

AN INDIAN ECONOMIC MIRACLE?

Deepak Lal

In explaining the acceleration in Indian growth, and to judge if an Indian economic miracle is on its way, it is first necessary to establish when this acceleration began, as this is still subject to controversy. Second it is necessary to identify the sources of this acceleration and to see to what extent these are the results of policy. Third, to provide some reading of the tea leaves until 2030, it is necessary to outline the current constraints on growth. But before that, the current change in Indian economic fortunes needs to be put into historical perspective. This is done in the first part of this article, followed by the next three parts, which deal with the other three broad themes outlined above. As this article is in honor of Angus Maddison, I rely wherever possible on the growth accounting method that he has made so much his own.

Repression, Crisis, and Reform

Like many other developing countries, India at its independence in 1947 followed an inward-looking heavy industry biased industrialization strategy. This was in part a reaction to the laissez faire and free trade policies followed by the British Raj in the 19th century, which were erroneously thought to have led to India's continuing stagnation. Though contemporary research has questioned the validity of this nationalist and often Marxist perspective, it still colors the minds of Indian elites. Like elites in many other developing countries, they have been haunted by their helplessness against the Western assault in the Age of Imperialism. They have sought (like the Chinese) a middle way between the modernity promised by Western globalizing capitalism and their own ancient traditions.

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Unlike the Japanese, who saw that they could modernize while keeping their traditions, there were two alternative Indian responses. The first represented by Gandhi was to hold on to tradition, and to reject modernity. The second by Nehru was to reconcile modernity with tradition by adopting a form of Fabian socialism. This development model represented a compromise between the Enlightenment strand promoting modernization and the Romantic revolt against the Enlightenment, represented by the younger Marx and the English socialists like William Morris (see Lal (2006c).

At Independence in 1947, with Gandhi dead soon thereafter at the hands of an assassin, it was Nehru's ideas that determined India's economic policies. They entailed massive dirigiste interventions in the form of centralized planning and a draconian set of economic controls on foreign trade, capital flows, and prices. They, however, yielded a higher growth rate than that experienced under the Raj (Table 1). This acceleration of growth was based on three factors.

The first was a rise in public social overhead investment, particularly on irrigation, and from the late 1960s on R & D in agriculture. The British Raj had been hamstrung in raising public investment as it was always wary of a nationalist revolt that might be provoked by any rise in taxes for its finance. With no such constraint faced by independent India, public investment, which had averaged about 2.2 percent in the interwar period, rose to nearly 7 percent of GDP by 1960–61.

The second was a rise in the rate of savings and capital formation in the economy compared with the century of alien rule. Gross domestic savings which were about 8 percent of GDP at Independence rose to 11.6 percent by 1960–61, and by 1999–2000 were 22.3 percent of GDP.

The third was the rise in population from 1921 induced by a declining death rate, which led to a rising labor force in agriculture. It had grown by 12.6 percent between 1901 and 1940, but rose by 25.4 percent between 1950 and 1970 (Lal 2005: Table 7.4). This growth spurt, on Boserupian lines, (Boserup 1965; Lal 2005, 2006) led to an intensification of agriculture in terms of an increase both in the labor and capital input per unit of land, and a rise in the annual growth rate in agriculture from 0.44 percent between 1900 and 1947 to 3.3 percent between 1950 and 1965. The elasticity of agricultural output with respect to rural labor remained constant at about 2.5 in both the pre-Independence period (1900–40) and the post-Independence period (1950–70), while that of capital to labor rose from about 1 to 2.54, as predicted by the Boserup model (Lal 2005: Table 7.4).

The economic repression under the Nehruvian settlement, however,

TABLE 1
SOURCES OF GROWTH OF REAL GDP: INDIA 1901-97/98

Rates of Growth	Undivided India 1900-01 to 1946-47		India 1950-51 to 1997-98	
	Agriculture	Non-agriculture Total	Agriculture	Non-agriculture Total
GDP	0.44	1.69	2.6	5.1
Persons employed	0.4	0.42	1.5	2.1
Capital stock including land	0.45	3.02	2.5	4.5
Combined factor inputs	0.41	1.12	1.69	2.74
Increase in output per unit of input	0.03	0.57	0.91	2.36
		0.92		4
		0.41		1.7
		1.13		4
		0.56		2.22
		0.36		1.78

SOURCE: Sivasubramonian (2000: Tables 7.21 and 9.34).

had led by the mid-1960s to a “quiet crisis” in India (Lewis 1962), with the Hindu rate of growth of 3.5 percent and population growing at 2.2 percent until the early 1980s, yielding meager annual rises in per capita income of just over 1.3 percent. This performance failed to make any marked dent on India’s ancient poverty.

The first signs of crisis appeared in agriculture, as the Boserupian process, with an unchanged agricultural technology, soon faced diminishing returns. The food crisis of the 1960s forced the government to reverse its previous neglect of agriculture, based on the faulty prescriptions of the Arthur Lewis model that the route to growth in a labor surplus economy was through massive industrialization, with agriculture being left alone until the surplus labor had been worked off. India then adopted the new technology embodied in high-yielding seeds and large inputs of fertilizers and water that led to the Green Revolution. The average annual agricultural growth rate had slowed to only 1.8 percent from 1960 to 1973. The Green Revolution of the 1970s, which was by and large a wheat revolution, raised the growth rate of agriculture to about 2.9 percent from 1973 to 1999. Thereafter, it has slowed as the area under high-yielding varieties has reached its limits, with the potential irrigable area having been utilized and diminishing returns setting in on the new Green Revolution technology.

Industrial growth, which had been 6.8 percent between 1950 and 1965 slowed to 4.3 percent between 1976 and 1980, as the limits of import substitution were reached. There was a foreign exchange crisis in the mid-1960s that led Indian economists to question the dirigiste, inward-looking path India had taken. This reaction was strengthened by the neoclassical resurgence in the 1970s, which questioned the intellectual basis of post-war development economics (Lal 1985, Little 1982). But it was the switch made by Deng Xiaoping from the plan to the market in China, in 1978, that probably most concentrated Indian minds.

With its tradition of Gladstonian public finance, India had avoided the chronic macroeconomic imbalances associated with dirigisme. However, the creation of a rent-seeking society, through the microeconomic distortions introduced by public policy in the planning era, gradually led to a fiscal crisis (Lal 1987).

The first sign was the growth of the underground economy, variously estimated to be 18 to 45 percent of GDP. Second, government revenue, which had risen from about 11 percent of GDP in 1960 to about 20 percent in 1986, stagnated thereafter. Public expenditures rose from about 19 percent of GDP in 1960 to more than 32 percent by 1986. Thus, the public sector borrowing requirement (PSBR) rose from about 8 percent

of GDP in the 1960s and 1970s to more than 11.5 percent in 1990, the year preceding the crisis and reform (Lal 2005: Table 12.1). Third, the growing fiscal crisis was met by internal and external borrowing and, finally, by levying the inflation tax. Inflation, which had hovered around 4–5 percent except for years of drought, rose steadily from 1988 to reach a peak of nearly 14 percent in 1991, a year with a bumper harvest. The internal public debt rose from 42 percent of GDP in the early 1980s to nearly 58 percent in 1991, as the government tried to meet its fiscal bind through promoting large inflows of short-term capital from the Indian diaspora after 1985 (Lal 2005: Table 12.1b). When they took fright at the deteriorating fiscal and inflation position and moved their money out of India, a Latin American style crisis was finally triggered.

In the dash for growth, a halfhearted liberalization effort began with Rajiv Gandhi's election, after his mother's assassination in 1984. It raised the growth rate, but this liberalizing impetus soon petered out, as his government was caught in a web of corruption charges. The dash for growth did generate an unsustainable boom, with GDP growing at 7 percent in 1989. A weak coalition came to power in 1989 and was unable to deal with the impending crisis. When it collapsed and a minority Congress government with Dr. Manmohan Singh as the finance minister came to power in 1991, the country was essentially bankrupt, with foreign exchange reserves barely sufficient to finance 10 days of imports, galloping inflation (by Indian standards) of 14 percent, a PSBR of nearly 12 percent, and an impending growth collapse.

The new finance minister began the reversal of nearly a century's creeping—and under Mrs. Gandhi, galloping—dirigisme. The PSBR was squeezed by about 2 percent of GDP with little pain. The Permit Raj began to be dismantled with the virtual ending of industrial licensing, and with the removal of import controls (except on consumer goods, which were only removed in 2001 when they were declared illegal by the World Trade Organization). The import-weighted tariff was cut from an average of 87 percent in 1991 to 27 percent in 1996. The rupee was devalued initially by about 20 percent. Direct foreign investment was once again welcomed, though it was still controlled and restricted to 51 percent foreign ownership.

Even these partial reforms lifted the growth rate, exports, foreign reserves, and inflows of foreign capital. The savings and investment rates rose and the incremental capital-output ratio fell from a pre-reform average of 4.5 to 3.8 in the post-reform period, as the reforms increased economic efficiency. Poverty rates, after rising during the short period of stabilization, came down substantially.

With the quick success of the stabilization measures and the boost to growth from the partial liberalization, the element of crisis that had led to the reforms disappeared. Thereafter, there has been piecemeal reform by successive coalitions of varying political hue. The most notable being those in fiscal policy and the easing of financial repression (created by Mrs. Gandhi's 1970s nationalization of banks) through financial reform. The coalition led by the BJP also notably began the process of privatizing the inefficient public sector. But this process has stalled with the veto imposed by the current Congress Party's communist coalition partners. They have also prevented the dismantling of the labor laws imposed by the British Raj in the late 19th century (at the behest of protectionist Lancashire textile manufacturers), which have raised the price of using India's most abundant resource for industrialization and led to a century of a growing capital-intensive bias in Indian industry.

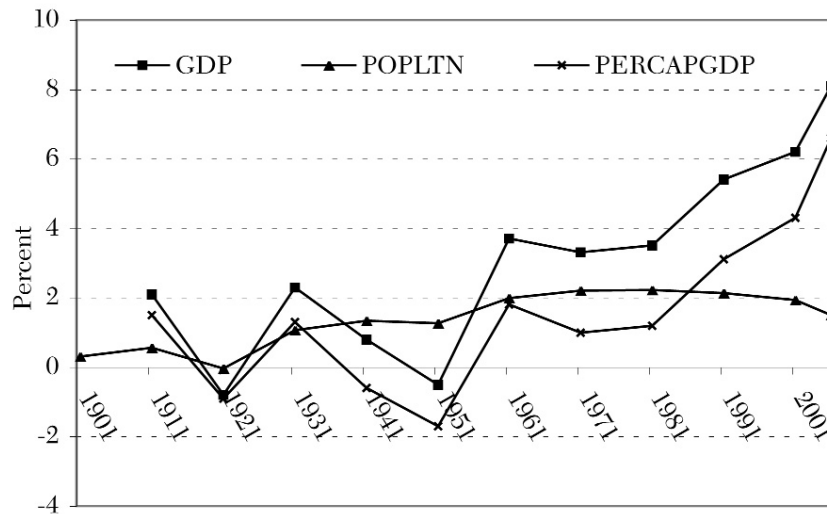
Figure 1 shows the growth rates of GDP, population, and per capita GDP for the 20th century. It shows the rise in the GDP and per capita growth rates from 1951 until the 1960s, compared with the pre-Independence period. One can also see the stagnation in the 1960s and 1970s, with the trend rate of growth until the early 1980s being a meager 3.5 percent per year—dubbed by Raj Krishna as the “Hindu rate of growth.” In the 1980s, with partial economic liberalization under Rajiv Gandhi and with the abandonment of many aspects of the Permit Raj and industrial planning, growth accelerated to 5.6 percent, and from 1991 to 2000, growth increased to 6.6 percent per year (Lal 2005: Table 11.1b). Since that time, there has been a further acceleration of economic growth to nearly 9 percent per year from 2003 to 2007.

When Did India's Growth Acceleration Begin?

From the earlier account of the partial liberalization in the 1980s, it would appear that there was some acceleration in the growth rate in the 1980s. But the dash for growth, which raised growth rates just before the 1991 crisis, was not sustainable. It was the much fuller liberalization in 1991 that put India on a higher-growth path. So the 1990s should really be taken as the period when India's growth acceleration began.

Rodrik (2002) and De Long (2002), using the official time series of Indian GDP, have contested this view. They argue that the acceleration in Indian growth began in the 1980s before the Manmohan Singh-Narasimha Rao reforms, when it was 5.6 percent per year and was not much higher after the reforms. Hence, the liberalization of trade and industrial policies of the 1990s cannot be taken to have made any signifi-

FIGURE 1
ANNUAL GROWTH RATES IN INDIA, 1901–2006



SOURCES: Lal (2005), *Economic Survey 2005–06*, World Development Report 2007.

cant difference to growth in India. Panagriya (2005) and Srinivasan (2003) have countered this view. They argue that partial liberalization during the mid-1980s had favorable efficiency effects but that the resulting rise in the growth rate was fragile. Moreover, if the exceptionally high growth rate of 7.6 percent in 1988–89, due to the unsustainable foreign borrowing, is removed from the GDP series, the average growth rate in the 1980s would be significantly lower than in the 1990s (Panagriya 2005: 174). Finally, Wallack (2003) has identified structural breaks in the Indian GDP series. She finds a statistically significant (at the 10 percent level) breakpoint in 1980. But when the exercise is carried out on the GNP series, the statistically significant breakpoint is 1987.

One basic problem with these diagnoses based on the GDP and GNP time series is that they do not take account of the underlying fragility of the data from which they derive strong inferences using either national time series, or much worse from cross-country regressions.¹ In an important paper, Bosworth, Collins, and Virmani (2006; hereafter BCV) rightly

¹For discussion of these weaknesses of the cross-country, cross-section studies that have recently proliferated, see Srinivasan and Bhagwati (2001).

note the extreme fragility of the annual time series data. For as most of India's output and employment is in the unorganized sector, the only reliable estimates on them is for the dates on which there are data from the quinquennial surveys of households and small enterprises. The annual estimates between the surveys are largely based on interpolations or extrapolations of the underlying source data. Sivasubramonian (2004) provides the only reliable and comprehensive analysis of the national income data until 2000. BCV have relied on an extension of his data, including recent revisions of the national accounts to derive quinquennial growth accounts for India from 1960 to 2005. They have also derived additional growth accounts for the subsectors—agriculture, industry, manufacturing, and services—and have included estimates of the contributions of the improvement in the quality of the labor force through education. Their estimates are presented in Table 2 for the aggregate economy and Table 3 for the major subsectors.² From Table 2, BCV (2006:17) conclude,

Growth in output per worker strengthened from 1.8 percent in 1973–83 to 2.9 percent in 1983–93 and 5.8 percent in 1993–99. These figures seem to imply a sustained improvement in the underlying trend. However, they do not allow us to pin down the precise timing of the growth acceleration. Growth did slow over the 1999–04 period, but this appears largely due to a severe agricultural drought in 2002–03. Moreover, preliminary data for 2005–06 suggest a strong 8.4 percent annual growth rate, and a three-year average about 8 percent.

As the growth rate in both 2005–06 and 2006–07 has now been officially estimated to be over 9 percent per year, this record would yield an average annual growth rate of 8.6 percent in the four years following the drought of 2002–03.

Sources of Growth Acceleration

Both the BCV and Singh-Bery growth accounts for the economy as a whole show that the acceleration in growth from the mid 1980s was due less to an increase in factor inputs than to an increase in total factor productivity (TFP), unlike the period until 1983, when most of the growth was due to increased factor inputs. However, improvements in the quality

²For an alternative growth accounting based on the traditional contribution of capital, labor, and technical progress derived from the official time series, see Singh and Bery (2005).

TABLE 2
 SOURCES OF ECONOMIC GROWTH, TOTAL ECONOMY, 1960–2005
 (Annual Percentage Rate of Change)

Period	Contribution of:						
	Output	Employment	Output per Worker	Physical Capital	Land	Education	Factor Productivity
1960–04	4.7	2.0	2.6	1.2	-0.1	0.3	1.2
1960–80	3.4	2.2	1.3	1.0	-0.2	0.2	0.2
1980–04	5.8	1.9	3.8	1.4	0.0	0.4	2.0
1960–73	3.3	2.0	1.3	1.1	-0.2	0.1	0.2
1973–83	4.2	2.4	1.8	0.9	-0.2	0.3	0.6
1983–93	5.0	2.1	2.9	0.9	-0.1	0.3	1.7
1993–99	7.0	1.2	5.8	2.4	-0.1	0.4	2.8
1999–04	6.0	2.4	3.6	1.2	0.1	0.4	2.0

SOURCE: Bosworth, Collins, and Virmani (2006).

TABLE 3
 SOURCE OF ECONOMIC GROWTH, MAJOR SECTORS, 1960-2005
 (Annual Percentage Rate of Change)

Period	Output	Employment	Output per Worker	Contribution of:				Factor Productivity
				Physical Capital	Land	Education	Productivity	
<i>Agriculture</i>								
1960-04	2.4	1.4	1.0	0.4	-0.1	0.2	0.6	
1960-80	1.9	1.8	0.1	0.2	-0.2	0.1	-0.1	
1980-04	2.8	1.0	1.8	0.5	-0.1	0.3	1.1	
1960-73	1.8	1.9	-0.1	0.2	-0.2	0.1	-0.2	
1973-83	2.9	1.7	1.2	0.3	-0.2	0.2	0.9	
1983-93	2.9	1.4	1.5	0.2	-0.1	0.2	1.2	
1993-99	2.6	0.2	2.4	0.7	0.1	0.3	1.3	
1999-04	1.8	1.0	0.8	0.9	-0.2	0.4	-0.1	
<i>Industry (Inclusive of Manufacturing)</i>								
1960-04	5.6	3.3	2.3	1.6		0.3	0.3	
1960-80	4.7	3.1	1.6	1.8		0.3	-0.4	

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1980-04	6.4	3.5	2.9	1.6	0.3	1.0
1960-73	4.7	2.3	2.4	2.3	0.2	-0.1
1973-83	5.2	4.5	0.7	1.1	0.3	-0.8
1983-93	6.0	2.9	3.1	1.3	0.3	1.4
1993-99	6.9	2.4	4.5	3.0	0.5	1.0
1999-04	6.4	5.5	0.9	-0.1	0.2	0.9
<i>Manufacturing</i>						
1960-04	5.7	2.6	3.1	1.8	0.3	0.9
1960-80	4.6	2.7	2.0	1.5	0.3	0.2
1980-04	6.6	2.6	4.0	2.1	0.4	1.5
1960-73	4.9	1.5	3.4	2.1	0.2	1.1
1973-83	5.3	4.3	1.0	1.0	0.4	-0.3
1983-93	6.0	2.1	3.9	1.3	0.4	2.1
1993-99	7.2	1.7	5.5	4.6	0.6	0.3
1999-04	6.4	4.4	2.0	0.4	0.3	1.4
<i>Services</i>						
1960-04	6.3	3.2	3.1	0.9	0.4	1.7
1960-80	4.9	2.8	2.0	1.1	0.5	0.4
1980-04	7.6	3.6	4.0	0.7	0.4	2.9
1960-73	4.7	1.9	2.8	1.8	0.4	0.5
1973-83	5.3	4.2	1.0	0.0	0.5	0.5
1983-93	6.5	3.8	2.7	0.3	0.4	2.0
1993-99	10.2	3.1	7.0	1.5	0.5	4.9
1999-04	7.8	3.5	4.4	0.9	0.4	3.1

SOURCE: Bosworth, Collins, and Virmani (2006).

of the labor force from education have contributed modestly to growth performance.

The increase in TFP shows the effects of improved efficiency that followed the movements from the plan to the market and the gradual easing of the economic repression of the Indian economy. Those efficiency gains from economic liberalization, which have become most marked since the 1991 Manmohan Singh reforms, are brought out in the reallocation effects BCV have estimated from their growth accounts (shown in Table 4).³ Usually, these reallocation effects are due to shifts in employment from low productivity uses in agriculture to higher productivity uses in industry. But in India while the share of agriculture in total output has declined, it has only decreased marginally as a share of employment.

To determine the sources of these reallocation gains we need to look at the sectoral growth accounts in Table 3. Those for agriculture confirm the effects of the Green Revolution that took off in 1973 and strengthened in the 1980s. It raised the TFP rate in agriculture until 1999. Thereafter, as

TABLE 4
GROWTH IN OUTPUT PER WORKER, 1960–2005
(Annual Percentage Rate of Change)

Period	Total Economy (1)	Weighted Sectoral Growth (2)	Reallocation Effects (1) - (2)
1960–80	1.3	0.9	0.4
1980–04	3.8	2.8	1.0
1960–73	1.3	1.1	0.2
1973–83	1.8	1.0	0.8
1983–93	2.9	2.3	0.6
1993–99	5.8	4.8	1.0
1999–04	3.6	2.4	1.2

SOURCE: Bosworth, Collins, and Virmani (2006).

³These have been derived from Tables 1 and 2, which give the total and sector growth in output per worker and the sectoral shares to give the figures in column (2) of Table 3. The reallocation effects are then given by the difference between the first two columns.

it reached its limits with virtually the whole irrigable area being irrigated, these TFP gains have disappeared, with growth being dependent on increasing factor inputs (as in the pre-Green Revolution Boserupian phase) subject to diminishing returns. The seemingly surprising growth in agricultural employment in the Green Revolution period (1973–99) is due to its labor intensive nature. With this process having reached its limits, the prospects for further increases in agricultural employment are not bright.

For industry as a whole, there was an acceleration of TFP in the “reform by stealth” period from 1983, which remained constant in the first post-reform period, fell during the investment slump after 1999, and should have recovered in the last four years of 8.6 percent growth. In the two, pre-1991 and immediate post-reform 1993 periods, there was little industrial employment growth, though this has changed with a rise in the industrial employment growth rate to over 5 percent since 1999. Much of industrial growth has been due to capital deepening. The trends for the manufacturing subsector are similar. The low labor absorption by Indian industry, and its continuing capital intensity, reflects both the failure of India to rescind its 19th century labor laws, which raise the relative price of its most abundant factor, as well as the reservations for the relatively labor intensive small-scale sector, which prevents their expansion to garner both economies of scale and increase unskilled labor employment. In contrast, China’s post-reform growth has been based on a massive expansion of its private sector originating from the township and village enterprises established after Deng Xiaoping began to liberalize the economy in 1978. Whether the recent introduction of Special Economic Zones (SEZs) to overcome these constraints will allow India to use its abundant factor of production—low-skilled labor—efficiently in its future industrialization remains to be seen.

The rise in the growth of industrial employment from 1999 to 2004 and the acceleration of industrial growth from 6.4 percent to 8.4, and to 10.8 percent in 2006–07, suggests that the economic effects of the ending of the Permit Raj in 1991 and India’s growing integration with the world economy are now at last bearing fruit. This enhanced performance is consistent with the experience of supply-side reforms in other countries. For example, Thatcher’s reforms of the 1980s did not begin to bear fruit until the mid-1990s. India’s recent trends augur well for the future growth of the industrial sector.

The most surprising feature of the sectoral Indian growth accounts (Table 3) is that services have been the main growth agent since the 1980s, growing faster than both industry and manufacturing, while having comparable rates of growth in employment. The major source

of the surge in services growth is due to TFP growth rates of about 3 percent per year. Also there is a large improvement in the quality of the labor force as compared with the other sectors. BCV argue that as the modern services sector including the burgeoning IT and communications sectors, only contributed less than 4 percent to total services' growth, of 7.8 percent between 1993 and 2004, the data imply that the bulk of TFP growth in services is accounted by traditional services. But this goes against all international experience. BCV's hypothesis is that the prices of services in the Indian national accounts are being underestimated, leading to an overestimate of their real rate of growth.

Summing up, agricultural growth based on the Green Revolution has been a major source of India's acceleration of growth from its pre-Independence levels. Agriculture has also absorbed much of the increase in the labor force, even as its share in output has shrunk. But it is now reaching its limits, with diminishing returns setting in on the "new" agricultural production function. Industrial and manufacturing growth rates have risen, most markedly in the last four years. But industrial employment growth has been anemic. Increased factor inputs, rather than dramatic increases in TFP, account for most of the growth in the industrial and manufacturing sectors. The fastest growth rate has been in services, which accounts for a large part of the recent growth acceleration. This has been due to both increased factor inputs and high rates of TFP growth, which is not confined merely to the modern services of business, finance, and communications but has also occurred in the traditional services. This is an internationally atypical pattern of growth. But, statistical problems in underestimating the price of services and, hence, an exaggeration of the real growth rate of the sector may explain this anomaly.

Outlook to 2030

In examining the outlook to 2030, it is useful to identify the constraints on Indian growth that were widely held to be responsible for the derisory Hindu rate of growth until 1980. These were a shortage of savings and foreign exchange.

The inward-looking heavy industry biased industrialization strategy, rationalized in the Mahalanobis model, was based on a development path that could break the foreign exchange bottleneck purportedly facing India. Meanwhile, a large public sector in the "commanding heights" of the economy was advocated to generate profits to bolster the economy's savings rate. As was made clear by many observers, including the present author, the foreign exchange bottleneck became a self-fulfilling prophecy

because of the dirigiste trade and exchange rate policies India followed with their heavy indirect tax on exports. When these policies began to change in the 1980s, and more fully after the 1991 reforms, India's exports went from 0.1 percent of world exports in 2001 to 1 percent today. In 2006–07, exports grew by more than 30 percent (Economic Survey 2005–06: Table 6.4; Economic Survey 2006–07: 113).

India's share of world trade (one sixth) is tiny when compared with China, which became the world's third largest trading country in 2003, when its foreign trade increased by over \$200 billion—twice the level of India's total trade in 2002. However, in 2005 and 2006, India's export growth rate surpassed China's.

India's poor export performance compared with China is because though protection has declined substantially in the post-reform period, it is still high, unlike China, which has carried out one of the largest unilateral liberalizations of trade since Britain's repeal of the Corn Laws. Further trade liberalization will allow growing efficiency gains to the Indian economy, boosting its growth rate. Yet, even this limited trade liberalization together with the maintenance of an undervalued exchange rate has led to burgeoning foreign exchange reserves, which in 2005–06 stood at \$134 billion or 19 percent of Indian GDP, and have risen further to over \$200 billion in 2007. So limited foreign exchange is no longer a constraint on Indian growth.

India's gross domestic savings have increased from about 15 percent in 1960–79 to 32.4 percent in 2005–06. The bulk of this increase is due to a substantial rise in the household savings rate from 10.4 percent in 1960–79 to 22.3 percent of GDP in 2005–06. The private corporate sector's savings rate has risen from 1.5 percent in 1960–79 to 8.1 percent in 2005–06. The public-sector savings rate reached a peak in 1980–84 of 3.7 percent and became negative in 1990–91, largely due to rising fiscal deficits of the state and central governments. There has been a turnaround since 2003–04, with the public-sector savings rate being 2 percent in 2005–06. This improved public-sector savings performance is largely due to a reduction of both the center's and states' fiscal deficits, due to rising tax revenues with growing output, as well as a simplification and reduction of marginal central direct tax rates and the adoption of a value-added tax instead of sales taxes by many states that have improved tax compliance. The latest (12th) Finance Commission's recommendation of tying debt relief to the state's enactment of fiscal reform and budget management acts, which mandate the reduction of their revenue deficits, has also brought down their budget deficits. However, the period of public dissavings was also caused by the growing losses in public-sector industries, whose privatiza-

tion has stalled because of the veto exercised by the communist coalition partners of the current government. If they are privatized, as they should be, it will further reduce the public sector's draft on domestic savings.

As India has just begun its demographic transition, it can be expected to have a private savings bonanza until the population stabilizes by 2045, when the United Nations estimates it will be 1.6 billion, and thereafter begins to age. The proportion of the population in the 15–64 working age group is expected to increase from 62.9 percent in 2006 to 68.1 percent in 2026. With the total fertility rate reaching the replacement rate of 2.1 by 2010, total population will continue to increase until 2045. During these three decades of the demographic transition India's savings rate should rise. Private savings rates could well rise to over 30 percent by 2030. If the public sector does not dissave and corporate savings remain at the current level of 8 percent, India's gross domestic savings rate could well be 38–40 percent over the next two decades. So, clearly India does not face any savings constraint in the near future.

Foreign capital inflows into India before the 1991 economic reforms were mainly in the form of foreign direct investment (FDI), and only 0.2 percent of GDP on average until 1992–93. Since the reforms they increased to 1.6 percent of GDP in 1996–97 and about 2 percent of GDP since 2003 (Economic Survey 2006–07: 127). In the years since 2003, most of the foreign investment in India has been portfolio rather than direct investment, in the form of foreign institutional investment (FII). Thus, in 2004–05, of the total of \$12 billion of foreign inflows, FDI flows were only 3.2 billion the rest being FII. Bhalla (2006) has estimated that because China's inflows are mainly in the form of FDI, reflecting the limited financial reforms it has undertaken, the share of both FDI and FII in GDP in the two countries since 2003–04 have been about the same at 3–5 percent of GDP (as China has a higher GDP than India's).

Gross domestic investment has risen to 31.5 percent of GDP in 2004–05 and 33.8 percent in 2005–06. If the domestic savings rate increases to 35 percent and the foreign savings rate to 5 percent, gross domestic investment could increase to 40 percent. Singh and Bery (2005) estimate that the ICOR (gross capital formation as a percentage of GDP), has been stable at about 4 since 1995. This would then yield a 10 percent growth rate in the foreseeable future,⁴ even without any further reforms.

⁴Bhalla (2006) maintains "that projections based on econometric analysis of investment spending, non-food credit, bank credit to industry, real interest rates etc., give a minimum estimate of investment spending as a share of GDP of 41 percent in 2006–07." If this is correct it would yield a growth rate of 10 percent in 2006–07. Given the two-year lag in getting firm official national income statistics, we will have to wait and see if this is true.

Bhalla (2006) reaches a similar conclusion using a simplified growth accounting framework. The annual growth rate between 1993 and 2000 was about 6 percent, with an investment rate of about 24 percent of GDP. If the investment rate rises to 40 percent, the growth contribution of the extra 15 percent in the share of investment will lead to a growth contribution of 2.3 percent per year; as each extra percentage point increase in investment leads to a 0.15 percent increase in the GDP growth rate. Adding 1.3 percent per year due to labor force and increases in TFP yields a trend growth rate of 9.6 percent per year.

From the partial quantitative evidence that is available for the two years since 2004–05 (as the capital formation, and savings data is produced with a two-year lag) there does appear to have been a structural break in the performance of the Indian economy since 2003–04. In fact, many Indian economic observers have been puzzled by this more recent growth acceleration as the reform process is by and large stalled, because of the veto imposed by the communist coalition partners of the government to rescind the colonial labor laws, to allow foreign investment into many sectors, and the refusal to privatize the remaining dysfunctional public sector industries. The major reforms have been in the financial sector where India has now largely reversed the financial repression of the planned era, and is able to efficiently mediate savings and investments through its banks and stock markets. This is in stark contrast with the continuing financial repression in China.

The main factor (apart from the jump in the investment rate from about 25 percent until 2002–03 to nearly 34 percent in 2005–06) in the most recent growth acceleration without further reforms is more likely to be due to the lagged adjustments in private producers' expectations (particularly in the industrial sector) to the ending of the automatic protection they had previously obtained from both foreign and domestic competition through the industrial licensing and import control systems.

With the liberalization of these controls, industrial producers would have had been left with redundant and unprofitable production lines. They would have to retool and create fresh capacity to meet the demand generated by the new open economy price structure. This takes time. I surmise that by 2003 these adjustments had been made and Indian industry was able to grow more efficiently, with the manufacturing sector growing at the rate of 9.2 percent in 2004–05, 9.1 percent in 2005–06, and 11.5 percent in 2006–07 (Economic Survey 2006–07: 136).

One example of this changed industrial mind set and its likely future contribution to Indian growth is provided by the relatively labor intensive automobile components industry. The Indian automobile industry until

the 1991 reforms was a byword for inefficient production behind high protective barriers. With the reforms and delicensing of car production, India has become a major producer of a whole series of domestically produced cars and auto components, whose output has grown from \$4.47 billion on 2001–02 to \$10 billion in 2005–06, with most major automobile manufacturers outsourcing their component manufacture to India. Since 2002, exports of auto components have been growing at over 30 percent per year (NCAER 2006).

The recent rush of India's big business houses to go global by purchasing foreign companies (of which Tata Steel's acquisition of Corus is an example) also demonstrates Indian industry's newfound confidence in taking on the world. This global thrust by private Indian entrepreneurs is different from the state-led one being organized by China to convert some of its state and state-fronted large enterprises into global champions (see Lal 2006b). The Indian corporate sector is also beginning to extend its reach into the rural sector by organizing contract farming as part of a seamless supply chain from the farm to local urban supermarkets. This is going to lead to the next stage of agricultural development (the Green Revolution having reaching its limits) with the move to more high-valued crops like fruits and vegetables. The Indian corporate sector, envisaging a supply chain from the farm to the towns and then to export markets, is also increasingly investing in the infrastructure that will be required (see Witsoe 2006). But the recent political backlash against the growth of retail supermarkets, which it is feared will kill the traditional "mom and pop" stores that have dominated retail trade in India, may delay these developments.

As Bhalla (2006) shows, India's current infrastructure development lags China's by 10 years, and its existing infrastructure closely parallels that of China in 1995. So India's infrastructure is likely to expand with its accelerated growth rate. But, increasingly, unlike China it will be privately provided. This reflects another emerging trend. Despite protestations to the contrary, the Indian state has by and large failed to aid economic development. This is because of the inevitable degeneration of its politics to populist pressures and the ensuing degradation of economic policymaking by blatant rent seeking. Under the Nehruvian settlement, despite large increases in public investment, the Indian state abysmally failed to efficiently provide the requisite quality and quantity of non-traded goods—like power, transport, clean water, and sanitation—as well as the merit goods of health and education. Since the 1991 reforms and the ensuing acceleration of per capita income, many of the old avenues for rent seeking have been closed. With the fiscal burden of large, unjustified public subsidies to power and irrigation continuing and with the limits of overt taxation having been

reached, the government remains in a fiscal bind and has had to rely on public-private partnerships (PPPs) for the provision of these non-traded goods. Though this new organizational form (along with the creation of the SEZs on the Chinese model) provides a new avenue for rent-seeking, the PPPs are likely to provide a more efficient alternative than the previous state monopoly in providing these non-traded goods.

Finally, and perhaps most important of all, by greatly diminishing the area in which the dead hand of the state now operates, the 1991 reforms have created much more space for private agents to act. Unlike China, India has had a flourishing civil society for over 100 years (some would say for millennia). It is increasingly taking over in areas where the state has failed to provide the necessary services. A few examples will suffice.

With the failure of the state to live up to its constitutional obligation to provide primary education for all the people—despite large public expenditures—even the poorest are now sending their children to private schools. Moreover, most Indians, including the poorest, rely on private provision for their health because of the inefficiencies and low quality in public provision.

In agriculture, the failures of state provision and the corrupt state-controlled allocation of irrigation water have led to an explosion of private provision through tube wells that exploit the giant aquifer below the Indo-Gangetic northern plain. This has created a massive problem of “the commons,” as the unregulated growth in ground water irrigation leads to exploitation of the sub-continental aquifer (see Shah 2006, Johl 2006, and Vaidyanathan 2006). The government has at last woken up to this problem.

The failure of the state to provide a reliable power supply has led to the development of an informal parallel grid in many urban areas. Shop owners have set up collective kerosene or diesel generators, each of which provides lighting to 50 to 100 shopkeepers and vendors in a neighborhood or marketplace. The fee charged is based on the number of light bulbs connected during a certain number of hours each evening. Though the cost per unit is much higher than it would be if provided by the public grid, given the latter’s failures, shopkeepers can decide if the benefit of attracting customers in the evening shopping hours outweigh the higher costs.

Another example is provided by the private cable television operators, who by 1990 had connected 30 million urban households to cable TV through their local satellite dishes. These were more than the telephone connections the public sector companies had managed to install in the previous 50 years.⁵

⁵See Mitra (2006) for these and other examples of private provision replacing public for many quasi-public goods.

Finally, the granting of private licenses to mobile phone companies in the 1990s has created a virtual telecommunications revolution that has reached even remote villages. This is in stark contrast to the old regime monopolized by state telephone companies, which are now gradually going to the wall.

The greatest prize offered by economic liberalization is in the changed perceptions of the young. One of the baleful effects of the Nehruvian settlement was that the economic policies supported by the English speaking castes damaged the prospects of their progeny—except for those agile enough to become rent seekers. They, as well as others among the political classes, then sought and succeeded in placing their progeny in jobs abroad—thereby demonstrating by their private actions the bankruptcy of the public policies they supported. From international experience, I have come to see the ability of a country to retain its “best and brightest” as an important sign it is on the road to economic prosperity. With economic liberalization the perceptions of the young about the possibilities of a fruitful life in India have changed. There is a vitality and élan among the “best and the brightest” in India, with a growing belief that even when based in their homeland, the world is now their oyster. But this optimism could change with the current government’s desire to extend caste-based reservations of places in government-aided educational institutions and public employment, hitherto confined to the scheduled castes and tribes to the more numerous Other Backward Castes (OBCs). These would amount to 50 percent of the available places. It is even proposed to extend these reservations to employees in the private sector.

If all these proposals of basing economic outcomes on birth not merit are enacted, we can say goodbye to a knowledge-based “Incredible India” being touted by politicians. It would be a reenactment on an Indian canvas and Indian characteristics based on caste of the Chinese Cultural Revolution, which had implemented class-based reservations for employment and education and in the process lost a whole generation of well-educated youth. Deng reversed this policy and oversaw the creation of a highly educated, technocratic class of meritocratic mandarins, and increasingly a meritocratic society.

India’s past policy of reservations has already seriously affected governance, by damaging the functioning of the public sector (Shourie 2006). Moreover, as the eminent Indian sociologist, the late M. N. Srinivas (1996) noted, existing reservations led the “forward” castes to evolve a strategy for survival—namely, emigration. It would be retrograde and greatly damage India’s economic future, if the current rush to reservations were to lead India’s “best and brightest” to once again look abroad

for their future. As many Indian observers have noted, the way to deal with the problems faced by the economically and socially disadvantaged is not through reservations in higher education and employment, but to provide them the means to compete in a meritocratic society. This above all means access to primary and secondary schools. The Indian state's abysmal failure to provide the merit goods of education and health to its populace has increasingly led even the poorest to rely on private provision. Ideally what India needs is a program of state-funded vouchers so the disadvantaged could finance their use of private-sector services. Whether the dysfunctional Indian state can implement this efficiently remains doubtful. But, perhaps NGOs could be usefully used to distribute the vouchers to their intended beneficiaries.

Despite these prospective woes and the ever present danger that a dysfunctional political system might still shoot the economy in the foot, I believe that given the space available since the 1991 liberalization for private action, combined with the flexibility private agents in civil society have shown in getting around state failure, issues of governance are now less likely to damage India's economic future. Thus, it seems highly probable that it might not be too rash to predict that India will be able to grow at about 10 percent per year, which with population growing at 1.5–1 percent would lead to a per capita income growth of about 8.5–9 percent per year for the next two decades. The fourth economic miracle I have personally witnessed in my lifetime—Japan in the early 1960s, Korea in the early 1970s, China in the 1990s, and now India—would be in place.

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