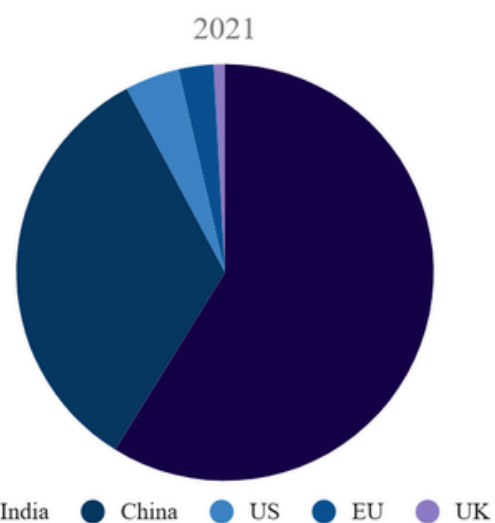
Table 3. Comparison of microfinance hybrids in major economies.

(Aspen Institute, Micrometre, British Business Bank, Responsible Finance, Small Business Administration (USA))

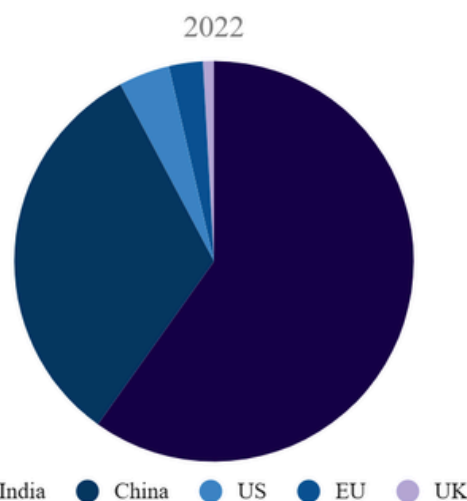
India and China dominate in sheer loan volumes and client outreach, but both face structural risks. India, with over-indebtedness and political loan waivers, and China, with regulatory caps on big-tech lending. The US and UK rely heavily on subsidies, philanthropy, and blended finance, which stabilise risk but also constrain scalability.



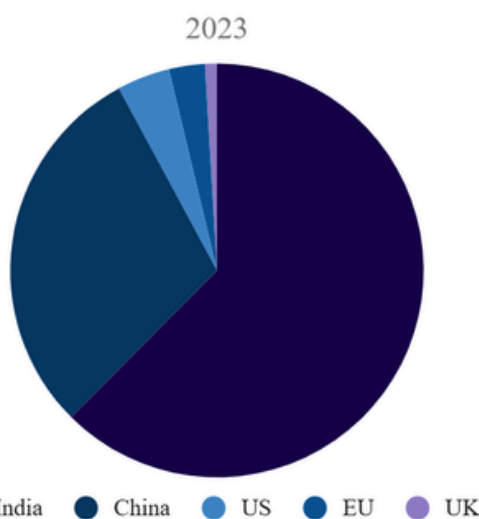
Graph 11: Unique Clients Served in 2020.



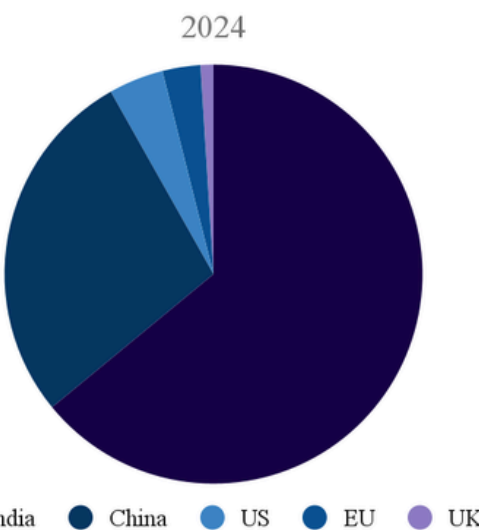
Graph 12: Unique Clients Served in 2021.



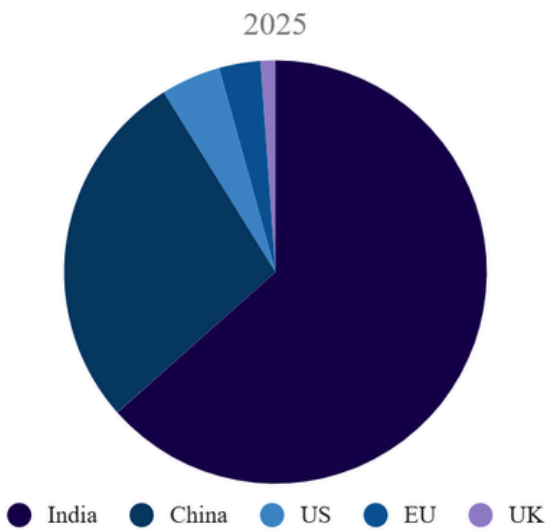
Graph 13: Unique Clients Served in 2022.



Graph 14: Unique Clients Served in 2023.



Graph 15: Unique Clients Served in 2024.

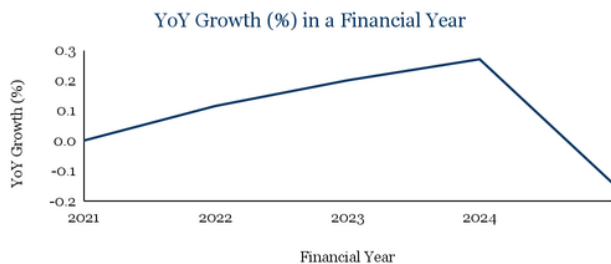


Graph 16: Unique Clients Served in 2025.

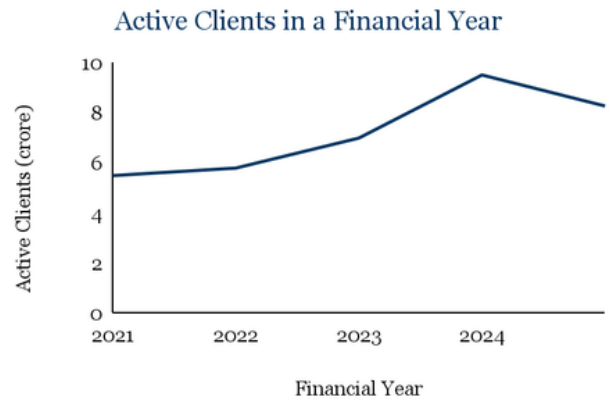
(Microfinance Institutions Network, Aspen Institute, British Business Bank)



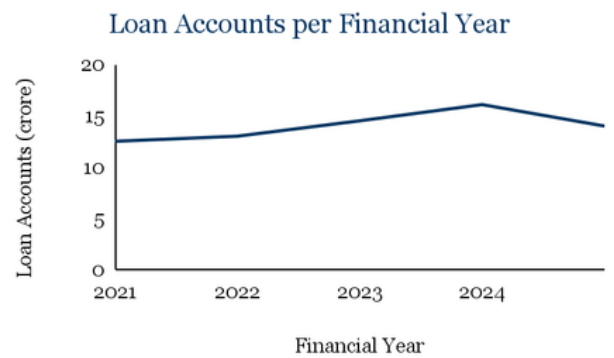
Graph 17: GLP (in crores) per financial year



Graph 18: YoY Growth (%) in microfinance hybrids per financial year



Graph 19: Active Clients for microfinance hybrids per financial year



Graph 20: Loan accounts for microfinance hybrids per financial year

(PricewaterhouseCoopers India, Bharat microfinance report FY 2024–25, Sa-Dhan.)

India’s Aadhaar–UPI stack and China’s Alipay ecosystem show how digital rails can massively expand access. In contrast, the US, UK, and EU remain more fragmented, with digital adoption uneven across providers.

India’s outreach to 78 million clients demonstrates breadth, while the UK’s focus on 99% previously declined borrowers shows depth in inclusion.

China's SME focus (35M+ served) highlights how big-tech platforms can scale niche segments rapidly. In terms of performance analysis, repayment data is strongest in the UK (89%), suggesting disciplined lending practices.

Formally, Non-Bank Financial Intermediation, or shadow banking (abbreviated as NBFIs by the Financial Stability Board (FSB)) has increased to 238 trillion global assets in 2023, comprising 51 per cent of all global financial assets. This has made the regulation of this industry one of the most astute issues in contemporary finance, with significant reactions being voiced by the FSB, the United States, the European Union and the IMF. These frameworks differ dramatically in design, force of binding and effectiveness.

*FSB: International Co-ordination Non-Enforcement.*

The FSB is a relatively new international structure set up in 2009 to offer the overall international framework of regulating shadow banking. Its Economic Functions framework of activity-based risk classifies the NBFIs risks under five categories, ranging from the run-prone collective investment vehicles to the securitisation-based credit intermediation. Other priorities after the pandemic have been MMF resilience (2021 recommendations),

open-ended fund liquidity management (revised 2023 recommendations), and NBFIs leverage (2025 policy framework). The FSB is also powerful by virtue of its monitoring across the 29 jurisdictions and its establishment of baseline expectations. The private credit, currently over 2 trillion of the world, was only made a formal part of the work of FSB in 2025, many years after the market became systemic.

*United States: Success Crippled by Division.*

FSOC (Financial Stability Oversight Council) was established by the Dodd-Frank Act (2010) as the main inter-agency to identify systemic risks by nonbank institutions, and FSOC is authorised to designate nonbank SIFIs as having to be subject to Federal Reserve oversight. Practically, there are no nonbank SIFI designations being registered as of 2025. In 2024, however, a federal court struck down the 2023 privately regulated fund adviser regulations of the SEC, which is an example of how post-Chevron judicial restraints have limited the capacity of the SEC to expand prudential requirements to privately managed funds through unspecified congressional mandate. The Basel III capital requirements have had the effect of credit migration out of the regulated banks to the unregulated private credit structures, a substitution effect that is not handled by any existing regulation.

## *European Union: Coherent Regulations, Disunified Control.*

The most elaborate framework on shadow banking has been developed by the EU in the form of the Alternative Investment Fund Managers Directive (adopted in 2011). AIFMD 2.0 will become fully applicable in April 2026, and will contain mandatory liquidity management instruments on open-ended funds, and will make certain provisions in loan-originating AIFs.

European Market Infrastructure Regulation: EMIR 3, which became effective in December 2024, enhances the central clearing requirement and adds the Active Account Requirement, mandating EU traders and counterparties to keep active clearing accounts at EU-authorized CCPs. (Capital Requirements Directive/Capital Requirements Regulation framework) CRR3/CRD6 completed the implementation of Basel III in January 2025. In the proposal of the December 2025 Market Integration and Supervision Package, ESMA is suggested to have the broader direct supervisory authority over major market participants.

**IMF: Analysis in the Absence of Authority.** Building on the regulatory approaches of the FSB, the United States, and the European Union, the IMF occupies a distinct position. Through its Global Financial Stability

Reports, the IMF subjects markets to vulnerability tests that reveal systemic fragilities often overlooked. For instance, it has shown that forced bond sales by U.S. mutual funds in a stress event akin to March 2020 could reach \$200 billion. The April 2024 GFSR described private credit as opaque and highly interconnected with limited oversight, and suggested proactive supervisory involvement.

### *Common Failures*

In all frameworks, four structural failures reoccur: instability of the perimeter of regulation because capital requirements are forcing capital to go outside regulation; continuing information asymmetry, in particular in private lending as well as offshore hedge funds; cross-border coordination problems, which allow regulatory arbitrage, estimated to be 21 percent on average lending distortion; and political discontinuity which does not allow the development of durable supervisory cultures, most famously in the United States.

**1. Perimeter Instability:** Every strengthening of bank regulation creates incentives for financial intermediation to migrate to less-regulated channels. Basel III has driven credit to private credit funds. Post-Dodd-Frank capital requirements accelerated

nonbank entry into syndicated lending. Post-MMF reform, regulatory capital arbitrage through repo markets intensified. Regulatory perimeters are inherently porous when financial innovation can reconstitute economically equivalent exposures in legally distinct structures.

**2. Information Asymmetry:** Shadow banking's defining characteristic is opacity. Regulators systematically receive less information about non-bank intermediaries than about banks, creating persistent blind spots. The data collection improvements made since the GFC have been real but remain incomplete. The FSB's Nonbank Data Taskforce, the SEC's Form PF reforms, and ESMA's trade reporting initiatives represent progress, but private credit, offshore hedge funds, and complex multi-entity structures remain substantially opaque.

**3. Coordination Failures:** Shadow banking is global; regulatory authority is national. The FSB provides coordination infrastructure, but implementation remains sovereign. This creates systematic opportunities for entities to locate in the most permissive jurisdiction while serving clients globally. The 21% average lending distortion caused by regulatory arbitrage documented in 2024 quantifies a coordination failure that has persisted for over a decade post-GFC reform.

**4. Institutional Design Weaknesses:** FSOC's non-binding recommendations, the FSB's reliance on peer review rather than enforcement, and the IMF's lack of direct authority all reflect the fundamental challenge of governing a global financial system through institutions that can recommend but not compel. The EU represents a partial exception within its borders, but the MIP's proposed expansion of ESMA powers acknowledges that even the EU's directive-based system has produced insufficient harmonisation in practice.

**5. Political Economy:** Financial regulation is deeply embedded in the political economy. The private credit industry, hedge fund sector, and broader asset management industry have successfully resisted the extension of bank-like prudential requirements to their activities, in part by arguing that they provide valuable credit and do not create systemic risk, and in part through direct political lobbying. The judicial vacatur of the SEC's 2023 private fund adviser rules is one expression of this resistance; the repeated failure to sustain FSOC nonbank designations is another.

These are a few of the problems we scoped in our analysis of the given frameworks.

## 7. Policy Recommendations

Shadow banking activities of Gold NBFCs, fintech platforms, and P2P lending have assumed a critical but structurally vulnerable place in the overall financial structure of India. The IL&FS crisis and the Franklin Templeton crisis have unambiguously shown that any level of opacity, maturity mismatch, and arbitrage in the shadow banking system has the potential to immediately convert into a crisis-like situation. Based on these case studies and the comparative analysis of the regulations, the following policy recommendations are proposed:

### 1. Proper Regulation by Agencies

As seen with IL&FS, its intricate network of over 250 subsidiaries, which hid information from auditors and rating agencies, regulators must ensure timely disclosure of off-balance sheet risks, leverage, and liquidity profiles. For fintech lenders, algorithmic credit scores must be audited, addressing one of the concerns levelled by critics of unsecured digital credit, namely, opacity risk. While RBI's Digital Lending Guidelines are a positive step, data reporting from NBFC-P2P and fintech co-lending models is not yet standardised.

### 2. Transparency in Operations

Financial institutions that engage in shadow banking activities should be mandated to

disclose publicly their exposures that are not recorded in their books of accounts, leverage positions, and liquidity positions to help in better understanding and managing systemic risk. Transparency initiatives should focus on the collection of pertinent, standardised pool and flow data in central repositories.

### 3. Mapping Exposure of Institutions

The Franklin Templeton crisis demonstrated the impact of the panic in the debt market due to the credit risk of mutual funds to lower-rated corporate bonds, which is a shadow banking activity. A real-time financial network map of the exposures of banks, NBFCs, mutual funds, and fintech platforms would help the RBI and SEBI to track the channels of contagion in real-time, as in the case of the Economic Functions framework of the FSB.

### 4. Enforcing risk mitigation frameworks

To mitigate this risk, effective frameworks must be put in place to track these complex relationships in real time systematically. You can achieve this by mapping these complex relationships in the financial sector in real time. This entails creating an effective map of the financial sector such that it illustrates the exposures of conventional financial institutions to shadow banking institutions, such as money markets, hedge funds, special

purpose vehicles, securities dealers, etc. These maps ought to be regularly created to effectively track these complex relationships.

## 5. Countercyclical Monetary Policy

Countercyclical capital buffers and LTV limits, which are currently applicable to Gold NBFCs, need to be extended to fintech lenders and P2P platforms as well. Since the demand for gold loans is counter-cyclical and P2P lending offsets the effects of monetary policy, the RBI needs to effectively leverage its macro-prudential policy to ensure that the impact of shadow banking is not felt when interest rates are eased.

India must establish a unified framework for the monitoring of shadow banking, which combines the data received from NBFCs, P2P, mutual funds, and fintech lenders under one system, with the RBI, SEBI, and the Ministry of Finance working together. As the comparative analysis has demonstrated, the scale-based system of regulation, which India implemented in 2021, is flexible. Nevertheless, the increased interconnectedness between shadow banks and regular banks necessitates the transition to proactive regulation. The task of achieving this equilibrium, which balances the contribution of shadow banking to financial inclusion with the need to contain systemic risk, is not merely desirable; it is imperative.

## 8. Conclusion

There has been an evolution in the Indian shadow banking landscape from being an alternative to mainstream banks to becoming a key player in the financial system. Each of the three areas identified as Gold NBFCs, fintech loans, and microfinance hybrids illustrates a different aspect of this change. These aspects are resilience through collateral, scalability through big data, and developmental impact, respectively. However, each of them also has inherent weaknesses that can cause a recurrence of events similar to those seen in the cases of IL&FS and Franklin Templeton.

The comparison suggests that no other large country has succeeded in solving the dilemma of shadow banking regulation, as the regulations become stricter on banks, credit flows more freely into less-regulated alternatives. The introduction of a scale-based supervisory structure in 2021 has been a good move in this regard, yet the increased connectivity between shadow banks and conventional players calls for a more proactive approach to regulation.

What sets India apart is that it must address not just the issue of preventing systemic risks, but also maintaining the financial inclusion benefits provided by shadow banking to some 78 million microfinance borrowers.


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