

Economic Reforms and Manufacturing Sector Growth

Need for Reconfiguring the Industrialisation Model

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Manufacturing output grew 7%–8% annually since 1991, with a marked improvement in the variety and quality of goods produced. Yet, its share in gross domestic product has practically stagnated, with a sharp rise in import intensity. Liberal (or market-friendly) policies were expected to boost labour intensive exports and industrial growth. Why did the manufacturing sector fail to realise these goals? It is widely believed that India needs to “complete” the reform agenda to realise its potential. Critically examining such a view, it is suggested that the long-term constraints on industrialisation perhaps lie in poor agricultural productivity and inadequate public infrastructure. Further, there is a need to re-imagine the role of the development state to realise goals, as the experience of all successful industrialising nations suggests.

Over a quarter century of market-oriented (or liberal, or free market) reforms (1991–2016), the manufacturing (or industrial) sector has grown annually between 7% and 8% on a trend basis (depending upon the data series chosen) (Figure 1, p 62).¹ The growth rate after the reforms is higher than in the preceding quarter century, but it is roughly the same as in the 1980s, when the early reforms were initiated. India’s share in global merchandise trade has moved up from nearly 0.5% in 2000 to 1.5% by 2015, and the share of services exports rose from 1% to 3% during the same period (Figure 2, p 62).

Industrial production has diversified with perceptible improvements in the quality and variety of goods produced with growing domestic competition. Yet, the manufacturing (or industrial) sector’s share has stagnated at about 14%–15% (26%–27%) of gross domestic product (GDP) after the reforms (Figure 3, p 62). Though India has avoided deindustrialisation—defined as a decline in the manufacturing (industrial) sector’s share in GDP, or share in workforce—it stares at a quarter century of stagnation, in contrast to many Asian economies that have moved up the technology ladder with a rising share of manufacturing in domestic output and global trade (Rodrik 2015).

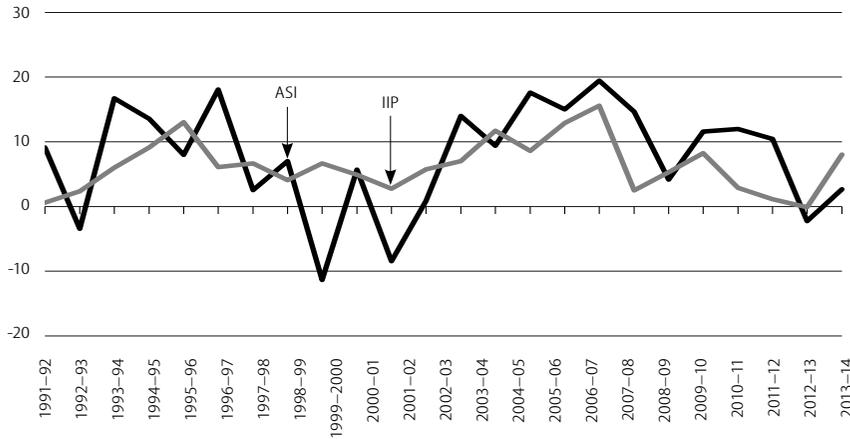
However, over a longer period, Indian industry has regressed. The telling evidence of it is a comparison with China. Around 1950, both the large Asian giants were roughly at the same level of industrialisation (or lack of it); if anything, India had an edge (Raj 2006; Kumar 1988). By 2010, however, China became world’s second largest manufacturing nation, and India ranked 10th, producing one-third or one-fourth of China’s industrial output (at the current market exchange rate) (Figure 4, p 63).

The reforms were built on the initial success in delicensing and import liberalisation (that is, a switch from quotas to tariffs) in the 1980s. However, deepening of the reforms since the 1990s—as part of the broader stabilisation and structural adjustment programme—meant a clear departure from the state-led domestic-oriented, capital goods-focused, “heavy” industrialisation strategy, towards a market-friendly regime, as advocated by most mainstream economists and development agencies, such as the World Bank (as evident in its official publication, *The East Asian Miracle*, 1993). The reforms were initially underwritten by structural adjustment loans from the Bretton Woods institutions, conditional upon implementation of the policy changes (as against World Bank’s predominant interest in project finance). Though perhaps modest,

I sincerely thank Dennis Rajakumar for providing me with concorded time series Annual Survey of Industries data for the paper.

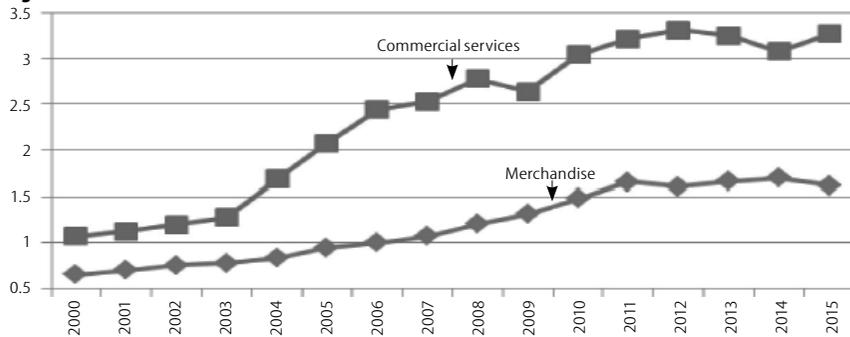
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Figure 1: Manufacturing Sector Growth Rate —by ASI and IIP



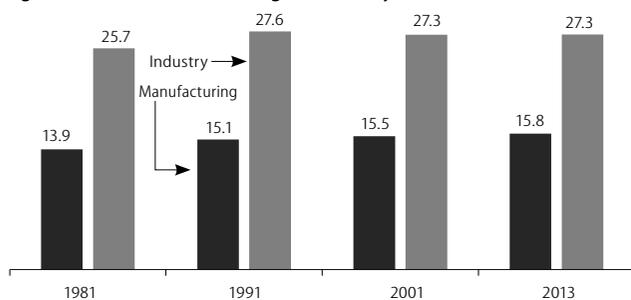
Source: CSO and RBI's *Handbook of Statistics on Indian Economy*.

Figure 2: India's Share in Global Trade



Source: Veeramani (2016)

Figure 3: Share of Manufacturing and Industry in GDP



Source: National Accounts Statistics, various issues.

these loans signalled to global capital markets and international business the Bretton Woods institutions' endorsement of the shift in India's economic policy.

Jagdish Bhagwati, the most ardent and long-standing critic of India's planning, succinctly summarised what the reforms really meant, when he said:

The main elements of India's policy framework that stifled efficiency and growth until the 1970s, and somewhat less so during the 1980s as limited reforms began to be attempted, and whose surgical removal is, for the most part, the objective of the substantial reforms begun in mid-1991, are easily defined. I would divide them into three major groups:

- (1) Extensive bureaucratic controls over production, investment and trade;
- (2) Inward-looking trade and foreign investment policies;
- (3) A substantial public sector, going well beyond the conventional confines of public utilities and infrastructure. (Bhagwati 1993: 46)

In other words, to put it more graphically using Bhagwati's picturesque imagery, the reforms meant making a bonfire of industrial investment and output controls, or ending the much criticised permit-lisence raj. However, in practice, the speed and scope of the reforms was gradual—slow by international standards, but pretty rapid by domestic yardsticks—and they were undertaken by trial and error, regardless of the political dispensation at the helm.

The reforms, though initially centred on industry and trade, culminated in encompassing financial globalisation in the last decade, when India got enmeshed in the global economic cycles of boom and bust.² The public sector was rolled back even within the “conventional confines of utilities and infrastructure” by allowing private and foreign capital in these industries.

India surely rode the boom during its “dream run” for five years from 2003 to 2008, to clock an unprecedented annual economic growth of about 9%, to be counted as among the world's fastest growing large economies (Nagaraj 2013). If China came to be known as the world's factory, India was reckoned, albeit briefly,

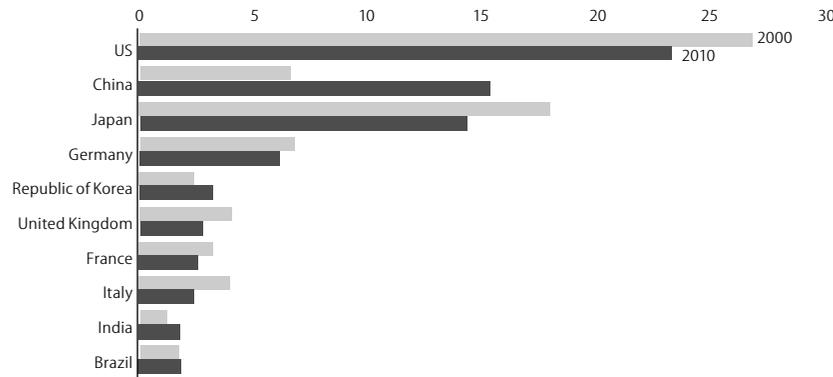
as its back office. After the global financial crisis, as with the rest of world, India's boom went bust, with industrial deceleration, rising import dependence, and growing short-term capital inflows (or, simply, hot money) financing the balance of payments deficit.

After a quarter century of market-oriented reforms, why did India fail to emulate (or catch up with) the Asian economies to cement its reputation as a successful industrial nation with rising manufactured exports? Perhaps, with booming services exports, India dreamt of skipping the industrialisation stage to be counted as the world's back office, leveraging its large “educated” English-speaking workforce, and ignoring outsourcing services' narrow employment base domestically, and even the slender market segment it was tied to in the financial services sector in the United States (us).

We are now back to the drawing board, trying to configure how to reindustrialise, given India's persistent economic backwardness (with half of its workforce still engaged in low productive agriculture, and over two-thirds of the population still living in villages) with bleak export prospects, and fickle capital inflows financing its external deficit.

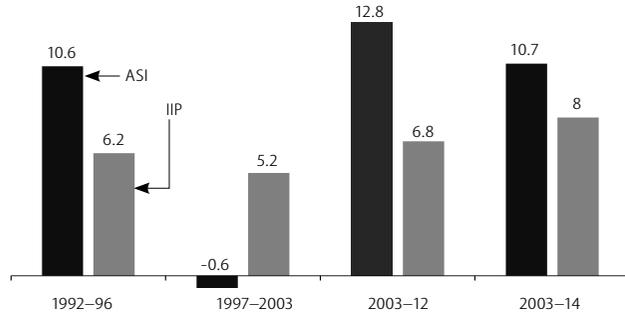
This is not a new question, however. The “Make in India” campaign seeking to raise the manufacturing sector's domestic output to 25% (Invest India nd), or, the previous regime's National Manufacturing Policy, 2011, aimed at raising the manufacturing sector's share in GDP to 25% by 2022 (Ministry of Commerce and Industry 2011) are the official efforts to grapple

Figure 4: World's Top 10 Manufacturing Nations in 2000 and 2010



Source: UNIDO's *International Yearbook of Industrial Statistics*, 2012.

Figure 5: Manufacturing Sector Growth as per ASI and IIP



Source: CSO and RBI's *Handbook of Statistics on Indian Economy*.

with the question. But, the real challenge apparently is to translate these lofty goals to into actionable policies with suitable instruments. While working out the specifics of such a strategy is beyond the scope of the study, it hopes to lay out a broad framework of analysis for such an initiative.

This paper critically reviews industrial performance and policy after the reforms in 1991, and seeks to address the question of how to get over the stagnation.

Industrial Trends

Over the entire period of reforms (1991-2014), the manufacturing sector grew at an annual trend growth rate of 7.7% or 7.2% as per the Annual Survey of Industries (ASI) and Index of Industrial Production (IIP), respectively (Figure 1). Evidently, the ASI recorded much wider yearly fluctuations than the IIP, which would show wide differences in the growth rates over shorter periods.³

From Figure 1, it is evident that the 25-year period can be subdivided into three distinct phases: 1992-96, 1997-2003 and 2003-14 (Figure 5). The first phase represents the initial euphoria of reforms, with booming output and investment in the anticipation of a virtuous cycle of faster growth and exports. However, with the expectations of a boost in demand not being realised, industrial growth decelerated. It coincided with the Asian financial crisis, bust of the dot-com bubble, and freezing of credit markets in the us in the early 2000s.⁴

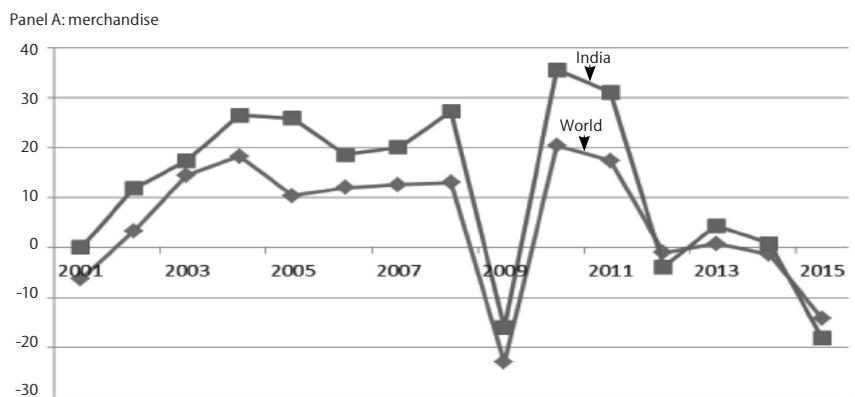
The period from 2003 to 2014 represents, as mentioned earlier, the recent debt-led cycle of boom and bust, perhaps best illustrated by the trends in India's and global exports (Figure 6) (Nagaraj 2013). After the global financial crash in 2008-09, fiscal and monetary stimulus domestically and capital inflows on account of quantitative easing (QE) in the advanced economies sustained economic growth until 2011-12 (as also in many emerging market economies), giving rise to a short-lived euphoria of emerging market economies (EMEs) getting "delinked" from the advanced economies.

The industrial growth scenario after 2014 remains hazy on account of unreliable data. While the IIP shows marginal improvement, the new series of the National Accounts Statistics (NAS) reports a distinct upturn—a widely contested statistic (Nagaraj 2015) (Figure 7, p 64). The turnaround in industrial and domestic output growth rates are not supported by the trends in (i) credit growth and (ii) capacity utilisation in industry (Figure 8, p 64 and Figure 9, p 65).⁵

Performance during the Boom and Bust

From 1991 to 2003, industrial performance was not particularly impressive. After the initial boom until 1996, there was a nine-year period of deceleration, when the output growth was buffeted by many shocks, such as the Asian financial crisis. However, the following cycle of boom and bust (2003-14) was significant in many respects. Five years

Figure 6: Annual Merchandise Export Growth Rate for India and the World



Source: Veeramani (2016)

of India's dream run (2003-04 to 2007-08) were surely led by outsourcing services exports, but manufacturing growth matched the boom with a 10% annual growth rate. This was made possible by a steep rise in domestic savings, investment, and capital inflows, boosting the capital formation rate to close to 40% of GDP at the peak of the boom in 2008 (Figure 10, p 65).

The growth rate recovered after the financial crisis in 2008-09, but at a slower rate of 7.3% per year in the following four years until 2011-12, and decelerated rapidly thereafter.

Table 1 provides the average of annual growth rates from 2004–05 to 2013–14, as per the IIP, for use-based industrial categories. In this period, consumer durable goods and capital goods (with each weighing about 8% in the IIP) grew close to 10% per year, while consumer non-durable goods (with a

Table 1: Growth Rates by IIP's Use-based Industrial Classification, 2005–14

Use-based Industrial Output	Weights	Average of Annual Growth Rates
Basic goods	45.68	5.2
Capital goods	8.83	9.7
Intermediate goods	15.69	4.3
Consumer goods	29.81	5.9
Consumer durables	8.46	9.8
Consumer non-durables	21.35	4.2
Index of Industrial Production (general)	100	5.7

Source: RBI's *Handbook of Statistics on Indian Economy*.

weight of 21%) grew the slowest at 4.2% per year.

This was also the time when foreign firms and brand names came to dominate many markets, especially consumer durables and capital goods. The

were dramatic. The land market quickly got commercialised, with easy access to domestic and international capital, and with property development acquiring primacy over industrial use of land (Levien 2012).

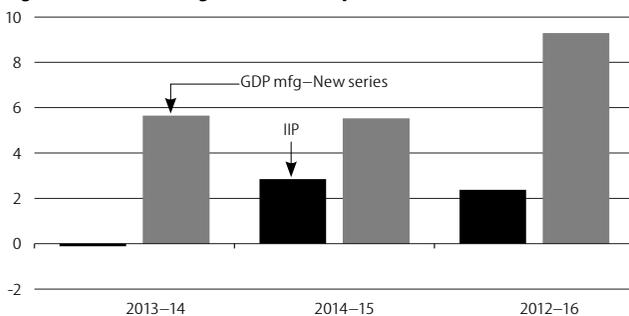
In practice, these policies—meant for promoting industrial exports and infrastructure—quickly became a means of acquiring scarce land, often with state support, from gullible farmers who sold their land cheap or were evicted with the state's connivance, giving rise to the term, “predatory growth” (Bhaduri 2008). This resulted in widespread political and social agitations against such policies, contributing little by way of industrial output.

Competing Explanations for the Trends

How does one understand the foregoing account of industrial performance? Many would agree that industry underperformed, but the reasons proffered for it could vary considerably.⁷ By no stretch of imagination could state policy constrain industrial decision-making any longer. With India's tariff getting reduced, and with numerous bilateral trade and investment treaties, India's openness became comparable to its Asian peers. Crucially, if the much derided permit–licence raj had held up industrial growth during the planning era, then why did industrial output and exports not zoom after the reforms?

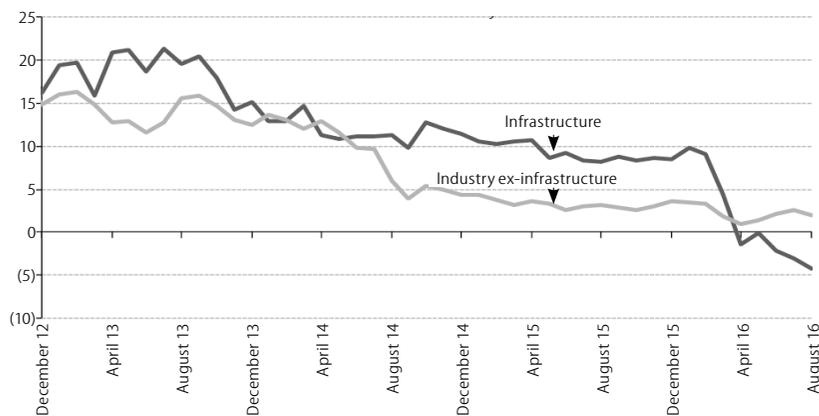
Protagonists of reforms, however, would contend that the reforms have not gone far enough or the agenda remains incomplete—with restrictions remaining on foreign direct investment (FDI) (especially in retail trade), labour market regulation (in the ability to hire and fire at will), full convertibility of capital, etc. These arguments seem questionable. There is no clear theoretically valid and empirically sound association between pro-market reforms and growth (Rodrik 2011). There is perhaps room for critically examining what has been the outcome of the liberalisation carried out thus far.

Figure 7: Manufacturing Growth Rate as per IIP and New GDP Series



Source: National Accounts Statistics, various issues, and RBI's *Handbook of Statistics on Indian Economy*.

Figure 8: Quarterly Credit Growth to Infrastructure and Industry, 2012–16



Source: CEIC, RBI, Kotak Economic Research.

import to domestic output ratio went up quite sharply in most industries (Chaudhuri 2013). However, if indirect imports are included, the ratio would go up further.⁶

In the 2000s, two significant policies were initiated for industrialisation, namely, special economic zones (SEZs) and un-freezing of the land market for private industrial and infrastructure investment. Until then, export processing zones were set up by the public sector, and land acquisition for infrastructure was their exclusive domain. When these activities were thrown open to private and foreign capital, the results

What has India's open-door policy for FDI led to? In the last decade, the most significant variety of FDI inflow has been private equity (PE), venture capital (VC), and hedge funds (HF), which are, by definition, loosely regulated alternative investment funds that are part of shadow banking. They are not even considered as FDI by the United Nations Conference on Trade and Development definition since they are not for the long-term. Quantitatively, the most important of these sources is PE funds, which, by definition, acquire existing assets and sell these after three–five years in the stock market after restructuring. These are hardly the kind of foreign capital that India needs for getting technology and acquiring industrial capability.⁸ Table 2 (p 66) provides information on PE and VC inflows into India since 2005 and an illustrative list of projects in which they have invested during 2015. Economic implications of PE investment are that it is financing

of domestic consumption using foreign debt, not productive investment.⁹

The labour market rigidity hypothesis is seriously contested; careful reviews of the literature find little support for the widely-held proposition (Kannan and Raveendran 2009; Teitelbaum 2013; Sood et al 2014). That the labour market rigidity argument holds little water now can be gauged by the recent news report that Larsen & Toubro, India's largest machinery and construction firm (turnover \$16 billion) reportedly laid off 14,000 workers (11.2% of its workforce of 1.22 lakh workers) during July–September 2016 (Prasad 2016). It amply demonstrates that the “hire and fire” policy effectively rules the organised labour market today.

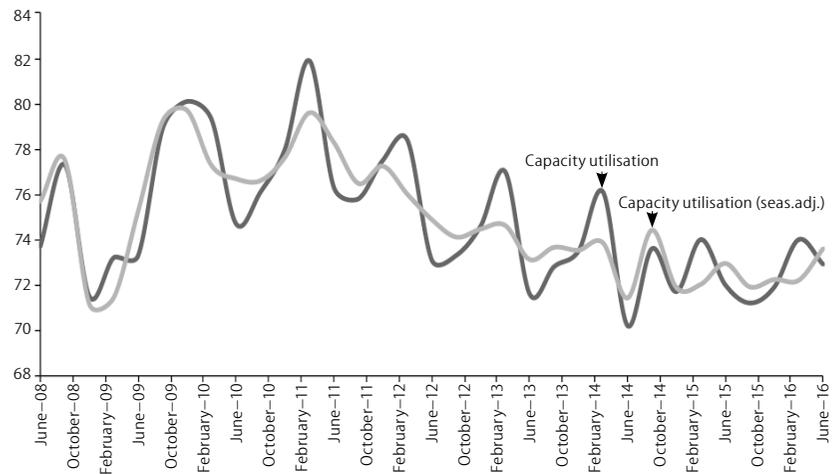
Arguably, the retrenched workers are temporary or contract workers who are not protected by labour laws, which are the bone of contention. But, the fact that such a large enterprise employs non-permanent workers in such large numbers only goes to show how the seemingly rigid laws do not apply to a growing segment of organised workers and that the laws really have no teeth. Hence, the contention that labour laws are holding up flexible and efficient use of labour simply does not hold water.

Currently, policymakers are using the World Bank's “Ease of Doing Business” (EDB) as a measure of hurdles faced by entrepreneurs, and are busy trying to improve India's global ranking to attract more foreign investment. This dubious measure, both conceptually and empirically, hardly explains the foreign investment inflows in developing countries, as evident from a World Bank research paper quoted below:

The World Bank's Ease of Doing Business reports have been ranking countries since 2006. However, do improvements in rankings generate greater foreign direct investment inflows? ... The paper shows this relationship is significant for the average country. However, when the sample is restricted to developing countries, the results suggest an improved ranking has, on average, an insignificant (albeit positive) influence on foreign direct investment inflows. ... Finally, the paper demonstrates that, on average, countries that undertake large-scale reforms relative to other countries do not necessarily attract greater foreign direct investment inflows. This analysis may have important ramifications for developing country governments wanting to improve their Doing Business Rankings in the hope of attracting foreign direct investment inflows. (Jayasuriya 2011)

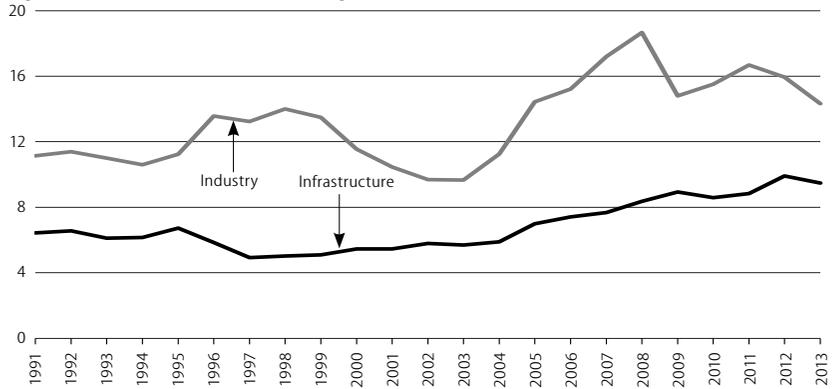
If the foregoing arguments are reasonable and evidence credible, then we should look elsewhere for the reasons of the industrial stagnation. The answer perhaps lies with the structuralist economic arguments and the long-term constraints, such as less than satisfactory or poor agriculture performance after the reforms (Figure 11). Moreover, despite gradual improvements, land productivity in agriculture continues to be a modest fraction of the global average (Figure 12, p 66).

Figure 9: Capacity Utilisation in Industry, 2008–16



Source: CEIC, RBI, Kotak Economic Research.

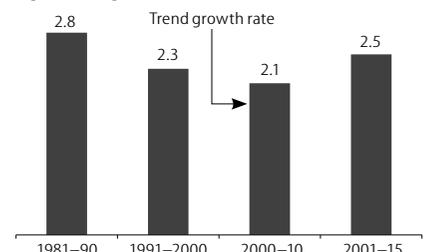
Figure 10: Fixed Investment as Percentage of GDP



Source: National Accounts Statistics, various issues.

Further, lack of adequate public infrastructure investment (as capacity creation for power generation by proxy) seems to be holding back industrial growth (Figure 13, p 67).

Figure 11: Agriculture Growth Rates, 1981–2015



Source: EPW Research Foundation, India times series data.

At the moment, in the aftermath of the global financial crisis, Indian industry is suffering from excess capacity in major industries like steel, coal and machinery, as investment rates and exports have fallen. Fixed capital formation ratio, for instance, has fallen by almost 10 percentage points, from close to 40% of GDP in 2008. As the private corporate sector is mired in debt, and the banking sector is left holding non-performing assets, there is little option but to revive public investment to boost investment and domestic output (Nagaraj 2014).

Need for Reconfiguring Development State

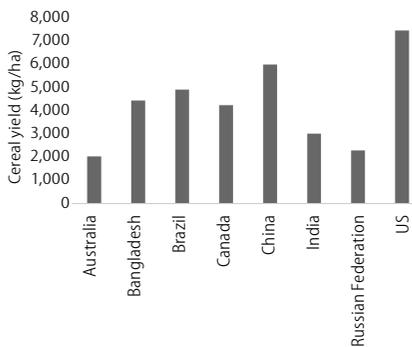
While the foregoing arguments for removing the structural constraints on industrial growth still hold, it is perhaps an opportune moment to revisit the role of state support for industrialisation. Admittedly, state intervention during the

planning era (1950–80) had many shortcomings (too widely acknowledged to bear repetition), and many aspects of it may have outlived their utility. Yet, perhaps, the rush to open up markets after 1991 (under stressed macroeconomic conditions) seems to have hurt long-term industrial and trade prospects.¹⁰ So, there seems to be a need to rebalance the equation between the state and the market keeping in view the strategic considerations.¹¹

The basic arguments for industrial policy come from Nicholas Kaldor’s stylised fact that faster manufacturing sector growth propels the rest of the economy following Verdoorn’s law of positive externalities. In a somewhat similar vein is Paul Krugman’s (1995) hypothesis of economies of locational agglomeration giving rise to positive externalities. Finally, the arguments of market failures due to information imperfections, and state intervention solving the coordination problem offer credible reasons for having an industrial policy Suzumura (1997). Moreover, the comparative Asian experience (starting with Japan to a contemporary account of China and Vietnam) offers powerful empirical arguments for industrial policy.

Three aspects of industrial and investment policies that seem to need careful attention are: (i) long-term finance, (ii) domestic research and development (R&D) efforts, and (iii) bilateral

Figure 12: Average Cereal Yields in Selected Countries, 2013



Source: *Economic Survey*, 2015.

investment and trade treaties. India seems to have a disadvantage vis-à-vis its trading partners, especially with respect to China in all these policies. As part of financial liberalisation, India turned its development financial institutions

(DFIs)—such as IDBI (the Industrial Development Bank of India) and ICICI (Industrial Credit and Investment Corporation of India)—into commercial banks, resulting in shortening of loan maturity, thus constraining capital-intensive manufacturing and infrastructure financing. The domestic debt market was expected to fill the vacuum, and that has not happened (as in most industrialising countries). In response, large firms were allowed to borrow internationally even for investments in the non-traded goods sector, leading to currency and maturity mismatches, thus raising potential financial instability.

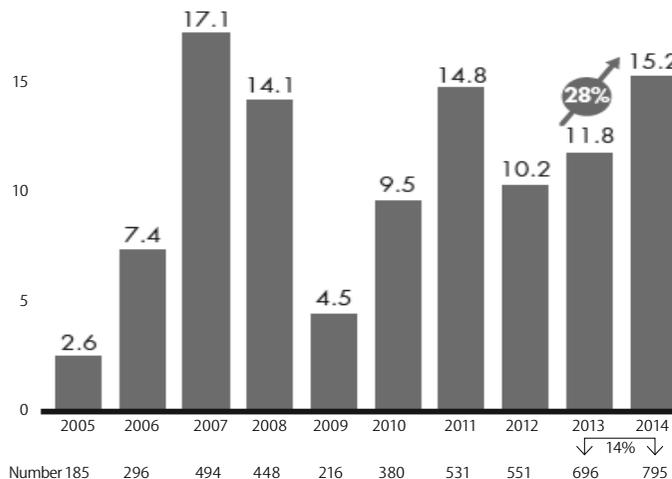
China, which is still not officially granted the status of a market economy, is known to use cheap credit (including trade credit) as an instrument for penetrating international markets, especially in project exports. Commercial sources often suggest that Indian firms are perhaps unable to match the Chinese firms’ commercial terms, despite producing goods of comparable quality and variety. This is not new. Historically, finance is widely used as an instrument of trade policy.

If the above speculation is correct, then there is a case for revisiting national development or investment banks for supply of long-term, low-cost credit for industrial capital formation. Such a case has acquired greater urgency in the context of the continuation of the global financial crisis, and the need for public investment to pull the depressed economies out of the present crisis (Skidelsky and Martin 2011; Turner 2015).

Another setback after the industrial reforms has been the decline in domestic industrial R&D. The licences to import technology and capital in the pre-reform era were conditional upon setting up domestic R&D centres (sweetened with fiscal concessions) to promote indigenous know how. After the reforms, firms no longer needed to make such efforts, and foreign firms had no reason to invest in R&D in India that could potentially compete with their parent firms’ global interests. The net result: stagnation in R&D efforts, best illustrated again with a Chinese comparison. In 1996, both China and India spent the same share of their GDP on R&D, at 0.6%. However, by 2011, the ratio

Table 2: PE Inflow since 2005 and Illustrative List of Their Investments in 2015

Annual PE and VC investment in India \$20B



Source: India Private Equity Report, 2015, Bain & Company.

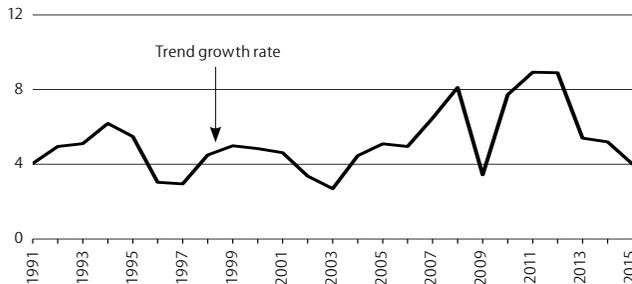
Top Deals in 2014

Company	Fund(s)	Value (\$M)
Flipkart	Naspers, Tiger Global Mgmt, Accel Partners, Morgan Stanley Investment Mgmt, DST Advisors, GIC, Sofina, Iconiq Capital	1,000
Flipkart	Qatar Investment Authority, DST advisor Greenoaks Ventures, GIC, Iconiq Capital, Tiger Global, Steadview Capital, T Rowe Price, Baillie Gifford & Co.	700
Snapdeal.com	Black Rock, Tybourne Capital Mgmt, Temasek, Soft. Bank, PI Opportunities Fund I, Myriad Asset Mgmt.	636
Unitech Corporate Parks	Brookfield	581
Kotak Mahindra Bank	Canada Pension Plan Investment Board (CPPIB)	376
Shriram Capitol	Piramal Enterprises	334
L&T IDPL	CDPO, CPPIB, State General Reserve Fund (SGRF)	323
Jaiprakash Power ventures	IDFC Private Equity, PSP Investments	316
Sutherland Global Services	TPG Capital	300
Mincos	CX Partners, Others	260
	Total	4,826

for China had tripled to 1.8% of GDP, whereas for India the ratio had marginally moved up to 0.8% (Figure 14). Interestingly, despite its liberal FDI policy, China did not take its eyes off the strategic significance of R&D, whereas India perhaps lost its focus in the free market rhetoric (Mani and Nabar 2016; Mani 2016).

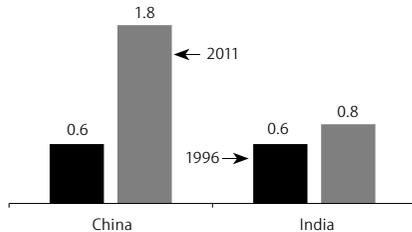
At the height of the financial opening-up in the last decade, India signed a large number of bilateral free trade and investment agreements, whose outcome for industry appears to be questionable (Dhar et al 2012). In particular, the treaty with Thailand, a large base of the Japanese automotive industry, seems to have hurt Indian automotive firms', enabling the duty-free entry of goods.¹² If the observation is correct, then

Figure 13: Installed Capacity, Annual Growth



Source: *Economic Survey* various issues.

Figure 14: R&D Expenditure as Percentage of GDP in China and India



Source: World Bank's World Development Indicators.

there is perhaps merit in reviewing such agreements. This is not to argue for unconditional protectionism or unalloyed faith in the state's capacity to promote industrialisation, but to seek for a more reasoned, rule-based support for industry. This should not be seen as a plea for putting the clock back; such a view would be ahistorical. What is needed, perhaps, is the redefining and reconfiguring of the boundaries of state and market in view of the changed ground realities, comparative experiences, and the renewed analytical arguments for suitable state intervention.

Conclusions

Liberal economic reforms or the market-friendly policy framework constructed over the last quarter century has not served the manufacturing sector well, despite faster economic growth, and output diversification. The goal of rapid industrialising to catch up with Asian peers, in an open trade and capital regime employing abundant labour for labour-intensive exports, did not materialise. There has been undeniable improvement in domestic competition with the rise in the quality and variety of goods produced and exported. Yet, the share of manufacturing in GDP has stagnated, and its share in merchandise exports declined, and import content in domestic consumption shot up.

An eroding industrial base has found political expression in the current political dispensation's slogan, "Make in India," or in the previous regime's National Manufacturing Policy, 2011,

albeit these ideas are yet to get translated into workable policies and suitable instruments for implementation. The easy starting point of it would be to try producing domestically what is being imported. The sharp rise in imports during the recent years clearly shows the potential to indigenise production quickly.

Ruling dispensations, regardless of their political colour and candour, have argued for "finishing" or "completing" the liberal economic reforms agenda, including institutional reforms, to reap their virtuous outcomes. However, after a quarter century of persuasion, such an advocacy rings hollow as it does not have support either in theory or in comparative experience. Worldwide rethinking on the virtues of unbridled globalisation of trade and investment after the global financial crisis is a testament to limits of such arguments, in the current stage of political democracy.

The policymakers' single-minded focus on improving India's ranking in the World Bank's Ease of Doing Business index (mainly by whittling down protective measures for the working poor) seems seriously misplaced as the index has no analytical basis or empirical support. Further, easing of entry of foreign capital even into defence production is completely misplaced when most of the FDI inflow is from private equity firms, which specialise in flipping assets for quick returns, not digging their heels for long-term growth of shared gains.

Unalloyed faith in liberal reforms seems passé (Ostry et al 2016). As Dani Rodrik (2016) said recently,

The new model of globalisation stood priorities on their head, effectively putting democracy to work for the global economy, instead of the other way around. The elimination of barriers to trade and finance became an end in itself, rather than a means toward more fundamental economic and social goals. Societies were asked to subject domestic economies to the whims of global financial markets; sign investment treaties that created special rights for foreign companies; and reduce corporate and top income taxes to attract footloose corporations.

With global economic recession continuing after eight years of the financial crisis, and its political fallout in terms of Brexit, or ultra nationalism in the US, and the proposed scrapping of the Trans-Pacific Partnership by the US seem clear signals of the current limits to globalism. Considering the current global political and economic uncertainties, it would be prudent to pause and reflect on the liberal model. There is perhaps a need to revitalise the idea of the development state for retaking the initiatives for industrialisation.

Such a vision should not be misconstrued as a plea for a reversal to uncritical infant industry protection or complete delinking from international trade and capital flows. Surely, with rising agriculture productivity and structural transformation, industrial growth will have to turn increasingly to exports for sustaining domestic growth. Yet, for a large economy like India—to paraphrase Arthur Lewis—exports will have to be the efficient lubricant for the large domestic economy, especially to meet energy import needs. It calls for strategic integration with the global economy and reinventing industrial policy keeping in view the long-term national goals.

The structuralist economic view of India's long-term constraints, as low agriculture productivity (compared to the global average), poor public infrastructure and extreme

energy import dependence, seem to hold considerable value to this date. So, at a macroeconomic level, such a view would call for state intervention to step up domestic savings and public investment, and insulate the domestic economy from short-term volatility emanating from the global economy.

We probably need to identify industries and products in which imports are succeeding on account of easy credit, and those which require productivity improvement. There is apparently a need for reconfiguring a strategy for capital goods development (in items like information and communications technology hardware or in solar energy), in which India has become seriously import-dependent, undermining the strategic national interests. This is not, however, a plea for blanket import substitution, and export pessimism, but for infusing technological

dynamism to recapture the domestic market and the dynamic comparative advantage in trade. Capital and technology import should be accompanied with commitments for R&D investment.

There is a need to reimagine the role of domestic financial institutions to provide long-term credit for capital intensive industries, infrastructure and exports; along the lines advocated (separately) by Robert Skidelsky and Adair Turner in the current global context. These measures necessarily have fiscal counterparts, which need to be addressed by revisiting fiscal rules.

Similarly, domestic R&D, expenditure which has barely inched up during the reforms as a share of the GDP—compared to China, which tripled the ratio—needs to be seriously viewed and corrected if our present political dispensation is serious of realising its dream of techno-nationalism.

NOTES

- 1 Unless otherwise mentioned, all figures are at constant prices.
- 2 This is different from the earlier experience of the 1980s when India's annual economic growth (as also that of China) accelerated to around 5.5%, while much of the global economy got mired in the debt crisis—known as the lost decade of development—after Mexico defaulted on its international payments.
- 3 The index of industrial production (IIP) is a leading indicator of physical output with minimum lag, whereas the annual survey of industries (ASI) is largely based on the annual census of production accounts of large factories, with data available with a two-year lag. Usually, the ASI output growth estimates are higher than the IIP-based estimates. The gap between the two output series tends to diverge after about five years from the base year of the IIP.
- 4 For a detailed analytical account of this phase, see Nagaraj (2003).
- 5 Considering the uncertain data quality, we would restrict the analysis up to 2014.
- 6 For a detailed economic analysis of this period, see Nagaraj (2013).
- 7 For the details of the arguments reported in this section, see Nagaraj (2011) for a critical review of industrial performance until the boom of 2008.
- 8 The surge in initial public offerings (IPO) in 2016 seems to be a case in point. Indian companies have mobilised close to \$3 billion (₹19,379 crore) during January–September 2016, the highest since 2007. Yet, it does not seem to be for augmenting fixed capital formation, but for enabling PEs, which invested during the boom in the last decade to cash out their profits, or dilute promoters' equity holding to pay off PE investors, see Aarati Krishnan (2016).
- 9 As official data on FDI inflows are not available by type of institution, we have relied on non-official sources.
- 10 For a careful account of how the changes in the policy-affected industrial growth and capability, see Chaudhuri (2013, 2015).
- 11 China's entry into the World Trade Organization (WTO) seems instructive. It carefully negotiated its terms of entry, timed the entry well to take advantage of the global market for its labour-intensive goods at an undervalued exchange rate, and defended the rate for well over a decade to flood the world with its cheap manufacturing. In the process, China, strategically, was able to convert its surplus labour into trade surplus, to gain immense advantage in global financial markets.
- 12 "Industry has been ruined by FTAs," says Baba Kalyani, Chairman of Bharat Forge, and Kalyani group of companies with a turnover of \$2.5 billion, specialising in automotive forging, supplying to major OE manufacturers worldwide. He said in an interview, "Industry has been ruined by FTAs ... because of the FTA, due to which companies come and set up plants here,

they don't manufacture anything, they just assemble" (Bhagat 2014).

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