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Lessons from outperformance in the Indian financial sector

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Abstract

We examine predictions and outcomes for the Indian financial sector in the pandemic period to build a case for re-examining our understanding of the sector. This can improve risk perceptions and policy design. Reasons for outperformance include reforms that led to a better balance between discretion from public sector dominance and the excess volatility of market-based systems. This diversity, as well as divergence of the Indian credit cycle from the global credit cycle, was protective given the sustained external risks. It put the Indian financial sector in a position to support the domestic recovery, despite global quantitative tightening. There are lessons from India's more broad-based regulation for the narrow bank-based regulation in advanced economies (AEs), which is increasing global financial fragilities and risks. It is also increasing the share of markets in the AE financial sector so much that diversity is falling. Public sector banks contribute to the diversity of the Indian financial sector. Non-bank financial companies reach the unbanked sectors and improve financial inclusion. Regulatory excesses and absence of liquidity support contributed to persistence of financial stress. Policy lessons are for countries to avoid policy over-reaction, aim for diversity, different types of exposures, uniformity in financial sector regulation, with appropriate balance between discipline and support, in order to reduce risks.

Keywords: Outperformance; Indian financial sector; Diversity; Credit cycle; Broad-based regulation

JEL Code: O16, G15, G18, F36, F42

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1. Introduction

The 2010s were a very stressful decade for the Indian financial sector. During the preceding boom, public sector banks (PSBs) had for the first time lent large amounts to private infrastructure companies. The series of shocks associated with the Global Financial Crisis (GFC), an asset-liability mismatch and inadequate risk-assessment led to large non-performing assets (NPAs).

Since there was no bankruptcy regime in place to bail-in the private sector, re-capitalization had to await such a regime in order to prevent good tax-payer money going after bad. Without recapitalization, a major asset quality review undertaken by the Reserve Bank of India (RBI) only magnified a slowdown in credit growth. Criminal investigations of bankers who had sanctioned the loans further slowed credit growth; as did tight monetary-financial conditions and low demand (Goyal and Verma, 2018). Successive half-hearted restructuring attempts failed.

Excess liquidity after the demonetization episode of 2016 and a crash in short rates had encouraged non-bank financial companies (NBFCs) to borrow short and lend long. Retail credit boomed. As rates rose with US fed tightening in 2018 some housing finance companies were in trouble. When IL&FS, a giant quasi-public sector NBFC, with a non-transparent governance structure, was unable to meet its commitments in 2018, short rates rose sharply for all NBFCs.

There is no lender of last resort for such companies. Their only recourse to liquidity is through banks that become reluctant to lend in stressful times. Mutual funds also withdrew their investments. As a result loans from NBFCs contracted, liquidity froze and credit growth crashed. GDP growth in 2019-20 was only 3.7%.

This long-period of stress coloured perceptions of the Indian financial sector. It was regarded as fragile and vulnerable. The pandemic shock was expected to worsen fragilities and set-off cumulative doom loops reducing growth and repayments. Financial stress was expected to make monetary policy transmission inadequate since it was difficult for a broken financial sector to provide credit. Therefore, further major reforms, including PSB privatization, were thought to be a prerequisite for any recovery. But the sector actually strengthened during the Covid-19 period. Pessimistic growth forecasts had to be continually revised upwards (Goyal, 2022).

The 2021 Nobel Prize for economics was given to Card, Angrist and Imbens, economists who specialized in using natural experiments to tease out robust inferences. We all modify our conceptual frameworks when outcomes surprise. This improves them. In this paper we examine some of pandemic-time financial sector predictions and outcomes to build a case for re-examining

our understanding of the sector. Underlining new inference from evidence is necessary since preconceptions tend to persist[1]. Better understanding of the sector can improve risk perceptions and policy design.

We examine reasons for outperformance including reforms that have led to a better balance between discretion from public sector dominance and the excess volatility of market-based systems. This diversity, as well as divergence of the Indian credit cycle from the global credit cycle, was protective given sustained external risks. It put the Indian financial sector in a position to support the domestic recovery, despite global quantitative tightening (QT).

There are lessons from India's more broad-based regulation for the narrow bank-based regulation in advanced economies (AEs), which is increasing global financial fragilities and risks. Absence of broad-based regulation is also increasing the share of markets in the AE financial sector so much that diversity is falling.

It is time to rethink often heard assertions that PSBs are the problem and privatization is the answer. The stronger PSBs contribute to the diversity of the Indian financial sector. Their outperformance would not have been possible if there had been no reform, but the long stress was because there was too much reform some of the wrong type. Reform was poorly sequenced with over-strict monetary-financial conditions. Misdiagnosis led to wrong and poorly timed medicine—such as doing an asset quality review before a bankruptcy regime became functional.

NBFCs were misunderstood as indulging in regulatory arbitrage and dubious financial engineering when their business model and prime differentiator was better financial distribution for a heterogeneous economy. They were reaching unbanked sectors and improving financial inclusion, even with poor liquidity support. As this dried up after problems in IL&FS, and in the absence of lender of last resort facilities, the credit drought became even more severe. There were a few bad apples, but regulation was much stricter than the often non-existent regulation of non-bank financial institutions (NBFIs) in the West. It does need further refinement towards a better balance of discipline with support.

The remainder of the paper is structured as follows. Section 2 presents evidence on expectations and outcomes. Section 3 has subsections each examining one of the reasons for outperformance

[1] For example, the response to a question on India in the IMF press conference on its October 2022 Global Financial Stability Report, underlined financial fragilities such as underwriting problems in banks and other financial institutions with no mention of the observed strengthening and good results (See https://www.imf.org/en/Publications/GFSR/Issues/2022/10/11/global-financial-stability-report-october-2022)

and assessing the evidence. Section 4 examines past and future policy strategies. Section 5 takes up continuing risks and implications for policy before Section 6 concludes.

2. **Preconceptions and performance**

Most of us tend to be backward-looking and find it difficult to perceive or acknowledge change. The perception that the financial sector was already stressed and Covid-19 would make things worse[2] led to calls for further surgery and reforms such as PSB privatization as a prerequisite for recovery. But if this view was correct, the better than expected recovery, without the reforms, is a puzzle.

PSBs especially were seen as fragile. Gross non-performing assets (GNPAs) were expected to rise in the regulator's own assessment. But ratios improved instead of deteriorating (Table1). Banks as a whole did much better than even their own regulator's forecast. Buffers were built, capital adequacy was higher and profits exceeded expectations. Regulatory relief provided after the lockdown was transient so it was not the reason for out-performance.

Table 1: Summary of PSBs regulatory ratios

Public sector banks			
	March 20	March 21	
		Forecast RBI FSR	Actual
GNPAs	11.3	15.6	9.54
CRAR	14.6	13.3	15.8
Provisions	64.2	-	68.4
NNPA	4.0	-	3.1

Moody's upgrade for India in October 2021 specifically mentioned the financial sector had surprised on the upside. The World Bank expressed a similar sentiment.

Analyst focus on GNPAs had neglected the high provisioning that was lowering NNPAs. By May 2022 GNPAs were less than 6 and NNPAs were 1.5.

[2] For example, a rating agency Ind-Ra forecasted that the delinquency of top 500 corporates and stressed debt would rise from 11.57% (FY21) to 18-20% in FY22.

The argument that financial flows would not rise without further reform was also not supported. Despite continuing global shocks and rising domestic interest rates, in the fortnight ending December 2, 2022, bank credit grew at 17.5% year-on-year, a nine-year high. This was partly due to the base effect after a low growth year. Credit growth had not exceeded 16% since November 2013[3].

Table 2: Composition of financial flows to the commercial sector (% of annual total)

Source	2018-19	2019-20	2020-21	2021-22	2022-23 (Up to Jan 13)
A. Adjusted non-food bank credit	52.3	37.8	29.2	43.5	65.5
Of which non-food credit	48.7	38.3	29.3	43.8	69.1
B. Flow from Non-banks (B1+B2)	47.7	62.2	70.8	56.5	34.5
B1. Domestic Sources	31.3	26.8	47.6	27.5	21.6
Public & rights issued by non-financial entities	0.4	4.1	2.3	6.2	1.9
Gross private placements by non-financial entities	6.6	15.4	17.7	7.8	6.2
Net issuance of CPs subscribed by non-banks	5.8	-9.9	2.6	0.7	1.6
NBFCs	5.4	5.5	10.7	3.0	3.2
B2. Foreign sources	16.4	35.4	23.2	29.0	12.9
Foreign direct investment to India	12.8	25.8	25.1	19.5	11.2
Total flow of resources (A+B) as per cent of 2018-19 values		65.34Δ	69.01Δ	91.46Δ	169.9@

Source: Calculated from RBI reports
Δ as per cent of 2018-19 values; @ Percentage increases over April-Jan13 2022-23.

Liquidity injections and financial diversity allowed financial flows to improve even in the first year of the pandemic. In 2020–21 financial flows to the commercial sector were at 69.01% (as % 2018-19)

[3] Article based on RBI data release. See https://www.thehindu.com/business/Economy/rbi-report-shows-credit-growth-surges-psbs-h1-fy23-balance-sheet-to-10-year-high/article66311092.ece

compared to 65.34% in pre-pandemic year of 2019-20 when there was a liquidity squeeze (Table 2). Flows had reached 91.46% in 2021-22, almost 2018-19 levels.

In addition liquidity reduced risks and interest rate spreads. Commercial papers and NBFCs reversed a fall in share. Thus diversity of the financial sector allowed other sources to substitute while bank credit growth remained in single digits as large corporates continued to deleverage debt. Diversity creates stability since even if one sector contracts another may be expanding, if they are not all correlated. In the financial sector this requires exposures and perspectives to differ.

The share of non-bank financing of the commercial sector rose to 70.8% in 2020–21 compared to 47.7% in 2018–19 (Table 2). It remained higher at 56.5% in 2021-22 despite rising bank credit.

Although bank credit to industry in October 2021 grew at only 4%, that to medium industries was 48.6%. Credit to micro and small enterprises grew to 11.9%, credit for consumer durables grew at 44%, so that aggregate bank credit growth was 6.9 (RBI 2021b). It continued rising with healthy recoveries. Retail loans, now sanctioned on risk-based underwriting, grew in double digits. Despite the Ukraine war 2022-23 saw a strong revival in bank credit growth. Foreign inflows contracted as the US Fed began raising rates sharply. Banks were in a position to provide credit as larger firms turned to them since foreign credit was now more expensive. The slowdown in bank credit had been demand driven, not due to their inability to lend as Goyal and Verma (2018) had shown.

Next we turn to the reasons for out-performance.

3. **Reasons for out-performance**

These included deep-seated reforms and broad-based regulation, diversity that was rising but not too much and divergence of the Indian credit cycle from the global credit cycle.

Pre-liberalization the Indian financial sector was repressed. A statutory liquidity ratio (SLR) in the 40s made PSBs a conduit to transfer private savings to the government where they were inefficiently used. Banks had been nationalized in the seventies and all interest rates were administered.

The nineties reforms allowed private entry, brought down the SLR and de-regulated interest rates in stages. The old capital markets regulator was abolished and replaced by a modern securities regulator (SEBI), which contributed to implementing world-class technology and processes in the markets. Insider groups lost power as the liquidity advantage tipped in favour of automated systems. FX and money markets also developed.

The regulators aim was to achieve international best practices, and encourage market-integrity through clear and self-enforcing rules of the game. But time was given for systems to evolve from controls towards being more market-based.

The strategic plan was for full capital account liberalization to follow deepening of domestic markets and improvements to government finances, with the focus on meeting domestic needs such as financial inclusion and infrastructure finance.

Four basic market failures that require regulatory intervention were kept in mind: Failure of information, failure of inclusion, behaviour that creates procyclicality, and the "too big to fail" syndrome. Following general principles allows flexible response to arbitrage and change, but can lead to delays, litigation and regulatory capture. A principle based rule can be consistent with the basic principles, yet ensure prompt response and allow operational flexibility.

Prudential regulations, designed to reduce the level of risk, all have this character. For example, a counter-cyclical rise in capital adequacy can be linked to the stage of the cycle (a sharp rise in credit is normally a good indicator of a boom) or risk-reducing micro-prudential prompt corrective action can be linked to banking parameters. They induce better outcomes through creating correct incentives for market participants without hurting initiative.

Post-reform experience of scams in the securities market, as well as involving some financial institutions, pushed regulators towards universal regulation, using a combination of restrictions, supervision and incentives. Prudential regulations were implemented much before more such regulations were adopted worldwide after the GFC exposed weakness self-regulation based on own risk-based models.

Indian regulations thus were broad-based. They covered most of the financial sector and used prudential principle based rules that capped leverage and improved incentives to damp pro-cyclicality (Goyal, 2012). In the 2000s these included leverage caps, countercyclical provisioning and differentiated risk weights for bank lending to bubble-prone sectors such as real estate and equity markets, position limits and limits on exposure to different types of risk. In the 2010s the focus shifted, in line with global post-GFC trends, more towards capital buffers, stress tests, disclosure and corporate governance, data and consumer protection. Guidelines on income recognition, asset classification, provisioning and capital adequacy were tightened. But prudential regulations also continued.

SEBI emphasized investor protection. Micro-prudential measures such as position limits and margin payments are imposed. Brokers are not allowed to hold client stocks. Many of these features are

missing in AE exchanges, prompting a market participant to remark they are like the Wild West in comparison. EMs use prudential regulation more than AEs. AEs have increased their use after the GFC but in AEs loan to value ratios to restrain consumer credit are the dominant measure used, in EMs it is FX position limits (Alam et. al 2019). Therefore AEs do not restrain NBFIs' risk-taking.

SEBI brought in sweeping listing reforms in 2014, following tightening of corporate governance in 2013. Many shell companies were eliminated, databases built and other anti-corruption measures taken (Balasubramaninan, 2014). Improved data and formalization is making illegal structures difficult to sustain. The Kotak committee on corporate governance, set up in 2019, had further suggestions. Better governance and corporate transparency is a prerequisite for a healthy corporate bond market to develop. Floating bond issues abroad is also forcing large corporates to improve standards[4].

Pre-GFC regulatory failure in AEs was due to the dominant belief in market efficiency and self-regulation. It may also be responsible for their continuing inadequate use of prudential regulation.

3.1 **Bank reforms**

That the NPA issue festered through the 2010s led to the perception that it was an intractable problem, linked to poor incentives associated with public sector ownership. In the absence of a development finance institution (DFI) and under over-optimism in boom conditions, PSBs were persuaded to lend to private sector firms for infrastructure, regardless of the ALM mismatch. But they were hit by the external shocks led slowdown after the GFC. The fundamental reason for the NPAs was not ownership as much as a gap in financing.

The 2000s were the first time banks had made such large loans to private infrastructure companies. One of the reasons for the delay in restructuring was that fundamental reform to bail in private debtors was necessary to prevent more tax-payers money going to these debtors. India did not have a bankruptcy code and had to await the passage and implementation of the 2016 Indian Bankruptcy Code (IBC). The IBC changed corporate incentives towards repayment since they could lose assets. It prompted them to deleverage and keep debt at a minimum. The whole credit culture changed. Although the system struggled with a backlog, banks loan recovery of 45% was much better than in the past. Since the bad loans were all provided for by now, recoveries added to profits. The IBC

[4] The depth and resilience of Indian markets was demonstrated as they absorbed a short-seller targeting one such large Indian corporate in 2023, without falling. Strict exposure limits and other reforms made the vulnerability of domestic banks to any one corporate low.

needs to and is being fine-tuned and strengthened. It can be usefully supplemented by board managed recovery that worked well in the IL&FS case.

The implications of NPAs for large tax payer bailouts and allegations of corruption let to over-activism of vigilance bodies. Bank CEOs were arrested, more responsibility put on board members. This had a negative effect on loan activity.

In some softening of the over-reaction, the 2020 Amendment to the 2013 revision of the Company Act, made the required distinction between commercial and criminal activities. The Prevention of Corruption Act revision in 2018 made action against public servants dependent on evidence of disproportionate assets (Goyal 2022). Battling a pandemic together built more trust between the government and the private sector. More forums were activated for interaction, listening and feedback.

Thus financial reforms made progress through the 2010s in delivering better governance, regulation, lending practices and stronger balance sheets, as well as more diversity. The latter improves stability while creating more options for development and private financing. Diversity is necessary to serve an economy as varied as India where some use sophisticated derivatives and others are opening a bank account for the first time—as in the Jan Dhan Yojana of the PSBs.

3.1.1 **Post-liberalization reforms and PSBs**

It is important to look backwards beyond the past decade to assess PSBs performance.

The shift from controls to markets in the 1990s sought to reverse financial repression and let banks make their own commercial decisions. Banks could compete through interest rate policy and product differentiation.Technology and skills improved, but PSBs still lagged behind private sector banks (PvBs) in systems, in fee based services and in use of sophisticated products and derivatives. Because of this heterogeneous capacity PSBs were given time to move to the IRB (internal ratings based) capital buffers prescribed by Basel I. Standardized versions of Basel-type prudential norms were imposed. Broad pattern regulation capped leverage and reduced pro-cyclicality. The IRB approach was found to have weakened buffers in AEs prior to the GFC and was ill suited to EMs.

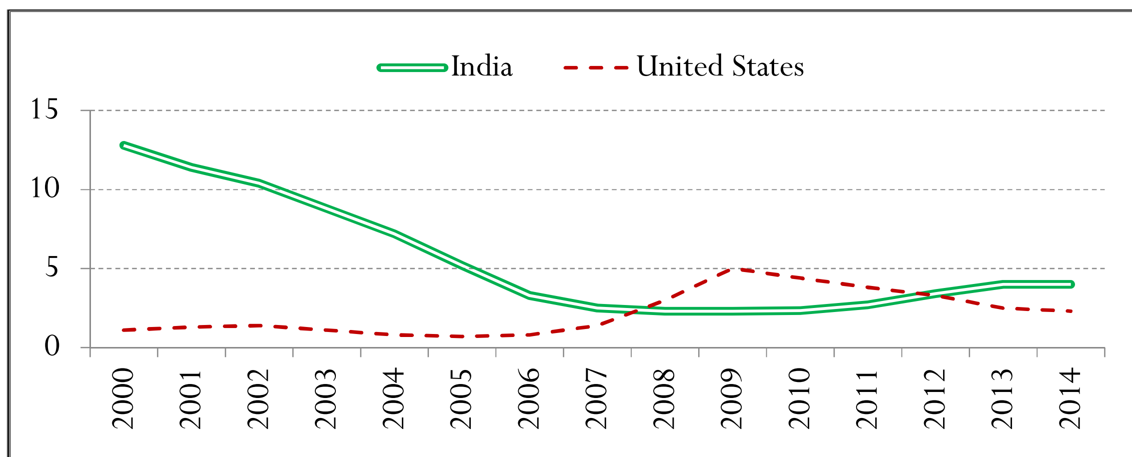
Outcomes were positive. There was a steep fall in gross NPAs. As a ratio to gross advances, they fell to 2.4 per cent in 2009-10 from 12.8 per cent in 1991. Figure 1 shows NPAs of US banks implicated in the GFC were worse than those of Indian banks in this period. PSBs also overtook PvBs, showing they were capable of doing well. Immediately after the GFC especially they outperformed since they did

not have foreign exposures, but they were trapped as infrastructure loans became non-performing under global shocks and a slowdown. PvBs that concentrated on retail lending did better; but credit growth fell steeply.

Once again PSBs reformed with consolidation of weaker PSBs, reduction in numbers, stronger boards, risk committees, more independence, better asset classification, risk-based lending with limits on large exposures and dominance of small ticket loans to retail and to SMEs. In consumer loans regular EMIs are paid from salaries. Unsecured consumer loans form only about a tenth and are increasingly backed by AI-based data analysis. There are improvements in supporting infrastructure such as industry-wide credit bureaus.

Many of PSBs past problems arose from government pressure to fulfill social obligations and the dependence on government and tax-payer funding that followed. They now have more independence as well as pressures to be commercially viable. The use of direct transfers for government programs is healthier, since they do not weigh on the books of banks. As a result, PvBs are also participating in programs such as government credit warranties for MSMEs.

Figure 1: Bank nonperforming loans to total gross loans (%)



Diversity in institutions and approaches makes for a more stable financial sector. PSBs are trusted by many savers. In 2022 they had garnered 1.7 trillion rupees in their Jan Dhan accounts, while PvBs had hardly any. PSBs can leverage their advantages in low cost deposits through many co-lending opportunities and partnerships.

The economy has suffered very low credit growth through the last decade and is ready for a turnaround. Retail focused PvBs alone could not grow credit adequately—it has recovered with the rise in PSB lending. This is not the time to disrupt this. PSBs can be given an opportunity to compete and raise resources on their own. Only those who cannot do so, or have other serious weaknesses, can be asked to exit through the privatization or merger route, while the strong are allowed to prosper. The Chinese way of growth, where the public sector shrinks as/if the private grows faster would work better for India also compared to forced privatization.

3.1. 2. **Reforms for non-bank financial institutions (NBFIs)**

Unlike in AEs, securitization and proliferation of hedge funds is not a major activity for Indian NFBIs. They are not like AE shadow banks, such as cross border NBFIs located in tax havens that use more hedge fund financing. These grew to take advantage of regulatory over-emphasis on banks and other blind spots. Broad-based Indian regulation implies the same incentives to arbitrage are not there.

Indian NBFIs largely comprise all India financial institutions, primary dealers and NBFCs (Bhandari and Pradeep, 2022). The main purpose and business model of many NBFCs is financial inclusion, to leverage customer knowledge to reach finance to corners where banks are unable to reach. There was some regulatory relaxation for NBFCs in order to further this, but regulations have been tightened for NBFCs also, as part of the overall regulatory tightening.

In addition there is more awareness of risks, after the lessons of the last decade. While many NBFCs borrowed short and lent long in 2017 when excess liquidity followed the demonetization episode, in 2021, under similar excess liquidity conditions due to the post-Covid19 stimulus, there were only 3 with large short term CP exposures. After losses due to credit risk in 2018, mutual funds were lending only to AAA rated corporate bonds; fixed income funds were giving only reasonable returns reducing credit risk (RBI, 2021). Companies seek an optimal debt-equity ratio to minimize risks and borrowing costs. Over-reliance on debt has ended because of the possibility of losing assets and of high rollover costs. The set of those who cut corners do so at their own risk. The percentage caught and penalized is rising and provides a warning to others.

The RBI is moving towards tiered regulation, where the top NBFCs will be treated like banks, while smaller NBFCs will still be allowed some laxity. But loan standards are expected to improve for all. An RBI circular in Nov 12, 2022 stated NBFCs cannot make loans standard unless there is full repayment. They have to report asset quality in 20 days moving away from the practice of month end reporting.

There were protests that MSMEs are not used to rigid reporting requirements and would find it difficult to comply. In the short-term the move may increase NPAs, but better standards would result in long term improvements. Digital payment regulations applied from December 1, 2022, emphasize disclosure, data and consumer protection, all of which will make for steady, sustainable growth. But feedback from industry and rationalization of regulations in order to reduce compliance costs also continue.

Moral hazard was not created since regulatory relief, after the initial Covid-19 wave, was available only for a short time. Some of the liquidity facilities expired automatically. Collection efficiencies rose with recovery after the 1st Covid19 wave, the take up of restructuring loans offered in 2021 was much below expectations[5]. Better than expected recoveries and good bounce back between waves increased repayment ability.

3.2 **Diversity with balance**

A second reason for the out-performance of the financial sector was its growing diversity. Diverse players in stock markets make them less volatile. Households are entering through MF SIPs and retail. The share of financial savings is rising. In 2022 as the Fed began raising rates this prevented a plunge in stock indices as FPI exited. Their dominance of domestic markets was reducing despite India moving to second place after China (weight 1/3rd) in the MSCI (Morgan Stanley Capital International) emerging market (EM) index with a weight of 14.483% in end August 2022[6].

We saw in Table 2 that when bank credit slowed, non-bank sources of finance were able to compensate to some extent. As stock markets boomed, a large number of IPOs were floated. Venture funds made more risk capital available, helping the creation of a record number of Indian unicorns—new firms that reached large market caps. Although the corporate bond market is yet to mature and is dominated by AAA issues, alternate investment funds are beginning to make credit available to lower rated entities. In the 5 years since 2017 they have had a CAGR of 48.5. But Sukumar (2023) argues there is a $100bn opportunity providing credit to mid-market enterprises in 2-3 tier cities at a rate between 8 and 16%. Banks and mutual funds lend below that rate. Only large investors, who understand the risk they take for higher returns, are allowed to invest. They are closed end funds with no mark-to-market but regulators are improving the disclosures.

[5] The Kamath Committee on restructuring had expected 1/5th of $100bn made available to be used but by March 2021, restructured advances were only 0.9% of funding.
[6] https://economictimes.indiatimes.com/markets/stocks/news/indias-rising-weight-in-msci-em-index-may-offer-support-to-domestic-equities/articleshow/94044427.cms?from=mdr

Other institutional improvements to strengthen the financial infrastructure included a bad bank and a DFI (NabFID). Although IBC had delivered, a bad bank (NARCL) may further hasten recovery and aid agreement among founder-lenders. Since provisions had already been made for bad assets their price discovery was expected to be less controversial.

DFIs were loss-making in the past. A new DFI (NABFID) with a strong independent board and run on market principles can help close the long-term financing gap while remaining viable. It can help leverage government seed money to attract global funds available under the net zero climate change initiative and avoid the ALM mismatch when commercial banks lend long based on shorter-term deposit liabilities. All this contributes further to the on-going deepening and diversity in financial markets.

More diversity creates stability as exposures differ. It helps avoid the volatility and short-term view of markets while using their discipline and autonomy. Varying vulnerabilities of PSBs compared to PvBs in different periods are an illustration of this. Excessive public sector domination creates problems of discretion, control, possibly poor decisions and delays, while market dominance results in excess volatility. The government's advantages are it can borrow at lower costs, de-risk infrastructure projects, spend for and create public goods. The advantages of the market are greater discipline, decentralized information and better signals for resource allocation.

The Government emergency credit line guarantee scheme (ECGLS) for MSMEs is an example of how risks can be allocated to where they can best be absorbed and distribution left to the banks. MSMEs were thought to be hardest hit in the pandemic yet budgetary constraints limited support. But MSMEs that used the Government emergency credit line guarantee scheme (ECGLS) were found to have done better than others[7]. RBI (2022) found robust growth in credit to MSMEs in Q4: 2021-22. GOI (2023) reports that credit growth to this sector over Jan-Nov 2022 averaged above 30.5%. Pick up in exports, ancillaries and services growth supported the sector. Formalization and tech use opened many new possibilities. In 2022 CRISIL found two-thirds were exceeding their pre-Covid19 revenue.

Private firms underinvest in innovation since there are externalities. Public sector led innovation in payment systems and in digital platforms has created many opportunities for the private sector, for example with the Aadhar identity-based India stack. There is the account aggregator initiative. The Open credit enablement network (OCEN) has created a standard protocol for interface between registered buyers, sellers and financiers with open APIs available to all. MSME accounting is

[7] Under the ECGLS for MSMEs, of loans worth Rs 3.32 tr were sanctioned until April 30, 2022, 2.54 tr was disbursed with 97% drawdown (RBI, 2022, pp. 42).

sometimes suspect and data with bureaus is dated. But current topline cash flow is reported in government sales tax data (GST). Machine learning can combine this with banking and bureau data in minutes to give an assessment for probability of default and enable lending. In FY20 the CAGR for digital payments was 15.2% boosted by social distancing and lockdowns as well as the free payment interface UPI[8]. The wave of payment innovations may bring down cross border payment costs that have been constant at 4-5% for hundreds of years (Cecchetti, 2022). They have already steeply reduced domestic intermediation costs that were constant at about 2%.

Many other types of partnerships are possible. PSBs have low cost current and savings account deposits. For fintechs and NBFCs borrowing cost is high, but they have advantages in risk-assessment and distribution. Therefore co-lending can combine their strengths and reduce costs of loans. At present digital platforms that enable P2P lending by pooling borrowers charge as much as 3 to 2%pm or 36-28% pa. Digital lending was expected to bring a 30-40% reduction in cost, but their cost of finance, operation and customer acquisition is high (Stanley 2020).

In AEs, however, market dominance has gone too far, so that diversity has fallen. This creates risks, especially in the post Covid19 world of quantitative easing, which India may escape. Comparing some AE statistics with Indian is instructive.

3.2.1 **Benchmarking and balance**

After the GFC the share of AE banks in assets, intermediation and market-making is declining (Economist, 2022a)[9]. Gorton (2021) shows only 50% of US business loans originate in the banking system and amount to 10% of US GDP. The 10% of Treasury Securities that banks held in 2008 had fallen to 3% in 2019. Corporate bonds had fallen from 8% in 2007 to less than 1%.

In 2010 banks held assets of $115tr; other institutions were about same. In 2020 other institutions held 26% more than banks. Banks share of US mortgages had fallen from 80% to 40%; corporate non-financial business debt with them was less than 50%.

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[8] UPI transactions reached 7.3 billion, worth INR 2.11 tr in Oct 2022, doubling from its value in mid (July) 2021. See https://www.npci.org.in/what-we-do/upi/product-statistics

[9] Many had predicted this. For example, Goyal 2012, pg. 89: 'Another key weakness of proposed regulations is the focus on banks together with many exemptions. This will encourage the proliferation of "shadow banks," which are institutions that conduct some banking activities but are subject to much less regulations than commercial banks are subjected to.' But AEs reluctance to regulate prevailed and they choose only to tighten for banks, which were regarded as the source of the GFC.

In comparison with the above, in India, relative bank dominance is only reduced. It is still there. Since banks preferred retail loans after large corporate NPAs, lending to corporates fell steeply. It is recovering post-pandemic as demand picks up from de-leveraged corporates.

In 2020 bank deposits accounted for 56% and bank loans 80% of household financial assets and liabilities respectively. The no frills account of the Jan Dhan Yojana enables direct benefit transfers and meets diverse needs of a heterogeneous population. It is the first bank account for many.

G-Secs dominate bond markets. In 2021 G-Secs averaged 50-75% of trading volume globally, in India it was 90-95%. G-Secs were 95% of GDP, corporate bonds only 4%[10]. Banks are still major players in the G-Secs market but their share is falling gradually. In May 21 37.7% of G-Secs were with banks compared to 44% in 2014. RBI held 14% and MFs 2%.

The composition of household savings is changing with the share of markets and household financial savings rising. Household gross financial savings were 15.5% of GDP in 2020-21 compared to 11.8 in 2018-19 (RBI 2022).

Although rising, household exposure to market risks remained moderate. By March 2022 4.8 per cent of household assets was in equities compared to 2.7% in 2020 (TNN, 2022). In comparison US household savings in equity had gone up from 10% of assets in the 1990s to 27% in 2022. In 2021 only 3.7% of Indian households invested in equities compared to 50% in US and 12.7% in China.

The rising diversity meant risks were held more broadly, with less concentration in banks. But banks remained large enough to play their traditional roles.

In AEs arbitrage because of the concentration of regulation on banks after the GFC had raised the share of under-regulated investment funds—broadly 'shadow banks'. The major financial centers, UK and US, did not apply macroprudential regulation to NBFIs.

Banks market share in AEs was now too small for them to play their traditional roles as market makers. Financial market diversity had actually reduced. Risks that a rate spike may force fire sales of assets and default have increased. Markets have become too dependent on the Fed as the market maker. But this may conflict with its focus on inflation fighting and the quantitative tightening (QT) started in May 2022 to shrink its balance sheet. In 2019 as Fed cut its holdings of treasury bonds overnight repo market rates spiked to 10%.

[10] See https://www.bseindia.com/static/markets/debt/FaqsdebtSegment.aspx, the section on Market Structure, Q 9.

The UK episode in 2022 showed how the CB had to come back in the market to rescue insurance companies. Their use of derivatives to hedge interest rate risks forced them into distress sales of G-Secs as yields shot-up after the Truss unfunded budget. There may be a number of such fault lines where stress may show up in the financial system as CBs raise rates and tighten liquidity, particularly as leverage is high. However, the very large base from which liquidity is being tightened may be an adequate buffer. The US also has the advantage that housing mortgages are largely fixed rate and corporate loans do not need re-cycling for 2 years. Private balance sheets may escape stress.

The Indian financial system, however, partly through luck and mostly through policy, is insulated from these global risks. This also explains its outperformance.

3.3 **Insulation from global risks**

Broad pattern regulation that includes transparent, pre-emptive and pre-announced countercyclical macroprudential measures (MPM); capital flow management (CFM) as part of gradual capital account liberalization in step with domestic market development; a buffer of large foreign exchange reserves are features of the Indian system that reduce the impact of global risk-ons and offs and pro-cyclical booms and busts to which the financial sector is susceptible. EMs use MPMs and CFM much more than AEs do[11], so their financial sectors may prove more robust.

While globally there finally were serious attempts at tightening financial regulation after the GFC these were concentrated in banks, whose use of securitization was seen as responsible for the GFC. Macro-prudential regulation was under-used. The focus was on raising capital buffers for banks. Simple lender-based prudential measures such as position limits and leverage caps are easier to apply universally to non-banks also[12]. These would reduce arbitrage to shadow banks and would have mitigated the risks that have built-up in the QE era and that may blow up under QT, creating global spillovers. For example, fixed income funds are now a major source of portfolio flows to EMs. These have fixed liabilities and as rates rise assets may need to be sold at lower prices, leading to defaults. Indian caps on international debt have been protective for it through large post GFC global risk-ons and offs.

[11] EMs used macro-prudential tools four times more intensively compared to AEs before the GFC. As more AEs began using such tools after the GDC the ratio fell to 3.3 (Claessens 2015).

[12] But in AEs prudential regulation stays largely limited to restraints on borrowers. Yellen (2014) had called for minimum margin requirements on a market wide basis to reduce volatility and large exposures. This did not happen despite proposals from the Basel Committee and the International Organization of Securities Commissions. In a 2019 talk with Kurgman she regretted that they still did not have tools to prevent risky lending (https://www.youtube.com/watch?v=elgz5bzwfpQ).

3.3.1 **CFM in India: Gradual liberalization**

India has followed a careful sequencing between domestic market development and foreign entry. Equity flows were liberalized first and caps were imposed on debt flows. The limits rose gradually as domestic markets deepened and in 2022 were at 6% of domestic markets. Equity flows are risk sharing, while debt flows impose a heavy burden in bad times when the currency is depreciating and rates rising.

In the early 2010s, for example, there were global pressures to allow foreign investment in local currency bonds. Currency risk was borne by foreign investors and funds searching for yield were willing to come in at a time of QE and low AE rates. But, during the taper tantrum, as US yields rose, an EM like Indonesia that had followed the advice saw very high interest rate volatility. Indian yield volatility was less than both that of a more open developed (S. Korea) and a less developed EM. Despite Korea's larger market size a ten per cent share of foreign investors led its interest volatility to exceed that of India. That of Indonesia, with a shallower market and a 38% share of foreign investor was much higher (Table 3).

Table 3: EM bond markets 2014

	S. Korea	Indonesia	India
% of GDP	75	15	54
Size: US $ bn	1701	124	1200
Share of foreign investors	10.6%	38%	4%
10 year yield variation 2013	6.3%	17.4%	1.3%

In 2022 as the Fed raised rates there were large FPI outflows from EMs. Holdings of Asian fixed-income assets fell $48.1bn in the first 6months, but India with large reserves and less leverage, had relatively less depreciation and was able to maintain some independence in its monetary cycle. This respite was despite its vulnerability, as a major importer, to global crude oil prices, which had risen with the Ukraine war and US sanctions, made worse by lax regulations in commodity markets that multiplied oil price volatility[13].

[13] In the 1990s investors had begun taking positions in commodity futures as part of a diversified portfolio. The US Commodity Futures Modernization Act passed in 2000, lightened position limits, among other

3.3.1 **CFM: Effect on EM corporate debt**

The pre GFC view was that controls create distortions and evasion; an open capital account with floating exchange rates was more stable. But the boom in global leverage under QE is dangerous as interest rates rise under QT.

As a result of low global rates EM corporate dollar debt rose from $ 1.7 tr in 2008 to 4.3 tr 2015. The IMF reports that China, Turkey, and Latin America saw the most change over 2007-14. Debt rose from 45% of GDP in 2005 to 74% in 2014. In India, under limits on foreign borrowing, it was only 14%. Market borrowing allowed diversification from bank loans, but limits prevented it from rising sharply and creating risks.

EM debt doubled to 9tr$ after the pandemic, but caps in India kept external debt low for corporates as well as for government. Indian corporates were deleveraging over the 2010s after the boom in the 2000s and as reforms such as the IBC made debt more risky for them. This asynchronous credit cycle is also protective for the Indian financial sector and helps explain its post pandemic out-performance.

3.4 **Asynchronous credit cycles**

After the GFC credit was increasing worldwide under QE, but India had tight monetary-financial conditions. The Indian credit cycle through the 2010s therefore differed from the rest of the world. As a result, pre-Covid19 in 2019, Indian government debt ratios were higher but overall (and corporates and households) ratios were much lower than other EMs (Table 4). Government debt ratios also were lower than in AEs. There was no corporate or household balance sheet distress.

India had lower risk in using credit-based stimulus, since private leverage was not high unlike most other countries. Even so, during the first Covid-19 year aggregate debt rose much less than that of EMs and of course AEs. In 2021 credit ratios contracted for all as GDP recovered but only in India was there contraction to below 2019 levels for the private non-financial sector (Table 4), aided by one of the highest GDP growth rates.

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deregulations. 'Swap dealers', who facilitate over-the-counter investment in exchange-traded funds tracking commodity indexes, were granted exemptions from position limits. Following this, open interest in oil derivatives more than tripled and the number of traders doubled over 2004-08 (Goyal and Pal, 2022). Following this deregulation volatility in crude oil markets rose substantially, as vast funds began to switch in and out. In the first 5 months of 2022, for example, $145 bn hot money left commodity trade, since returns to commodity trade are less attractive if interest rates rise (Economist 2022b).

That the Indian credit cycle was not aligned with the rest of the world lowers financial sector risks. There is space to safely expand credit as part of the monetary-fiscal response to multiple crises and for the financial sector to continue to outperform.

Table 4: Core debt as a ratio to GDP

	Total credit to the private non-financial sector	Bank credit to the private non-financial sector	Total credit to household	Total credit to non-financial corporation	Total credit to government sector at nominal value	Total credit to the non-financial sector
India						
2019	91.5	53.6	37	54.5	72.6	164.1
2020	99.6	58.4	40.3	59.3	87.1	186.6
2021	88.7	52	35.9	52.8	84.7	173.5
AES						
2019	164.8	79.1	73.6	91.1	100.4	273.7
2020	185.4	88.6	81.3	104.1	123	321.1
2021	169.3	79.2	75.1	94.2	111.9	289.3
EMs						
2019	149.1	113.3	45.7	103.4	53.7	203
2020	175.4	135.7	54.2	121.1	67.4	243
2021	161.8	126.8	50.9	110.9	65.5	227.3

Notes: 1.Core debt comprises debt securities, loans and currency and deposits in nominal values. 2. In USD at market exchange rates
Source: BIS (2021) https://stats.bis.org/statx/toc/CRE.html

4. **Policy strategy and financial outperformance**

The dominant prevailing view was that fiscal policy would be more effective since a choked financial sector clogged monetary transmission. But softening of monetary-financial conditions since 2019, and further after Covid-19, delivered despite relative fiscal conservatism, as the financial sector was also able to contribute.

Regulatory remissions and government schemes such as the ELCGS helped kick-start the strengthened but underutilized financial sector. It also stayed healthy because reform had reached a critical mass. Emphasis on reform, capital adequacy and strong corporate governance continued. Reforms built strong diverse financial institutions and strengthened existing ones with broad-pattern regulation. Remissions were temporary, and pandemic-time schemes were designed to have good incentive properties.

Recap bonds and warranties raise debt but do not raise deficits or crowd out private borrowing. Debt ratios also may not rise if growth responds.

Monetary fiscal coordination that aimed to smooth shocks, kept inflation low and growth high, also delivered financial stability. If continuing improvement in supply conditions reduces costs and inflation monetary policy can reduce volatility in interest and exchange rates. If real interest rates are smoothly kept below growth rates this snowball effect reduces debt ratios improving financial stability. In addition, tax buoyancy rises with growth. Fiscal consolidation keeps risk premiums low.

This policy combination has delivered through a series of external shocks. It contrasts with AE choices where over-stimulus led to excess demand under supply bottlenecks and resulted in high inflation aggravated by the Ukraine war and sanctions. AE CBs over tightening that followed threatens the financial sector in general and EMs through large outflows.

Continuous supply-side action and large RBI monetary stimulus when the pandemic struck, gave way to early but gradual liquidity normalization. US Fed only started to shrink its balance sheet in May 2022 after a giant expansion to $8tr; RBI started liquidity adjustment since early 2021. It was necessary to shrink durable liquidity, and the liquidity absorption required in reverse repo balances through introducing standing facilities, before raising repo rates since repo rates were at 4% well above zero unlike in the US, so short rates could fall below zero even if the repo was raised otherwise.

This pro-active response meant the MPC was in a position to impose required large rate hikes from May 2022, after the Ukraine war related food and fuel price shocks showed signs of persistence. An inflation targeting regime has to respond to persistent inflation that is expected to exceed its tolerance bands. This anchors expectations. Inflation exceeded the tolerance band in 2022 as the war raised food grain and oil prices, where India is vulnerable. But the average excess was less than 1%, real rates were raised to low positive levels and inflation is expected to fall to 5% in 2023.

There was fiscal support from countercyclical crude oil excise, management of the food economy and the beginnings of fiscal consolidation. The real interest rate stayed smoothly near equilibrium. It

was 2% 2020, -1% 2021, and 1% 2022, compared to large deviations from -10 to +6 in the 2010s. It was -6 in the US in 2022 indicating the Fed was far behind.

Smoothing of real exchange and interest rates contributed to lowering asset price volatility, despite outflows as the US Fed raised rates sharply. Buffers, macro-micro prudential regulation and the absence of full capital account convertibility all helped. Broad financial sector regulations are likely to prevent the fault-lines, cracks and flare-ups seen in AE financial sectors as the Fed tightens, supporting continued out-performance.

5 Risks and policy responses

Risks continue, of course. There could be contagion from the risks accumulated in under-regulated global non-bank financial sectors during the QE period of global over-leverage. Cross border flows will continue to be volatile under QT and global CB tightening. This will have to be handled. There can be aggravation from geo-political and climate change risks.

The relative success in handling shocks since 2020 gives important lessons in how to mitigate these risks. Balance is important. It is necessary to avoid excessive stimulus or tightening. The excess monetary-financial tightening that harmed Indian growth in the 2010s was an over-reaction to 2000s over-tightening. US policy over-stimulated the economy during covid-19 and the Fed is now over-tightening in response to the resulting inflation.

Since what the Fed does affects the rest of the world balanced data-based policy is especially important for it. Some responsibilities come with the advantage of issuing the world's reserve currency. Under extreme uncertainty rigid positions should be avoided. Rather than announcing rates will be high for long, or higher than expected, conditioning rate rise to incoming data would be much better for world financial stability. Real sector changes counter the effect of interest rates on markets. For example, strong growth is a positive for markets allowing them to absorb a rise in interest rates. A slowdown will reduce inflation, allowing the rate rise to taper. A market softening is desirable since it reduces demand but a crash is not since it can have spillovers and systemic effects through the financial system.

Policy including macroprudential regulations should be countercyclical. Intelligent regulations should be even across institutions and entities to prevent arbitrage. Over-regulation of banks in AEs has led to a risky boom in shadow banks.

Perhaps the share of banks has become too low in AEs, lowering financial stability and increasing vulnerability. Since diversity is important for stability, AE financial sector may not be a safe role model for EMs. Rather AEs should follow EMs in the use of more prudential regulations on lending.

Since there are always temptations in finance some supervision is essential. But in order to lower compliance costs, encourage innovation and deepening non-disruptive random AI based supervision could be combined with strict KYC, disclosure, corporate governance and accounting norms.

As the non-bank financial sector grows, broader lender of last resort facilities is required in India. At present only banks are eligible for repo borrowing at the LAF window. They did not prove reliable conduits of liquidity to NDFCs during the 2018 liquidity squeeze.

In AEs where banks have shrunk too much to be market-makers, CBs have provided this service. They will have to continue to step in, despite being in an inflation fighting and balance sheet shrinking mode, in order to prevent a local problem becoming systemic. A temporary window can be provided, making it clear market-making purchase is distinct from the monetary policy stance as was done in the UK episode. Similarly, purchase of G-secs in OMOs to sterilize excess liquidity reduction from outflows in EMs should be clearly distinct from the monetary policy stance.

Corporate bond market access in India remains largely for PSUs and AAA corporates. Fintech analysis of cash flows and accounts, as well as different kinds of warranty-backing can broaden access. To increase bankability of more firms, corporate governance and disclosures have to improve.

Rising foreign participation is an essential contributor to the growing diversity of Indian markets. But no one segment should dominate markets. Therefore continuing to limit foreign inflows as a percentage of domestic markets is essential. Absolute amounts would rise automatically as the market grows.

6. Conclusion

Myths tend to be stubborn even in the face of reality. That the Indian financial sector is unstable is one such myth. Despite a series of global shocks PSBs have produced the best numbers in a decade. Good recoveries contributed to better financial sector figures.

That privatization is the only panacea for Indian banking is another myth. PSBs have strengthened and this is the time to concentrate on meeting reviving credit demand. Credit was demand constrained through the 2010s because of tight monetary-financial conditions. Even PvBs were not

able to deliver credit to firms in that period. Moreover, diversity is required for serving a diverse population. It also contributes to financial stability.

Another myth is that since EMs always need to tighten more than AEs they are better off following AE tightening. India did better by not following AE excess fiscal stimulus and will do better by utilizing degrees of freedom available to not follow AE monetary policy. Its policy must be crafted to the needs of its domestic cycle and financial stability.

The absence of essential financial sector institutions (such as development finance banks and a bankruptcy code when commercial banks had to lend for infrastructure and poorly coordinated policy solutions) cost India a decade of deleveraging and slow growth. However reforms and broad regulatory strengthening gives it the opportunity to safely increase credit and support domestic growth recovery even at a time of QT. As risks rise in AE non-bank financial sectors and show signs of erupting during QT, the advantages of broader regulation are becoming clear.

Risks of continuing external shocks and inappropriate domestic policies that follow and aggravate these shocks remain. Domestic policies have the space to be countercyclical and reduce volatility.

The learning for AEs and EMs are to avoid policy over-reaction and pre-conceptions, aim for diversity, for different types of exposures and uniformity of regulation in the financial sector, with the appropriate balance between discipline and support.

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