6

Industrial Performance, 1991–2008

A Review*

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INTRODUCTION

In 1990–1, industry (manufacturing) contributed 26 per cent of India's gross domestic product (GDP) (15 per cent), employing 15 per cent (12 per cent) of the workforce and using 39 per cent (24 per cent) of the economy's net renewable capital stock.[1] In the 1980s, industry was the economy's 'leading' sector, growing annually at over 6 per cent, while the domestic output grew annually at around 5.5 per cent and exports (two-third of which were manufactures) at 8.5 per cent (in current dollar terms). The decade witnessed modernization of the production structure with a step up in infrastructure, de-licensing of investment and output controls, and a shift in trade policy from quotas to tariff. However, in 1991, the economy faced a liquidity crisis on account of (a) the Gulf war (leading to the drying up of inward remittances and project exports), (b) collapse of the Soviet Union (then India's largest trading partner), and (c) the domestic political uncertainty, paralysing policymaking.

Encouraged by the industrial and export boom of the 1980s, the orthodox economic reforms initiated in 1991 sought to (i) make a bonfire of the remaining output and investment controls that are said to have throttled private initiative; (ii) cut back public investment as it is believed to have 'crowded out' private investment; (iii) undermine the protective and promotional measures for small-scale industries that are claimed to have bred inefficiency and failed to expand labour-intensive manufactures; and (iv) sell minority equity holding in public sector enterprises (called 'disinvestments') to reduce government's fiscal deficit. Policymakers apparently perceived an opportunity in the crisis to quickly undo India's state-led, inward-oriented industrialization strategy, as it is claimed to have delivered neither adequate growth nor measurable equity—unlike in East Asia and China that have succeeded in export-oriented industrialization following market-friendly policies.

Surely, disenchantment with the regulatory mechanism in India had been growing for quite a while. Starting with R.K. Hazari's evaluation of the industrial licensing system in the mid-1960s to the Dagli Committee report (1979) on controls and subsidies in the late 1970s, there were compelling official evidence against the dysfunctional and discretionary policies, buttressing the critique of India's industrialization strategy, starting with Bhagwati and Desai's (1970) contribution.

There was, however, an equally persuasive scepticism of the virtues of unbridled play of market forces in a large, diverse, and unequal agrarian economy. Liberal trade and

* I am grateful to K.L. Krishna, K.V. Ramaswamy, and C. Veeramani for their comments and suggestions on an earlier draft of the chapter.

[1] Industry includes mining, manufacturing, electricity, gas and water, and construction. Unless otherwise mentioned, all growth rates reported in this chapter are at constant prices, estimated using long-linear trend equation.

investment regime could be a recipe for a flood of imports, decimating domestic enterprise and retrenching workers; domination of foreign capital resulting in de-industrialization, compelling the nation to revert to exporting primary products that face cyclical fluctuations and adverse terms of trade in the long run. Serious apprehensions were also expressed that the reforms could undermine the domestic market–driven independent path of industrialization, denting the long-term growth prospects—as had happened in much of Latin America and Africa after the debt crisis in the 1980s. In other words, while the market-oriented reforms were espoused on the promise of faster and labour-intensive (hence equitable) growth, critics feared debt, deflation, and de-industrialization.

After nearly two decades of the reforms, it is perhaps an opportune moment to ask: how does the industrial performance measure up against these expectations and apprehensions? This chapter offers a brief answer, mostly using the official aggregate statistics. Excluding the introduction and conclusion, the chapter has three sections: the next section describes the industrial performance. The section that follows it makes a critical assessment of the competing perspectives on the reforms, and the section thereafter outlines possible policy options.

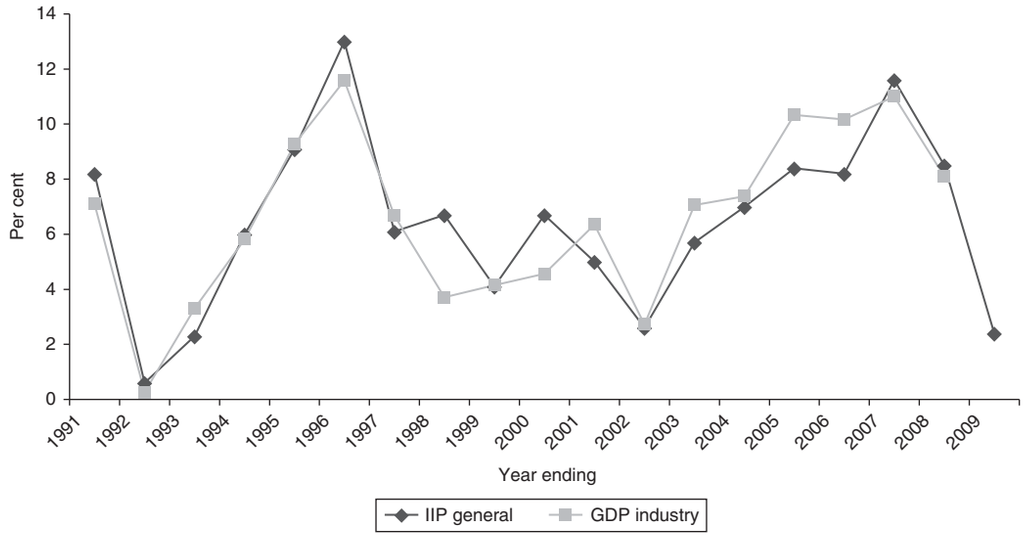
INDUSTRIAL PERFORMANCE AFTER 1991–2

Figure 6.1 plots the annual growth rates in industrial output as measured by (i) the index of industrial production (IIP) and (ii) GDP in industry since 1990–1; both the indices show the same trend. After an expected dip in 1991–2 on account of the crisis and adjustment, output boomed for four years, peaking in 1995–6 at 13 per cent—following the predicted 'J' curve, vindicating the reform stance. For a variety of reasons, however, the boom petered out quickly, followed by a steep deceleration for seven years until 2002–3. The next boom lasted for five years, from 2003–4 to 2007–8.

So, the average of annual growth rate over the 17-year period since 1991–2 is 6.6 per cent. During this period, consumer durables grew the fastest at 8.1 per cent per year (weight in the index in 1993–4, 2.6 per cent), followed by capital goods at 7.4 per cent per year (weight 16.4 per cent) (Table 6.1). By two-digit industry groups, beverages (National Industrial Classification [NIC 22]) recorded the fastest growth at 12 per cent per year (Table 6.2). However, capital goods, hurt by the sharp reduction in tariffs, stagnated during the first boom but bloomed in the next one, growing annually at nearly 15 per cent during 2003–8, led by automobiles (NIC 37).

How does the industrial growth after the reforms reported earlier compare with the 1980s? Table 6.3 reports the trend growth rates for two-digit industry groups for total manufacturing GDP using the National Accounts Statistics. In the aggregate, there is hardly any difference in growth rate in the two periods. However, machinery manufacturing (NIC 31 and 32) grew faster in the 1980s at 12.7 per cent per year, while transport equipment fared better after the reforms of 1991.

How does the forgoing performance measure up against the alternative perspectives discussed earlier? In spite of the dismantling of the much criticized 'permit licence raj', industrial growth rate has not accelerated, nor has the growth rate of labour-intensive consumer goods gone up; but there has been no de-industrialization either, as the critics feared: the



Source: *Economic Survey* and *National Accounts Statistics*, various issues.

Figure 6.1 Industrial Growth, 1991–2009

Table 6.1 Industrial Output Growth, 1991–2 to 2007–8 (Average of annual growth rates)

	IIP General	IIP-Manufacturing	Use-based Classification of IIP				Consumer Goods	
			Basic	Capital	Intermediate	Consumer Goods	CDs	CNDs
1992–6	6.2	6.1	7.8	0.3	8.0	12.8	7.3	3.7
1997–2002	5.2	5.6	3.9	5.8	6.2	5.6	9.6	4.3
2003–8	8.2	8.9	6.5	14.8	6.6	9.0	7.2	9.7
1992–2008	**6.6**	**6.9**	**5.9**	**7.4**	**6.8**	**7.7**	**8.1**	**6.0**

Source: *Economic Survey*, various issues.

Note: CDs: Consumer durables; CNDs: Consumer non-durables.

Table 6.2 Industrial Output Growth by Two-Digit Industry Groups, 1991–2 to 2007–8 (Average of annual percentage growth rates)

NIC	Industry Group	1992–6	1997–2002	2003–8	1992–2008
20–21	Food	4.6	2.7	4.5	3.9
22	Beverages	9.2	11.6	14.3	11.9
23	Cotton Textiles	6.8	2.4	4.9	4.6
24	Silk, Wool Textiles	10.7	9.0	4.3	7.8
25	Jute	1.3	−0.2	4.3	1.8
26	Textile Products	0.6	3.8	10.3	5.2
27	Wood	5.0	−4.3	7.2	2.5
28	Paper	7.4	5.4	7.3	6.6
29	Leather	1.2	8.3	1.2	3.7
30	Rubber	3.4	6.7	6.4	5.6
31	Chemicals	6.6	8.0	9.2	8.0
32	Non-metallic Minerals	8.9	9.0	6.6	8.1
33	Basic Metals	13.6	3.0	12.4	9.4
34	Metal Products	−2.2	6.4	3.4	2.8
35–36	Electrical and Non-electric machinery	3.0	6.4	12.1	7.4
37	Transport Equipment	8.0	7.6	11.0	8.9
38	Other Manufacturing	3.5	4.8	13.2	7.4
2–3	**Manufacturing**	**6.1**	**5.6**	**8.9**	**6.9**

Source: *Economic Survey*, various issues.

Table 6.3 Comparing Industrial Growth: 1981–91 and 1992–2008

NIC-98	Industry Description	Growth Rate	
		1981–91	1992–2008
151–154	Food Products	6.6	5.2
155+16	Beverages and Tobacco	4.4	8
171–173+181+014505	Textiles	4.6	5.2
182+19	Leather and Fur	3.4	4.4
20+361	Wood	−2.7	−1.5
21+22	Paper and Printing	9.1	3.9
23+25	Rubber and Petroleum	13.6	5.8
24	Chemicals	9.3	8.3

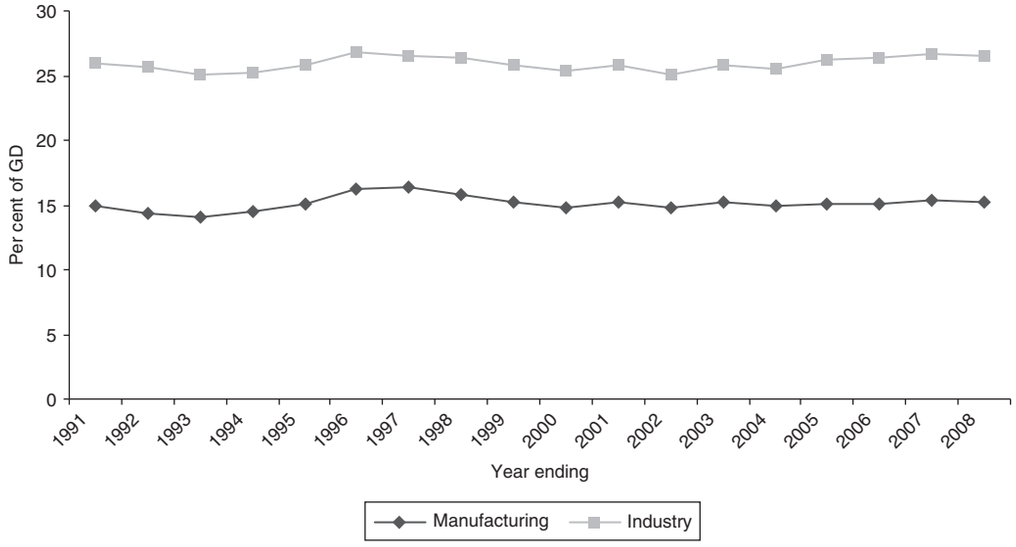
Table 6.3 *Continued*

NIC-98	Industry Description	Growth Rate	
		1981–91	1992–2008
26	Non-metallic Mineral Products	8.7	7.3
271+272+2731+2732	Basic Metals	5.8	7.9
28+29+30	Metal Products and Machinery	6	5.6
31+32	Electric Machinery	12.7	10.3
33+369	Other Manufacturing	10.6	8.5
34+35	Transport Equipment	5.5	8.6
	GDP manufacturing	**6.3**	**6.5**

Source: *Economic Survey*, various issues.

shares of industrial employment and output in the total have not declined (as had happened in Latin America and Africa after the debt crisis in the 1980s) (Figure 6.2 and Table 6.4). The structural transformation of workforce has continued at the same pace after the reforms, though the workforce has gone into the services, not manufacturing (Table 6.4). Within industry, the incremental workforce has gone into construction (not shown here). Measured by investment, the reforms were not a setback for industrialization, as the manufacturing sector's share in total fixed investment has gone up from around 27 per cent in the 1980s to about 40 per cent in the current decade (Figure 6.3).

The proponents and the critics of the reforms alike expected the share of capital goods in output and



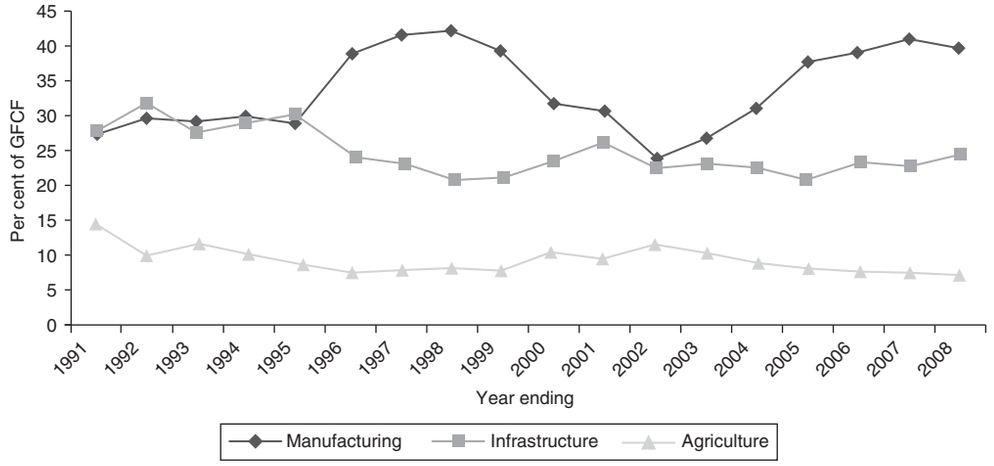
Source: *National Accounts Statistics*, various issues.

Figure 6.2 Shares of Industry and Manufacturing in GDP

Table 6.4 Employment and Output Share of Principal Sectors, 1983 to 2004–5 (per cent)

	Employment			GDP		
	1983	1993–4	2004–5	1983	1993–4	2004–5
1. Agriculture	68.5	64.0	56.5	37.1	30.0	20.2
2. Industry	13.8	15.0	18.7	24.3	25.2	26.2
2.1 Manufacturing	10.7	10.6	12.2	14.5	14.5	15.1
3. Services	17.6	21.1	24.8	38.6	44.8	53.6

Sources: *National Accounts Statistics*, various issues; NSS *Employment and Unemployment Surveys*, various rounds.



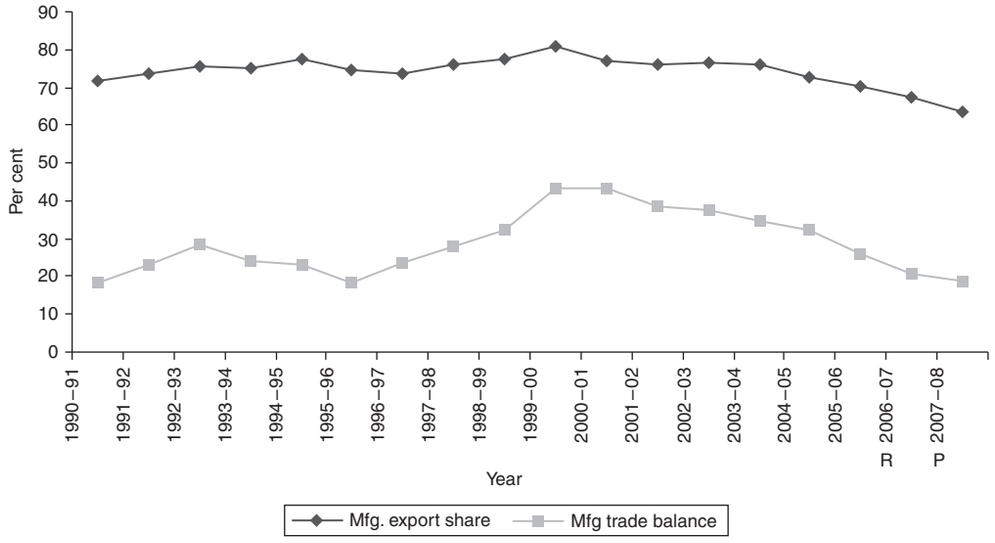
Source: *National Accounts Statistics*, various issues.

Figure 6.3 Investment Shares, 1991–2008

investment to fall, as it was considered emblematic of the state-led import substitution industrialization. But its growth rate went up modestly after the reforms (mainly automobiles in the current decade).

India's export basket has got diversified after the reforms, mainly into services—surprising the proponents and critics of the reforms alike. This is perhaps an unintended outcome of the India's sustained investments in capital goods and high-technology industries made earlier on, along with the nurturing of scientific and technical education. However, within merchandise exports, the share of manufactures has fallen from 80 per cent in the 1990s in to 64 per cent in 2007–8 as primary exports (mainly iron ore) also boomed in the current decade.

While the foregoing account represents a broad picture of continuity with change, on a closer look, there are some causes of concern. While there is no de-industrialization, industry or manufacturing sector's share in domestic output has practically stagnated and its export share has declined; by implication, primary sector's shares in merchandise exports has risen (Figures 6.2 and 6.4). Arguably, the rising share of primary exports is almost entirely due to iron ore exports to China (propelled largely by the Beijing Olympics–related construction), as India rode the commodity boom, perhaps out of the necessity to finance burgeoning petroleum imports. This was perhaps avoidable, if the much-anticipated expansion of labour-intensive manufacturing was realized.



Source: *Economic Survey* and *National Accounts Statistics*, various issues.

Figure 6.4 India's Trade balance, 1991–2008

Why did manufacturing sector's share in total employment stagnate, despite a respectable trend growth of over 6.5 per cent per year? Prima facie, it represents the failure of the reforms to promote labour-intensive manufacturing in spite of doing away with the import substitution bias in the industrial policy. Partly, growing capital intensity of production in general perhaps explains the employment stagnation, as it has become much easier to import the latest labour-saving equipment in an open trade regime with modest tariffs (if any).

There could, however, be some deeper structural reasons as well, with increasing sub-contracting (outsourcing) of manufacture of parts and auxiliary services to the unorganized sector, and forging of close supply-chain networks. Such an organization of production is quite the opposite of the vertically integrated production structures that were common in the early years of industrialization. After the reforms, with increased competitive pressure, under the liberalized rules of resource use, and with lax enforcement of labour laws, firms have apparently restructured their production processes by shedding labour. Conceivably, some of the employment lost in the organized sector would have reappeared in the unorganized sector, though no direct evidence for it is available.[2] Therefore, while the stagnation of the industrial employment share is a cause for concern, it perhaps represents an outcome of the changing market conditions, organization of production, and technology in an open labour-surplus economy.

Thus, what emerges from the foregoing (mainly) statistical account is a nuanced picture of industrial change. While India has managed to averted de-industrialization, its output growth rate has not accelerated. Manufacturing sector's share in GDP has stagnated; its share in merchandise exports has declined in favour of primary products—perhaps suggesting signs of weaknesses of the domestic capability, as the critics of the reforms have contended. Yet, the sustained growth in output and exports, and a rising share in the economy's fixed investment are reassuring that the reforms have not damaged, in any essential sense, India's industrialization prospects.

Other Aspects of Industrial Change

The reforms have increased the effective competition in the domestic market with easier imports and entry of new firms, though it would be hard to quantify these effects.[3] Perhaps, for the first time, there is a buyers' market in industrial goods, with improved quality, variety, and after-sales service—as evident from the decline in the relative price of capital goods, making fixed investment more productive. The flip side of it is the rising import intensity of production: import share in manufacturing (economy) went up from 12.9 per cent (10.5 per cent) in 1993–4 to 16.8 per cent (12.6 per cent) in 1998–9—reversing the declining trend up the 1980s (Bhat et al. 2007).

Arguably, increased import competition, especially in capital goods, would have enhanced productivity. Yet, the evidence of its impact on total factor productivity growth is not conclusive, though labour productivity has climbed steadily (Balakrishnan et al. 2000).

With the reduction in the entry barriers for foreign-owned firms, their share in manufacturing GDP has gone up from 5 per cent in 1991 to about 8 per cent in 2007—probably an underestimate.[4] With the decline in public investment, the share of public sector enterprises in total manufacturing GDP has halved to 8 per cent between 1991 and 2008 (Figure 6.5).

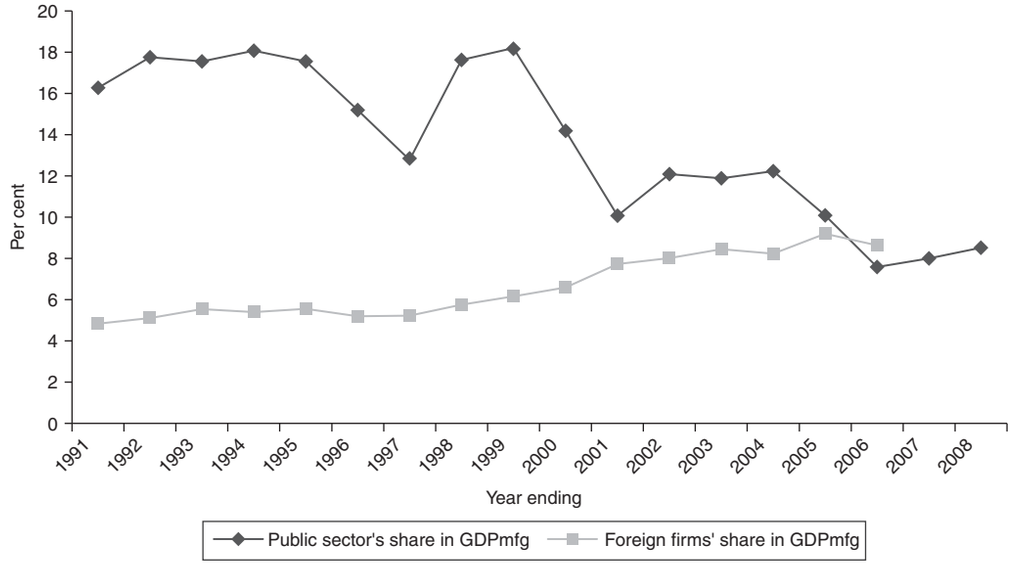
In the 1990s, the manufacturing sector underwent painful restructuring—plant closures, sell offs of productive assets and relocations, and unprecedented lay offs and retrenchments—that is yet to be adequately documented. In the end, however, it has apparently improved production efficiency to face the increased competition, especially from China. Although research and development (R&D) investments have contracted as a proportion of the domestic output, the restructuring and competitive pressure seem to have spurred innovation and product development—perhaps best exemplified by Tata Indica, followed more recently by Tata Nano, making India the sixth country in the world to design and manufacture passenger cars domestically—a sure sign of industrial maturity (Mani 2009).[5]

[2] Such a shift, in principle, should lead to a more than proportionate rise in employment, given higher labour intensity in the unorganized sector. But as the length of the working day is generally more and intensity of supervision greater, such an employment expansion may not materialize.

[3] Desai (1985) had shown that most Indian industries were competitive, with a small number of firms having dominant market shares but a large number of firms with marginal market shares. In such a situation, entry of a few foreign firms may not alter the usual measures of concentration, but the effectiveness of competition is likely to have gone up.

[4] Value added in manufacturing by foreign-owned firms is based on the estimates of the Centre for Monitoring Indian Economy (CMIE). This is probably an underestimate as much of the recent entry of foreign firms into India is in the form of private limited companies, branch plants, and offices whose legal status does not warrant full disclosure of their operations, which makes it hard to get their balance sheets and estimate their value addition.

[5] Ashok Parthasarathy, a careful observer of industrial technology, recently stated, 'If we are talking of "technological innovation", I would put India ahead of both China and Brazil' (Parthasarathy 2009).



Source: *National Accounts Statistics*; *Corporate Sector*, CMIE, various issues.

Figure 6.5 Public sector's and foreign films' share in GDPmfg

The growing strength and stature of Indian industry and enterprise are also evident from their ability to acquire and manage factories and firms in developed economies in relatively advanced manufacturing industries. For instance, Tata group's exports apparently account for 15–20 per cent of its sales, and (as per the group's website)[6] it earned 61 per cent of its annual revenue from international operations. Moreover, the growing outward foreign direct investment (FDI) by large private Indian firms in the recent boom, estimated at $17.6 billion cumulative stock as in 2008 (UN 2009)—to leverage their domestic manufacturing capability and use it as a short-cut to acquire technology—is yet another testimony of the coming of age of Indian business (Nagaraj 2006a; Nayyar 2008).

WHY DID THE REFORMS FAIL TO DELIVER THE EXPECTED RESULTS?

Yet, the principal question remains unanswered: why did the speeding up of the reforms after 1991 not yield faster output, employment, and labour-intensive growth? The protagonists would contend that the reforms have remained incomplete, with the persistence of the labour market rigidities (lack of entrepreneurial freedom to hire and fire workers at will), infrastructure bottlenecks, and incomplete financial integration, including full convertibility of the currency (Kocchar et al. 2006; Panagariya 2008; Krueger 2009, among others).

Based on cross-country analysis, Kocchar et al. argue that India has followed idiosyncratic policies in promoting skill-intensive industries, discouraging labour-intensive manufactures—a pattern that has not changed after the reforms because of the labour market rigidities. These scholars also contend that on an average Indian firms tend to be small because workers cannot be fired, preventing them from reaping the advantages of economies of scale in production. But, since skilled workers and professionals are outside the purview of trade unions, India has specialized in skill-intensive industries.

Following I.M.D. Little (1987), Anne Krueger (2009), on the other hand, has argued the opposite: industrial productivity is low in India because of the dominance of large-sized factories in manufacturing industries, representing vestiges of inward-looking state-dominated industrialization. Krueger believes that Indian factories are either too large (employing 1,000 or more workers) or too small (less than 10 workers, in the unregistered sector), both of which are said to be inefficient, while the middle-sized factories (100–500) are the most efficient. She has also identified poor agricultural productivity growth, inadequate infrastructure, and labour market rigidities as the other reasons for poor industrial growth.

What then are the facts of the matter? The average factory size in registered manufacturing in 2004–5 was 35 workers per factory, declining steadily over the last half century from over 140 workers (Nagaraj 1985). Krueger's observation was correct for the 1950s but not any more, with the growth of factories in the intermediate-sized classes. At the other end of the scale, household manufacturing has become marginal with the expansion of smaller-sized workshops and factories. These are long-term trends of industrial change, unaffected by the reforms.

[6] http://www.tata.co.in (accessed on 14 October 2009)

But looking closely at the product level, India surely has many large-sized, international standard factories. For instance, the world's largest bicycle factory (Hero cycles), largest motorcycle plant (Hero Honda), and the second largest petroleum refinery (Reliance refinery in Jamnagar) are all here. However, at the two-digit industry groups, India has a long tailed distribution of firms that makes the average size small (Desai 1985). But this in itself need not be a sign of inefficiency, if there exist dense intra-industry transactions between large and small firms. Therefore, the relationship between size and efficiency can be ambiguous in principle and practice, as it could depend on a number of other factors like financial structure and aspects of industrial organization (Tybout 2000). Thus, without further probing, the argument that the size structure of factories in India is per se inimical to efficiency is perhaps difficult to sustain.

The contention that large factories in consumer goods industries in China (like textile weaving or knitting) represent efficient production scale is debatable. Historically, in light manufactures, the average factory size usually tended to be small, with dense inter-firm relationship in small geographical locations. For example, in Japan in early twentieth century, or in Taiwan more recently, a lot of light manufactures were produced in small and household enterprises, but were sold world over by large trading houses (especially the Japanese *Sogo-Soshos*), which provided them with credit, technical assistance, and marketing expertise. Such an industrial organization is predicated on reasonably well-functioning product and credit markets.

But in China, perhaps because of inadequate development of these market-based relationships, firms have often sought to internalize their functions in vertically integrated plants. So, the large-sized factories in China are probably not a sign of a superior or more efficient production organization but perhaps a symptom of its weakness (Nagaraj 2007b). Therefore, to hold up China as the model to follow and to find fault with India on this count is perhaps an incorrect reading of the comparative experience.

Labour Market Rigidity Hypothesis

The reformists believe that India's labour laws are the most protective of the organized labour, which makes firing of workers almost impossible, rendering labour a quasi-fixed capital, leading to substitution of capital for labour, yielding little employment growth. Such a reading of the labour law is perhaps facile as it overlooks the 'fine print' of exemptions and loopholes that are built into them. By now, there is abundant evidence to question such a simplistic view.[7] Perhaps it is suffice to present the telling evidence that between 1987 and 2004, 1.3 million workers, or 1 in 6 workers in registered manufacturing, lost their jobs without a murmur of protest or industrial unrest (Nagaraj 2004). Moreover, in the current economic crisis (since 2008), the labour ministry's quick surveys reported on its website show that during the last financial year (2008–9) 3.7 lakh workers lost their jobs, mostly in export-oriented textiles and gems and jewellery industries—an ample testimony to the fallacy of the labour market rigidity hypothesis, at least in the aggregate.[8]

Infrastructure Bottlenecks

That infrastructure bottlenecks are throttling industrial progress is undisputed. But on how to overcome them and why the progress is so meagre despite much official rhetoric, there can be widely differing diagnoses and prescriptions. Until 1991, public sector provided much of the infrastructure, as in most industrializing economies. But its poor supply was often blamed on lack of resources, enormous cost and time overruns in project completion, and poor public management in general.

Attributing these problems to public ownership, the reforms have encouraged entry of private and foreign capital in these industries. Infrastructure services, by definition, have a long gestation period and are capital intensive, with low rates of return spread over a long period. They are often networked industries, where efficiency of an individual plant or a firm depends on the performance of the entire network, and financial returns depend on output pricing, which are public policy decisions. In such industries, foreign investment is fraught with risk, as evidence world over can testify (Wells and Gleason 1995). Closer home, the nation has paid dearly for the misadventures like the Enron's Dabhol power project, but policymakers seem to have learnt few lessons from it (Mehta 1999).[9]

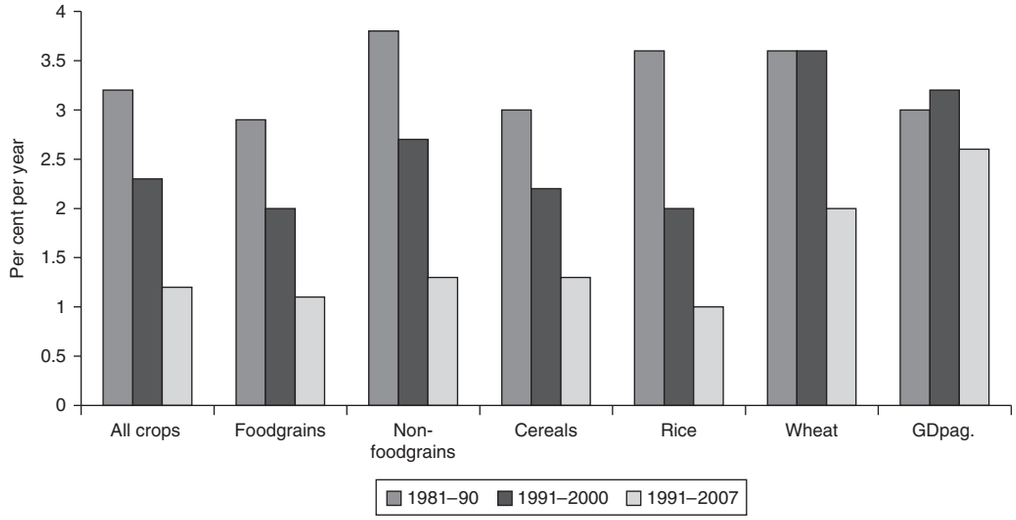
WHAT SHOULD BE DONE NOW?

If the foregoing critique is valid, what then is the alternative? The reforms implicitly assume that the policy-induced restrictions on supply are holding back output growth.

[7] For a review of the relevant literature, see Bhattacharjea (2006) and Nagaraj (2007a).

[8] As the job losses reported seem to refer only to the organized sector, they could be much higher in the unorganized sector, which accounts for an increasingly larger share of consumer goods and labour-intensive exports.

[9] During the first United Progressive Alliance (UPA) government (2004–9), there were serious shortfalls in the targets for additions to electricity-generating capacity and road construction (after a reasonably successful record in laying the Golden quadrilateral in the preceding five years), despite the much advertised 'Bharat Nirman' programme. Why? One suspects that this was because of the policy of public–private partnership, of introduction of private partners, and development of private markets.



Source: *Economic Survey*, various issues.

Figure 6.6 Trends in Agriculture Production, 1981–2007

Surely, there is some truth in this, as industrial regulation had degenerated into an inefficient and dysfunctional system. But were these the binding constraints on long-term growth, as the reformists claim? Probably not.

The reforms, in our view, failed to deliver because they ignored the demand factors. Careful analytical work and econometric evidence have suggested that long-term industrial growth in India is constrained by supply as well as demand factors, which, it seems, runs on the twin engines of public investment and agriculture productivity (Chakravarty 1979; Storm 1993). Moreover, in a large agrarian economy, public investment removes constraints on productivity growth in agriculture, creating demand for industrial goods—a crucial insight that the writings on the reforms have inadequately appreciated—a view also endorsed by Krueger (2009). Surely, the creative function of competitive industrial structure is to spur efficiency, but it need not necessarily translate into faster and labour-intensive growth, as argued in the mainstream economic literature. As the experience of the 1980s has demonstrated, gradual deregulation of industrial markets, along with stepping up of public infrastructure investment and rising agriculture productivity perhaps provided the right demand and supply conditions for industrial turnaround.

Arthur Lewis famously said that if a nation wants to industrialize, it should enrich its farmers. But farmers have got impoverished after the reforms as the growth rate of crop production has decelerated (Figure 6.6). This seems to get reflected in the widespread phenomenon of farmers committing suicide (under debt burden), which is not just a crisis of production but also a serious humanitarian problem. The agrarian distress has also manifested itself in a political crisis, fuelling rural violence, as evident from the spread of left-wing radical movements, engulfing nearly one-third of the districts in the country.

Proponents of the reforms would probably contend that agriculture has lost the capacity to absorb labour and, in any case, India is saddled with excess food stocks. Both are probably half-truths, as best. As Table 6.5 shows, India's land productivity in all major crops is a modest fraction of the world average, so the argument that agriculture has little scope for absorbing labour to increase productivity is simply incorrect. As is widely acknowledged, overflowing food stocks are not a measure of food self-sufficiency when a large proportion of the poor cannot demand food for lack of purchasing power. So, the argument that agriculture cannot absorb labour is patently false. If we believe that the pace of workforce transformation depends on agriculture productivity to sustain non-agricultural employment, then poor agricultural growth is surely retarding industrial progress.

The other extreme view—of agrarianism and anti-industrialization mainly emanating from the recent West Bengal experience—that agriculture alone can cure all the ills of unemployment and underemployment is perhaps equally false, as the 'excess' growth of agriculture can choke industrialization via rising wages in the industrial sector and lack of industrial inputs in agriculture.[10] Therefore, what is needed, as Lewis argued long ago, is *balanced*

[10] Political difficulties faced in West Bengal to acquire agriculture land for large industrial projects like Tata Motor's car plant has given rise to intellectual arguments against modern industrialization as a means of long-term economic development.

Table 6.5 International Comparisons of Yield in Selected Commodities in 2004–5 (Metric tonnes/hectare)

Rice/Paddy	Yield	Wheat	Yield	Maize	Yield
Egypt	9.8	China	4.3	USA	9.2
India	*2.9*	France	7.6	France	7.6
Japan	6.4	*India*	*2.7*	*India*	*1.2*
Myanmar	2.4	Iran	2.1	Germany	6.7
Korea	6.7	Pakistan	2.4	Philippines	2.1
Thailand	2.6	UK	7.8	China	4.9
USA	7.8	Australia	1.6		
World	**3.96**	**World**	**2.9**	**World**	**3.38**
Cotton	Yield	Major Oilseeds			
China	11.1	Argentina	2.5		
USA	9.6	Brazil	2.5		
Uzbekistan	8.0	China	2.1		
India	*4.6*	*India*	*0.9*		
Brazil	11.0	Germany	4.1		
Pakistan	7.6	USA	2.6		
World	**7.3**	**World**	**1.0**		

Source: *Economic Survey*, 2008–9, Ministry of Finance, Government of India, New Delhi.

growth.[11] Surely, rising demand from rural economy can boost industrial output, but unless industry modernizes to augment exports, economy may face external imbalance. Therefore, what is also required after reaching a certain level of economic development, as Kaldor (1967) argued, is growing exports of manufactures to meet finance import requirements. As India has more or less completed import substitution phase, what it now needs to vigorously pursue is export of labour-intensive goods to finance its burgeoning import requirements (especially of oil) to lubricate the engine of domestic market–led growth. This requires modern infrastructure and long-term credit at reasonable interest rates.

But we are now in a peculiar situation: even after steady improvement in the financial performance of public sector enterprises (PSEs) over the last two decades (Nagaraj 2006b), rising tax–GDP ratio, and a steep increase in domestic saving rate (Nagaraj 2008), policymakers continue to favour private sector over public sector in infrastructure development due to fiscal orthodoxy. It is true that in the period after the mid-1960s to 1980, excessive and discretionary regulation stifled private initiative. However, it is equally true that leaving infrastructure to private initiative after the reforms did not lead to faster investment and output growth. Therefore, what is needed, as Hazari (1985) insightfully noted, is a judicious rebalancing between the *babu* and *bania*, to achieve the national goals—a balance needs to be pragmatically re-assessed from time to time.

CONCLUSIONS

Ending the strategic role of the state-led import-substituting industrialization, the two decades of industry and trade policy reforms have dismantled the output and investments controls. Many lines of manufacture have become more competitive with a marginal rise in India's share in world merchandise trade to 1 per cent in 2005 (*Economic Survey*, 2007–08). Quality and variety of goods produced have improved; relative price of capital goods has declined (enhancing the productivity of fixed investment), although the import content in domestic production has risen. The unintended boom in the export of services in information technology and related services can be clearly seen as a consequence of investments early on in heavy industry

[11] To quote Lewis, 'If we assume that the subsistence sector is producing more food, while we escape the Scylla of adverse terms of trade we may be caught by the Charybdis of real wages rising because the subsistence sector is more productive. We escape both Scylla and Charybdis if rising productivity in the subsistence sector is more than off set by improving terms of trade. However, if the subsistence sector is producing food the elasticity of demand for which is less than unity, increase in productivity will be more than off set by reduction in prices' (1954: 174).

and scientific and technical education. A growing number of Indian firms have gained technical expertise to run factories and firms across the globe, leveraging their domestic competence and, in turn, to acquire technology to enhance their domestic capabilities.

Yet, these achievements have not translated into faster and labour-intensive industrial growth or growth in industrial exports, as compared to the 1980s. As a result, the services sector has replaced manufacturing as the economy's leading sector. Though India did not witness de-industrialization, as the critics of the reforms apprehended, industry's share of domestic output and employment has stagnated; its share in merchandise export has declined, with rising exports of primary exports (mainly of iron ore). Why did the reforms fail to deliver a faster and equitable industrial growth? In other words, why did the reforms fail to promote labour-intensive growth and manufactured exports, as in East Asia and China?

Mainstream economists point to the remaining distortions, mainly the alleged rigidities in the labour market, inadequate infrastructure, and the incomplete financial sector reforms. Labour market rigidities hypothesis does not hold water, with over a million manufacturing jobs lost during 1997–2004 and unprecedented job losses during the current downturn, without a murmur of protest.

There is, however, a great unanimity on the need for stepping up infrastructure investment, but not on how to achieve it. With the rising tax revenue and domestic saving as proportions of the domestic output, and with a steady improvement in public sector's physical and financial performance, lack of resources and organization are no longer the binding constraints on augmenting infrastructure. The real stumbling block, therefore, appears to be the policymakers' commitment to (i) fiscal orthodoxy and (ii) encourage private and foreign investment in infrastructure provision. Such persistence to the means rather than the ends seems galling, even in the face of the disaster with Enron's Dabhol power project in the 1990s and worldwide experience in large infrastructure investment.

The principle drawback of the reforms is its exclusive focus on removing supply constraints at the neglect of demand. There is a growing consensus on the need to raise agriculture productivity to find markets for industrial goods, but the view has no serious takers as (i) there are enough buffer stocks to ward off any emergency and to maintain price stability, and (ii) there is a growing belief that agriculture has lost the capacity to absorb labour. Both the arguments are fallacious since the nation's food needs are far from fulfilled (though enough to meet demand) and the agriculture productivity in most crops is only a small fraction of the world average.

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