

## Transforming India

Arvind Panagariya<sup>\*</sup>

---

<sup>\*</sup> The author is Jagdish Bhagwati Professor of Indian Political Economy at Columbia University. This paper has been written for presentation at the conference “India: An Emerging Giant,” October 13-15, 2006 at Columbia university.

## Contents

1	Introduction.....	1
2	Is India Flying: Upswing in the Business Cycle or Higher Trend Growth?.....	3
3	The Problem of Transformation.....	13
4	Trade and Direct Foreign Investment .....	23
5	It is the Domestic Policies, Stupid!.....	26
5.1	Labor Market Rigidities in the Organized Sector .....	30
5.2	Infrastructure.....	36
	Electricity Reform.....	37
	Ports, Airports and Civil Aviation .....	40
	Road Transport.....	42
6	Walking on Two Legs.....	43
7	Concluding Remarks.....	47

## Transforming India

Arvind Panagariya

### 1 Introduction

India has been growing at 6 percent plus rate since the late 1980s. In the last three years, the growth rate at 8 percent has been even higher, approaching the East Asian levels. While skeptics argue that this shift merely represents a strong upswing in the business cycle, optimists see it as representing an upward movement in the trend growth rate. If optimists are right and the 8 percent growth rate is sustained, possibly even accelerated, we can truly begin to see the emergence of a giant economy in India. Even at the 8 percent rate, the economy will double in size in a matter of 9 years.

In this paper, I begin by presenting a cautiously optimistic view of the current growth. Some fundamental changes in the economy do seem to be afoot suggesting that the growth rate may have crossed yet another milestone. As one example, the economy has moved towards integration into the world economy as never before: within the last three years, the ratio of exports of goods and services to the GDP has risen from 14.6 percent to 20.5 percent. Even more remarkable, this increase has taken place with the simultaneous growth in the GDP in current dollars at the rate of 16 percent per annum.

Yet, even as the economy picks up pace and poverty continues to come down, there remain doubts about the transformation of India from a primarily agricultural and rural economy to a modern one in the next two decades. Despite substantial growth and reduced poverty, this transformation has not progressed as far as one would expect based on the experience of the other countries. For example, based on the census data, the proportion of rural population declined from 79 percent in 1991 to only 77 percent in

2001. The share of the farm workers in the total workforce fell more—from 67 percent to 58 percent—but much of this shift is accounted for by the expansion of the informal, unorganized sector employment. Unskilled jobs in the organized sector have simply not grown.

The view I take in the paper is that the main culprit behind this phenomenon is the slow growth of manufacturing in general and of unskilled-labor-intensive manufacturing in particular. Whereas virtually all rapidly growing developing economies such as Korea, Taiwan and China have seen the declining share of agriculture in the GDP replaced by a rising share of manufacturing in the initial stages of development, India has witnessed an entirely stagnant share of manufacturing in the GDP since 1991. The decline in the output share of agriculture has been entirely absorbed by the growing share of services since 1991.

Therefore, the challenge of transformation facing India is that of creating an environment that allows unskilled-labor-intensive manufacturing to grow rapidly and rise as a proportion of the GDP. On one hand, such growth would pull workers from agriculture into gainful employment more rapidly than is the case currently while on the other it will reduce the burden of labor on the land. Wage in agriculture would also rise faster than in the absence of rapid expansion of unskilled-labor-intensive manufacturing.

Some have argued that the transformation to the modern economy need not require a switch to manufacturing. After all, according to the traditional growth pattern, once manufacturing reaches a certain stage, its share does decline and that of services rises. India could simply skip the transitional stage and directly jump to the final stage of specialization in the services sector. The flaw in this argument, however, is that if the

workers are to be employed in the formal-sector services, they must be given college education. But the vast majority of the farm workers that need to be moved into the formal sector of the economy lack even high school level education. Moreover, given the countrywide gross college enrollment ratio (the number of individuals in college as a proportion of the population in the 18 to 24 years age group) of 14 percent and relatively poor prospects for further expansion of higher education, prospects that a large proportion of the population can be imparted college education in the next two decades are extremely poor.

Therefore, if the objective is to achieve significant transformation of the economy within two decades, India must undertake the reforms necessary to allow faster growth of unskilled-labor-intensive manufacturing. The argument developed in this paper is that this requires significant reforms in two areas: labor markets and infrastructure. The paper then goes on to advocate a “walk on two legs” approach whereby India must sustain the current high growth in the information technology sector while improving the prospects for manufacturing.

## **2 Is India Flying: Upswing in the Business Cycle or Higher Trend Growth?**

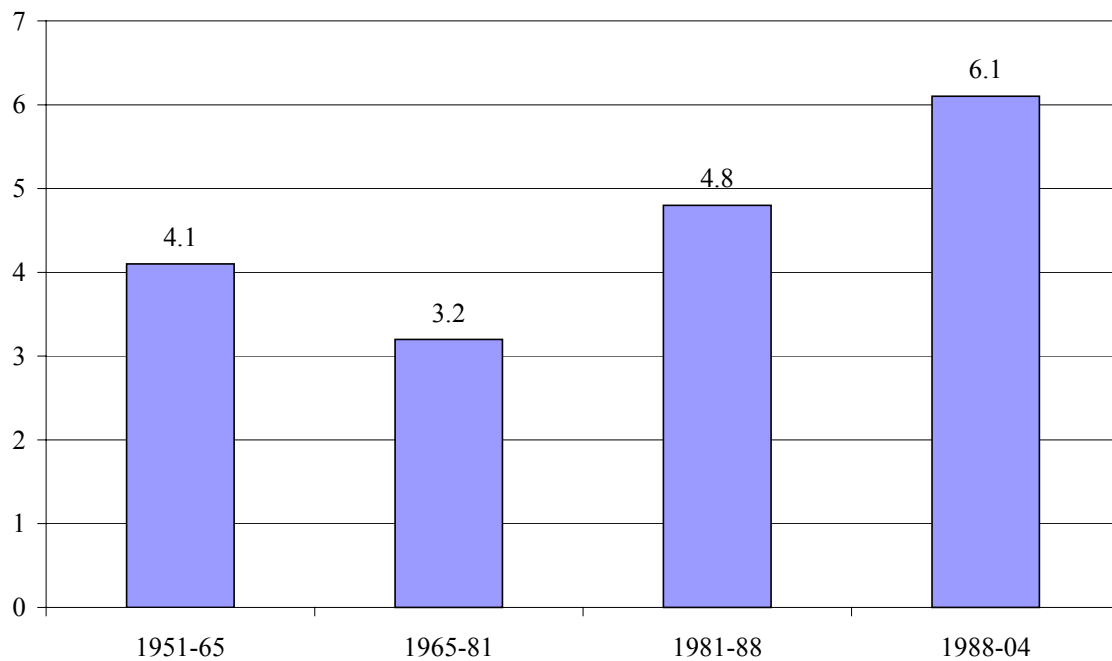
In Panagariya (2007, chapter 1), I argue that the economic performance of the Indian economy between 1951-52 and 2003-04 can be best related to the policies if we divide these 53 years into the following four phases: 1951-65, 1965-81, 1981-88 and 1988-04.<sup>1</sup> While this is not the place to repeat that discussion, the average annual growth rates

---

<sup>1</sup> India’s fiscal year begins on April 1 and ends on March 31. Accordingly, a year such as 1951-52 refers to the period from April 1, 1951 to March 31, 1952. Unless otherwise specified, throughout the paper, an expression such as 1951-65 refers to the period beginning with 1951-52 and ending with 1964-65.

during these four phases, shown in Figure 1, provide a useful starting point for this paper. The figure shows that during the first two phases spanning 1951-81, India grew at what has come to be called the “Hindu” rate of growth of 3 to 4 percent. Growth rate shifted to 4.8 percent in the third phase spanning 1981-88 and to 6.1 percent in the fourth phase.

Figure 1: Growth Rates During Four Phases

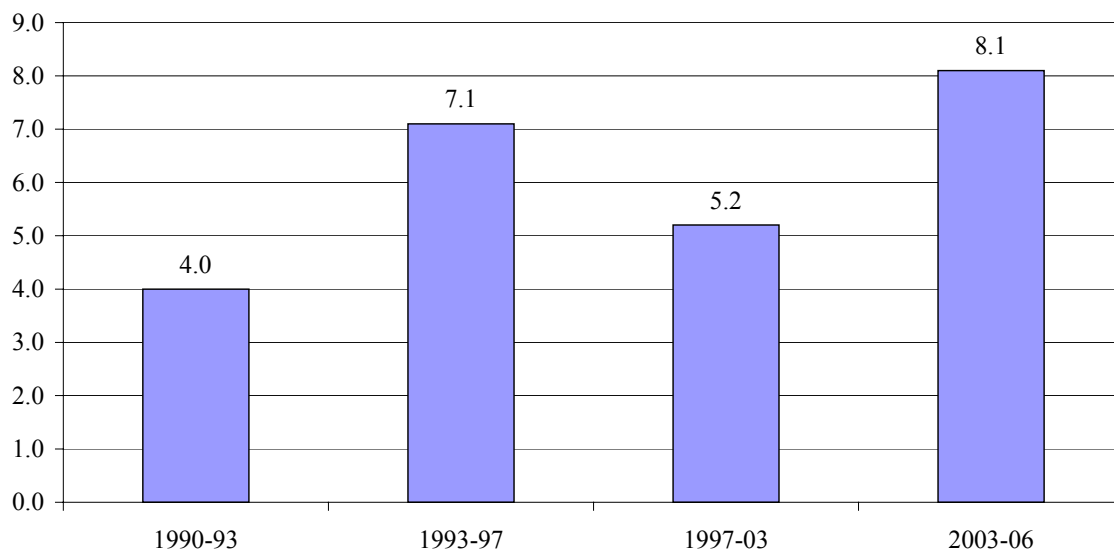


There are now indications that the trend growth rate in India may be shifting upward yet again. During the last three years, 2003-04 to 2005-06, the GDP at factor cost has been growing at the impressive rate of 8.1 percent. While it is too early to tell conclusively whether this shift represents an especially strong upswing in the business cycle or a jump in the long-term trend growth rate, on balance, evidence favors the latter hypothesis.

Before I explain the reasoning behind this assertion, it is useful to first consider why the change may merely represent an upswing in the business cycle. Therefore, consider Figure 2, which divides the period 1990-06 into four sub-periods with high and low

growth rates. Growth rate during 1990-93 was 4 percent. It rose to 7.1 percent during 1993-97 but fell again to 5.2 percent during 1997-03. Starting with 2003-04, growth rate has risen once again reaching the high average rate of 8.1 percent. It is not unreasonable to speculate that the rise is temporary and that the growth rate will drop yet again to 5 to 6 percent in a year or two.

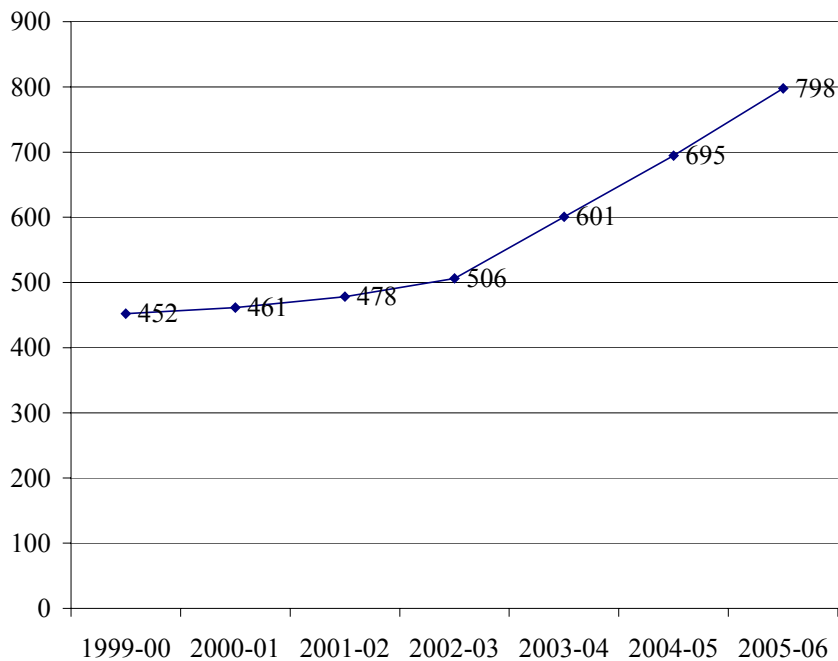
Figure 2: GDP Growth: Business cycle effect or a fundamental shift in the growth rate?



But evidence offers a more compelling case for the possibility that this growth rate would be sustained over a much longer period of time. In the last three years, the economy has produced some spectacular successes not witnessed in the empirically recorded history of India—successes that almost rival the performance of the Chinese economy. In turn, these successes are bringing fundamental changes in the initial conditions that are likely to help the economy sustain the current growth rate. As an aside, these successes also raise doubts about the fears expressed by some observers that the high growth rate may largely reflect rising error in the measurement of services that account for a disproportionately large and rising part of the GDP. Evidence from some

sectors that we are able to measure with reasonable accuracy points to very strong growth impulses in the economy.

Figure 3: Dramatic 16.4% annual growth in the GDP in current dollars during 2003-06 (\$billion)



But consider first the GDP in current dollars at the market exchange rate to bring out a dramatic aspect of the current growth. The GDP in current dollars is obtained by dividing the GDP at current consumer goods prices in rupees by the exchange rate. Because the GDP in current rupees has risen at extremely high rates and the value of the rupee in dollars has also risen 9.3 percent during the last three years, the GDP in current dollars has shown growth not seen before.<sup>2</sup> As Figure 3 shows, the GDP rose from \$506 billion in 2002-03 to \$798 billion in 2005-06. This represents a 58 percent growth. The annual growth rate of the GDP in current dollars during 2003-06 turns out to be a whopping 16.4 percent. Allowing for 3 percent inflation in the U.S., this works out to a

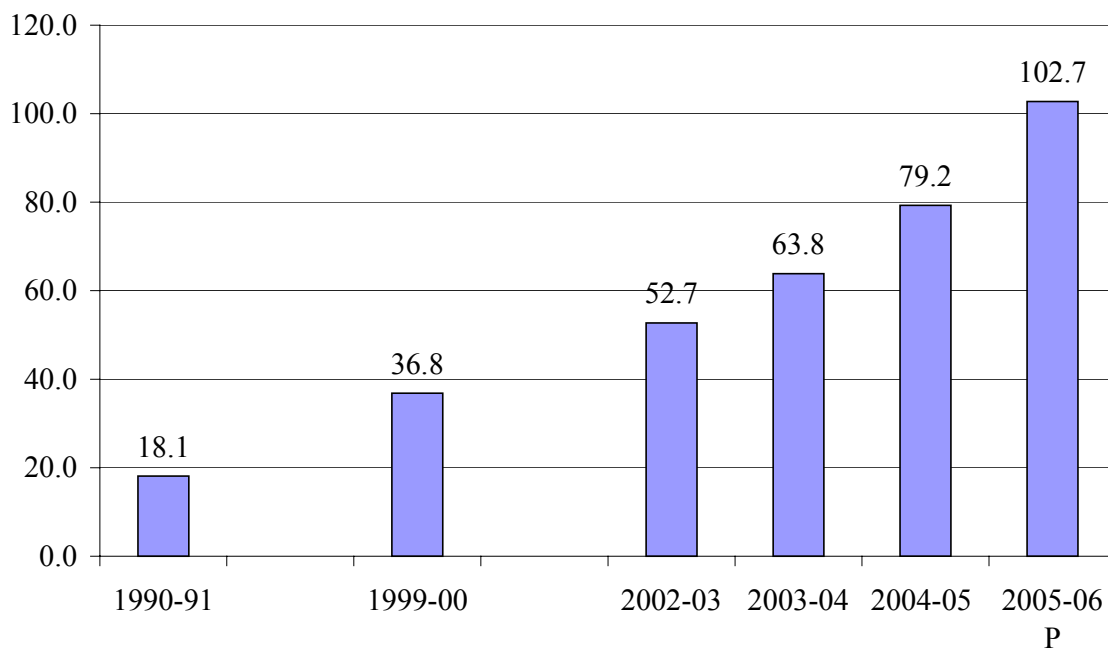
---

<sup>2</sup> The average exchange rate in the year 2002-03 was 48.4 rupees per dollar. It changed to 46, 44.9 and 44.3 rupees per dollar in the subsequent three years.



13.4 percent annual growth in real U.S. dollars. If this growth rate could be sustained, the GDP in India would cross the U.S. GDP of \$11.5 trillion in 2005 in just 22 years! While the likelihood of this outcome is nil, it remains true that given the stability of the rupee in terms of the dollar, the progress achieved in dollar terms so far will be largely retained rather than reversed by a massive depreciation.

Figure 4: Merchandise exports have doubled in three years (\$billion--current)

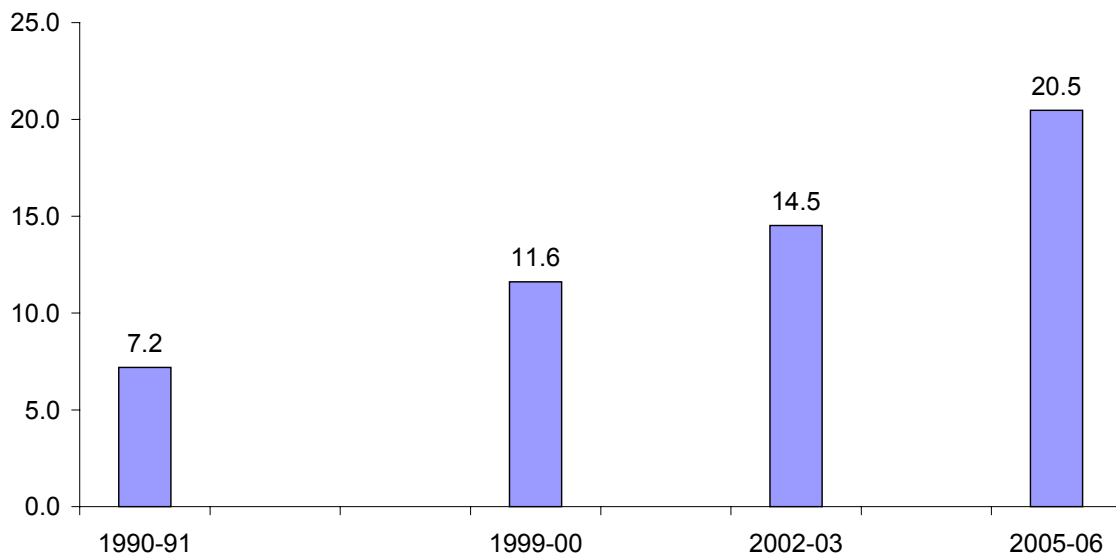


An important distinguishing feature of the growth achieved during the last three years is that despite 9.3 percent appreciation of the rupee since 2002-03, trade has grown at a phenomenal pace. This is shown in Figure 4 in the case of merchandise exports. In 1990-91, India's merchandise exports in current dollars stood at \$18.1 billion. During 2005-06, the increase in the exports over the previous year alone topped that amount. To put the comparison slightly differently, in current dollars, exports in 1990-91 did not double until nine years later in 1999-00. In the recent years, exports have nearly doubled in just three years—from \$52.7 billion in 2002-03 to \$102.7 billion in 2005-06. India's

share in the world exports rose from 0.5 percent in 1990-91 to 0.7 percent in 1999-00 and to 1 percent in 2005-06.

Developments in trade in services tell a similar story. Services exports have more than doubled in just last two years. India's share in trade in services in the world market now stands at a respectable 2.5 percent. The specific case of software exports is, of course, well known. They too have more than doubled during 2004-06.

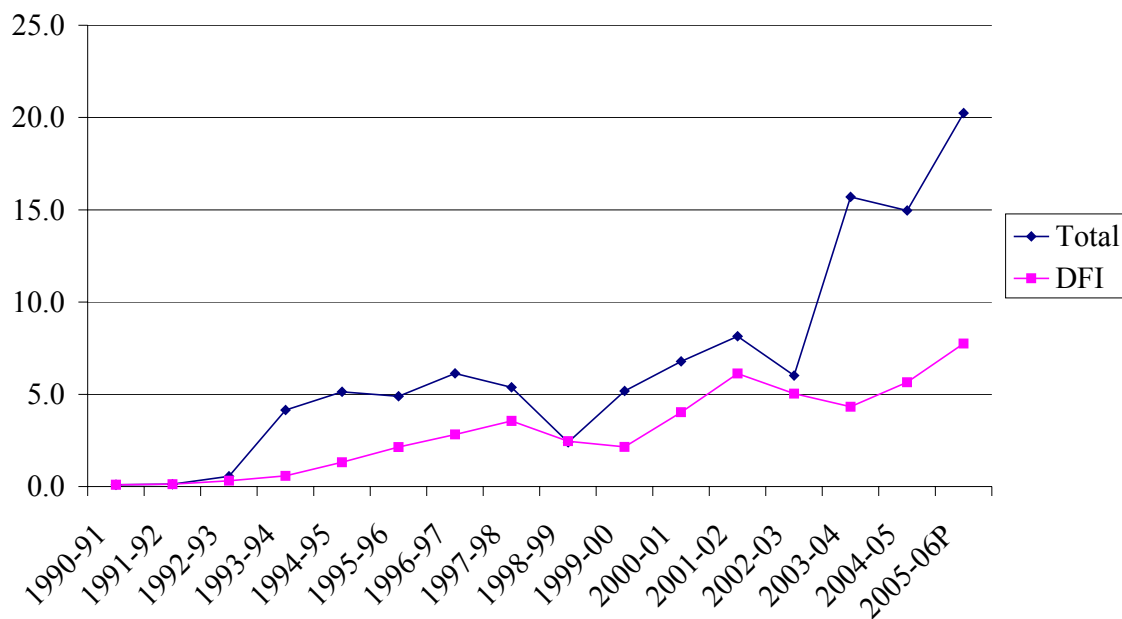
Figure 5: Exports (goods+services) to GDP ratio



Particularly remarkable has been the rapid rise in the ratio of exports of goods and services to the GDP. In 1990-91, this ratio stood at 7.2 percent and rose to only 11.6 percent in 1999-00. But it has risen to 14.5 percent in 2002-03 and to 20.5 percent in 2005-06. The latter rise is especially remarkable since it has taken place in an environment in which the GDP itself has risen 16.4 percent per annum in current dollars. This expansion clearly shows that Indian economy is now rapidly integrating into the world economy. To put this in perspective, the exports of goods and services as a

proportion of the GDP in China at 26 percent as recently as 2000 were not wildly higher. At the current pace, India would catch up with that ratio in another three years.

Figure 6: TOTAL foreign investment has picked up though not DFI (\$billion)



Foreign investment inflow, which had remained sluggish for many years after initial liberalization in 1992, has also seen a major upward shift in the last three years. From just \$6 billion in 2002-03, the total foreign investment into India has risen to \$20 billion in 2005-06. Though direct foreign investment too has received a boost in the past three years, for reasons to be explained later, the bulk of the foreign investment into India has taken the form of portfolio investment. When we add even larger inflows of remittances that bring no foreign liabilities abroad with them, inflows of foreign resources in 2005-06 sum to \$45 billion, an amount that exceeds direct foreign investment into China until 2001. Figures 6 and 7 show the evolution of foreign investment and remittances, respectively, since 1990-91.

Similar dramatic changes have also taken place in some sectors that are currently serving virtually exclusively the domestic market and do not have significant presence in the external sector. The story of the expansion of telecommunications is perhaps the best known of these successes. In 1990-91, India had just 5 million telephone lines in total. During April to July 2006, telephone lines expanded at the rate of more than 5 million per month.

Figure 7: Remittances have continued to rise rapidly  
(\$billion--current)

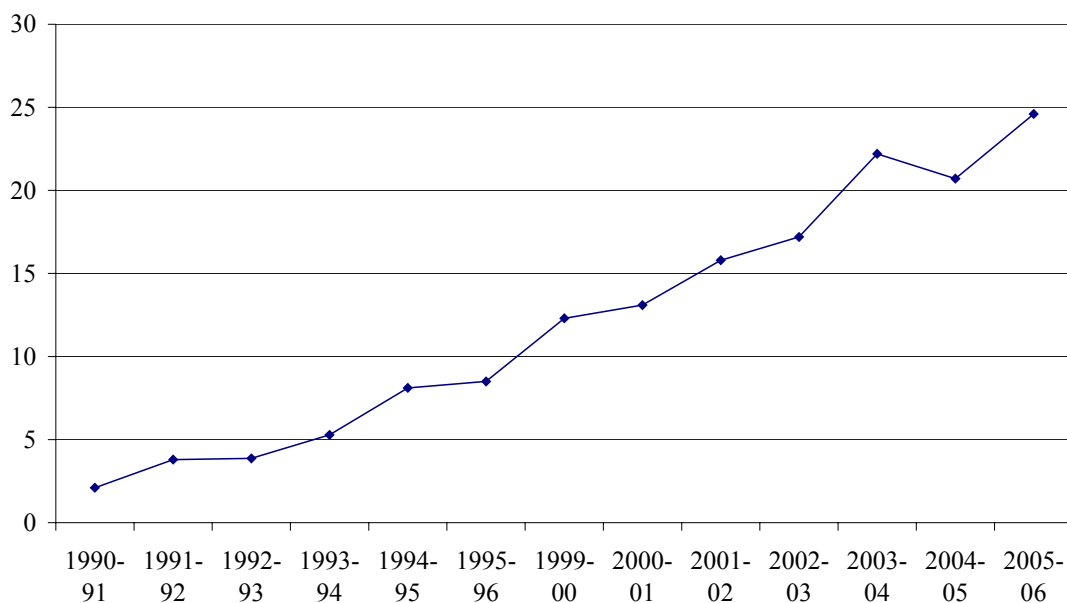


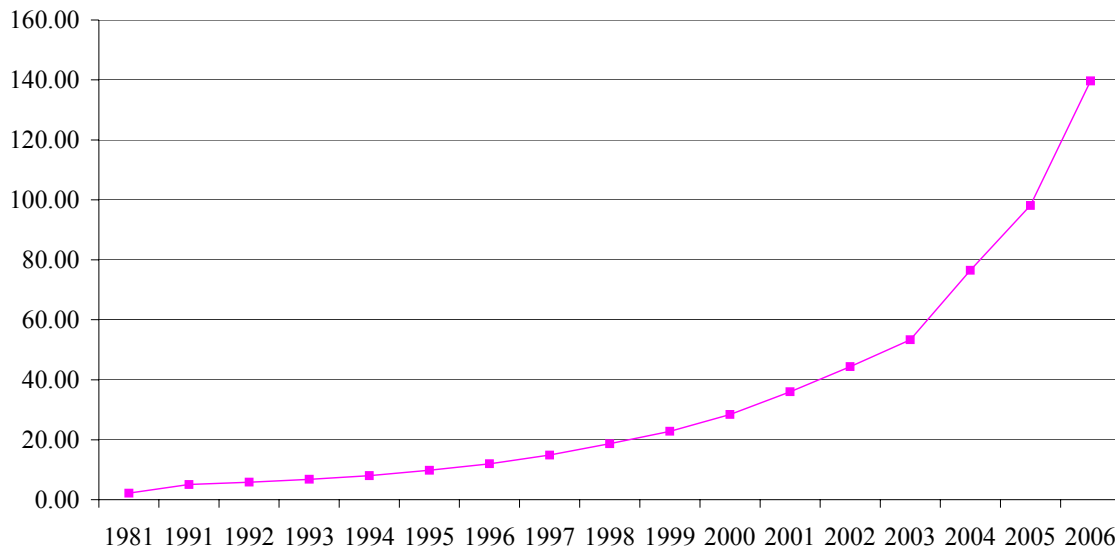
Figure 8 shows the dramatic expansion of telephones between July 31 2005 and July 31 2006 and relates it to the total telephone lines in 1990-91. At the end of July 2006, the total number of telephone lines stood at 158 million. Of these 117.2 million lines were cellular. The nationwide teledensity—the number of phone lines per 100 of population—stood at 14.1 at the end of July 2006.<sup>3</sup> At the end of the calendar year 2005, urban teledensity was already 31—a level unthinkable even five years ago—and rural

---

<sup>3</sup> Comparative figures at the same time are: 23 for China, 60 for the U.S., and 73 for France.

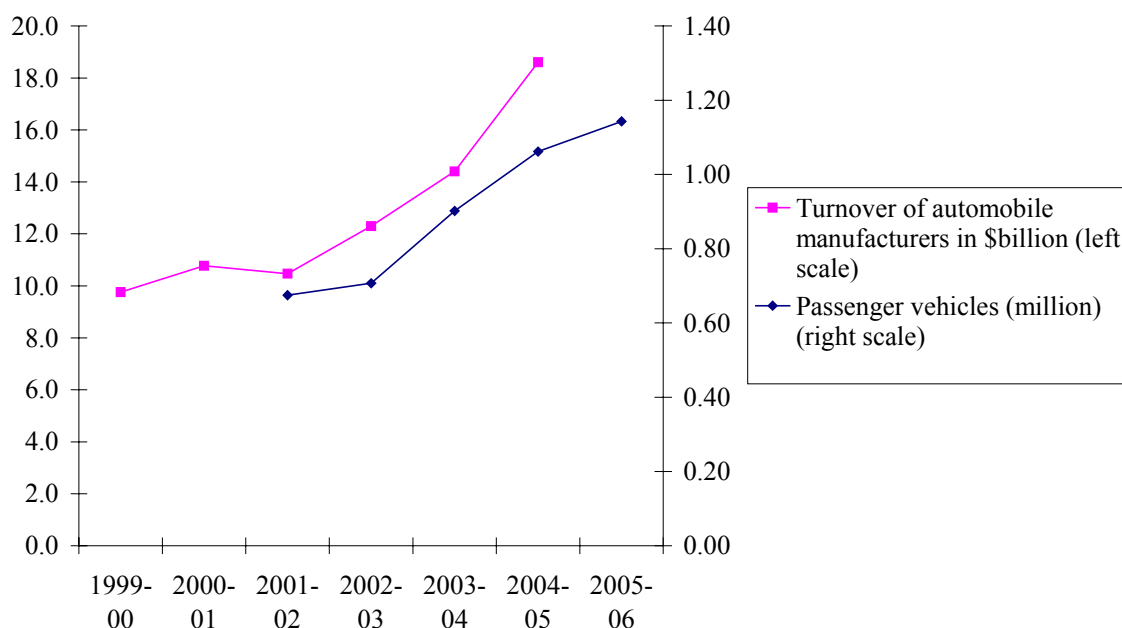
teledensity 2. The latter figure is low but to put the matter in perspective, as recently as 1991, urban teledensity was below this figure. The communication sector as a whole has been growing 24 percent per year in real terms since 1999-00. Its share in the GDP has more than doubled from 1.6 percent in 1999-00 to 3.5 percent in 2004-05.

Figure 8: The explosive growth in phone lines (million lines)



Automobile sector offers yet another example of dramatic expansion. Figure 9 shows the total turnover of the sector from 1999-00 to 2004-05 and also the number of passenger vehicles sold between 2000-01 and 2005-06. The total turnover of the sector rose from \$12.3 billion in 2002-03 to \$19 billion in 2004-05. The sales of passenger vehicles have risen from 707,000 in 2002-03 to 1.14 million in 2005-06.

Figure 9: Automobile Sector: Total turnover (\$billion) and passenger vehicle sales (million)



To conclude this section, let me note three distinguishing features of the current expansion from the one observed during 1993-97. First, trade and foreign investment expansion and therefore integration into the world economy in the current phase has been much more rapid and deeper. For the first time in the last fifty years, the economy has the appearance of an open economy both in terms of trade and investment policies and outcomes. Second, the exchange rate in the current phase has been either stable or has appreciated. This has meant a very rapid growth in the GDP in dollar terms when converted at the market exchange rate. Given very large stock of foreign exchange reserves of \$165 billion on August 11, 2006, prospects of a large depreciation are extremely low. What this means is that the expansion in the dollar value of the GDP achieved will sustain itself. Finally, after three consecutive years of 7 percent plus growth, the previous phase (1993-97) saw growth rate plummet to 4.8 percent in 1997-

98. The current phase has so far shown no sign of slowing down. According to all available projections, despite natural calamities and therefore very low agricultural growth, the GDP growth in 2006-07 is expected to hit the 8 percent mark. Indeed, growth rate during April-June 2006, the first quarter of 2006-07, has been 8.5 percent and has come on the heels of 9.3 percent growth during January-March 2006, the last quarter of 2005-06. All these factors persuade me to come on the optimistic side of the debate on growth prospects of India advocated most strongly by Kelkar (2004) rather than Acharya (2004) who has been on the skeptical side.<sup>4</sup>

### **3 The Problem of Transformation**

While disagreements remain among specialists on the precise decrease in poverty achieved during the last two decades, there is agreement among scholars that considerable progress in poverty reduction has been achieved.<sup>5</sup> According to the official Government of India figures, the proportion of those living below the national poverty line fell from 39 percent in 1987-88 to 26 percent in 1999-00. But even if we go by the more conservative (and careful) estimates in Deaton and Dreze (2002), which correct for an important change in the design of the 1999-00 expenditure survey questionnaire, the ratio came down to 28.5 percent.<sup>6</sup> If we also accept the Deaton and Dreze correction to

---

<sup>4</sup> In an article entitled “My Millennium Wish: Double Digit Growth” published in January 2000, (Panagariya 2000) I had concluded that though the reforms were getting into rough territory, a double-digit growth was “within the grasp of the country.”

<sup>5</sup> See Deaton and Kozel (2005), provocatively titled “Data and Dogma: The Great Indian Poverty Debate,” for a careful review of the debate on poverty.

<sup>6</sup> Deaton and Dreze calculate that poverty in the rural areas fell from 39.4 percent in 1987-88 to 30 percent in the rural areas and from 39.1 percent to 24.1 percent in the urban areas over the same period. I have calculated the national poverty figures using these figures assigning the weights of 0.714 and 0.286 to rural and urban poverty, respectively. In turn, these weights are

the poverty line via more appropriate price indexes, the poverty ratio in 1999-00 turns out to be far lower at 22.2 percent. Unlike the impression created immediately following the victory of the United Progressive Alliance (UPA), poverty has fallen in both rural and urban areas though more in the latter. As Bhagwati and Panagariya (2004) argued, the defeat of the National Democratic Alliance was brought by anti-incumbency vote at the state level with the latter itself motivated by the revolution of rising expectations triggered by the recent growth and decline in poverty.

In terms of poverty reduction, the Indian experience is no exception to the Bhagwati (1988) “pull-up” hypothesis that emphasizes that rapid growth does not just trickle down but it actually “pulls up” the poor in large numbers into gainful employment. Nevertheless, as Bhagwati (2004, pp. 56-57) argues, the type of growth still matters for poverty reduction. How much poverty reduction is achieved from a given aggregate growth depends crucially on the precise pattern of growth: rapid growth in unskilled-labor-intensive industry is likely to create many more opportunities for the poor than that in capital-intensive and skilled-labor-intensive products.<sup>7</sup> It is here that India has been unsuccessful in taking full advantage of its growth.

There is no doubt that if the trend growth rate in India does shift up to 8 percent, poverty reduction will accelerate further. Yet, there are several inter-related features of the current pattern of growth that undermine its ability to reduce poverty even faster and to transform the economy from its current traditional character into a modern one within

---

calculated from the official poverty figures available at the national level as well as for the rural and urban areas separately.

<sup>7</sup> The pattern of growth will in general interact with the rate of growth. Here I would argue, however, that a shift in favor of unskilled-labor-intensive products in a labor abundant country would reinforce rather than impede growth.



the next two decades. Thus, consider five important features of the recent growth experience.

First, India's growth process has been unique in that in spite of a very substantial reduction in the share of agricultural output in the GDP, the share of industry and, in particular, manufacturing, has not grown since 1990-91. This is shown in Table 1, which reports the evolution of the shares of agriculture, industry and services in the GDP at 1993-94 prices since 1970-71. The share of agriculture in the Indian GDP fell from 46 percent in 1970-71 to 32 percent in 1990-91 and to 21 percent in 2004-05. Yet over this period, the share of industry has moved very little. It rose from 22 percent in 1970-71 to 27 percent in 1990-91 and has stayed there. Correspondingly, the share of manufacturing rose from 13 percent in 1970-71 to 17 percent in 1990-91 and has remained at that level to-date. The entire decline in the share of agriculture since 1990-91 has been absorbed by services. The latter have expanded their share in the GDP from 32 percent in 1970-71 to 41 percent in 1990-91 and to 52 percent in 2004-05.

Table 1: Sectoral Shares in the GDP

Year	Agriculture, forestry			
	& fishing	Industry	Manufacturing	Services
1970-71	46	22	13	32
1980-81	40	24	14	37
1990-91	32	27	17	41
2000-01	24	27	17	49
2004-05RE	21	27	17	52

Source: Author's calculations from data in the RBI Handbook 2006

Second, within the formal, organized sector, industry and services in India have been and remain either capital intensive or skilled-labor intensive.<sup>8</sup> Beginning in the 1960s, India gradually shifted to the autarkic path to development, which necessitated the creation of a large machinery sector. But in addition, starting with the Second Five Year Plan, the promotion of heavy industry was adopted as an explicit goal by the government. Later in the early 1970s, the government confined the successful, large business houses (the so-called “dominant” undertakings) to a group of 19 heavy investment sectors. This naturally created further bias in favor of capital-intensive industries and scuttled the growth of the labor-intensive industry. India also encouraged the engineering goods and chemical industries, which made intensive use of skilled labor.<sup>9</sup>

Unfortunately, liberalization during the last two decades has still not been able to correct the bias against unskilled-labor-intensive industry. For reasons I will discuss later in the paper, rapidly expanding sectors in India remain capital-intensive or skilled-labor-intensive. We saw above that two of the fastest growing sectors—telecommunications and automobile—share this characteristic. Two other major successes—pharmaceuticals and software industry—are highly skilled-labor-intensive. Moreover, as I document systematically in Panagariya (2006), at two-digit Standard International Trade Classification (SITC) level, two of India’s fastest growing exports, petroleum and petroleum products and iron and steel are highly capital intensive. Among other leading exports of India—textiles, gems and jewelry and apparel—only apparel is unskilled-labor intensive. But its share in India’s merchandise exports has been actually declining.

---

<sup>8</sup> Officially, the organized sector includes the firms with 10 or more workers using power and firms with 20 or more workers otherwise.

<sup>9</sup> Kochhar et al. (2006) provide systematic empirical evidence demonstrating the high capital and skilled-labor intensity of the Indian production structure.

Table 2: GDP and Employment Shares of Various Sectors, 1999-00

Industrial Category	Output share	Employment share
1	2	3
<b>1. Agriculture, forestry &amp; fishing</b>	<b>25.3</b>	<b>60.3</b>
Non-agricultural	74.7	39.7
2. Mining & quarrying	2.3	0.6
<b>3. Manufacturing</b>	<b>14.7</b>	<b>11.0</b>
4. Electricity, gas & water supply	2.5	0.3
5. Construction	5.9	4.4
6. Trade, hotels & restaurant	14.2	10.3
7. Transport, storage & communication	7.4	3.7
<b>8. Finance, insurance, real estate &amp; business services</b>	<b>13.0</b>	<b>1.2</b>
9. Community, social & personal services	14.7	8.3
Gross Domestic Product at factor cost (1 to 9)	100.0	100.0

Source: Author's calculations using the GDP data (at 1999-00 prices) from the CSO and employment data from the PowerPoint file "Informal Sector in India" at [www.wageindicator.org/documents/wwwmeetingjune06/informalindia](http://www.wageindicator.org/documents/wwwmeetingjune06/informalindia)

Table 2, which shows the shares of various industry sectors in the GDP and in the total labor force in 1999-00, sheds some light on the relative patterns of output and employment. The first point to note is that the share of agriculture and allied activities in the labor force in 1999-00 was 60 percent but in the GDP only 25 percent.<sup>10</sup> On the other hand, manufacturing accounted for 15 percent of the output but only 11 percent of employment in 1999-00. It is also evident from this table that fast growing sectors such

<sup>10</sup> Employment data in Table 2 are from the Employment-Unemployment Survey of National Sample Survey (NSS) from the 55<sup>th</sup> Round. These data do not match identically to those from the census quoted immediately below. Likewise, the shares in the GDP are based on the GDP data at the revised 1999-00 prices and need not match those in Table 1, which is based on the GDP data at 1993-94 prices.

as communications, construction and software (included in business services) are not big employers. Remarkably, finance, insurance, real estate and business services, which accounted for 13 percent of the GDP in 1999-00, employed only 1.2 percent of the labor force.

Third, as a consequence of the highly capital-intensive and skilled-labor-intensive character of the organized sector, transition of labor force from agriculture to non-agricultural activities has been extremely slow. For example, according to the census data, farm workers (cultivators plus agricultural workers) accounted for 67.1 percent of the total workforce in 1991. This proportion fell to only 58.5 percent in 2001. Because the total workforce itself rose during the period, the absolute number of farm workers still rose from 210 million to 233 million over this period.

Fourth, while non-farm employment has increased more rapidly than farm employment as reflected in the declining share of the latter, the bulk of this increase has been absorbed in the informal, unorganized sector.<sup>11</sup> Some indirect evidence supporting this assertion can be gleaned from the fact that the share of rural labor force in the total labor force has grown by only a tiny amount. According to the census data, even though the share of the farm workforce fell by 9 percentage points during 1990-00, the share of the rural workforce in the total workforce fell by only 2 percentage points: from 79.3

---

<sup>11</sup> In the Indian context, informal sector refers to unincorporated household units engaged in the production of goods and services with the primary objective of generating employment and income for the household concerned. These units do not have legal status independently of the households and lack complete set of accounts that will distinguish their income and expenditure from those of the households owning them. The nearest term to informal sector officially used in India including in the National Accounts Statistics (NAS) is unorganized sector as contrasted with the organized sector. Unorganized sector includes unincorporated household enterprises or partnership enterprises as well as enterprises run by cooperative societies, trusts and private and limited companies. Therefore, the informal sector is a sub-set of the unorganized sector.

percent in 1990-91 to 77.2 percent in 1999-00. Therefore, the bulk of the shift away from the farm workforce was accounted for by rural industry or rural services, which are predominantly in the informal sector. More directly, according to the available data, employment in the private organized sector in India has been low and stagnant. It stood at 7.5 million (out of the total number of workers of 313 million) in 1991, peaked at 8.7 million in 1998 and fell back to 8.4 million in 2003.

Table 3, constructed from Saha, Kar and Baskaran (2004, Tables 1 and 2), shows the output and employment shares of informal sector in various industry categories in the year 1999-00.<sup>12</sup> It is remarkable that outside of agriculture, as much as 88 percent of the labor force continued to be in the informal sector in 1999-00 though the output generated there was only 44 percent. Within manufacturing, 94 percent of the labor force was in the informal sector though only 39 percent of the manufacturing output originated there. Indeed, except in public administration and defense, this pattern held across the board.

Yet one more piece of evidence that reinforces this picture comes from the Economic Census, which covers *all* entrepreneurial units located in India regardless of size or sector (excluding crop production and plantation). According to the latest of these censuses conducted in 2005, of the 42 million enterprises countrywide, only 1.4 percent employed 10 workers or more.<sup>13</sup> The total number of workers employed in all enterprises was 99 million. Even under the conservative assumption of 2 workers per enterprise, approximately 81 million workers would belong to the informal sector enterprises

---

<sup>12</sup> This table is identical to Table 1 in Bosworth, Collins and Virmani (2007) who additionally cite CSO (2006, February) as the source.

<sup>13</sup> This census has been conducted five times so far on an intermittent basis: in 1977, 1980, 1990, 1998 and 2005.

(enterprises with less than 10 workers). All evidence points to a highly fragmented production structure of non-farm activity in India, whether in the industry or services.

Table 3: Shares of informal sector output and employment by industry categories

Industry	Percentage shares in GDP by sectors		Percent Share of informal employment
	Formal	Informal	
Agriculture	3.2	--	99.2
Forestry and logging	5.6	--	98.3
Fishing	0.1	--	98.5
Agriculture, forestry & logging and fishing	3.1	--	99.1
Mining and quarrying	91.6	8.4	90.7
Manufacturing	60.8	39.2	94.9
Electricity, gas & water supply	93.8	6.2	90.1
Construction	41.8	58.2	85.8
Trade	18.1	81.9	84.7
Hotels and restaurants	41.2	58.8	90.7
Transport & storage	35.2	64.8	79.3
Communication	91.4	8.6	92.8
Banking and insurance	90.5	9.5	88.7
Real estate, ownership of dwelling and business services	18.6	81.4	89.9
Public administration & defense	100.0	0.0	0.4
Other services	69.5	30.5	87.4
Non-agricultural other than paid domestic workers	56.0	44.0	88.3
Hired domestic workers	--	--	100.0
Total	42.0	32.4	95.6

Source: Saha, Kar and Baskaran (2004, Tables 1 and 2). This table reproduces Table 2 in Saha, Kar and Baskaran (2004) with two modifications (i) it eliminates their third column and (ii) it replaces the last column by the last column in their Table 1.

Finally, the pattern of savings also reinforces this picture. Corporate savings in China have risen from the hefty 22 percent of the GDP in 2000 to 30 percent in 2005. In contrast, corporate savings in India are tiny: strictly below 5 percent in the last five years. Even more dramatically, even the GDP share of the Indian corporate sector is far less than 30 percent in India. Instead, it is household savings that supply the bulk of the investment funds in India. But, astonishingly, of the 24.3 percent of the GDP in household savings, household investment accounted for as much as 13 percent of the GDP. Household investment of this magnitude is yet another indicator of very substantial informal sector in the economy. Moreover, recognizing that the bulk of the financially intermediated household savings are absorbed by the fiscal deficit, corporate sector investment is relatively limited.

To put the matter in perspective, I conclude this section by briefly summarizing the experience of South Korea starting in the 1960s. Korea's annual per-capita GDP at current prices was barely \$79 in 1960. But it rose to \$248 in 1970, \$1632 in 1980 and \$5199 in 1989 (Harvie and Lee 2004, Table 1). In 1960, Korea started with a real per-capita income below that of Haiti, which is currently classified as a Least Developed Country by the United Nations, and comfortably crossed the upper-middle-income level by the late 1980s.<sup>14</sup> Korean economy took off in 1963 and went on to register average

---

<sup>14</sup> This comparison is based on the real per-capita incomes of Korea and Haiti reported in the dataset posted on the World Bank website under the title "Global Development Network Growth Database." In turn, the database cites Penn World Table 5.6 as the source.

growth rates of real GNP of 9.5 percent during 1963-73, 7.2 percent during 1974-82 and 9.9 percent during 1983-90.<sup>15</sup>

Table 4: Korea: Sectoral Shares in the GDP and Employment

Year	Agriculture,	Mining	Manufacturin	Other
A. Gross domestic Product by sector (as percent of the GDP)				
1960	36.9	2.1	13.6	47.4
1965	38.7	1.8	17.7	41.8
1970	25.8	1.3	21	51.9
1975	24.9	1.4	26.6	47.1
1980	15.1	1.4	30.6	52.9
1985	13.9	1.5	29.2	55.3
1990	9.1	0.5	29.2	61.2
B. Employment by Sector (as percent of total employment)				
1960	68.3	0.3	1.5	29.9
1965	58.6	0.9	9.4	31.1
1970	50.4	1.1	13.1	35.4
1975	45.7	0.5	18.6	35.2
1980	34	0.9	21.6	43.5
1985	24.9	1	23.4	50.7
1990	18.3	0.4	26.9	54.4

Source: Economic Planning Board, *Major Statistics of Korean Economy*, Various issues and Bank of Korea, *Economic Statistics Yearbook 1962* [as cited by Yoo (1997, Table 2) from which this table is taken]

During these years of rapid growth, the Korean economy also underwent a dramatic structural transformation with shares of agriculture in the GDP and employment declining and those of manufacturing rising sharply. Table 4, excerpted from Yoo (1997), captures this transformation. The share of agriculture, forestry and fisheries in

<sup>15</sup> All data on Korea in this chapter relate to the calendar year. Periods such as 1963-73 are inclusive of the beginning and ending years. This means that 1963-73 refers to the 11-year period inclusive of both 1963 and 1973.



the Korean GDP fell from 37 percent in 1960 to 26 percent in 1970, to 15 percent in 1980 and to 9 percent in 1990. While the share of industry in general rose, the most dramatic gains were made by manufacturing, which rose from 14 percent in 1960 to 21 percent in 1970 and to 31 percent in 1980.<sup>16</sup> In an economy that had been growing 8 percent per year overall, the sharp rise in the share of manufacturing during 1960-80 implies a very rapid expansion of manufacturing in absolute terms. According to Yoo (1997, p. 8), manufacturing growth averaged a hefty 16 percent during the 1960s and 1970s.

These changes in sectoral output shares were also reflected in the employment shares. According to Table 4, the employment share of manufacturing rose from 9.4 percent in 1965 to 22 percent in 1980 and to 27 percent in 1990. The share of agriculture, forestry and fisheries declined from 58.6 percent to 18.3 percent of the total employment between 1965 and 1990. This shift in employment was accompanied by substantial increases in the wages—approximately 7 to 8 percent annually during 1961-81. Thus, Korea was entirely transformed from a primarily agricultural to primarily industrial nation and from a basket case of sorts to an upper-middle-income economy in a matter of 30 years.

#### **4 Trade and Direct Foreign Investment**

In Panagariya (2006), I compare the evolution of external trade and investment liberalization by India and China. The discussion there leads me to conclude that whereas China had a clearly more open trade and foreign investment regime until the early 1990s, aside from agriculture, India has now caught up with it. Currently, the

---

<sup>16</sup> During the 1980s, manufacturing share saw a slight downturn declining to 29 percent in 1990.

highest industrial tariff in India with a handful of exceptions applying to the auto sector is 12.5 percent. In 2005-06, custom duty as a proportion of the total merchandise imports was less than 5 percent. In agriculture, India remains more protected than China with its tariffs averaging 30 percent compared with 15 percent of the latter.

Services imports have been liberalized considerably as a part of the liberalization of the foreign investment policy. Foreign investment regime now operates on the “negative list” approach meaning that unless there are specific restrictions spelt out in the foreign direct investment (FDI) policy, subject to the sectoral rules and regulations, up to 100 percent foreign investment is permitted under the automatic route. Exceptions include retail trading where no foreign investment is allowed (except single brand product retailing where foreign investment up to 51 percent is allowed) and insurance, defense and publishing of newspapers and periodicals dealing with current affairs where foreign investment is limited to 26 percent.

A puzzle, however, is that despite very similar factor endowments, the response of merchandise exports and inward direct foreign investment to this opening up has been much more muted in India than China. Even if one takes the view that India is somewhat less open than China and accounts for the fact that India has had a late start, these differences would not be sufficient to explain the differences between their performances. At the aggregate level, China currently accounts for 5 percent of the world merchandise trade and India only 1 percent. Direct foreign investment into India currently stands at \$8 billion and into China at \$60 billion. Even adjusting for the time lag in the opening up by India relative to China, it is inconceivable that India would reach the current levels of China’s trade and foreign investment in ten years time.

Figure 10: Top two exports of each of India and China

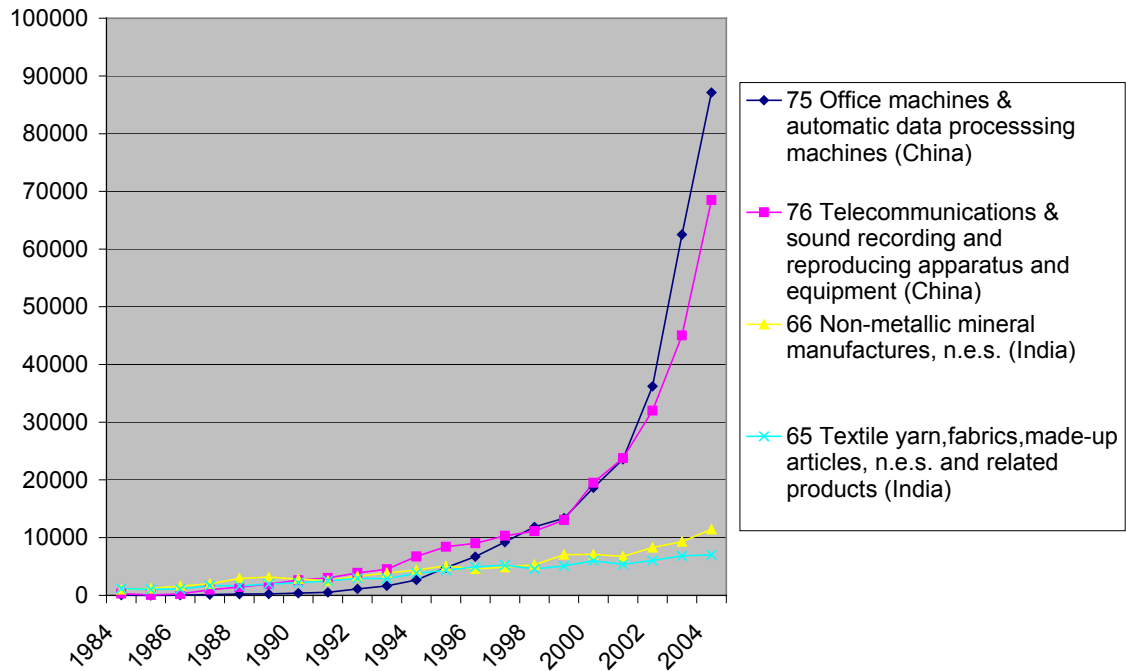
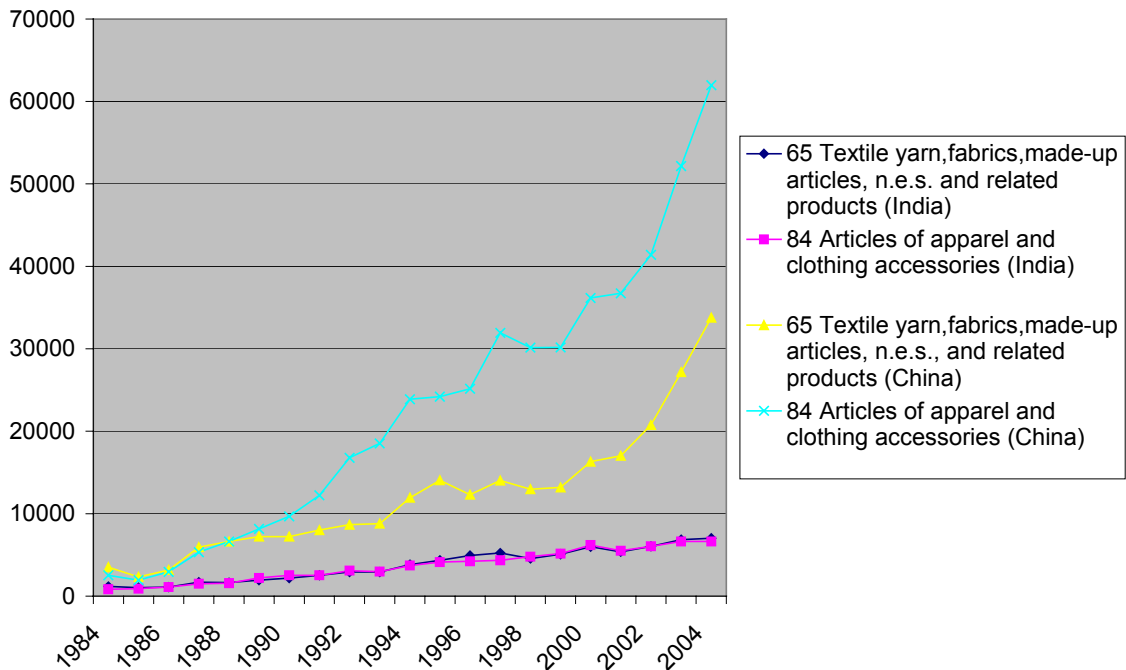


Figure 11: Textiles and clothing exports of India and China



Figures 10 and 11 offer dramatic illustrations of the difference between performance of India and China in exports. Figure 10 shows the evolution of the value of exports of the top two items of each of India and China in current dollars between 1984 and 2004. Figure 11 traces the exports of textiles and apparel by the two countries. Surprisingly, top two exports of China are no longer textiles and apparel or toys and footwear. Instead, they are office machines and automatic data processing machines; and telecommunications and sound recording and reproducing apparatus. What is remarkable is that until as late as 2000, exports of both of these items stood below \$20 billion. By 2004, they had reached \$87 billion and \$68 billion, respectively. In comparison, India's top two exports—non-metallic mineral manufactures (mainly gems and jewelry); and textile yarn and fabric—stood at only \$11 billion and \$7 billion, respectively. As Figure 11 shows, these are levels textiles and apparel had crossed in China more than ten years earlier.

## **5 It is the Domestic Policies, Stupid!<sup>17</sup>**

The features of the Indian economy I have discussed in Sections 3 and 4 above all have a common explanation: a set of domestic policies that discourage the entry of large-scale manufacturing firms in unskilled-labor-intensive sectors.<sup>18</sup> It is the unwillingness of the large-scale manufacturing firms to enter the unskilled-labor-intensive sectors that explains the virtual lack of growth of employment in the organized sector. The same phenomenon also explains the muted response of merchandise exports and the relatively small inflows of direct foreign investment. Few foreign firms are willing to locate their

---

<sup>17</sup> I draw heavily on Panagariya (2005) in Sections 4 and 5 except sub-section 5.1.

<sup>18</sup> I had offered this hypothesis earlier in Panagariya (2002).

manufacturing facilities of unskilled-labor-intensive products in India. A quick look at the destination data shows that direct foreign investment has gone predominantly into services sectors whose capacity to absorb such investments is limited.

I briefly stated earlier that prior to the beginning of the reforms, virtually the entire policy regime had been designed to force bigger firms to concentrate on the capital-intensive products and to set aside the production of the labor-intensive products for small-scale firms. The tightening of the licensing policy in the early 1970s excluded the big business houses—entities with \$27 million or more in investment in fixed assets (land, building and machinery)—from all but 19 heavy-industry sectors. The Foreign Exchange Regulation Act (FERA) 1973 did the same to foreign firms. These restrictions were complemented by a very tight import-licensing regime.

But the policy that turned into the greatest obstacle to exports was the reservation of virtually all unskilled-labor-intensive products, exported by China in massive volumes in the 1980s and 1990s, for the exclusive production by small-scale units. The latter were defined in 1969 as entities with investment in plant and machinery not exceeding \$100,000. Though this limit was raised in the subsequent years, increases were gradual and small: even today investment by the SSI enterprises is limited to less than \$225,000.

The SSI reservation policy alone was sufficient to ensure that India would exclude itself from the exports of labor-intensive products. Foreign firms interested in buying labor-intensive products from cheaper sources demanded a scale and quality standard that the SSI units were incapable of supplying for most part. The huge cost advantage did allow some SSI enterprises to succeed but not on a scale justified by the cost advantage India potentially enjoyed. Even the successful small-scale entrepreneurs would find that

they quickly hit the ceiling on investment. And of course, at such a small scale, individual enterprises had no incentive to explore the world markets. Exports had to be organized through intermediary export houses. But that severed the critical buyer-seller link.

With access to high-quality foreign inputs virtually denied, foreign investment tightly controlled and the absence of comparative advantage, the prospects of major successes in exporting heavy industry products were limited as well. Unsurprisingly, India found itself excluded from the world markets across the board. Its organized sector came to be dominated by the heavy industry that was incapable of competing in the world markets. Its labor-intensive manufacturing came to consist of millions of tiny enterprises spread all across the country and serving principally local markets. Other than durable products such as automobiles, scooters and refrigerators, which were capital intensive in any case, India produced few consumer goods that had the national appeal.

The reforms undertaken since 1991 have brought about four important policy changes that open the door wider to the entry of large-scale firms in unskilled-labor-intensive products:

- Imports have been liberalized so that the access to high-quality inputs is no longer a constraining factor.
- With the end to the investment-licensing regime, big business houses are no longer confined to the heavy industry.
- FERA 1973 has been repealed and the door has been opened to foreign investors.

- The list of products reserved for the exclusive production by the small-scale industry has been progressively trimmed.

Unfortunately, however, these reforms have not produced a major breakthrough in manufacturing. Excluding the last three years, manufacturing output has grown at only 6 percent per annum, a rate already achieved in the 1950s and early 1960 and recovered in the 1980s after a major drop in the intervening years. More importantly, even including the last three years, neither large-scale manufacturing nor major success in the exports of unskilled-labor-intensive products has been achieved.

It is tempting to attribute this outcome to the delay in launching the process of de-reservation that got under way only in 1997 and piecemeal progress in trimming the SSI list. Out of 836 items on the list in 1989, approximately 300 items still remain subject to the small-scale reservation. But this explanation fails to stand closer scrutiny.

Many of the textiles and apparel products have been off the reservation list for several years now. More importantly, even for products still on the SSI list, large-scale production has been permitted since at least March 2000 as long as the unit exports 50 percent or more of its output. This latter change means that firms predominantly interested in exporting their output have been effectively free of the SSI reservation in all products since at least March 2000.

Given these facts and the anticipated end to the quotas under the Multi-fiber Arrangement (MFA) on January 1 2005, a logical outcome would have been the entry of at least some large –scale manufacturers in some of the unskilled-labor-intensive products and a major upsurge in their exports. But this has not happened. Instead, it is the capital-intensive and skilled-labor-intensive products that have continued to grow

rapidly. The removal of the SSI reservation constraint is a necessary condition for the rapid expansion of unskilled-labor-intensive manufacturing but it has not turned out to be sufficient.

In my view, two critical factors constrain the Chinese style breakthrough in the production and export of unskilled-labor-intensive manufacturing products in India: highly inflexible labor markets in the organized sector and infrastructure bottlenecks, especially power and ports. Let me elaborate on each.

### *5.1 Labor Market Rigidities in the Organized Sector*

In India, a firm has two options: it can choose to employ less than 10 workers (20 if it does not use power) and stay in the unorganized sector or employ 10 or more workers (20 or more if not using power) and operate in the organized sector. If it chooses to operate in the unorganized sector, its workers are not covered by most of the national labor legislation. It does not have to offer formal employment contracts or the usual benefits such as paid annual leave, sick leave or medical and pension benefits. It can also fire the workers without notice and does not owe any severance pay. Minimum wage regulations may apply depending on the state and sector but these are not vigorously enforced. As shown in Table 3, 88.3 percent of non-agricultural workers were employed in the unorganized sector under precisely this set of conditions in 1999-00.

The firm's alternative option is to employ 10 or more workers (20 or more if not using power) and accept obligations towards workers that become increasingly onerous with size. At 20 workers or more, the firm must establish a pension fund for the workers. At 50 workers or more, it must offer mandatory health insurance under the Employee State Insurance Act, 1948 and also be subject to the worker-management dispute



resolution process under the Industrial Disputes Act (IDA), 1947 (see below). And once the firm reaches 100 workers or more, it effectively loses the rights to not just fire the workers but also reassign them to alternative tasks.

Historically, India always has had very high level of protection of labor rights. Even in the 1950s, labor legislation in India was at par with that in most developed countries along most dimensions. Though the obstacles this posed to growth prospects were recognized by at least some scholars very early on, little was done by way of damage control. In his comprehensive essay on economic reforms, Srinivasan (2003) offers the following striking observations by his teacher P. C. Mahalanobis (1969, p. 422):<sup>19</sup>

“ . . . in certain respects, welfare measures tend to be implemented in India ahead of economic growth, for example, in labor laws which are probably the most highly protective of labor interests, in the narrowest sense, in the whole world. There is practically no link between output and remuneration; hiring and firing are highly restricted. It is extremely difficult to maintain an economic level of productivity, or improve productivity. At early stages of development in all countries there has been a real conflict between welfare measure and economic growth. Japan is an outstanding example; the concept of minimum wages was introduced only about 10 or 12 years ago when per capita income had reached the level of \$250 or \$300 per year; and minimum wages were fixed more or less at actual average levels. In India with a per capita income of only about \$70, the present form of protection of organized labor, which constitutes, including their families, about five or six per cent of the whole population, would operate

---

<sup>19</sup> For even earlier views along these lines, see Lewis (1962, p. 226-27).

as an obstacle to growth and would also increase inequalities. It is a serious problem not only in India but in other under-developed countries.”

Although Zagha (1998) mentions the existence of 45 different national and state level labor legislations, the most critical one relevant to the issue of the entry of large firms in the unskilled-labor-intensive industries is the IDA, which applies to firms with 50 or more workers. The legislation governs the relations between workers and the management and the settlement of disputes between them; rules relating to the reassignment of a worker to a different task; and the conditions of layoff, retrenchment and closure. In each are, the legislation stacks the deck disproportionately against the management.<sup>20</sup>

First, the legislation confers the power to regulate labor-management relations on the state. This is unlike most other countries where the state intervenes only after bilateral negotiations between workers and management breakdown. Labor Departments of the Central and State government have the responsibility to implement various provisions of the IDA. Once the Labor Department with jurisdiction over a firm decides that a certain dispute merits its intervention, it initiate a process aimed at reconciling the two sides. If this process fails, the matter is sent to labor judiciary. The latter predominantly rules in favor of the workers.<sup>21</sup> Labor unions prefer this system to

---

<sup>20</sup> I rely heavily though not exclusively on Datta Chaudhari (1996) for the discussion of the IDA.

<sup>21</sup> In this context, Datta Chaudhari (1996, p. 16) offers the following insightful quotation from the High Court judge Mehta (1994): "Some judges are overwhelmed by the view that the only object and purpose of the Industrial Disputes Act is to take a view favorable only to labor, ignoring other facts and circumstances as also the necessity of preserving industrial peace. it is sometimes forgotten that the problem confronting industrial adjudication is to promote two fold objectives: (1) security of employment of the workers; and (2) preservation of industrial peace and harmony so that industry can prosper and employment can increase. Any lopsided view, that to favor labor

alternatives since it greatly increases their bargaining power vis-à-vis management. Indeed, an effort in 1950 to replace the IDA by alternative legislation that would have largely freed labor-management relations from state intervention was defeated by the then existing trade unions.

Second, under Section 9A of the IDA an employer must give three weeks' written notice to the worker of any change in his working conditions. These changes include (a) changes in shift work, (b) changes in grade classification, (c) changes in rules of discipline, (d) a technological change that may affect the demand for labor, and (e) changes in employment, occupation, process or department. The worker has the right to object to these changes, which may culminate in an industrial dispute with the associated cost in terms of time and financial resources. This provision makes it very difficult for the firm to quickly respond to technological changes or changes in demand conditions.

Finally, and most importantly, an amendment to the IDA in 1976 added Chapter V.B that made it mandatory for the firms with 300 or more workers to seek the permission of the Labor Department for layoffs, retrenchment or closure. The permission is seldom forthcoming, however. A further amendment in 1982 made this provision applicable to the firms with 100 or more workers. Therefore, under the current provisions, a firm with 100 or more workers has effectively no right to retrench or layoff workers or to even closure. Even when it is bankrupt, it must pay the workers out of profits in other operations.

---

is the only goal of the statute is counterproductive in as much as it ultimately harms the cause of labor itself".

The IDA has had a detrimental effect on the entry of large-scale firms in the unskilled-labor-intensive sectors in at least two mutually reinforcing ways. First, firms are afraid that should they go bust for some reason, they would be stuck with having to pay full wages to a large workforce despite bankruptcy. Second, the legislation has disproportionately strengthened the hand of the unions in wage negotiations. Consequently, the wages in the organized sector are now several times those in the unorganized sector. When combined with the difficulty of exit, this feature makes the entry of large-scale firms in unskilled-labor-intensive goods doubly unattractive.

Skeptics sometimes argue that low growth in the employment prospects of unskilled workers cannot be attributed to labor-market rigidities in the organized sector since the bulk of the workforce is in the unorganized sector where workers have virtually no rights. For example, Bardhan (2006) makes the following argument:

“There are serious differences on the empirical judgment on the adequacy of growth trickle-down. In particular employment growth at the low-skill levels has been quite disappointing so far, and to blame this on the restrictive labor laws (applicable to the large factory sector) is asking the tail to wag too large a dog (in a country where more than 80 per cent of workers even in the non-agricultural sector work in informal activities where the labor laws do not apply).”

But this is an altogether misleading argument. Those of us advocating labor-market reform do not blame labor market rigidities for the slow growth of unskilled employment *in aggregate*. That will indeed be silly since even twenty percent growth in ten percent of the total jobs located in the organized sector will produce only 2 percent growth in aggregate jobs. Instead, we hold labor-market rigidities responsible for the

slow or no growth of unskilled employment *in the organized sector*, which has much greater potential for generating such employment than it has done so far. We also blame these rigidities for the slow pace of *transition* of India from a traditional to modern economy. The more favorable the environment for the growth of unskilled employment in the organized sector the larger will be the base of well-paid unskilled jobs and the more it will be able impact the overall growth in unskilled jobs in general. Recall that in 1991, exports of goods and services were only 7 percent of the GDP. But today they are nearly 21 percent.

Besides, the fundamental question one must ask is not whether the tail can wag the dog but instead why the proportion of the non-agricultural labor force employed in the organized sector is so tiny after fifty years of development effort in the first place? If labor market rigidities were as benign as Bardhan suggests, we should see many more firms manufacturing unskilled-labor-intensive products in the organized sector on a large scale than is the case currently. Whereas large firms employing thousands of workers under a single roof in the apparel sector abound in China, shops with 50 tailors represent the large-scale end of the spectrum in India. India remains entirely divorced of all global production chains in unskilled-labor-intensive manufacturing.

In reforming the labor laws, ideally, it would be desirable to return to the attempt made in 1950 to replace the IDA by an entirely new legislation that would redefine the worker-management relations and rebalance the rights and obligations of workers in accordance with the international best practice. But given the political realities, no government is likely to attempt such a reform in one go. Recognizing the political realities, the government could reform the law for newly hired workers with the rights of

the workers currently employed in the organized sector remaining unchanged. The reform would offer more substantial unemployment and retraining benefits and severance pay than currently available in return for the restoration of the employer's right to retrench or layoff workers. The conditions under which workers can be reassigned to other tasks must be made more flexible. In the globalized world of today with technology and demand conditions shifting rapidly, flexibility in the reassignment of workers to different tasks is an important condition of the survival of a firm.

To further balance the rights of the workers, it is also important for India to introduce a proper bankruptcy law. Under the current system, bankruptcy procedure involves first declaring the firm sick on the ground that its liabilities exceed assets and referring it to Board of Industrial and Financial Rehabilitation (BIFR). BIFR then makes a determination whether the firm can be restructured and if not, it initiates the liquidation proceedings. The BIFR process is extremely slow and often takes 10 years or more. A bankruptcy law that allows creditors (including workers) to initiate bankruptcy proceedings in case of nonpayment of dues must replace this procedure. Also important is a time bound resolution of the ensuing bankruptcy proceedings. Workers should then be given priority over creditors in the disposal of the assets.

## *5.2 Infrastructure*

Bottlenecks in the area of infrastructure are well recognized. While infrastructure in general—meaning ports, airports, railways, roads and power—has handicapped all exports from India, the problem is particularly serious with respect to power, airports and ports.

## Electricity Reform

In the power sector, industry in India not only pays punishing prices for electricity so as to subsidize the lower prices offered households and to cover the transmission and Distribution (T&D) losses, the available power supply to it is often irregular and unreliable. This has led some large firms to opt for in-house generation of electricity but this is socially a highly inefficient and costly alternative. Moreover, small and medium firms must still rely on the State Electricity Boards for their supplies. And in so far as the firms in the unskilled-labor-intensive sectors are relatively small on account of other factors such as the past SSI reservation and continuing rigid labor laws, they remain captive to the expensive and irregular electricity supply. As such, this factor discriminates disproportionately against unskilled-labor-intensive sectors.

Attempts at reforms in different states over the past several years have failed to yield almost any successes. In this respect, the experiences with telecommunications and power sectors have been quite different. In part, this has been due to inherent technological differences: theft and non-payment are much easier to handle in telecommunications than power. The supplier can turn off the dial tone to a customer from a central facility if the latter fails to pay the telephone bill. But when it comes to power, he must physically cut the wires at the customer end in case of non-payment, which can readily turn into a law-and-order problem. Moreover, politically, denial of access to telephone without payment is more readily acceptable than of power supply, especially if power users happen to be poor or in the farm sector.

This key problem in expanding the base of paying customers has meant that during the reform, electricity-distribution entities, whether State Electricity Boards or

independent corporate entities, have tried to reduce losses by raising the tariff on the existing paying customers. At the same time, they have failed to improve the availability or reliability of electricity service. Given the poor health of the State Electricity Boards, which with some recent exceptions remain the monopoly buyers of electricity from generation companies and monopoly sellers to consumers, few private generation companies have entered the market. Without extra supply, there is little scope for improvement in the service. The result has been that the reform has come to be associated with increased tariff without improvement in service. This is in stark contrast to the telecommunication sector, where the reform has been accompanied by not just improved service but also dramatic reduction in the tariff, especially when the improvement in the quality of service is taken into account.

The Electricity Act 2003, which was passed under the NDA government and replaced the three existing legislations in the sector dated 1910, 1948 and 1998, offers a comprehensive framework for restructuring the power sector. It builds on the experience in the telecommunications sector and introduces competition through private sector entry side by side with public-sector entities.

Under the act, the Transmission Utility at the central as well as state level is to be a Government company with responsibility for planned and coordinated development of transmission network. Private sector is allowed to enter distribution through independent distribution networks and has open access to transmission at the outset. Open access in distribution is to be introduced in phases with surcharge for current level of cross subsidy to be gradually phased out along with obligation to supply. State Electricity Regulatory



Commissions, made mandatory by the act, are to frame regulations within one year regarding phasing of open access in distribution.

The act fully de-licenses generation and freely permits captive generation. Only hydro projects would henceforth require clearance from the Central Electricity Authority. Distribution licensees would be free to undertake generation and generating companies would be free to take up distribution businesses. Trading has been recognized as a distinct activity with the Regulatory Commissions authorized to fix ceilings on trading margins, if necessary.

A second track of reforms has involved the states signing memorandums of understanding (MOU) with the center under which states are offered financial resources contingent on satisfying certain performance criteria. The MOU milestones include consumer metering, energy audit, control of theft, tariff setting by the State Electricity Regulatory Commission and timely payment of subsidies.

All these steps are likely to move the power sector in the right direction. With the generation companies allowed to sell electricity directly to both bulk and retail buyers, they have a much greater incentive for entry. Likewise, given the scope for entry of independent distributors and availability of open access to transmission lines will allow private sector to compete against public sector entities directly for consumers. This is bound to place enormous pressure on the public sector entities to cut costs and raise revenues through better metering, reduced theft and distribution losses and related measures.

The change of the government at the center, which brought the UPA to power, has slowed the implementation of the Electricity Act. The Left parties are not warm to the

idea of private-sector involvement and have insisted on a review of the act. This is unfortunate since India can ill-afford to delay the reforms in this sector.

#### Ports, Airports and Civil Aviation

Congestion at ports and airports due to capacity constraints, bureaucratic red tape and poor administration hamper swift movement of goods into and out of the country. In the super-competitive global marketplace, this bottleneck can seriously hamper the chance of success of the industry. This is particularly true of the apparel industry that operates on a very tight time schedule dictated by the seasons that in turn dictate the sales in the large developed country markets in the United States and the European Union.

Table 5: Delays at Ports and Airports in India

Transaction	Location	Norm
Air Freight	Delhi Airport	
Export	2.5 days	Less than 12 hours
Import	15 days	Less than 12 hours
Containerized Sea Freight	Mumbai	
Ship Waiting Time	3-5 days	Less than 6 hours
Export Dwell Time	3-5 days	Less than 18 hours
Import Dwell Time	7-14 days	Less than 24 hours

Source: Roy and Bagai (2005, Box 2)

Table 5, taken from Roy and Bagai (2005) documents the striking delays that characterize the Indian ports and airports when compared with the international norms. India not only needs to undertake rapid expansion of its port capacity, it also needs to

streamline the procedures. Exporters and importers currently must file the same information separately to multiplicity of agencies relating to transport, agriculture, health and custom departments or ministries. In the modern electronic age, this information gathering can be organized through a single window as is, indeed, practiced by Singapore.<sup>22</sup>

Civil aviation is also in need of reform. The policy of bilateral slot trading has resulted in chronic shortage of flights to India thereby depriving it of substantial revenues from international tourism. This policy must be replaced by one that gives relatively free entry to airlines wishing to fly into and out of India. Air India remains hopelessly inefficient and costly and should be privatized. Entry into to the domestic segment of the civil aviation market has been opened wider recently and this has had dramatic effect on the prices. Further liberalization in this direction will help reduce the pressure on passenger transportation by road and railways and provide an inexpensive means of quick transportation for the entrepreneurs. India also needs to construct more airports and modernize the existing ones. At preset, airports even in the major cities of Delhi and Bombay are well below the international standard and very congested. Moreover, access from the international airport to the domestic ones is poor. In most countries, passengers can walk from the international to the domestic terminal. Some progress towards modernization of airports in Delhi and Bombay has been made recently with contracts given out to private sector players to expand and manage them.

---

<sup>22</sup> See Roy (2005, Box 5).

## Road Transport

Perhaps the greatest progress in recent years has been made in the area of roads. The government launched the National Highway Development Project (NHDP) aimed at turning 13,252 km of national highways into 4 or 6 lane roads. The project had two components: (i) the Golden Quadrilateral (GQ) connecting four metropolitan cities of Delhi, Mumbai, Chennai and Calcutta (5,952 km) and (ii) North-South and East-West corridors (7,300 km), connecting Srinagar to Kanyakumari and Silchar to Saurashtra and Salem to Cochin (?). The project is estimated to cost 540 billion rupees at 1999 prices (approximately \$11 billion). As of December 31, 2002, the government had turned 1,218 kilometer of the GQ highway into four-lane highway and expected to convert another 4,492 kilometers by December 31, 2003. On the North-South and East-West project, it had converted 817 kilometers as of December 31, 2002 and expected to convert another 617 kilometers by December 31, 2003.

The main areas in need of greater attention are regulations relating to transportation companies. If India is to take advantage of the vast road network it is creating, it is important that eventually freight movement shifts largely away from the railways to roads. Railways should be left to mainly move passengers at reasonable fares, which are likely to continue to be below the level necessary for full cost recovery for considerable time. In turn this requires the modernization of laws governing the entry and exit of transport companies. Restraints on the size and operations of transportation companies that move goods across states, if any, should be removed. There are substantial network economies in this area and efficiency will dictate the emergence of a few large transport companies that will move the bulk of the freight while smaller companies move goods

locally. The reform of labor laws will be crucial to this sector as well since large companies will be deterred in the absence of the right to retrench workers.

## **6 Walking on Two Legs**

The last section has emphasized the role of unskilled-labor-intensive manufacturing in the transformation of India into a modern economy. But unlike countries such as Korea, China, Taiwan and Brazil, India does not have to walk on just one leg to achieve this transformation. India is also uniquely placed to rely on a second leg: the modern services sector comprised of information technology (IT) and IT enabled services (ITES).

One of the best things to happen to India during the 1990s was the growth of the IT sector. Gradual liberalization in the electronics industry, which started in the mid 1980s and accelerated in the 1990s, gave the sector access to world-class hardware. Moreover, it was largely free from other regulations including the draconian labor laws since it principally employs white-collar workers. Therefore, when the world markets offered growth opportunities, it was able to take advantage of them. The key question confronting the sector now is whether it can continue to grow at its current pace.

There is some reason to fear that despite its current leadership status, even in this sector, India may be crowded out by China. For example, India's advantage in English over China has been eroding rapidly in recent years. The Chinese students coming to the United States today are much more fluent in English than those coming fifteen years ago so that the gap in language skills between the two countries has been declining. China has also been bridging the gap in technical education. The impact of these developments is reflected in the growth of the IT sector in China and exports of software and IT enabled services by it.

But the potential competition from China is perhaps not the major source of worry for India for two reasons. The total demand for outsourcing activities from developed countries will continue to grow sufficiently rapidly that India is unlikely to experience a major slowdown in the expansion of its demand. Moreover, India will continue to enjoy the advantage emanating from greater cultural and institutional affinity with western nations than China.

Bottlenecks on the growth of the Indian IT sector are likely to arise from the supply side instead. Most jobs in this sector require some college education. Unfortunately, India's higher education system is starved for resources and currently incapable of producing the large number of high-quality students that will be demanded at the current wages by the outsourcing industry. According to the 2001 census, there were only 12.6 million workers with non-technical undergraduate or higher degrees and 2.3 million workers with technical undergraduate or higher degrees in urban areas. These workers represent less than 4 percent of the total workforce of 398.8 million counted by the census. Moreover, at present, even with only 12 percent of the population in the college-going age group (18 to 24 years) in colleges, India's colleges and universities are stretched to the limit along quality as well as quantity dimension.

While there are no quick fixes to solve the problem of higher education, India must begin the work on four fronts. First, entry of private universities, so common around the world including Bangladesh and China, must be introduced. The government has no resources to expand higher education at a pace consistent with demand. Nor is it in a position to create many Indian Institute of Technology (IIT) and Indian Institute of Management (IIM) like institutions with public resources. Only private universities that

can charge hefty fees and attract private sponsors from home and abroad will be able to afford salaries necessary to retain top-class scholars and teachers and create facilities required to promote excellence in research.

To be sure, there has been at least an intellectual recognition of this need at the official level as evidenced by the Private Universities (Establishment and Regulation) Bill, 1995 and the recommendations of the Core Group of six members appointed by the Human Resources and Development (HRD) Ministry in 1999. Additionally, the issue has been widely discussed in various forums with the Education Committee of the Federation of Indian Chamber of Commerce and Industry offering excellent ideas within the Indian context. The sad reality, however, is that there has been little real action by the government and the 1995 bill has been “pending” in the Rajya Sabha (Upper House of the Parliament). The UPA government had appointed the Knowledge Commission, which could have taken lead but to-date it has done precious little in this direction. Moreover, following the recent expansion of caste-based quotas in educational institutions, two of its prominent members have resigned.

Second, even at the college level where private sector is currently permitted to operate, there is need for deregulation. The process of entry should be relatively simple and transparent. The state imposed limits on the number of students these colleges can admit should be abolished. Under the current rules, private engineering colleges usually lack the freedom to choose their own students or charge fees beyond a tiny fraction of those admitted. As a result, fees from a small fraction of the students pay for the entire college. While a strong case can be made for admissions on merit and scholarships cum loans to the admitted students unable to afford the fees fully, there is little justification for

a blanket exemption or near exemption from fees for a large fraction of the students at the private colleges.

The third necessary step is to loosen the stranglehold of the University Grants Commission (UGC) and give greater autonomy to universities and colleges. In this respect, India's own experience has been consistent with that of the rest of the world: institutions such as the IIT and IIM. These highest-quality institutions in India have been outside the UGC ambit. The Education Committee of FICCI has rightly suggested giving greater play to unitary (rather than affiliating) universities. Like the IIT and IIM, such institutions will be better able to maintain uniform and high quality standards.

But India needs to go farther. After more than fifty years of Independence, India should be willing to confer greater responsibility on the universities in general so that they can make informed decisions on courses, curricula, degrees, research centers, and types of academic appointments based on local needs and competitive pressures from peer institutions. It is likely that the initial impact of autonomy on a wide scale would be adverse but it is time to begin laying down the groundwork for a modern education system, which requires increasing decentralization and local responsibility. In the 1950s and 1960s, when India was dealing with a small number of universities and colleges, it was possible for the UGC to centrally control and regulate the process. But with more than 250 universities and 10,000 colleges, this is no longer an efficient form of organization.

It is also essential to state the obvious: India needs to gradually raise the tuition fees from their existing negligible levels. Unlike primary and secondary education, benefits of higher education accrue largely to those who receive it. While provisions for



loans and scholarships for the talented among the poor must be made, there is little justification for burdening the taxpayer with the expenses that lead to private gains for those lucky enough to find spots in colleges or universities. According to the Justice Punnayya Committee, appointed by UGC in 1992 to advise on how to fund higher education, tuition fees accounted for 15 to 20 percent of university expenditures in the early 1950s. Today, they account for less than 3 percent. This is ironic since rising incomes should have increased rather than decrease the contribution.

Finally, it bears noting briefly that the IT industry too will benefit greatly from infrastructure development. The rudimentary roads and airport in Bangalore—a city that is so much feared by the professional workers in the developed countries—invariably shock a first-time visitor to this city. The city stands in sharp contrast to the premises of its major suppliers of the IT services such as Infosys and Wipro that rival their developed country counterparts. Building up of the urban infrastructure in the major hubs of the IT industry should be a national priority.

## **7 Concluding Remarks**

We can be cautiously optimistic that the trend growth rate in India has moved further up, reaching the 8 percent mark. A key feature of the rapid growth at this higher rate in the last three years has been very rapid expansion of exports of both goods and services. Unlike in the past, this time around India has taken advantage of the rapid growth in the world economy and its open markets. With the export base somewhat bigger, future prospects for a rising share of India in the world trade are even better.

Nevertheless, rapid growth in both output and exports has happened without the expansion of the share of the unskilled-labor-intensive industry in the GDP. This has

meant that the movement of the workforce out of agriculture has been slow. Moreover, whatever movement has taken place has been into the informal, unorganized sector of the economy. Modernization of the economy requires the expansion of employment opportunities in the organized sector.

During the last two decades, India has removed many of the barriers to the entry of medium and large firms into unskilled-labor-intensive sectors. Most importantly, the vast majority of the unskilled-labor-intensive products have been removed from the small-scale-industries reservation list. Even in the case of the products still on the list, medium and large firms have been allowed to enter production at least since March 2000 as long as they export more than 50 percent of their output.

The removal of these restrictions has not proved sufficient to speed up the transition of workers into the modern, organized sector, however. This inevitably points to the presence of yet more barriers to the entry of large firms into the unskilled-labor-intensive sectors. I have argued that various labor-market rigidities and infrastructure bottlenecks account for the continued muted response of unskilled-labor-intensive industries to the reforms undertaken to-date. Unless the government brings about some relief to the firms in these two areas, the transformation will be slow and poverty reduction likewise will be less than what is feasible.

I have also argued in the paper that unlike countries such as Korea, Taiwan and China, which have relied principally on manufacturing to transform their economies, India has the prospect of walking on two legs: manufacturing and information technology industry. Indeed, stimulated by the liberalization of hardware imports in the 1980s and

free of labor market rigidities (since white collar workers are not subject to the draconian Industrial Disputes Act, 1947), the IT industry provided the initial impetus to growth.

But the IT industry too faces major constraints in the medium to long run on the supply side. This is reflected in the very rapid expansion of skilled wages in India in the last two or three years. Therefore, India also needs to undertake major reforms in its higher education system to ensure a steady stream of qualified IT workers. These reforms include giving genuine entry to private universities, the introduction of proper tuition fees to give the existing universities the necessary resources to provide quality education and a drastic downsizing of the University Grants Commission, which has outlived its usefulness.

## References

- Acharya, Shankar. 2004. "India's growth prospects revisited," *Economic and Political Weekly* October 9.
- Bardhan, Pranab, 2006, "Globalization Hits Road Bumps in India," *Yale Global Online*, October 3, <<http://yaleglobal.yale.edu/display.article?id=8246>>
- Bhagwati, Jagdish. 1988. "Poverty and Public Policy," *World Development* 16, 539-555.
- Bhagwati, Jagdish. 2004. *In Defense of Globalization*, New York: oxford University Press.
- Bhagwati, Jagdish and Arvind Panagariya, "Great Expectations," *Wall Street Journal*, May 24, op-ed page.
- Bosworth, Barry, Susan Collins and Arvind Virmani. 2007. "Sources of Growth in the Indian Economy," *India Policy Forum*, forthcoming.
- Datta Chaudhari, Mrinal. 1996. "Labor Markets as Social Institutions in India," IRIS-India Working Paper No. 10, Center on the Institutional reform and Informal Sector, University of Maryland at College Park.
- Deaton, Angus and Jean Drèze. 2002. "Poverty and inequality in India: a reexamination," *Economic and Political Weekly*, September 7, 3729-48.
- Deaton Angus and Valerie Kozel. 2005. "Data and Dogma: The Great Indian Poverty Debate," *World Bank Research Observer*, 2005, volume 20, No. 2, pp. 177-99.
- Harvie, Charles and Hyun-Hoon Lee, 2003, "Export Led Industrialization and Growth-Korea's Economic Miracle 1962-1989," *Australian Economic History Review*, 43 (3), pp.256-286.

- Kelkar, Vijay. 2004: 'India: On the Growth Turnpike', Mimeo, 2004 Narayanan Oration, Australian National University, April.
- Kochhar, Kalpana, Raghuram Rajan, Arvind Subramanian and Ioannis Tokatlidis, 2006, "India's Pattern of Development: What Happened, What Follows," NBER Working Paper No. 12023.
- Lewis, John P. 1962. *Quiet Crisis in India*, Washington DC: Brookings Institution.
- Mahanalobis, P. C. 1969. "The Asian Drama: An Indian View." *Sankhyā, The Indian Journal of Statistics*, Series B, 31(3&4). Statistical Publishing Society: Calcutta, pp. 435-58.
- Mehta, T. U. 1994. "Contribution of Judiciary to Industrial Equity", in D.S. Saini, ed; *Labor Judiciary, Adjudication and Industrial Justice*, New Delhi: Oxford and International Book House Publishing Co.
- Roy, Jayanta and Shweta Bagai. 2005. "Key Issues in Trade Facilitation," World Bank Policy Research Working Paper 3703, Washington DC: World Bank.
- Panagariya, Arvind. 2002. "Why India Lags behind China," *Economic Times*, May 22.
- Panagariya, Arvind, 2005, "Why India Lags Behind China and how it can Bridge the Gap," mimeo., forthcoming in the *World Economy*.
- Panagariya, Arvind. 2006. "India and China: Trade and Foreign Investment," presented at the "Pan Asia 2006" Conference, Stanford Center for International Development, June 1-3, 2006.
- Panagariya, Arvind, *India: An Emerging Giant*, New York: Oxford university Press, forthcoming.

Srinivasan, T.N., 2003, "Indian Economy: Current Problems and Future Prospects,"  
lecture delivered on January 3, 2003 under the auspices of the ICFAI Business  
School, Chennai, India.

Yoo, Jungho, 1997, "Neoclassical versus Revisionist View of Korean Economic  
Growth." Development Discussion Paper No. 588, Harvard Institute for  
International Development, Harvard University, Cambridge, Mass.