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India at 75: Replete with Contradictions, Brimming with Opportunities, Saddled with Challenges

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India at 75: Replete with Contradictions, Brimming with Opportunities, Saddled with Challenges¹

by

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In this piece, I lay out my take on where India stands right now. I acknowledge the contradictions that have arisen given the divergent growth path of urban, formal or (stock-market) listed India relative to rural, informal or unlisted India. I also focus on the country's immense opportunities in expanding the digital footprint of finance to last-mile borrowers. I argue that while China+1 global pivot has put India at crossroads of a potential manufacturing breakthrough, to navigate it well Indian policy must focus on sound industrial and macroeconomic balance.

In my assessment, restoring industrial balance requires (i) reducing tariffs to increase country's share of global goods trade and reduce protectionism; (ii) dismantling the largest conglomerates to increase competition and to reduce their pricing power; and, (iii) ensuring the bankruptcy code is ready to deal with large conglomerate defaults should they materialize. I present novel facts on the rising industrial concentration in India, drawing out its historical evolution, the channels that have caused it to rise recently, and its implications for product price markups and inflation.

For restoring macroeconomic balance, I recommend (iv) reducing fiscal deficits and public sector borrowing requirement as well as reining in inflation (especially the persistent core) closer to mandated targets, which would reduce external sector vulnerability and free up monetary policy from the specters of fiscal and dollar dominance; and, (v) addressing gaps in skilling and education, for example, by setting up charter schools and giving corporates incentives to improve women labor force participation.

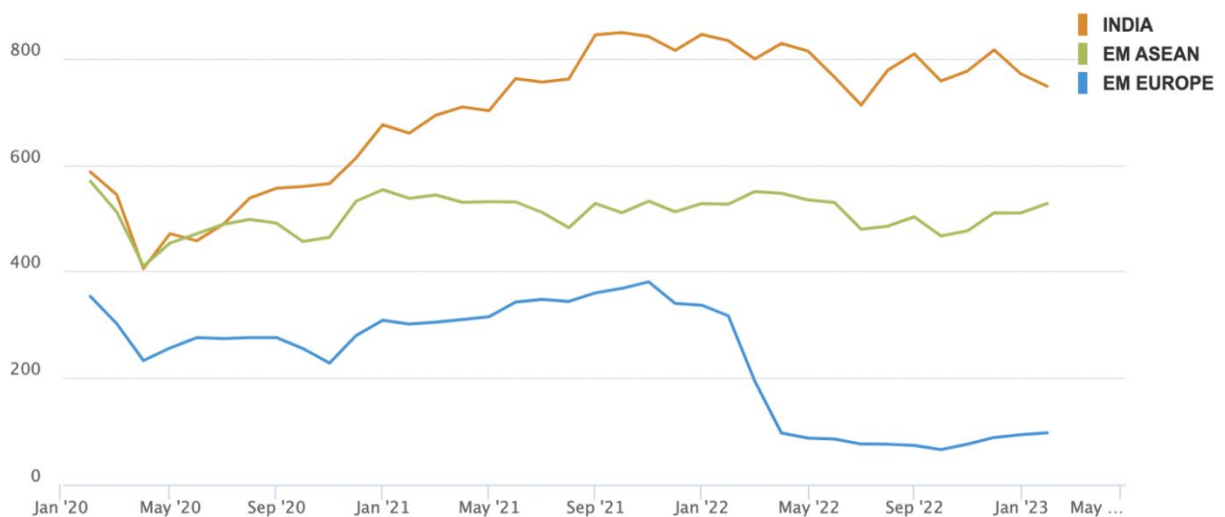
I. Replete with contradictions

India is complex and can be hard to fathom. To illustrate this enduring fact, even if at the cost of sounding more journalistic and less academic, I start by presenting five contradictions – or just counterintuitive or not-so-obvious juxtaposition of phenomena – currently at play in the economy.

- i. **Stock market vs real economic performance:** Perhaps the most salient contradiction around India concerns its staggering post-COVID stock price run-up relative to the strength of its economic recovery, both in an absolute sense as well as relative to other Emerging Market (EM)

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economies. For instance, Figure 1 shows that the large plus mid-cap Indian stock market (MSCI) index has risen since January and April 2020 by 75% and 100% respectively, whereas the corresponding EM ASEAN (MSCI) index has been flat and risen by 50% only. This stands in stark contrast to India’s real economic underperformance (Chinoy and Jain (2023)). Its GDP level is still 6% below that implied by the pre-pandemic trend applied to Jan 2020 GDP. The employment to population ratio has stayed just above 50% in the last three years as per data from the Periodic Labor Force Survey (PLFS) but has fallen from 41% prior to the pandemic to 37% as per data for Center for Monitoring Indian Economy (CMIE). The private consumption path remains below pre-COVID potential path as per data from the Ministry of Statistics and Programme Implementation (MoSPI), and household spending plans – though improving – still remain below pre-COVID levels in the Reserve Bank of India’s consumer confidence surveys. This scarring, even three years post the pandemic, has been in spite of the services exports boom in the post-pandemic recovery and pent-up consumer demand having now played out fully.



Source: MSCI

Figure 1: Indian Stock Market Performance vs. Emerging Markets ASEAN and Europe (MSCI Index) 2020 - Now

The weak economic performance reflects the so-called K-shaped nature of the recovery wherein urban and formal India recovered particularly well but rural and informal India lagged behind (as explained below). It likely also reveals the pre-pandemic weaknesses.²

² Some researchers, e.g., Felman and Subramanian (2023), contend that this lack of congruence between the stock market and the real outcomes was seen also in pre-COVID decade, the stock market run-up being attributed in part to financialization of savings in India and the real economy slowdown to financial shocks to banking and non-banking as well as structural shocks such as demonetization and the rollout of Goods and Services Tax. For a counterpoint suggesting that the stock market reflects India’s future prospects, based in part around its digital plumbing and the FinTech startup economy, see Nageswaran and Kaur (2023).

- ii. **Urban versus rural and formal vs informal India:** Depending on which part of India one talks about, it is either booming (urban and formal sector) or it still remains scarred from the pandemic (rural and informal sector). Since the pandemic, operating profit-to-sales gap has opened up widely between large firms (+1.5%) versus small firms (-0.5%), the latter being defined as having less than 50 million INR or \$60,000 in capital (Bhandari and Chaudhary (2022)). Besides the direct effect of lockdowns, smaller firms have been hit thereafter by commodity price rise impacting their (large) share of raw material to sales. As a result, while large manufacturing firms have been able to retain their size, small manufacturing firms have contracted by 14% (again, see Bhandari and Chaudhary (2022)). The performance of the listed large companies has been stellar and they have been able to grow significantly, in part at the expense of the smaller firms.

Why does this divergence matter?

Small firms and establishments are important in India for employment. In fact, as is the case in many other countries like the United States, they contribute to over 40% of overall labor in India. Separately, 40% of labor in India is also in agriculture (Bhandary and Chaudhary, 2022). Both small firms and agriculture tend to have a greater presence in rural than in urban India. Hence, the divergent performance of large and small firms has immediate implications for urban and rural demand. In particular, weak rural demand is seen notably (Chinoy and Jain (2023)) in (i) rural unemployment insurance demand (MGNREGA³ demand for work) doubling at the onset of pandemic and remaining elevated for more than two years thereafter before gradually normalizing to pre-pandemic levels, and (ii) sales of 2-wheelers significantly under-performing those of passenger vehicles and ultra-premium bikes. In turn, while wages in urban India remain elevated far in excess of inflation rate, rural wages even if increasing nominally have been outpaced by inflation for most of 2022. This fall in real rural wages has interacted with other shocks to weather and commodity prices to create a weak rural, informal, small-firm economy.

- iii. **Goods inflation in India:** Demand for goods in India has remained weak post the pandemic, even as services demand has grown. However, goods prices in India have remained elevated, even after global goods inflation softened in 2022 as supply-chain issues eased. Indeed, goods inflation momentum in India is positive whereas its global counterpart is negative.

What explains this lack of congruence between demand and prices, and between India and the rest of the world?

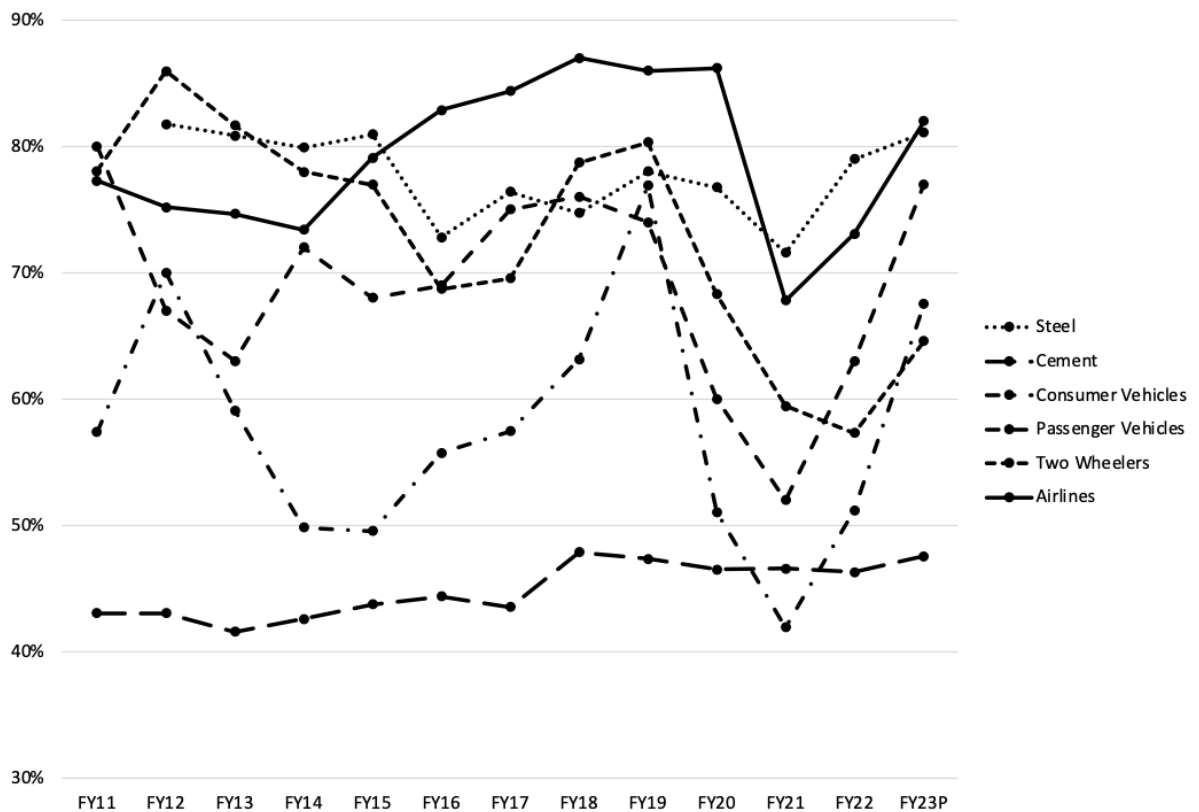
Analysts argue that goods inflation in India is in fact likely to persist as margins of manufacturers in India are substantially high due to one, their protection via tariffs, and two, their market power from rising concentration. In contrast, tariffs and margins in services sector are much tighter, even though there are emerging signs of concentration in some services sectors too such as in telecom.

³ Mahatma Gandhi National Rural Employment Guarantee (Act) Scheme has been in place since February 2006.

iv. Improved and deterring-defaults, but under-recovering, bankruptcy resolution process:

Depending on who you speak to, the Insolvency and Bankruptcy Code (IBC), enacted in 2016 and operationalized since 2017, has been yet another failure in corporate insolvency resolution in India or a resounding success.

The critical view of the IBC stems from the facts (see Gupta, Jain et al., 2021, and Joshi and Verma, 2022) that (i) Debt in India continues to perform closer to equity as lamented by Vishwanathan (2018), recovering only 39% for resolutions under the IBC. The recovery rate comes down to only 24% if the largest nine cases are excluded. This makes recoveries for bank loans in India virtually half of the global average; (ii) Average time to resolution since filing of a case has been 561 days, about twice what was originally envisaged; and, (iii) A phenomenal 45% of the cases under the IBC get liquidated. Further, several cases are filed without resolution plans and liquidations recover only 7% for creditors. Unsurprisingly, several aspects of IBC remain under continued legal scrutiny and revision.



Source: Reserve Bank of India

Figure 2: Capacity Utilization

The salubrious view of the IBC arises from the observations that (i) Indian banking sector has now brought down its non-performing assets ratio significantly by resolving cases under the IBC, recognizing losses, recapitalizing balance sheets, and now being ready to provide credit for growth at healthy rates and quantities (see point II.v below); (ii) As a result of the banking sector

clean-up, capacity utilization of distressed sectors has improved and overall risen to close to 75% at present from a low 60% prior to 2017, when there was an over-supply of zombie firms in these sectors⁴ (see Figure 2)⁵; and, (iii) Fresh slippages into non-performing loans has declined due to an important *deterrence* effect of the IBC and decisive regulatory actions by the Reserve Bank of India, whereby loss of control for business owners and individual promoters has led to a de-leveraging of the Indian corporate sector, with debt to GDP of the corporate sector having declined over a decade from 78% to 50% (Chinoy and Jain, 2023).

In other words, while creditor recoveries have not been much healthier under the IBC compared to prior bankruptcy codes in India, there has been a meaningful loss of control for asset owners and this has facilitated a healthier credit economy. Grievances around IBC nevertheless abound.

- v. **Level-divergent but cyclically-convergent growth dynamic relative to the global economy:** As the overall level of Indian growth slowed since the global financial crisis, India's trend growth – while still significantly above in level terms – appears increasingly coincident with the Advanced Economy (AE) trend growth in terms of its cyclical movements (Joshi and Verma, 2022). It is unclear exactly when and why this transition occurred.

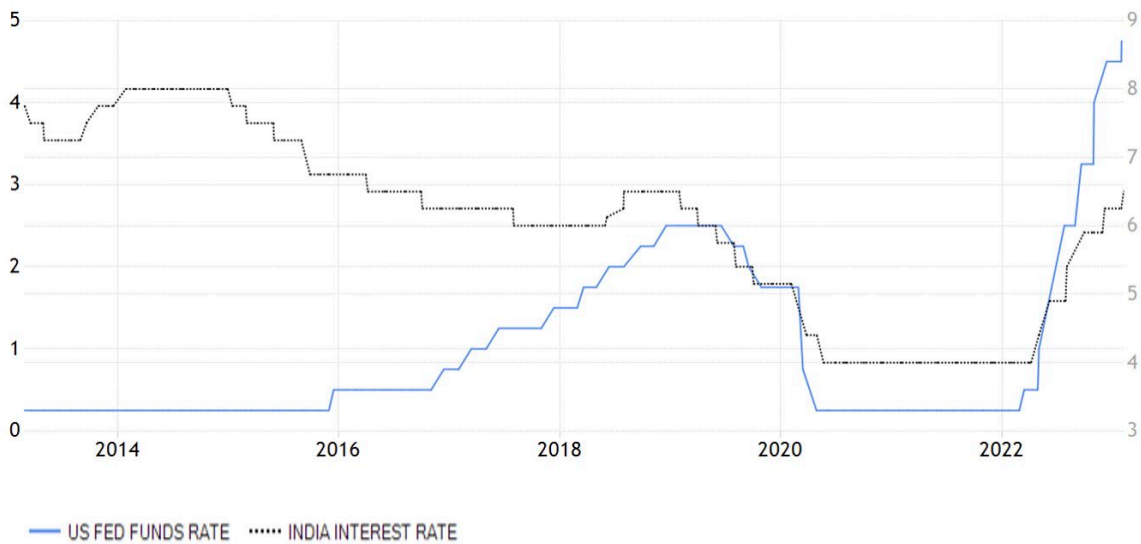
One possibility is that the Indian economy is now more integrated with the global economy via the service exports channel even as its share in goods trade remains pitifully low at below 2% as per data from World Trade Organization. This has been particularly true post COVID.

Another possibility is that growth over the past decade has been driven in part by the (forced) formalization of the economy and by the large publicly-listed companies. This composition of growth is more in sync with the rest of the world. In parallel, and perhaps relatedly, urban consumption has taken a greater center stage in the economy relative to rural consumption, with the former being heavily skewed towards imported and luxury goods.

Finally, it also appears that since 2019, and especially post COVID, India's monetary policy is essentially coincident with the AE cycle (see Figure 3). This could be because exports have been the primary driver of the post-COVID growth, shifting the focus of the monetary policy to the external sector. This is also because the scale of capital flows has been so large during 2020-22 that the inevitable "dilemma" (Rey (2013)) has played out in a loss of independent control of the monetary policy to the global or the dollar financial cycle.

⁴ Kulkarni et al. (2019) report that percentage of zombie firms in Reserve Bank of India's CRILC (Central Repository of Information on Large Credits) bank-borrower credit data was 21.6% during March 2016 to March 2019.

⁵ Note that capacity utilization was low also during the COVID shock of 2020-21.



Source: Trading Economics

Figure 3

II. Brimming with opportunities

Notwithstanding these contradictions or puzzling facts, there is an unmistakable entrepreneurial spirit feverishly at work in India. It has taken hold over the past decade on the back of India's digital plumbing and equity market deepening. Furthermore, the restoration of banking (and non-banking) sector health to adequate capital standards, along with the advances in digital or FinTech lending, augurs particularly well for improved credit access for entrepreneurial firms.

- i. **Start-up India:** Top candidates from the Indian Institutes of Technology are no longer keen to do a PhD in finance or economics. It is more likely that they want to be an entrepreneur to do and start something of their own, typically related to information technology (IT) services. India is busy churning out unicorns (startups with market valuations above \$1 billion) aplenty. This spell has been steady over the past two decades but has accelerated since the foundations of Digital India have been put in place over the past decade, and its canvas has gradually become diverse across a range of sectors but predominantly within services. India now ranks 4th behind US, China, and Europe when it comes to the number of unicorns (Mishra et al., 2021). Over time, the market capitalization as well as the proportion of unicorns listed on the stock market has grown.

When the first generation of entrepreneurship was born following the liberalization of 1990's, it featured companies that primarily customized, installed, managed and maintained software such as SAP for the rest of the world, or companies that engaged in outsourcing such as taking over the world's back-office, telemarketing or customer services. Out of this original set grew the giants of today such as Infosys, Tata Consultancy Services, WIPRO, and Tech Mahindra.

Once this set of entrepreneurs and their employees figured out what the rest of the world wanted, they grew in confidence and software development capabilities which led to the second generation of entrepreneurs in India. This generation designs programs and solves problems for the rest of the world.⁶

However, there is now a third generation of entrepreneurs in India that is catering not to the rest of the world but to the Indian consumer. This set of companies is focused on e-commerce, FinTech, EdTech, and all forms of digital services, and has exploded since the pandemic, on the back of “India Stack”, to which I will turn to next. Given the size of Indian consumer base, the sky appears to be the limit for this third generation, at least for the near future.

- ii. **Digital India:** India, by most objective standards, has the world’s best digital plumbing that has evolved modularly (see Figures 4a and 4b). It is designed around *Aadhaar*, the unique identity number rolled out starting in September 2010, which has now been provided to over 1.2 billion Indians with several scores of millions of authentications occurring daily. This has enabled, after early digital payment mechanisms, the setting up of a *Unified Payments Interface* (UPI), a public utility that provides a common payments and settlements platform between any two Indian entities (individuals or businesses) with unique identifiers, enabling seamless portability between their respective banking solutions at the back end. Combining this with the deep penetration of mobile technology in India has then led to the delivery of digital payments-based solutions, e-commerce, e-KYC, e-Sign’ing of documents, and the like. India’s public-utility approach has differed from the mostly private but concentrated model of digitization in China and the private but heavily fragmented and seemingly inefficient model of digitization in the US.

The net result (see Figure 5) is that digital payments are rising in share at the expense of cash which since 2020 is declining in its overall share of payments for the first time in India, representing a substantial turning point for the economy. While the ill-conceived demonetization of 2016 failed to create a definitive transformation from cash to digital payments, the well-intended even if botched-rollout of Goods and Services Tax (GST) has moved even smaller businesses onto digital platforms such as GST Network and the government’s eMarketplace (GeM). Post pandemic, however, the transformation has finally touched the Indian households decisively. There are now more than 200 million active users of digital payments, with Google Pay and Phone Pe making over 80% of the transactions.

⁶ For instance, Citius Tech, based in Princeton besides India, provides IT solutions to leading healthcare providers of the United States. Ingenero Technologies delivers high-value-added services to the global hydrocarbon process industry. The list goes on.

India Stack is layers of 'Digital Infrastructure' which each solve a problem for private financial service providers

3 'layers' of infrastructure create new capabilities in identity, payments, and data



Data Empowerment

To enable secure data access to & sharing

Payments Layer

Allowing anyone to pay anyone else! interoperable, fast and cheap - not just smartphones

Identity Layer

Giving every resident a unique id and enabling them to prove "I am who I claim to be"

Figure 4a: India Stack: I (Acharya, 2021)

This infrastructure was built in a modular fashion by many different departments over time

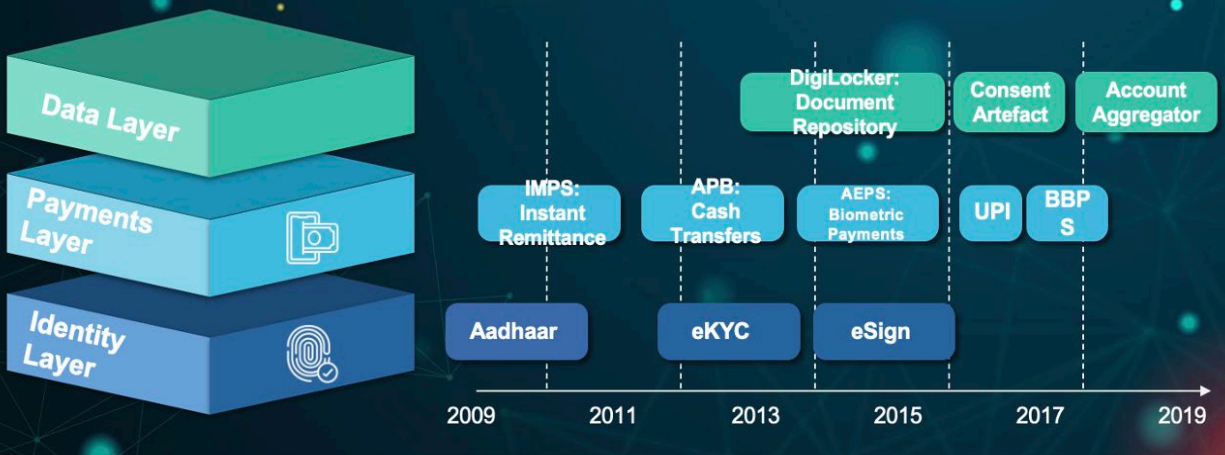
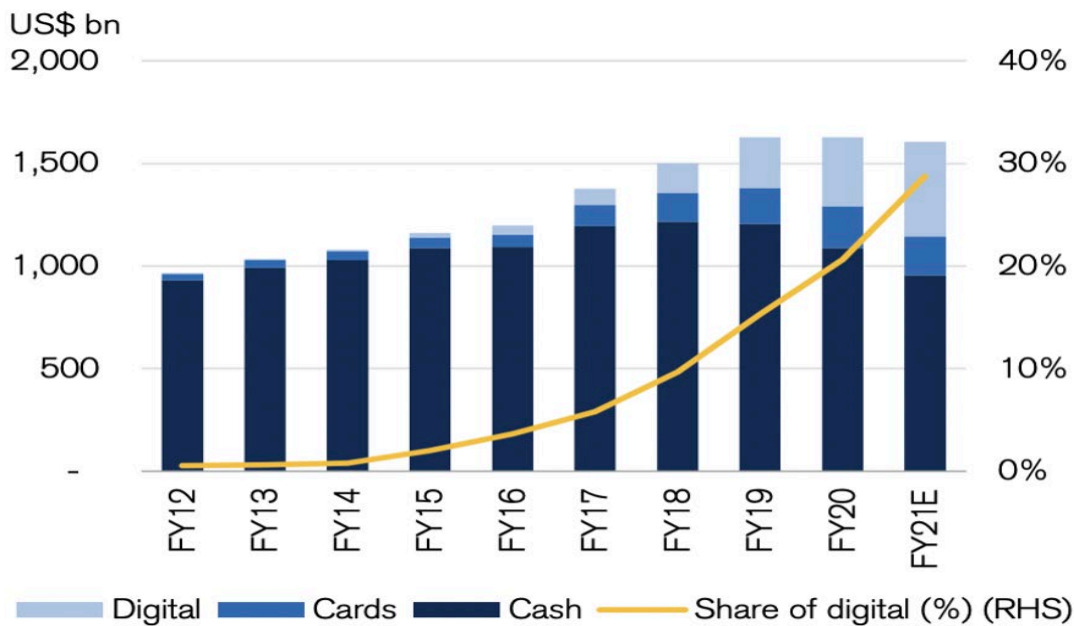


Figure 4b: India Stack: II (Acharya, 2021)



Source: RBI, Credit Suisse

Figure 5: Digital Payments Gaining Share From Cash

What is even more impressive is that India continues to push ahead along this guiding principle of viewing payments- and settlements-related services as a public good that ought to be provided publicly. “India Stack”, in particular, provides a set of APIs (Application Programming Interfaces), that are standardized to ensure encrypted trustworthy pipes connecting various first-order and higher-order platforms for customer and/or business interfaces. *iSPIRT* (Indian Software Product Industry Round Table). Thinkers who have made Digital India such a success deserve an Olympic gold medal, even if digitally delivered!⁷

- iii. **FinTech in MSME lending:** Historically, India’s micro, small and medium-sized enterprises have struggled to receive formal financing, with only 0.6 million out of 64 million receiving such credit (though as these 0.6 million MSMEs are the larger >\$4 million turnover firms, they represent 15% share of the overall MSME credit). While the financial system has been creative via micro-finance to get some of the others access to credit, the U K Sinha Committee Report (2019) estimated that there remains a formal financing gap of over \$3.5trillion when it comes to MSME credit. It seems that the situation is now changing on the ground.

⁷ There is now an effort underway to provide the implementation of *Aadhaar* in open source code for other emerging market countries that cannot afford equivalent private solutions.

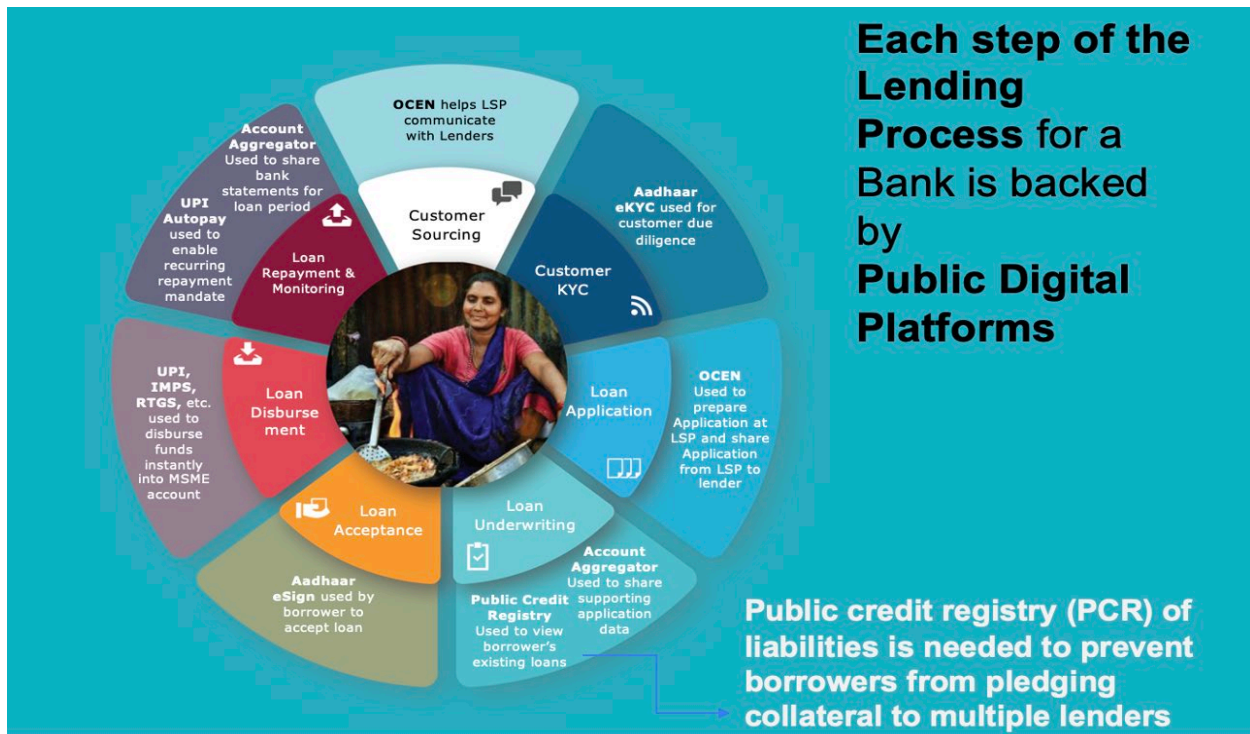


Figure 6: India Stack and the Lending Opportunity (Acharya, 2021)

First, from only 17% of Indian citizens having a bank account in 2008, the proportion is now over 80%. Secondly, there is now the Data Layer being added to the India Stack (Figure 4b), and the possibility of *Account Aggregator* enables an entity to pool together a digital view (*DigiLocker*) of all its financial holdings data, based on a secure *Consent* architecture, for enabling algorithmic credit scoring. Thirdly, MSME transactions are now captured electronically on private or government e-commerce platforms, making them readily collateralizable for account receivables financing. This has helped alleviate their liquidity risks. Finally, as India Stack has created an Open Credit Enablement Network (OCEN) that provides portable pipes between banks, sharing economy platforms, and end borrowers, entry barriers are low and payment companies are springing up. The payment companies are keen to evolve into lenders by joining forces with e-platforms that are eager to provide loan assistance.

This overall formalization of the MSMEs and the financial lending technology built around India's rich and robust digital plumbing architecture⁸ has implied that (i) Credit access to MSMEs has substantially eased, consistent with new business and income growth in Indian districts where the adoption of cashless payments has been more intense since 2016 (Dubey and Purnanandam, 2023); (ii) FinTech lending share in credit has grown with the FinTech sector valuation over \$20billion; and, (iii) Private equity and venture capital funding to this sector is over \$10 billion and represents the second largest investment in the economy after the e-commerce sector (Gupta and Shah (2021)). India's digital plumbing technology has thus raised the possibility of

⁸ See Figure 6 for a full description of modules involved in the digital lending decisions.

reaching the last mile and truly banking for the 60million+ MSMEs and a billion+ citizens over the next decade.

- iv. Financial backbone of Start-up and Digital India:** What attracts the private equity and venture capital, as well as angels – foreign and domestic – to invest in India’s entrepreneurial economy? Besides the potential of the young digital India firms, it is the relatively vibrant easy-to-exit primary and secondary market for equities. The development and deepening of equity markets have been aided by the relatively high, even if gradually declining, household savings rate, and the financialization of savings away from real estate and gold. This financialization occurred at rapid pace over the past decade through the advent of mutual fund schemes, their penetration in second- and third-tier cities of India, and to an extent by the tepid pace of rise in real estate valuation as well as by the decline in inflation relative to the prior decade.

Reflecting this, India remains a large recipient of foreign direct investment (FDI) within EM countries, next in absolute flows only to China. As a % of GDP, the flows were 1.2% in 2007-13 and have grown to 1.5% during 2014-20 (Nageswaran and Kaur, 2023), even though there has been some decline of late.

Clearly, relaxing some more sectors for FDI is a natural way to ensure further penetration of FDI and the financing and value-add that these investors bring to the economy. Even at current levels, however, FDI has joined remittances in creating a stable inflow of foreign capital relative to the volatile foreign portfolio investment (FPI) flows (Bajoria and Sodhani, 2022).

A further potential stems from the global pivot towards China+1 economy, which could bode well for FDI in manufacturing in India (Apple and Foxconn shifting a part of their manufacturing of phones to India to diversify supply chains, for instance), but as I point out in concluding remarks, it remains to be seen if this potential will be fully realized or not.

- v. Health of the banking system:** Finally, a range of initiatives have been undertaken by the Reserve Bank of India (RBI) since 2017 to resolve the non-performing assets (NPAs) of the Indian banking system (see Acharya, 2020, for a backdrop), capitalizing on the IBC. These have now come to fruition in that gross and net NPAs of scheduled commercial banks were down in September 2022 to 5% and 1.3% respectively, having fallen from peaks of 11.2% and 6.1% in 2018 (as per data from the RBI Financial Stability Reports). Importantly, the provision coverage ratio for Indian banks now exceeds 70% and fresh slippage ratios remain low given the deterrence effect of the IBC (see I.iv above) and the de-leveraging of most large and listed companies. It has taken more than ten years for this clean-up to materialize following the credit boom and bust of 2011-13, especially in sectors such as infrastructure, power, ports, and steel.

The good news from all this is that if private capital expenditures in India were to pick up, banks are in a position to meet the credit demand. The bad news is that this hasn’t yet occurred.

III. Saddled with challenges

A key question then is the following. If India's opportunities are so vast, why isn't it yet able to register higher growth and output levels consistent with its potential and expectations, create jobs at a pace and of quality that its growing population requires, and become a greater part of the global economy? I wish to highlight several structural – industrial and macroeconomic – issues that India remains saddled with and which present daunting but surmountable challenges for future.

- i. **Tariffs:** India is undoubtedly a contender for being the “tariff king” of the world. As per World Trade Organization (WTO) records, India's average present tariff rate of greater than 15% (18.3% in 2021) is the fourth highest behind Sudan, Egypt and Venezuela, on par with Brazil, and substantially higher than China and Mexico. While India's tariff rate has no doubt come down from being above 50% prior to 1991, it has had no substantial decline since the global financial crisis of 2007-09, and has in fact increased by about 5% since 2013. Chatterjee and Subramanian (2020) document these patterns and argue that this has hurt India's exports in labor-intensive sectors such as apparel, textiles, leather and footwear, where India has ceded much ground to its neighbors. There are several other harmful consequences.

First, while India has become more self-reliant on agricultural output, tariffs in this sector remain above 35%. At the same time, its efficiency remains low. For employing more than 40% of India's work force, agriculture generates less than 15% of the GDP. This prevents a market-based rotation of jobs in India from low-skilled agricultural labor to high-skilled services labor.

Secondly, India exports to the rest of the world by processing and adding value to imported raw materials and goods. As a result, high tariffs – by increasing the cost of imports – have made exported goods by Indian firms costly and globally uncompetitive, lowering India's goods exports and in turn its share in global goods trade. It is hard therefore to find many products outside India that are manufactured by Indian firms. There are few, if any, global Indian brands.

Thirdly, high tariffs imply that Indians pay much more on many imported items (such as iPhones) than foreign consumers do, and in many cases have to simply put up with weaker-quality higher-than-deservingly-priced domestic substitutes. In turn, price levels in the economy are kept artificially high in spite of global efficiency gains that could potentially aid disinflation.

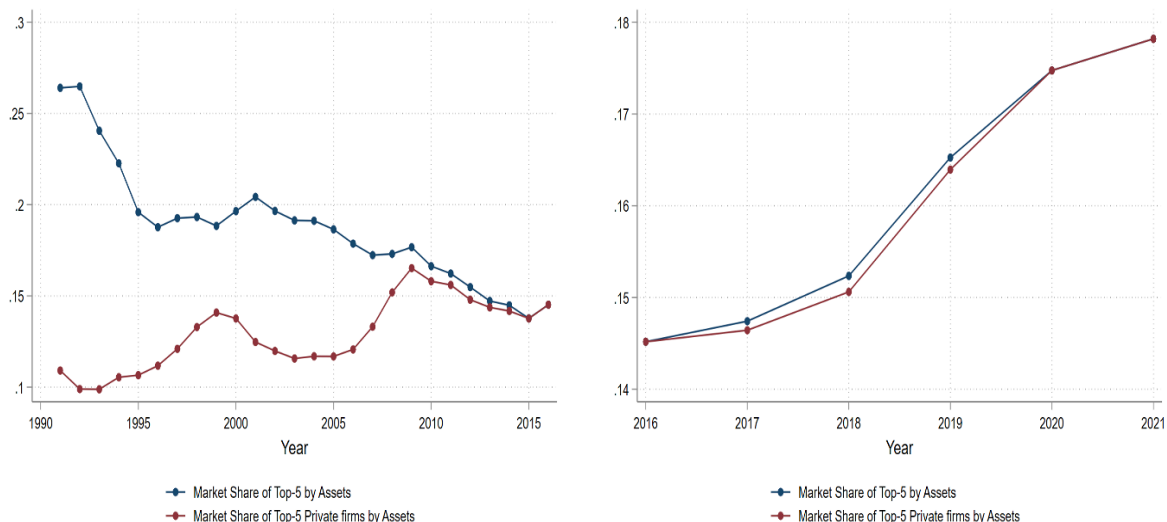
Finally, tariffs have created protectionism in several Indian industries, disincentivizing investments in efficiency by cozy incumbents and allowing them to steadily garner market power by building up concentrated positions. There are other factors that have contributed to this market power, to which I turn to next and for which I present to the best of my knowledge a novel set of facts and analysis.⁹

- ii. **Concentration of power in Indian industry:** India was effectively a closed economy until 1991 and industrial concentration was high due to state-owned monopolies. Post-1991 liberalization

⁹ These facts and analysis are based on Center for Monitoring Indian Economy (CMIE)'s *Prowess Dx* database and part of ongoing work with Rahul Singh Chauhan of University of Chicago Booth School of Business.

had a dramatic impact on concentration as industries were de-reserved for the private sector and public sector enterprises were privatized or divested. As a result, concentration, measured using the share of “Top-5” industrial groups *across* the non-financial sector by sales or assets in a given year, fell dramatically to start with (see Figure 7, left panel, for share of Top-5 by assets, and the Appendix for all results based on share by sales as well as for variable definitions).¹⁰ Essentially, publicly listed firms gave up their share to private entrants.¹¹

As a result, overall concentration fell, and even though concentration within Top-5 private firms gradually rose (shown separately in Figure 7), it was low to start with. By 2010, the concentration of market power in Top-5 private firms had caught up with the overall Top-5 firms’ concentration, but both fell during 2010-2015. Next, a close inspection shows that concentration started rising again from 2015 onwards, overall as well as just within the set of private Top-5 firms (see Figure 7, right panel). Put another way, private Top-5 groups evolved into the overall Top-5 across many non-financial sectors. At a disaggregated sectoral level too, the notable shift occurs around 2015-16 in several sectors, mostly traditional or capital-intensive (e.g., civil engineering; metals; non-metal minerals; chemical, petroleum and wood products; and, retail trade), but recently, also in newer sectors such as telecommunications.¹²



Source: Prowess, Center for Monitoring Indian Economy (Author’s Calculations)

Figure 7: Falling Concentration since 1991, but recent rise (Assets)

¹⁰ Patterns are similar if the *Market Share of Top-5* is defined as the cross-sector average in a year of the market share of Top-5 firms within each sector, or if we use the Herfindahl index (HHI) as a measure of concentration.

¹¹ It perhaps also explains why starting in 1991, decentralization to state governments away from the central government grew with the deregulation of the economy. However, over the last decade, this has taken a reverse turn as the central government achieves national outcomes by working with the large conglomerates in part rather than with state governments. I am grateful to Dr Y V Reddy and N R Prabhala for raising this important point.

¹² By way of specific examples, the share of Top-5 groups by sales in Civil Engineering and Construction rose from 31% in 2016 to 42% in 2021, in Telecommunications from 65% to over 84%, and in Retail trade sector from under 44% to over 65%. Similarly, the share of Top-5 groups by Assets rose sharply by 2021 to 68% in the Manufacturing of Basic Metals, 26% in the Manufacturing of Chemicals, 90% in the Manufacturing of Refined Petroleum and Coke, and 47% in the Manufacturing of Non-metallic Mineral Products (including cement and other building materials).

A striking feature of this rise in industrial concentration by private companies is that it is in part due to the growing footprint of “Big-5” industrial conglomerates, based on the overall share of assets in non-financial sectors in 2021.¹³ Data shows the following patterns.

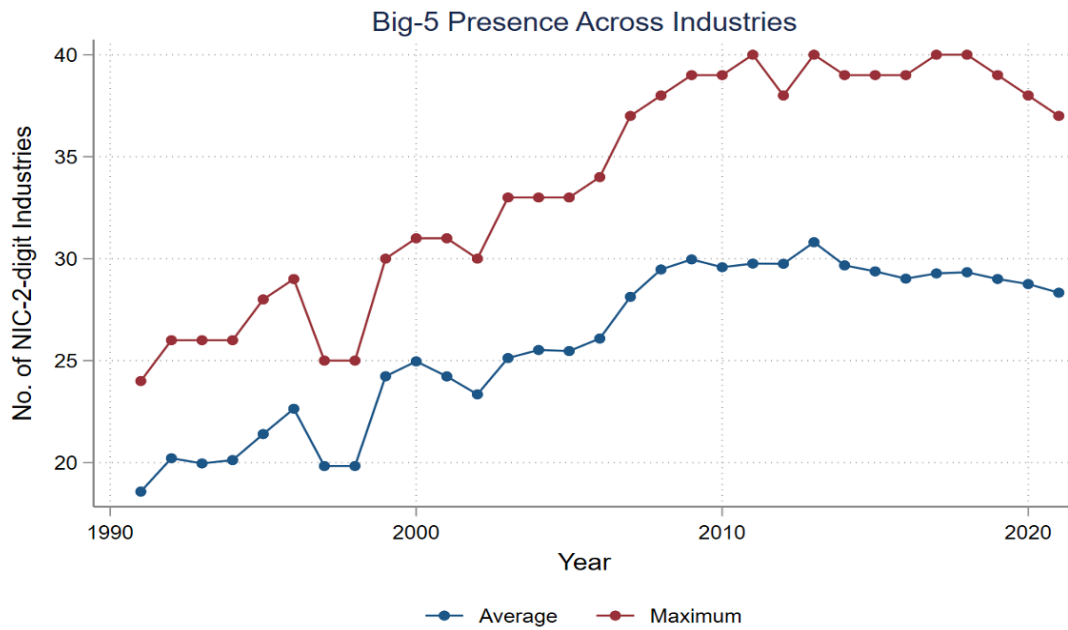
First, until 2010, the Big-5 increased their footprint in more and more industrial sectors, broadening their reach to 40 NIC-2-digit non-financial sectors (see Figure 8). After this *breadth-first* strategy came the *depth-next* strategy. Starting in 2015, the Big-5 started acquiring larger and larger share within the sectors where they were present (see Figure 9). In particular, their share in total assets of the non-financial sectors rose from 10% in 1991 to nearly 18% in 2021, whereas the share of the next big five (Big 6-10) business groups fell from 18% in 1992 to less than 9%. In other words, Big-5 grew not just at the expense of the smallest firms, but also of the next largest firms.¹⁴ It is possible that some of this growth in share of the Big-5 is due to their ability to acquire relatively large defaulted companies that were filed to the IBC following the Reserve Bank initiated clean-up of the banking sector in 2017-18. However, as Figure 9 reveals, the growth in share of the Big-5 starts earlier in 2015 and not in 2018 when the first IBC cases started being resolved.

Next, this growth of Big-5 appears to be driven in part by their growing share of overall Mergers & Acquisitions (M&A) activity (see Figure 10). Figure 10 confirms this hypothesis by illustrating that the rising share of M&A activity is limited to Big-5 and not to the next five large groups (Big 6-10). Even though the aggregate number of M&A deals has dropped since 2011, the share of M&A deals by the Big-5 has doubled from under 3% in 2015 to 6% in 2021, without such an increase being seen in the next five biggest groups. Arguably, this growth has also been supported by a conscious industrial policy of creating “national champions” via preferential allocation of projects and in some cases regulatory agencies turning a blind eye to predatory pricing. Equally importantly, given the high tariffs, Big-5 groups do not have to compete with international peers in many sectors where they are present and derive most of their revenues domestically.

Such growth of conglomerates raises several concerns, such as the risk of crony capitalism, i.e., political connections and inefficient project allocations, related party transactions within their byzantine corporate organization charts, over-leveraging due to an implicit too-big-to-fail perception, key-men/women (or key-family) risk in their operational efficiency, and a lack of creative destruction by crowding out of entrants. The importance of these issues notwithstanding, I limit my attention below to how the rising market power of conglomerates affects product markups.

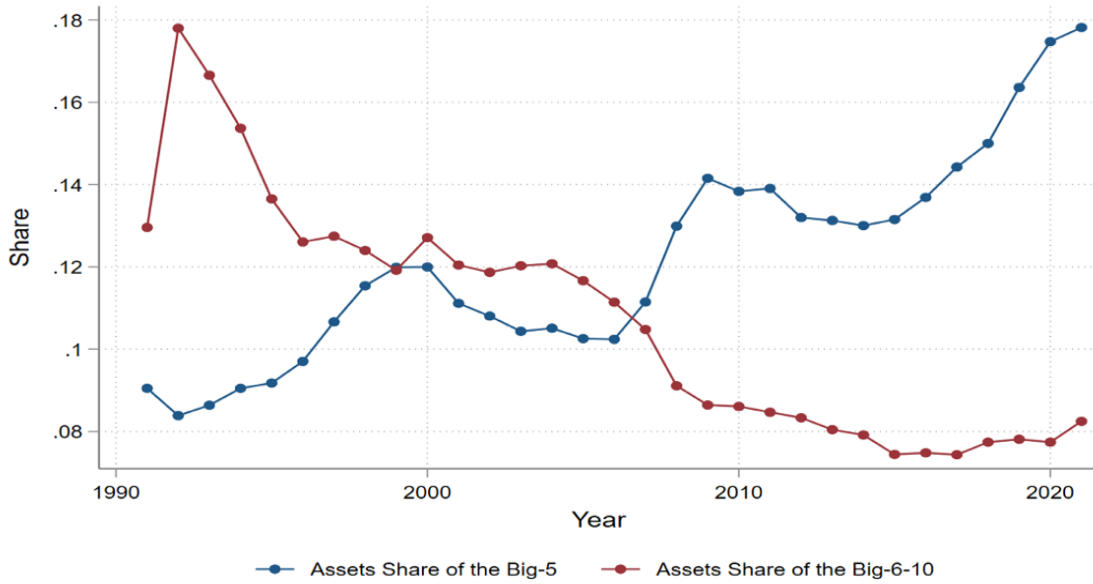
¹³ The Big-5 are Reliance (Mukesh Ambani) Group, Tata Group, Aditya Birla Group, Adani Group, Bharti Telecom.

¹⁴ The largest contributing sectors to Big-5 sales are Manufacturing of Metals, Manufacturing of Coke and Refined Petroleum Products, Retail Trade, and Telecommunications. *Prowess Dx* data also confirm that consistent with the rising market concentration, Big-5 are receiving a greater percentage of their sales revenue from these sectors.



Source: Prowess, Center for Monitoring Indian Economy (Author's Calculations)

Figure 8: Group-wise presence of Big-5 across Industries



Source: Prowess, Center for Monitoring Indian Economy (Author's Calculations)

Figure 9: Share of the Big-5 is rising (by Assets)

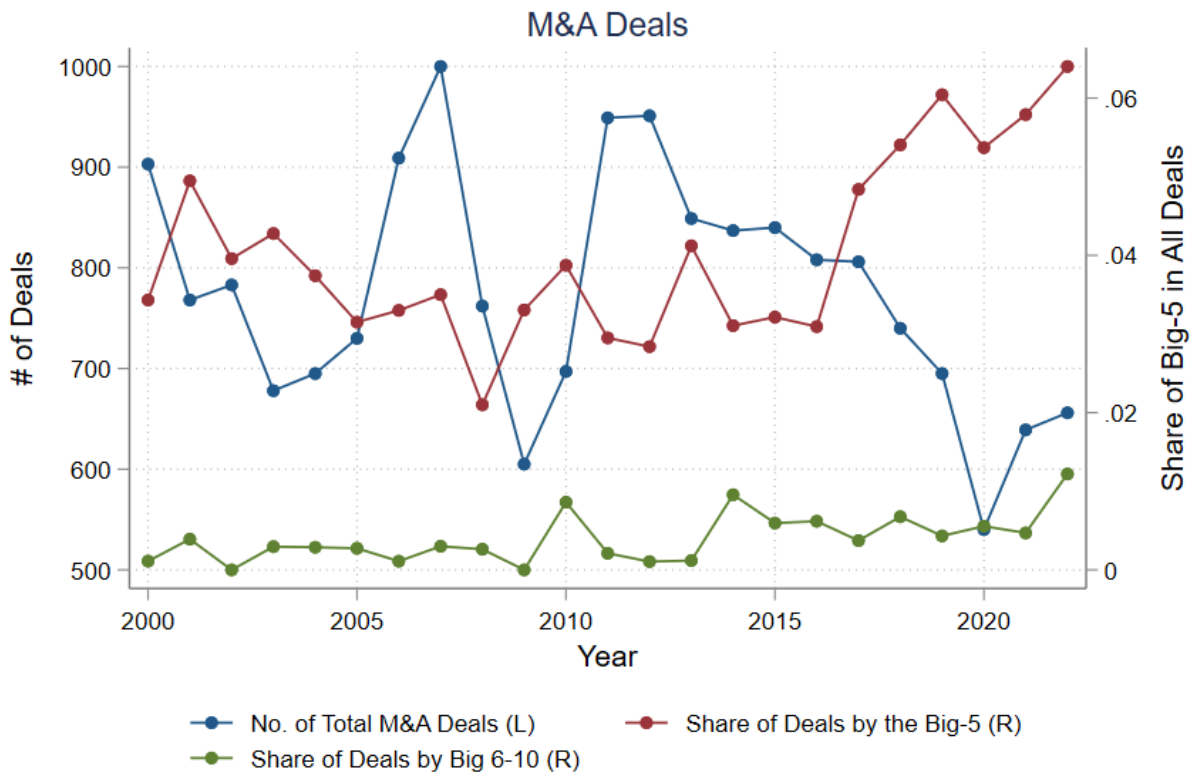


Figure 11 shows that the rising market power is coincident with rising markups since 2016. Specifically, we are interested in the “markup” which answers the question: If input cost of a firm changes by 1%, how much does the product price change by? Using the replication code provided by De Loecker et al. (2020) for estimating firm-wise markups based on data from firm balance sheets, Rahul Singh Chauhan and I estimate firm-wise markups for Indian firms in the *Prowess Dx* database. Figure 11 illustrates the rise in aggregate sales-weighted and assets-weighted markups, which are barometers of market power in the non-financial industries. Markups fell gradually from early 1990’s until 2013, but started rising steadily and significantly thereafter, scaling in 2021 the high level of 1.4 in 1990’s, and even when capacity utilization in the Indian industry was low during the pandemic due to collapse of aggregate demand.

While a deeper and fuller inquiry is warranted, we find that there is a potentially causal link from market power to markups.¹⁵ To illustrate the econometric results visually, Figure 12 shows the industry-adjusted markups of Big-5 and the rest, establishing a persistent and substantial

¹⁵ See Appendix Figure 17 that shows a positive relation between sales-weighted markups and the Herfindahl (HHI) index of sales, displaying data with bin-scatter plots, controlling for time and/or NIC 3-digit industry fixed effects. We also find this to be true in formal econometric analysis in Appendix Table 2 where we run the regressions of firm-wise markups against the firm-wise sales share in NIC-3 digit industry interacted with indicators for the firm for being a Private Firm, a Top-5 firm within the sector in a given year, or a Big-5 firm. We see that for a unit increase in sales share, Big-5 firms increase markup by 0.13% (private firms by 0.17%), but there is no statistically significant or positive effect of Top-5 firms (by assets or sales) in the same industry group.

0.1-0.3 (i.e., 10-30 percentage points) markup gap between the two groups over the past two decades. Interestingly, there is no such robust pattern in Figure 13 for Top-5 firms in each industry in a given year (as explained earlier, Top-5 in a given year overlap but do not fully coincide with the aggregate Big-5). In other words, it is the Big-5 which are able to exert extraordinary pricing power and capture economic rents relative to other firms in the industry, whereas Top-5 but non-Big-5 firms in a sector are not associated with such an outcome in markups.¹⁶ By way of a concrete example, Appendix Figure 18 shows the industry-adjusted markups of Big-5 and the rest for Manufacturing of Non-metallic Minerals and Basic Metals. Since 2000's, the Big-5 markup is higher than the rest for Non-metallic Minerals by 10-60 percentage points and for Basic Metals by 10-20 percentage points.¹⁷ A similar wedge is observed also for the Chemicals and Chemical Products industry.

Further evidence (see Appendix Figure 19 and Table 3) suggests that, in keeping with the rest of the results, lagged sales share of Big-5 groups in an industry feeds into its wholesale price inflation in a year, whereas the lagged share of Top-5 groups does not, with a 10% rise in Big-5 share within an industry associated with a 2.7 percentage point higher WPI inflation next year.

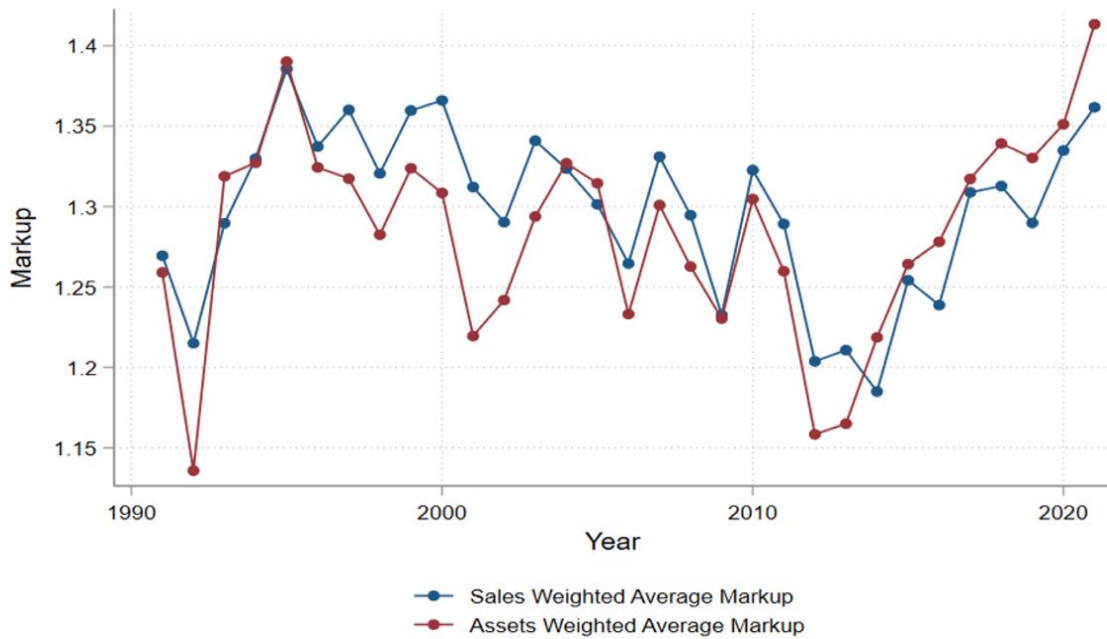
In summary, creating national champions, which is considered by many as the industrial policy of "new India", appears to be feeding directly into keeping prices at a high level, with the possibility that it is feeding "core" inflation's persistent high level.

A natural question that arises is whether India is simply emulating the national-champion policy of countries such as Korea where large conglomerate groups (*chaebols*) such as Hyundai and Samsung have become significant international players in several sectors. There are at least two critical differences. First, these countries did not protect their conglomerates with sky-high tariffs as India does. That is, their conglomerates were competing on a much greater level-playing-field with international peers, which likely explains their global competitiveness and the global brand status of several of their products. In contrast, barring the exception of tech service exports, most of the Big-5 revenues in India are domestically sourced, and barring the exception of e-commerce, without much foreign competition. Secondly, these countries undertook a series of supply-side or factor-market reforms in land, labor, power, and financial sector, among others. While India's financial sector has been restored to reasonable stability, critical reforms in land, labor and power are either wanting or far from maturity. At present, therefore, the rising industrial concentration in India presents more of a risk or a dark side through various

¹⁶ This differential pattern may be due to market power being driven by (i) the overall size of the group rather than the size of the industry-specific subsidiary, (ii) horizontally integrated position of the group in input-output matrix or supply chains, and (iii) political patronage which may give credible comfort over future market share even while not competing aggressively for current share by lowering prices.

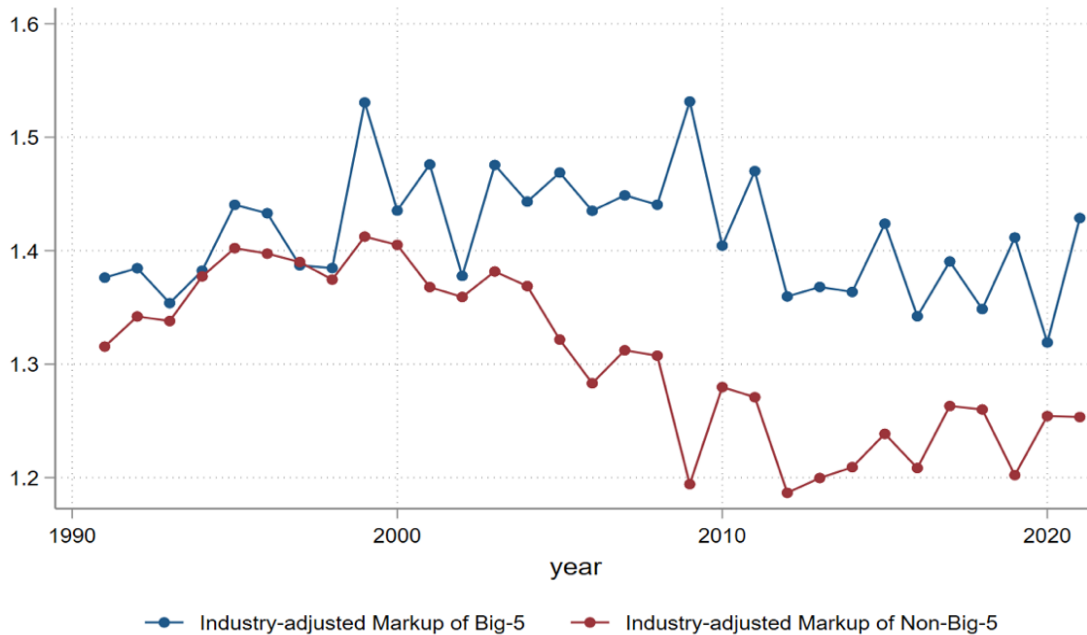
¹⁷ A leading example within Non-metallic minerals is the Cement industry which is commonly known, and often considered in popular press, in India, to have "few firms dominating production and market share" and therefore, "Despite rising demand, the elite nature of the cement sector gives manufacturers the ability to keep prices in check by controlling supply" (see, e.g., <https://www.livemint.com/companies/news/the-landscape-of-india-s-cement-oligopoly-in-five-charts-11652871713817.html> and <https://news.bharattimes.co.in/the-landscape-of-indias-cement-elite-in-five-charts/>).

distortions than an opportunity or the bright side that could lead to the creation of globally competitive international giants.



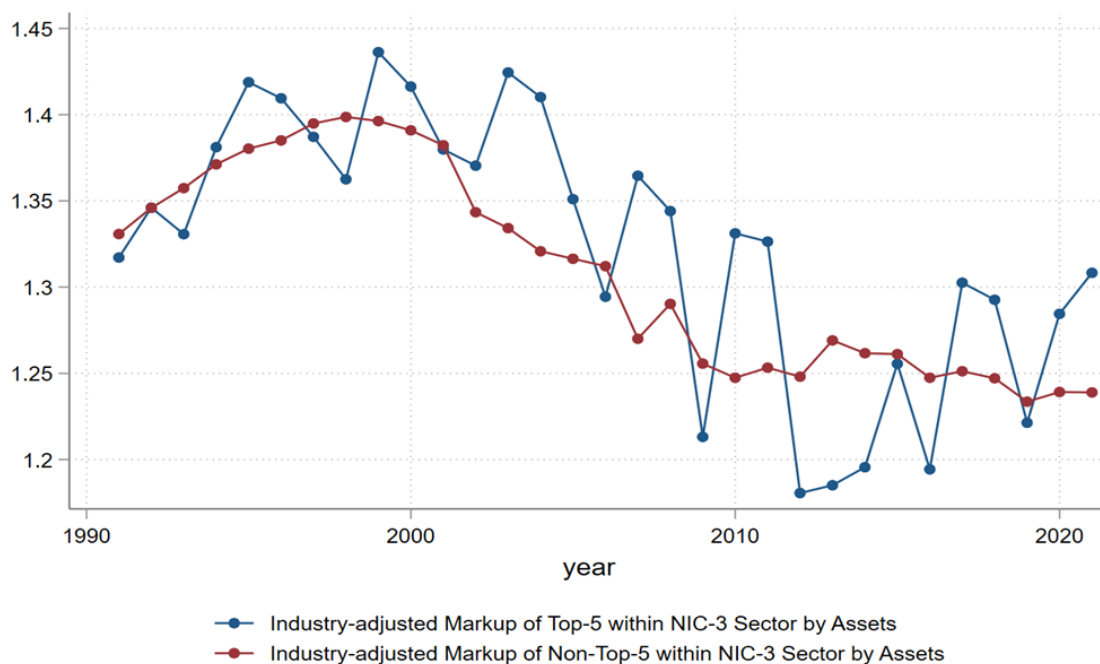
Source: Prowess, Center for Monitoring Indian Economy (Author's Calculations)

Figure 11: Reversal seen in Markups



Source: Prowess, Center for Monitoring Indian Economy (Author's Calculations)

Figure 12: Diversion in Industry-adjusted Markups of Big-5 vs. Rest



Source: Prowess, Center for Monitoring Indian Economy (Author's Calculations)

Figure 13: Diversion in Industry-adjusted Markups of Top-5 vs. Rest (Assets)

- iii. **Twin deficits:** India's stock of foreign exchange reserves is presently over \$550 billion, which represents between 8-10 months of cover relative to its imports. This has enabled the Reserve Bank to manage pretty well the exchange rate volatility in Rupee during 2022 when the Federal Reserve embarked on a tightening of its monetary policy. Nevertheless, India's twin deficit metrics remain in what might be considered a less-than-comfortable zone.

The fiscal deficit, measured appropriately as a public-sector borrowing requirement (PSBR), i.e., consolidating the center, the states, and their public sector enterprises, remains above 10% of GDP. It has remained so for past several years, and reached a peak of over 14% to GDP during 2020-21 (Chinoy and Jain, 2023). In terms of outstanding stock, sovereign debt-to-GDP increased by 20% post-2020, and is presently is close to 85%. Flow measures suggest an even greater concern as annual interest payments for the center are now over 30% of revenues and over 20% of expenditures (Mishra and Patel, 2022), while real interest rates are rising in India and the rest of the world.

This has occurred in part because the targets set for fiscal deficit by the Fiscal Responsibility and Budget Management Act of 2003¹⁸ have been steadily missed under one pretext or the other. The central government has done this in part to deliver on welfare besides dealing with a weak economy, including during COVID. The state governments have contributed as well. Evaluated in a holistic sense, the states face severe hidden losses from the power sector. The latter

¹⁸ The FRBM Act was reviewed subsequently by the N K Singh Committee set up in 2016.

amount to close to \$40 billion p.a., or a 1.5% of GDP from just one factor (as per estimates in Anand, Sharma, and Subramanian (2022)) as power gets distributed at politically attractive prices rather than market prices, including and especially as a subsidy to agriculture. The resulting losses get perpetuated through state-government balance-sheets and/or national special purpose vehicles for the financing of the power sector (Power Finance Corporation or PFC and Rural Electrification Corporation or REC). The debts of PFC and REC are generally not consolidated federally, requiring a focus on India's PSBR rather than just on center and state on-balance-sheet deficits.

These statistics raise two significant risks.

One risk is that the fiscal dominance continues to hang like the sword of Damocles over the inflation-targeting and liquidity frameworks of the Reserve Bank, especially in politically important years. In turn, that makes inflation expectations hard to budge from post-COVID highs. Historically, inflation has played a principal role in liquidating India's debts (Das and Ghate (2022)) but it can take several years, even a decade to do so. An equally unattractive or perhaps even worse alternative is that of financial repression, in which government-owned banks and insurance companies roll over national and sub-national debts under moral suasion or under the guise of aggressive prudential norms. This crowds out private sector growth, especially of domestically-financed bank-dependent MSME borrowers. One hopes that this will be harder to implement in a more market- and less bank-dominated economy that India has now evolved into since 1990's but fiscal dominance via financial repression nevertheless remains a threat.

Second, with such high fiscal deficits, there is a risk of crowding-out of long-term public expenditures in education and health. Indian government deserves much credit for rationalizing subsidy (revenue) expenditures year after year towards public infrastructure (capital) expenditures, and delivering welfare – including basic health services – more efficiently on the back of India's digital plumbing. However, this efficiency needs to be weighed against a crowding-out of states from the tax base by the center, which has made center's welfarism drive effective but reduced states' ability to incur capital expenditures, and which some view as a potent threat to the country's cooperative federalist structure.

Now, let us turn to India's current account deficit. While sharp fall in commodity prices has brought its expected value to between 2% to 2.5% of GDP for 2023-24, it averaged close to 3% for the period March 2021 to September 2022 (with several prints in excess of 3%). This CAD vulnerability reflects India's poor share of goods exports in spite of excellence in services exports, its consumption being lop-sided towards the urban households who consume several imported goods, and the sticky core inflation inducing greater gold imports. A corollary is that without a broad-based consumption growth, India seems unable to grow at or close to its potential level. Every time it seeks to do so, it experiences merchandise trade deficits that raise CAD, inducing exchange-rate weakness and imported inflation when commodity prices rise. These spillovers, in turn, necessitate that the Reserve Bank has to raise interest rates to rein in inflation, creating an unavoidable dampener on any nascent investment cycle.

In short, the stock of foreign exchange reserves notwithstanding, India's scorecard on twin deficits remains tricky. One cannot but wonder if the faith in macro-prudence that led to the enactment of the Fiscal Responsibility and Budget Management (FRBM) Act of 2003 and the Inflation-Targeting Framework in 2016 has waned as the country has moved from being growth-hungry in early 2000's, to growth-anxious post the global financial crisis of 2007-09, to growth-desperate following the financial, real, policy and pandemic shocks of the past decade.

- iv. Persistent (core) inflation:** Core inflation, i.e., headline consumer price inflation excluding food and fuel components, has been persistent in India at around 6% during 2020-22. Headline inflation has by and large hovered around the core – even gravitated towards it (Chinoy and Jain, 2023) – and steadfastly moved away from the inflation targeting mandate of 4% (+/- 2%, while paying attention to growth). Alternative definitions of “core”, trimmed means and diffusion indices, all suggest broad-based inflation is underway, reflecting in part strong aggregate demand on the back of post-COVID stimulus, particularly in urban segments.

This may, however, not be the entire picture.

There seems to be an urban wage spiral in the fastest growing sectors such as IT services where export demand remains high. Formally available statistics on listed company wage growth also appear in double digits, i.e., definitively in excess of the inflation rate. Concomitantly and consequently, household and business inflation expectations have risen. As some analysts have noted (Chakraborty and Baqar, 2022, for example), the rise of core inflation and its persistence, as well as the urban wage spiral, are puzzling given the increasing slack in the overall employment scenario. Effectively, India's Philipps curve seems to have moved up and/or steepened as it seeks to close the post-pandemic output gap, reflecting lack of adequate skilled labor for the formal sector that is outperforming the informal sector but which is unable to penetrate or upgrade the latter's labor force.

Another reason why the persistence in the core inflation is rising is that consumers do not seem to be fully benefiting from input price declines, which may be due to greater pricing power in increasingly concentrated industrial organization structures. What lends some credibility to this thesis is the observation that in contrast to the rest of the world, India's core inflation is rising more in Goods, where its industrial sectors are increasingly concentrated, than in Services, though there are early signs of pricing power rising in the Services sector too.

- v. Education gaps, declining female labor participation, and too few jobs:** Finally, the substantial subsidization of input factors (electricity, fertilizers, water, credit, ...) to the agricultural sector keeps the sector artificially large. As per data from the World Bank, while India's agricultural labor force share has shrunk from 63% in 1990 to 45% in 2020, it remains way too large in an absolute sense given that the share of agriculture in GDP during 2015-20 has been in the 16-18% range (compared to just 4% for the rest of the world). Further, the sector operates at low efficiency in that the value-add per Indian agricultural worker is only 8% on a unit investment. Overall, this has kept the distribution of workers in India low-skilled and unfavorable for it being able to grow services exports to their full potential without immediately inducing a wage spiral.

The chicken and the egg problem is hard to resolve, but labor persisting in low-skilled jobs is consistent with education gaps for the development of high-skilled labor remaining substantial. This is in spite of a steady improvement in school enrollments in India since 2006 (as per the Annual Status of Education Reports), including for the girl child. In particular, literacy levels have dropped steadily over the past decade: Reading ability is presently below the pre-2012 levels, in both government and private schools, and for both boys and girls, and, Arithmetic levels have dropped less steeply but are presently at lower levels than in 2018.

While some of the education gaps are undoubtedly due to extended school closures during the COVID lockdowns and beyond, perhaps the biggest impact of COVID years has been on India's female labor participation. As per survey data from the CMIE, it has declined from 18% in 2016 to under 11% in 2022, and somewhat unexpectedly, to under 7% in urban areas.¹⁹ These levels represent a substantial fall from those in 2012-14 of over 25%, and hint strongly at the lack of adequate job creation in the aggregate.

Finally, while the flow of new jobs is at 800K per month as of December 2022, the needs of entering labor force is over 1.2 million per month. Formal job creation measured using EPFO (pension fund enrolment data) also showed a decline of 15.5% in Nov-Dec 2022 in the 18-25 age group of typically new subscribers. Consistently, the survey statistics of the CMIE show that unemployment rate has risen from 3.37% in Jul 2017 to 6.9% in Jan 2021 (it being greater than 20% for graduates and post-graduates) to 7.5% in Mar 2023. Overall, labor participation rate has also declined from 49% in Jul 16 to 41% in Jan 2021.

This scarcity of jobs, in a patriarchal society such as India, appears to have left women effectively out of labor force. Unsurprisingly, there has also been a substantial reduction in salaries of women who are in the labor force and employed.

In summary, India seems to be creating too few jobs relative to its labor force needs, there are too many low-skilled laborers especially in agriculture, primary education gaps are mounting, and female labor force is bearing the brunt of many of these developments.

IV. Proposals

The challenges India is presently saddled with provide a natural blueprint for what are some structural reforms that can be initiated immediately but delivered over the next decade.

- i. De-tariff:** India's tariffs are way too high and protectionist in favor of its incumbents. India needs to bring tariffs in line at least with those of China, and perhaps to have an advantage over its key competitors, make them even lower. If one-time sharp drop in high tariff rates is difficult, e.g., to manage the reskilling of displaced labor, then policy can announce a calibrated reduction plan over (say) a three-year period. Such clarity of purpose and "forward guidance" would in

¹⁹ Even data from the Periodic Labor Force Survey (PLFS) show that female labor force participation was at 27% in 2021-22, which is low in an absolute sense as well as relative to most peer countries.

itself facilitate expansion of goods trade, induce a much-needed global competitiveness in its firms, and likely also encourage a pickup in investment.

I would stress here that tariffs in agriculture need to be reduced too, given their much higher levels than in other sectors. The reductions will have to be sharper to start with but persisted with, in order to enable this sector to downsize in its labor share and upgrade in its efficiency.

Further, India being more in line with international tariff rates might facilitate its greater participation in trade agreements, serving in turn as a pre-commitment not to raise tariffs again.

- ii. **Dismantle or reduce the market power of Indian conglomerates:** How should India move away from the rising industrial concentration? Given that several risks have materialized in a rather short period of time in case of one of the largest conglomerates, and over medium term, its deleveraging may slow down investments by this conglomerate, it is worth preparing for not having to deal with more of these, besides reducing their market power in product prices.

As seen in Figure 8, Big-5 conglomerates are in over 40 NIC 2-digit sectors. Hence, one way out of their breadth of presence is the good old Theodore-Roosevelt or William-Howard-Taft style “trust buster” strategy of simply breaking up large industrial firms and their monopolies or oligopolies by regulatory fiat or via competition commission diktat. This has been done repeatedly in the United States when concentration of corporate power has risen nationally in a sector or across different product lines. One advantage of this approach is that it would require various resulting sub-groups to have separate – and likely more transparent – balance sheets as well as ownership, management and governance structures. Such “trust busting” may, however, be awkward for the current government given it has – by revealed preference – adopted an industrial policy favoring “national champions”.

An alternative route would be to throw sand in the wheels by making it economically unattractive to remain a large conglomerate unless productivity gains are truly large. As Figure 10 shows, Big-5 have grown their market share over the past decade via increasing their footprint in M&As. It could be required that they own more equity of the companies they acquire, e.g., 80% or higher as in the United States (see Morck, 2005, and Kandel et al., 2019), in order to get benefits that group companies enjoy. These benefits typically include (i) tax-exemption on dividends from subsidiaries to parents; (ii) consolidation of income between subsidiaries and parents for tax purposes (generally beneficial due to offsetting of losses against profits); and, (iii) tax-exemption on spinoff of subsidiary shares to parent shareholders. In essence, by increasing the extent of subsidiary ownership required for earning the benefits of being a conglomerate, some of the conglomerates may spin off existing subsidiaries where gains do not justify such an increase.

Whether done surgically or gracefully, it would be better to make India more competition-friendly and less incumbent-, especially less conglomerate-, friendly. A significant benefit would be that even if the sub-groups remain among the largest companies (Top-5) in their respective sectors, as Figure 13 shows they may lack the pricing power commanded by Big-5.

- iii. **Get Insolvency and Bankruptcy Code (IBC) back on track:** While the deterrence effect of IBC is well at work, the progress of the cases through bankruptcy is slow which adds to substantial erosion of asset and franchise values of defaulted companies.

The legal benches handling the cases and the intermediate steps leading to the eventual reorganization, sale or liquidation of the defaulted companies could be subject to a tighter, closer to the originally envisaged, timeline. The present average of resolution times which is close to 18-24 months seems appropriate only for the largest of the cases and in difficult economic times. Most other cases should resolve much faster. One possibility is that many small and frivolous bankruptcies can be resolved privately outside of the IBC to prevent choking of the pipeline of cases. Indian Bankers' Association (IBA) could consider some templates for bank loan trip-wire covenants that can trigger such early resolution via pre-packaged bankruptcies.

Separately, a true stress test for the IBC would be whether it can handle well a large conglomerate's default, either at the group level or at one or more of its subsidiaries. Going by the market credit spreads on internationally issued bonds of some of these conglomerates, this is not at all outside the realm of reasonable probability. Resolution of such entities is not entirely unlike resolving a large, complex financial institution or a systemically important one (SIFI). Should India's large conglomerates be subject to a "living will" or "resolution planning" requirement, as required of the SIFIs in many parts of the world? At a minimum, design of such living wills may lay bare their complex web of related party transactions and create an indirect tax on being overly large for rent-seeking rather than for productivity gains.

- iv. **Deliver on**

FRBM (fiscal deficit) targets: The fiscal deficit targets were first missed slowly and then simply kept in abeyance. A credible glidepath needs to be provided to bring realized deficits in line with these targets. Clearly, higher growth from rationalization of revenue (subsidy) expenditures towards capital expenditures is one way to achieve this, but as it is slow, will it be sufficient? The central government can use the presently buoyant tax-collection phase to glide faster to targets.

What matters in the end though is the overall public sector borrowing requirement. On this front, power sector and distribution companies' woes seem important to address. As mentioned earlier, their losses seem to be on the order of 1.5% of GDP on an annual basis. A first step would be to create a national grid for the power market to allow efficient use of capacity and market pricing based on that. A second step could be to create a time-bound transition to rationalizing the highest of the subsidies and leakages (such as for rural electrification and in agriculture) that result in substantive losses.²⁰ Finally, some states will gain and others lose in the process, and the central government could create a burden-sharing mechanism to redistribute gains and losses across states. Implementing such a step successfully requires

²⁰ Such a step may be important as a part of India's thermal power capacity may come under even greater strain once the ongoing transition to renewables picks up further speed.

visionary leadership and can help restore confidence in India's cooperative federalism compact between center and states.

MPC (inflation) mandate: The Reserve Bank – even if reluctantly, and in all likelihood, induced by the Fed's tightening actions – has shown commitment since May 2022 to bringing headline inflation in line with the mandated target of 4%. However, its task has been rendered difficult by the persistence of elevated core inflation which is presently hovering around 6%.

It is a reasonable assumption that headline will eventually veer towards the core, and surprises on food from uncertain monsoons (e.g., the risk from El Niño seems high for Summer 2023) and on oil from an unresolved Russian invasion of Ukraine are likely to spring more to the upside. Hence, in my view, the best the Reserve Bank can do is to invest extra in inflation-targeting credibility by raising real rates further and sacrificing some growth in the short term (I stress *only* in the short term). Such sacrifice seems crucial to bring investor and business inflation expectations down and arrest the upward wage spiral in the formal sector. Gains from inflation-targeting in terms of lowering inflation expectations durably might never get fully realized if the central bank is seen routinely as sacrificing its inflation target for supporting growth, as was necessary at the time of COVID, but is not seen as determined in the other direction.

v. Address skilling and education gaps: There are at least three critical steps here to undertake.

First, the share of low-earning agricultural labor needs to reduce over time and be transformed into better-skilled higher-earning manufacturing and services labor. While that requires creating more jobs in these latter sectors, it also requires a willingness on part of young labor to leave the agricultural sector. One way is to (i) raise the sector's presently subsidized costs of inputs to market levels over a period of time, (ii) allow foreign entry into the sector and lift its productivity by lowering tariffs, and (iii) have a plan to retrain a part of the labor – effectively lower entry rate into the sector by training the youth – for vocational skills in manufacturing and services. This could be taken on as a flagship project by the ministry dedicated to skills development in partnership with private firms.

Secondly, the huge primary education gaps created in children's learning all over India during the pandemic need to be addressed in a decisive manner. While there are many initiatives that could do the needful, one option is to deliver a grade-by-grade national curriculum for a 30-day remedial summer program and another enriched 30-day start-of-the-year boot camp for reinforcement. Municipal schools can be required to adopt the programs mandatorily. Private schools may join voluntarily if the curriculum is attractive. ASER-style surveys could be conducted at pre-summer, end-of-summer, and exit-of-boot-camp stages to assess success, identify where gaps remain, and next steps planned accordingly for further remedial action.

Related to general education provision, it has always struck me why India does not have "charter" or "magnet" public schools providing the highest-quality Science, Technology, Engineering and Mathematics (STEM) education at middle-school and high-school levels. Such schools could be set up in each state, with screening based on entrance tests, in order to create an aspirational learning path among most of India's less privileged children who go to average-

or below-average quality municipal schools. Essentially, this is a model of IIT's but for primary and secondary education. Long-term payoffs would be substantial. Cities and states such as New York and Massachusetts in the United States offer a possible role model for execution.²¹

Finally, it is important to make it easier for women to join the labor force, especially in urban areas where the fall in their participation rate has been the highest. Given that companies are required to contribute a minimum of 2% of their net profits over the previous three years for Corporate Social Responsibility, the following could be made qualifying for such expense: (i) supporting entities – not-for-profit or otherwise – that support education of the girl child and the skilling of young female population, including the company's own initiatives; (ii) substitutable leaves for maternity and for primary caregiver relief for spouses so as to increase the flexibility women have in resuming work earlier; and, (iii) setting up of quality childcare facilities in company premises or neighborhoods to reduce the domestic burdens of working women. Similar schemes can be worked out for rural areas with partner organizations and with some public, multi-lateral or large-NGO financial support.

V. Conclusion

It has been clear now for most of the past decade that the Chinese growth miracle is losing its edge, its demographics and politics are no longer conducive to double-digit growth rates, and its overall indebtedness as an economy is too high to support substantive investments in the near future. As the rest of the world, and to an extent China itself, pivots to a China+1 manufacturing model for the global economy, a question on everyone's minds is whether India is the next game in town. India is certainly a contender but one that can be considered as work-in-progress.

On the one hand, India has a booming digital services economy and a continuing demographic advantage, and it is precisely the demographics that require India to succeed in this transition. On the other hand, I have tried to make the case that it is unclear if India is industrially organized right as of now to capitalize well on the opportunity. India is protectionist in precisely those sectors, viz. goods manufacturing, where the China+1 opportunity arises. Its conglomerate incumbents will either resist opening up of the economy to protect their domestic oligopolies, or will seek preferential access to foreign partnerships to manufacture for the rest of the world.²² Such a centralized industrial policy risks the inevitable – and likely large-sized – mistakes in allocation of resources. It would be better instead to

²¹See, for example, Angrist et al. (2013) on what makes charter schools effective. Proper design and embracing of the "charter" and some monitoring and enforcement by Department of Education are generally necessary to ensure success in raising academic achievement of enrolled children.

²² It is unclear, for example, if Indian government's *discretionally-approved* production-linked incentive (PLI) schemes are disproportionately benefiting the largest conglomerates. Surprisingly, data are not made public. PLI schemes, launched in 2021 to boost manufacturing, extend an incentive of 4%-6% on incremental sales (over base year) of goods manufactured in India and covered under target segments, to eligible companies, for a period of five years subsequent to the base year. Viewed from the lens of industrial concentration, the PLI incentives are conditional on achieving *incremental* sales target which large conglomerates, with inherently higher markups, can afford to do so more, and hence, the scheme could exacerbate concentration. Viewed from a level-playing field perspective, PLI represents another form of tariffs benefiting incumbents (Rajan and Chauhan, 2022).

reduce tariffs substantially, make industrial policy more market-friendly instead of the present incumbent-friendly disposition, and not risk India's future growth on a handful of "national champions". Will reducing tariffs and industrial concentration suffice? Or does India also need factor market reforms in land, labor and power, among others, as China did during its double-digit growth decades?

Finally, India also needs to restore macroeconomic balance in its twin deficits and inflation outcomes. On the latter, the rising concentration of corporate power risks making inflation even more persistent and creating a vulnerability on the external sector front given India's outsized fiscal and cyclical current account deficits. The bigger risk, as I see it, is that a sort of euphoria seems to have captured the psyche of Indian citizens and its foreign investors with regard to the China+1 opportunity, explaining in part the huge contradiction between the post-COVID stock market runup and real economy indicators. Is the pivot of foreign portfolio investors towards India – including due to inclusion and re-weightings in emerging-market indices – inducing an easy-money Dutch disease? Would it be better to open up more sectors of the economy to efficiency-enhancing and vigilantly-probing foreign direct investments?

I do not have all the answers, but an open dialogue around facts, opportunities and risks, to help India be a significant beneficiary in the China+1 transition of the global economy, would be useful all around.

Much is at stake, for India and the world. It would be nice if India can get it right in the coming decade!

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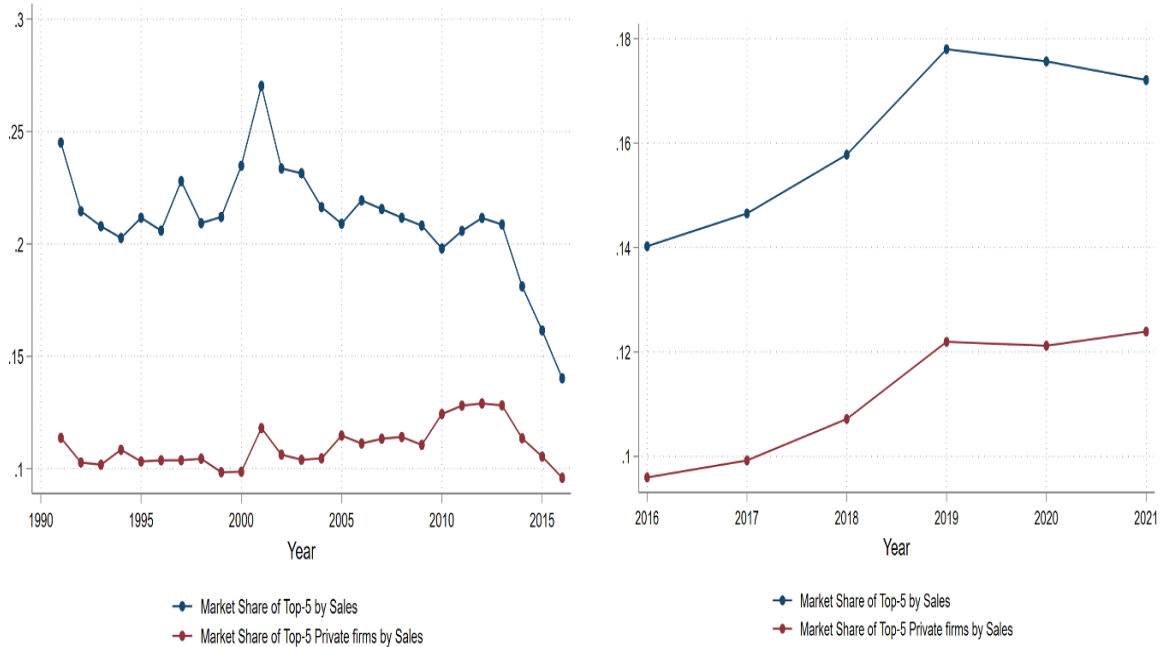
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Appendix

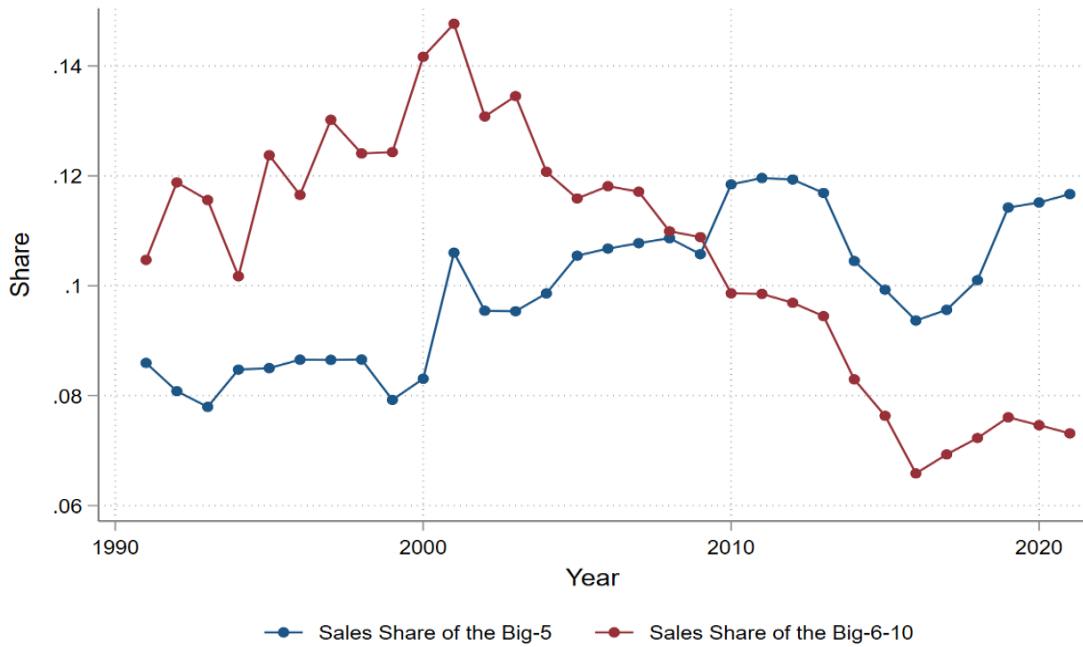
Table 1: Variable Definitions

Variable	Description
Top-5	Industry Groups ranked 1 st to 5 th by Assets or Sales across all Non-financial Industries <u>in a given year</u>
Big-5	Top-5 Industry Groups by Assets in the Non-Financial Sector <u>in 2021</u> . They are: Reliance (Mukesh Ambani) Group, Tata Group, Aditya Birla Group, Adani Group and Bharti Telecom
Big-6-10	Industry Groups ranked 6 th to 10 th by Assets in the Non-Financial Sector <u>in 2021</u>
Top-5 Share	Share of Top-5 Firms' Assets or Sales across all Non-financial Industries
M&A Deals	Deals involving Mergers or Acquisitions of Shares by Indian firms of domestic Indian firms
Markup	Markup is estimated as per DeLoecker, Eckhout and Unger (2020) method. Measures the wedge between a variable input's expenditure share in revenue and that input's output elasticity.



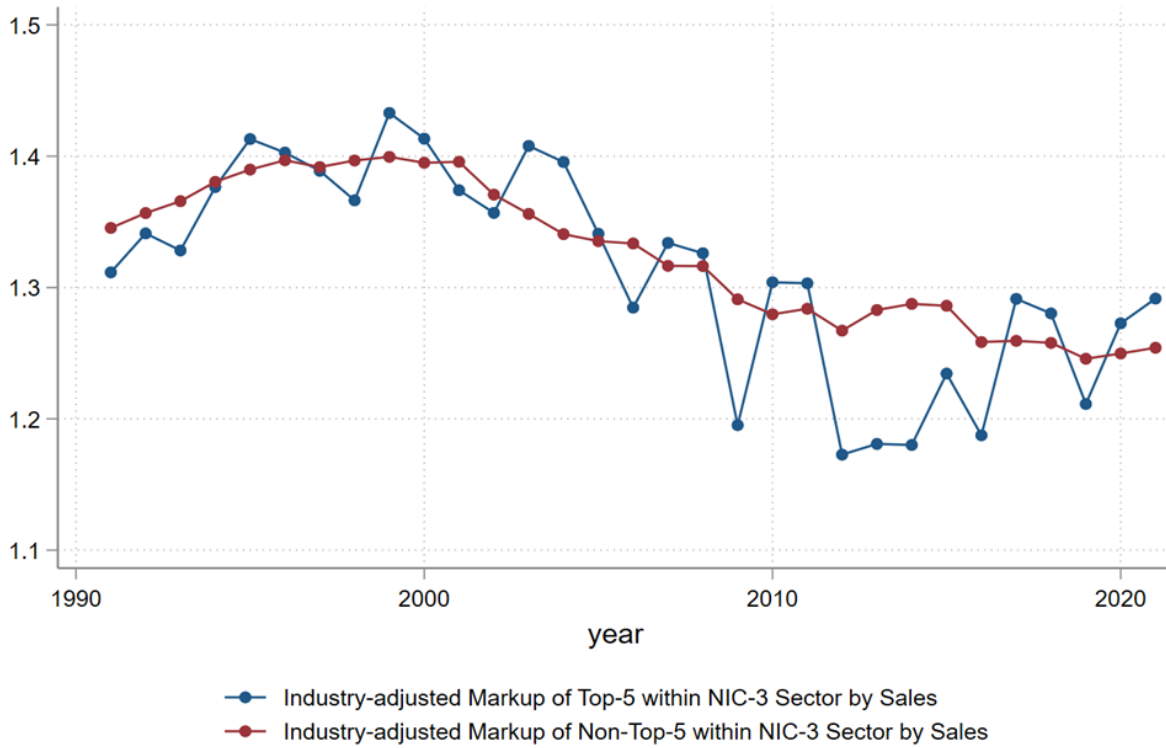
Source: Prowess, Center for Monitoring Indian Economy

Figure 14: Falling Concentration since 1991, but recent rise (Sales)



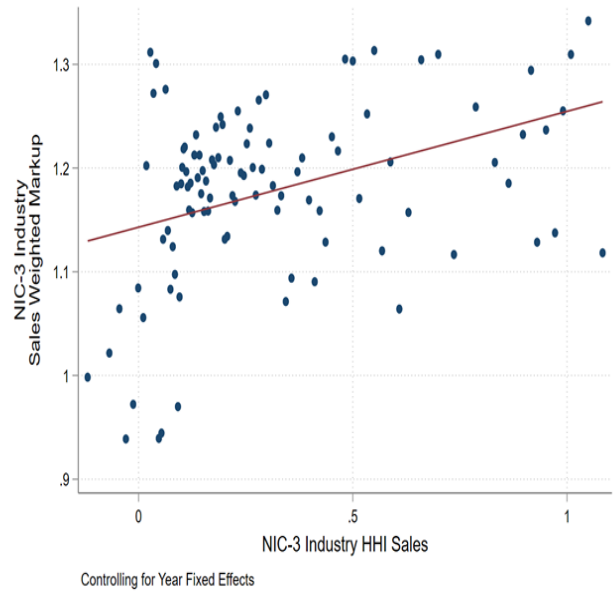
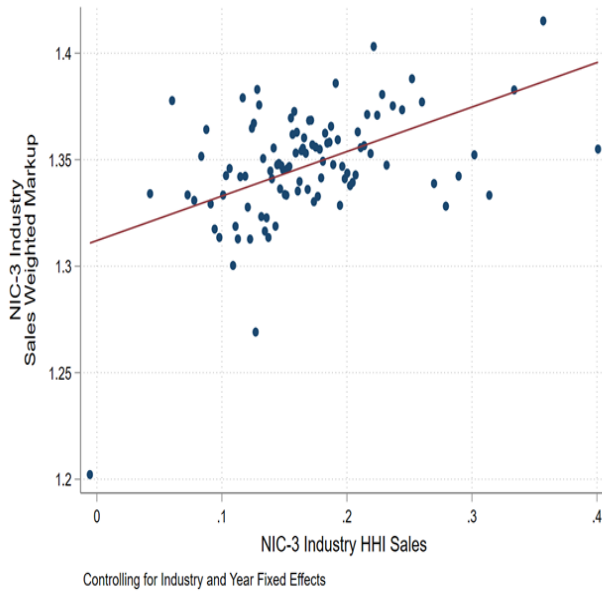
Source: Prowess, Center for Monitoring Indian Economy

Figure 15: Share of the Big-5 is rising (by Sales)



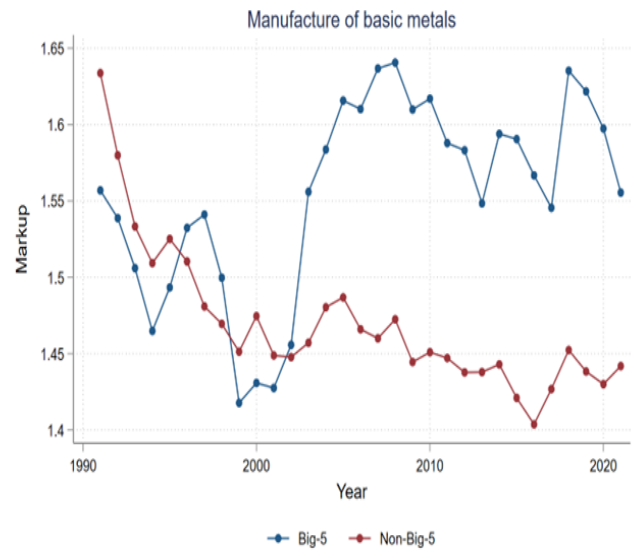
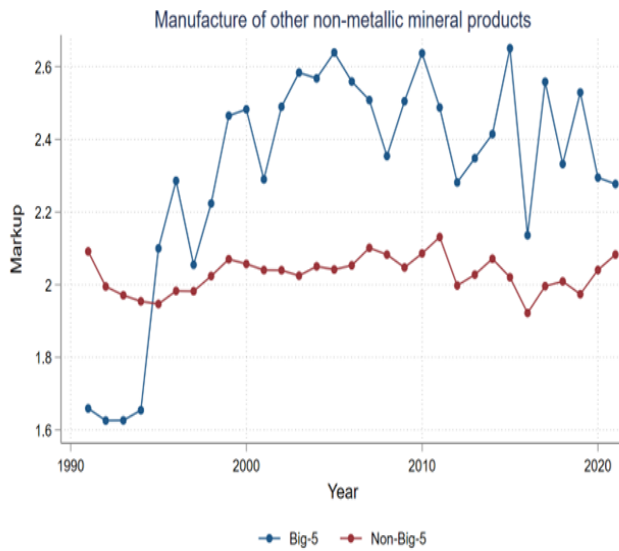
Source: Prowess, Center for Monitoring Indian Economy

Figure 16: Diversion in Industry-adjusted Markups of Top-5 vs. Rest (Sales)



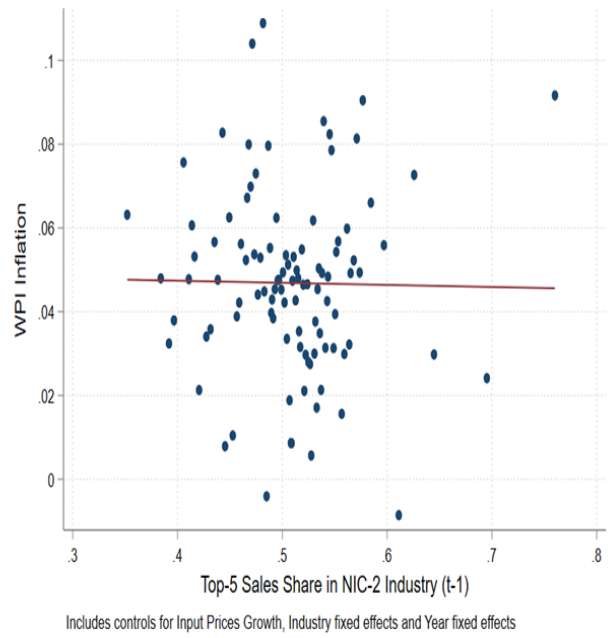
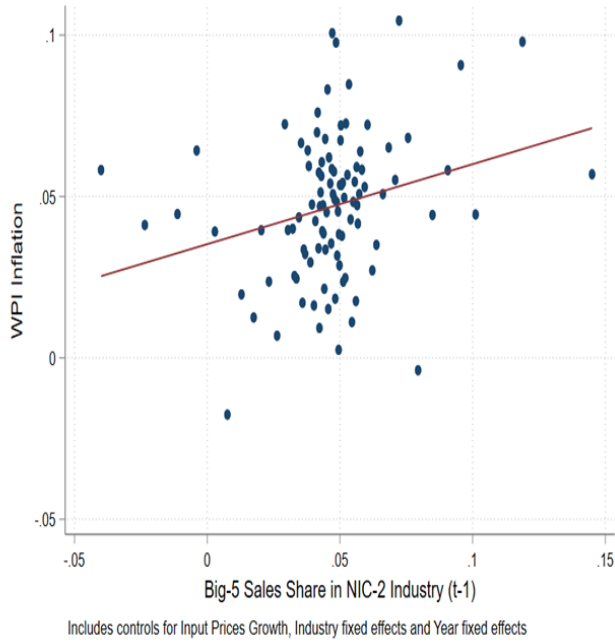
Source: Prowess Dx, Center for Monitoring the Indian Economy

Figure 17: Higher Concentration is correlated with Higher Markup



Source: Prowess Dx, Center for Monitoring the Indian Economy

Figure 18: Wedge between Big-5 markups versus the Rest in Non-metallic Mineral Products and Basic Metals



Source: Office of Economic Adviser and CMIE

Figure 19: WPI inflation and Big-5 sales share vs. Top-5 sales share

Table 2: Markup Regressions

The table below shows OLS regressions of firm-wise markups against the interaction of firm-wise sales share and indicators of Private, Top-5 or Big-5 firm groups. Firm balance sheet data is from CMIE's *Prowess Dx* database. We restrict to the non-financial sector. Column (1) shows the interaction regression of firm-wise sales share in the NIC-3-digit industry and the indicator of Top-5 firm by assets indicator. A Top-5 firm by assets is defined as a firm ranked 1st to 5th in the share of assets of its NIC-3 digit industry, in a given year. Column (2) similarly shows the results for interaction with Top-5 firm by sales. A Top-5 firm by sales is defined as a firm ranked 1st to 5th in the share of sales of its NIC-3 digit industry, in a given year. Column (3) gives the results for a private firm interacted with NIC-3 sales share. A private firm is defined as a firm which is not a public sector undertaking and/or not owned or operated by any central or state government department or agency. Column (4) shows the results of the interaction of the Big-5 firms indicator and NIC-3 digit sales share, identified as firms belonging to the Reliance (Mukesh Ambani) Group, Tata Group, Adani Group, Aditya Birla Group or Bharti Telecom group. Robust Standard errors are reported in the parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

	(1)	(2)	(3)	(4)
	Firm-wise Markup			
NIC-3 Sales Share	-0.0688 (0.0490)	1.031*** (0.0620)	-0.0471 (0.0313)	0.0576*** (0.0138)
Top-5 by Assets	0.0460*** (0.00302)			
Top-5 by Assets × NIC-3 Sales Share	0.00851 (0.0497)			
Top-5 by Sales		0.0363*** (0.00289)		
Top-5 by Sales × NIC-3 Sales Share		-1.068*** (0.0616)		
Private Firm			0.0423*** (0.00318)	
Private Firm × NIC- 3 Sales Share			0.173*** (0.0339)	
Big-5				0.0245*** (0.00619)
Big-5 × NIC-3 Sales Share				0.127*** (0.0458)
Constant	1.351*** (0.000774)	1.348*** (0.000820)	1.311*** (0.00310)	1.352*** (0.000697)
Observations	316050	316050	316050	316050
R-Sq	0.162	0.162	0.162	0.161
Fixed Effects	NIC3 & Year	NIC3 & Year	NIC3 & Year	NIC3 & Year

Table 3: WPI inflation versus Concentration within Industries

The table below shows OLS regressions of NIC-2 Industry WPI inflation against the interaction of firm-wise sales share of Top-5 or Big-5 firm groups. Firm balance sheet data is from CMIE's *Prowess Dx* database. We restrict to the non-financial sector. Column (1) show the regressions of NIC-2 wise WPI inflation against the lagged share of the Big-5 in Sales. Column (2) shows the regressions of NIC-2 wise WPI inflation against the lagged share of Top-5 groups within NIC-2 digit industry. Big-5 firms are identified as firms belonging to the Reliance (Mukesh Ambani) Group, Tata Group, Adani Group, Aditya Birla Group or Bharti Telecom group. Robust Standard errors are reported in the parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

	(1)	(2)
	Yearly Change in NIC-2 Industry WPI	
Big-5 Sales Share _{t-1}	0.267** (0.127)	
Top-5 Sales Share _{t-1}		-0.0220 (0.0552)
Growth in Input Costs	0.00142 (0.000863)	0.00139 (0.000861)
Constant	0.0375*** (0.00789)	0.0614* (0.0296)
N	675	675
R-sq	0.196	0.192
Fixed Effects	NIC-2 & Year	NIC-2 & Year