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DRIVING FORCES BEHIND ACCELERATION OF INDIAN GROWTH  
AND THE OUTLOOK TO 2030

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## DRIVING FORCES BEHIND THE ACCELERATION OF INDIAN GROWTH AND THE OUTLOOK TO 2030

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In explaining the acceleration in Indian growth 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 till 2030, it is necessary to outline the current constraints on growth. But before that this current change in Indian economic fortunes needs to be put into historical perspective, which is done in the first part of the paper, followed by the next three parts which deal with the three other broad themes outlined above. As this paper is in honor of Angus, I rely wherever possible on the growth accounting method which he has made so much his own.

### **I. REPRESSION, CRISIS, 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 the Indian elites. Like 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. Unlike the Japanese who saw that they could modernize whilst 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 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.

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<sup>1</sup> This paper was written whilst the author was a Distinguished Visiting Fellow at the National Council of Applied Economic Research, New Delhi. It is based on large part on his *The Hindu Equilibrium: India c.1500 B.C. -2000 A.D.*, Abridged and revised edition, Oxford University Press, Oxford, 2005.

At Independence in 1947, with Gandhi dead at the hands of an assassin soon thereafter, it was Nehru's ideas which 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. (see Table 1). This acceleration of growth was based on two factors. The first was a rise in social overhead investment and in the rise of public investment, particularly on irrigation and from the late 1960's on R &D in agriculture. Public investment, which had averaged about 2.2% in the interwar period, rose to nearly 7% 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% of GDP at Independence rose to 11.6% by 1960-61, and by 1999-2000 were 22.3% of GDP.

The third was the rise in population from 1921 induced by a declining death rate, which led to a rising labour force in agriculture. It had grown by 12.6% between 1901-40/1, but rose by 25.4% between 1950/1-1970/1. (Lal(2006), Table 7.4) This on Boserupian lines (Boserup (1965), Lal (2005))(2006)) led to an intensification of agriculture in terms of both an increase both in the labour and capital input per unit of land, and a rise of the agricultural growth rate from 0.44 %p.a. in the 1900-01 to 1946-47 period to 3.3% p.a between 1950-51 and 1964-65. The elasticity of agricultural output with respect to rural labour remained constant at about 2.5 in the pre Independence period (1900-1940) and the post Independence period of 1950-70, whilst that of capital to labour rose from about 1 in the pre Independence to 2.54 in the post Independence period - as the Boserup model would predict.(Lal (2006), Table 7.4)

But, the economic repression under the Nehruvian settlement had had led by the mid 60's to what was recognized as a 'quiet crisis' in India, with the Hindu rate of growth of 3.5% and population growing at 2.2% p.a till the early 1980's yielding meager rises in per capita income of just over 1.3% p.a. which 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 1960's force the government to reverse its previous neglect of agriculture which was based on the faulty prescriptions of the Lewis model that the route to growth in a labour surplus economy was through massive industrialization with agriculture being left alone till its surplus labour had been worked off. India then adopted the new technology embodied in high yielding (HYV) seeds and large inputs of fertilizers and water which led to the Green Revolution. The agricultural growth rate had slowed, to only 1.8 % p.a from 1960-1973. The Green Revolution of the 1970's (which was by and large a wheat revolution) raised the growth rate of agriculture to about 2.9% p.a. from 1973- 1999, where after it has slowed as the area under high yielding varieties has reached its limits as the potential irrigable area has been utilized, and diminishing returns have set in on the new Green Revolution technology.

Industrial growth which had been 6.8% p.a. between 1950/51- 1964/65 slowed down to 4.3% p.a. from 1976/5/6 -1979/80, as the limits of import substitution were reached. There was a foreign exchange crisis in the mid 1960's which led to the questioning of the dirigiste inward looking path India had taken by Indian economists. This was strengthened by the neo-classical resurgence from the 1970's which questioned the intellectual basis of post war 'development economics'. But it was the switch by Deng Tsiao Ping from the plan to the market in China in 1978 which probably most concentrated Indian minds.

With its tradition of Gladstonian public finance India had avoided the chronic macro-economic imbalances associated with dirigisme . but the creation of a 'rent seeking' society through the micro economic distortions introduced by public policy in the planning era, gradually led to a fiscal crisis.

The first sign was the growth of the underground economy variously estimated to be anything from 40-45 to 18-21 per cent of GDP. Second government, revenue which had risen from about 11 per cent of GDP in 1960 to about 20 per cent in 1985-86, thereafter stagnated. Whilst public expenditure rose from about 19 per cent of GDP in 1960 to over 32 per cent by 1986. Thus the PSBR (public sector borrowing requirement) rose from about 8 per cent of GDP in the 1960s and 1970's to over 11.5 per cent in 1990, the year preceding the crisis and reform.(Lal (2005), Table 12.1). Third, following the well established anatomy of a dash for growth in a repressed economy followed by boom, crisis and reform (see Lal (1987), Lal- Myint (1996), Little et al (1993), the growing fiscal crisis was met by internal and external borrowing and then by levying the inflation tax. Inflation which had hovered around 4-5 per cent p.a, except for years of drought, rose steadily from 1988 to reach a peak of nearly 14 per cent in 1991, a year with a bumper harvest. The internal public debt rose from 42 per cent of GDP in the early 1980s to nearly 18 per cent in 1991, as the government tried to meet its fiscal bind through promoting large short term inflows from the Indian diaspora after 1985. (Lal (2005), Table 12.1(b)). It was when they took fright at the deteriorating fiscal and inflation position, and moved their money out that the Latin American style crisis was finally triggered.

In the dash for growth a half hearted liberalization effort began with Rajiv Gandhi's election after his mother's death in 1984, which 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 per cent 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 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 % , a PSBR of nearly 12 per cent 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 % 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 removed in 2001 when they were declared illegal by the WTO. The import weighted average tariff was cut from an average of 87 per cent in 1991 to 27 per cent in 1996. The rupee was devalued initially by about 20 per cent. Direct foreign investment was once again welcomed, though it was still controlled and restricted to 51 per cent 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 boosted productivity. Poverty rates after rising during the short period of stabilization came down substantially.

But, with the quick success of the stabilization measures and the boost to growth from the partial liberalization, the element of crisis which 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 caused by Mrs. Gandhi's nationalization of banks through financial reform. The coalition led by the BJP notably also began the process of privatizing the inefficient public sector. But this has stalled with the veto imposed by the current coalitions Communist partners. They have also prevented the dismantling of the labour 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 unchanging capital intensive bias in Indian industry..

Fig.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 till the 1960's compared with the pre independence period, the stagnation in the 1960's and 1970's so that in the period to the early 1980's, the trend rate of growth was 3.5% p.a. which Raj Krishna dubbed the Hindu rate of growth, and the acceleration to 5.6% p.a in the 1980's with partial economic liberalization undertaken under Rajiv Gandhi and with the abandonment of many aspects of the Permit Raj and industrial planning to 6.6 % p.a. from 1991 to 2000. (Lal (2005), Table 11.1(b)). Since then there has been a further acceleration of economic growth to about 8% p.a. from 2003-4 to 2006-7.

## **II. WHEN DID INDIA'S GROWTH ACCELERATION BEGIN?**

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

This view has been contested in particular by Rodrik (2002) and De Long (2002). Basing themselves on the official time series of Indian GDP, they argue that the acceleration in Indian growth began in the 1980's before the Manmohan Singh reforms, when it was 5.6% p.a. and was not much higher after the reforms, and hence the liberalization of trade and industrial policies of the 1990's cannot be taken to have made any significant difference to growth in India. This view has been countered by Panagriya (2005) and Srinivasan (2003), who argue that the partial liberalization of the mid 1980's did have favorable efficiency effects but the resulting rise in the growth rate was fragile. Moreover, if the exceptionally high growth rate of 7.6% in 1988-91 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 1990's (Panagriya, p.174). Finally, Wallack (2003) has identified structural breaks in the Indian GDP series. She finds a statistically significant (at the 10% level) break point in 1980. But when the exercise is carried out on the GNP series, the statistically significant break point is 1987.

One basic problem with these diagnoses based on the GDP and GNP time series is that (as is now so common with the writings of the young) 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<sup>2</sup>. In an important paper Bosworth, Collins and Virmani (2006) (BCV) rightly 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 of output and employment are for the dates on which there is 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 till 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 1960-2005. They have also derived additional growth accounts for the sub sectors - agriculture, industry, manufacturing, and services- and have also 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 in Table 3 (for the major sub-sectors). Whilst Fig.2 shows an alternative growth accounting based on the traditional contribution of capital, labour and technical progress derived from the official time series by Singh and Bery (2005)

BCV conclude, from Table 2, that "growth in output per worker strengthened from 1.8 % in 1973-83 to 2.9% in 1983-93 and 5.8% 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% annual growth rate, and a three year average about 8 per cent" (p.17). As the growth rate in the current year (2006-07) is

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<sup>2</sup> For a discussion of these weaknesses of the cross country cross- section studies which have recently proliferated see Srinivasan and Bhagwati (2001).

estimated by most forecasters to be over 8% (see NCAER (2006)), this would yield an average growth rate in the 4 years since the drought of 2002-03 of 8% p.a.

### III. SOURCES OF GROWTH ACCELERATION

Both the BCV and Singh-Bery growth accounts for the economy as whole show that the acceleration in growth from the mid 1980's was due less to increase in factor inputs than to an increase in total factor productivity (TFP), unlike the period to 1983, when most of the growth was due to increased factor inputs. Improvements in the quality of the labour force from education have contributed modestly to growth performance.

The increase in TFP shows the effects of improved efficiency which followed the movements from the plan to the market and the gradual easing of the economic repression of the Indian economy. These efficiency gains from the reallocation effects of economic liberalization which have become most marked since the 1991 Manmohan Singh reforms is brought out from the reallocation effects BCV have estimated from their growth accounts (shown in Table 4).<sup>3</sup> 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 relocation gains we need to look at the sectoral growth accounts in Table 3. Those for agriculture confirm the effects of the Green Revolution which took off in 1973, and strengthened in the 1980's. It raised the TFP rate in agriculture till 1999. Thereafter, as 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 (1973-1999) is due to its labour intensive nature. With this having reached its limits, the prospects for further increases in agricultural employment do not seem 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 investment slump after 1999, and should have recovered in the last 4 years of 85 p.a. growth. In the two pre 1991 and immediate post reform 1993 period, there was little industrial employment growth, though this has changed with a rise in the industrial employment growth rate to over 5% p.a. since 1999. Much of industrial growth has been caused by capital deepening. The trends for the manufacturing sub sector are similar. The low labour absorption by Indian industry, and its continuance of increasing capital intensity reflects both the failure of India to rescind its 19th century labour laws which raise the relative price of its most abundant factor, as well as the reservations for the

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<sup>3</sup> These have been derived from Table 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..

relatively labour intensive small scale sector, which prevents their expansion to garner both economies of scale and increase unskilled labour employment. Unlike China, which has so successfully grown through a massive expansion of its SME private sector originating from the TVE's established after the opening of the economy by Deng Tsiao Ping in 1978.

The rise in industrial employment growth rate in the 1999- 04 period and the acceleration of the industrial growth rate from the average of 6.4% p.a to 8.4% in 2004-05, 8.7% in 2005-6, and expected to be above 10% in 2006-7, 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 would be in consonance with the experience of supply side reforms in other countries. Thus in the UK the Thatcher reforms of the 1980's did not begin to bear fruit till the mid 1990s. This augurs 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 1980's, growing faster than both industry and manufacturing, whilst 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% p.a. Also there is a large improvement in the quality of the labour 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% to total services' growth, of 7.8% between 1993-2004, 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, and has absorbed much of the increase in the labour 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 4 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 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. It maybe due to statistical problems in underestimates of the price of services and thence an exaggeration of the real growth rate of the sector.

#### **IV OUTLOOK TO 2030**

In examining the outlook to 2030, it is useful to identify the constraints on Indian growth which were widely held to be responsible for the derisory Hindu rate of growth till 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 which could break the foreign exchange bottleneck India was purported to face. Whilst one of the rationales for making a large public sector in the 'commanding heights' of the economy was to generate profits which would 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 1980's and more fully after the 1991 reforms, India's exports began to grow. From being 0.1 % of world exports in 2001, they have grown at over 20% p.a between 2002-3 and 2005-6, having grown at 7.7% p.a. between 1990-2000 (Economic Survey 2005-0, Table 6.4). But they are still tiny compared to that of China's, which by 2003 was the world's third largest trading country, when its foreign trade increased by over \$200 billion - twice the level of India's total trade in 2002. India's share of global trade is one sixth that of China's. This 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. This means that further trade liberalization will allow growing efficiency gains to the Indian economy boosting its growth rate. But, 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 % of Indian GDP. So limited foreign exchange is no longer constrains Indian growth.

India's gross domestic savings have risen from c15% in 1960-79 to 32.1% in 2004-05. The bulk of this increase is due to a substantial rise in the household savings rate from 10.4% in 1960-79 to 24.3 % in 2004-05. The private corporate sector's savings rate has risen from 1.5% in 1960-79 to 5.3% in 2004-05. The public sector savings rate reached a peak in 1980-84 of 3.7 % where after it slumped and became negative in 2004-05 largely due to rising fiscal deficits of the State and Central governments. There has been a turn around since 2003-04, largely from a reduction of both the Centre'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 VAT instead of sales taxes by many states which have improved tax compliance. But this fiscal improvement might not last if the new Finance Commission raises salaries of the bloated bureaucracy like its predecessor. Moreover as the period of public dissavings was caused by the growing losses in public sector industries, whose privatization 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 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 2040, when the UN estimates it will be 1.6 billion, and thereafter, and the population begins to age. Private savings rates could well rise to over 30% by 2030. If there is no public dissavings and corporate savings remains at the current level of 5%, India's gross domestic savings rate could well be between 35% -40% over the next two decades. So, clearly India does not face any savings constraint in the near future.

Foreign capital inflows into India were mainly in the form of foreign direct investment, and only 0.3% of GDP on average between 1980-2003. But, since then there has been a large inflow of private portfolio flows in the form of foreign institutional investment. Thus, in 2004-05, of the total of \$12 billion of foreign inflows, FDI flows were only 3.2 billion the rest being FII. In fact Bhalla (2006) estimates that because China's inflows are mainly in the form of FDI's, reflecting the limited financial reforms it has undertaken, the share of both FDI and FII in GDP in the two countries since 2003-4 have been about the same at between 3-5% of GDP (as China has a higher GDP than India's).

Gross domestic investment has risen to 30.1 % of GDP in 2004-05. If the domestic savings rate rises to 35 % and foreign savings rise to 5 %, gross domestic investment could rise to 40 %. 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% p.a. growth rate in the foreseeable future<sup>4</sup>, even without any further reforms. Bhalla (2006) reaches a similar conclusion using a simplified growth accounting framework. The growth rate between 1993-2000 was about 6% p.a., with the investment rate of about 24% of GDP. If the investment rate rises to 40%, the growth contribution of the extra 15% in the share of investment will lead to a growth contribution of 2.3% p.a., as each extra percentage point increase in investment leads to a 0.15% p.a increase in the GDP growth rate. Adding 1.3% p.a. due to labour force and increases in TFP yields a trend growth rate of 9.6% per annum.

From the partial quantitative evidence which is available for the last two years (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 2003-4. 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 labour laws, to allow foreign investment into many sectors, and the refusal to privatize the remaining dysfunctional public sector. 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 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 were offered to 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

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<sup>4</sup> Bhalla (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% in 2006-7". If this is correct it would yield a growth rate of 10% in the current year. Given the two year lag in getting firm official national income statistics, we will have to wait and see if this is true.

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 sectors growth rate of 9.14% in 2004-5 and 9.15% in 2005-06 and expected to be about 11% in 2006-07. NCAER's Business Confidence Index based on its quarterly surveys of Business Expectations which stood at 129.4 in 2003 had risen to 154 by April 2006. (NCAER (2006), Fig. F.4).

One example of this changed industrial mind set and its likely future contribution to Indian growth is provided by the relatively labour intensive automobile components industry. The Indian automobile industry till the 1991 reforms was a byword for inefficient production behind high protective barriers. With the reforms and delicensing India has become a major producer of a whole series of domestically produced cars but also of 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% p.a. (NCAER (2006))

The recent rush of India's big business houses to go global by purchasing foreign companies of which Tata Steel's bid for Corus is an example, also demonstrates Indian industry's new found confidence in taking on the world. This global thrust by private Indian entrepreneurs is different from that being organized by China to convert some of its state and state fronted large enterprises into global champions. (see Lal (2006a)). 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 change 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 vegetable. 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))

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 2005. 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 policy making by blatant 'rent seeking'. Under the Nehruvian settlement the Indian state also abysmally failed by and large to efficiently provide the requisite quality and quantity of non-traded goods like power, transport, clean water, sanitation etc. as well as the merit goods of health and education, despite large increases in public investment. 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 (PPP) s for the provision of these non-traded goods. Though this (along with the creation

of the Special Economic Zones (SEZ's) on the Chinese model to overcome the labour laws and reservations for SSEs) have created a new avenue for rent-seeking, they 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 a hundred 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 upto its constitutional obligations in providing primary education for all its people despite large public expenditures (see PROBE ), even the poorest are now sending their children to private schools (see the empirical studies by James Tooley and his associates). Most Indians including the poorest are relying on private provision for their health because of the inefficiencies and low quality in public provision. In agriculture the failures of state provided and corrupt state controlled allocation of irrigation water has led to an explosion of private provision through the explosion in tube wells exploiting the giant aquifer below the Indo-Gangetic northern plain. This, has in turn created a massive problem of "the commons", as the unregulated (and unpriced) rise in ground water irrigation leads to over-exploitation of the sub continental aquifer. (see Shah (2006), also Johl (2006), 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 a collective kerosene or diesel generator to provide lighting to 50 to 100 shopkeepers and vendors in a neighbourhood or market place . the fee charged being based on the number of light bulbs connected during the 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 provide by the private cable television operators who by 1990 had connected 30 million urban households to cable TV through their local satellite dishes. This is more connections than the public sector telephone companies had managed to connect in the previous 50 years. (see 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 which 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 in the political classes, then sought and succeeded in placing their progeny 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 amongst the 'best and the brightest' in India, that based in their homeland, the world is their oyster. But this could change with proposed with the current UPA governments'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 (OBC's). These would amount to 50 % of the available places. IT is even proposed to extend these reservations to the private sector. If all these proposals of basing economic outcomes on birth not merit are enacted, we can say goodbye to the knowledge based "Incredible India. It would be a reenactment on an Indian canvas and Indian characteristics based on caste. China during the Cultural Revolution implemented class based reservations for employment and education and in the process lost a whole generation of well-educated youth. This was reversed by Deng Tsiao Ping, who 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,(Arun Shourie (2006)). Moreover, as the eminent Indian sociologist, the late M.N. Srinivas noted (in *Village, Caste, Gender and Method*, OUP, 1996) , existing reservations led the forward castes to evolve a strategy for survival. "Emigration from India is a major strategy, and the emigrants enjoying the admired status of NRI's". It would be retrograde and greatly damage India's economic future, if the current rush to reservations were to lead India's them once again to look abroad for their future.<sup>5</sup>

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<sup>5</sup> 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 state funded vouchers for the disadvantaged to finance their use of the private sector.. Whether the dysfunctional Indian State can implement this remains doubtful. But, perhaps NGOs could be usefully used to distribute the vouchers to their intended beneficiaries.

But 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 now available since the 1991 liberalization for private action and the flexibility of 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% p.a which with population growing at 1.5- 1% p.a would lead to a per capita income growth of about 8.5- 9% p.a for the next two decades. The fourth economic miracle I have personally witnessed in my lifetime- Japan in the early 1960's, Korea in the early 1970's, China in the 1990's, and now India in the late 2000' and early 2010's - would be in place.

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FIG 1: ANNUAL GROWTH RATES INDIA 1901=2006

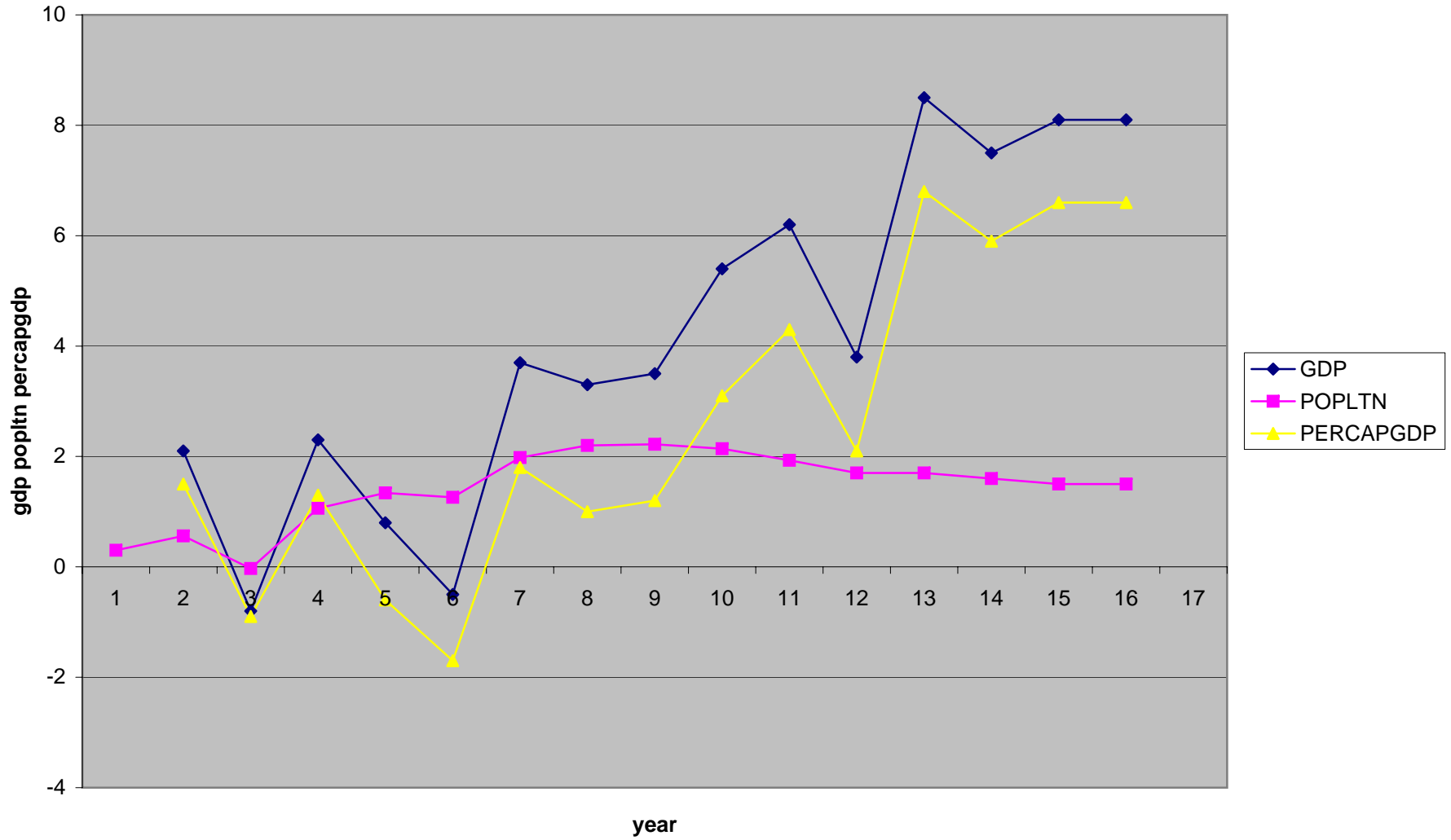


TABLE 1: ANNUAL TREND GROWTH RATES INDIA !(!)

| Year | GDP  | POPLTN | PERCAPGDP |
|------|------|--------|-----------|
| 1901 |      | 0.3    |           |
| 1911 | 2.1  | 0.56   | 1.5       |
| 1921 | -0.8 | -0.03  | -0.9      |
| 1931 | 2.3  | 1.06   | 1.3       |
| 1941 | 0.8  | 1.34   | -0.6      |
| 1951 | -0.5 | 1.26   | -1.7      |
| 1961 | 3.7  | 1.98   | 1.8       |
| 1971 | 3.3  | 2.2    | 1         |
| 1981 | 3.5  | 2.22   | 1.2       |
| 1991 | 5.4  | 2.14   | 3.1       |
| 2001 | 6.2  | 1.93   | 4.3       |
| 2002 | 3.8  | 1.7    | 2.1       |
| 2003 | 8.5  | 1.7    | 6.8       |
| 2004 | 7.5  | 1.6    | 5.9       |
| 2005 | 8.1  | 1.5    | 6.6       |
| 2006 | 8.1  | 1.5    | 6.6       |

Source: Lal (2005) till 2001, Economic Survey Survey 2005-06; World Development Report 2007

**TABLE 7.1. Sources of growth of real GDP: India 1901-97/98.**

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

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

**Table 12 Sources of Economic Growth, Total Economy, 1960-2005**  
Annual percentage rate of change

| Period               | Output | Employment | Output per Worker | Contribution of: |      |           |              |  | Factor Productivity |
|----------------------|--------|------------|-------------------|------------------|------|-----------|--------------|--|---------------------|
|                      |        |            |                   | Physical Capital | Land | Education | Productivity |  |                     |
| <b>Total Economy</b> |        |            |                   |                  |      |           |              |  |                     |
| 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: Authors' calculations as explained in text.

**Table 3. Sources of Economic Growth, Major Sectors, 1960-2005**  
Annual percentage rate of change

| Period                                       | Output | Employment | Output per Worker | Contribution of: |      |           |                     |
|--|--------|------------|-------------------|------------------|------|-----------|---------------------|
|  |        |            |                   | Physical Capital | Land | Education | Factor Productivity |
| <b>Agriculture</b>                           |        |            |                   |                  |      |           |                     |
| 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                |
| <b>Industry (Inclusive of Manufacturing)</b> |        |            |                   |                  |      |           |                     |
| 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                |
| 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                 |
| <b>Manufacturing</b>                         |        |            |                   |                  |      |           |                     |
| 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                 |
| <b>Services</b>                              |        |            |                   |                  |      |           |                     |
| 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: Authors' estimates as described in text.

**Table A. Growth in Output per Worker, 1960-2005**  
**Sectoral Growth vs. Reallocation Effects**  
 Annual percentage rate of change

| Period  | Total<br>Economy<br>(1) | Weighted<br>Sectoral<br>Growth<br>(2) | Reallocation<br>Effects<br>(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                                |

Authors' estimates as described in the text.

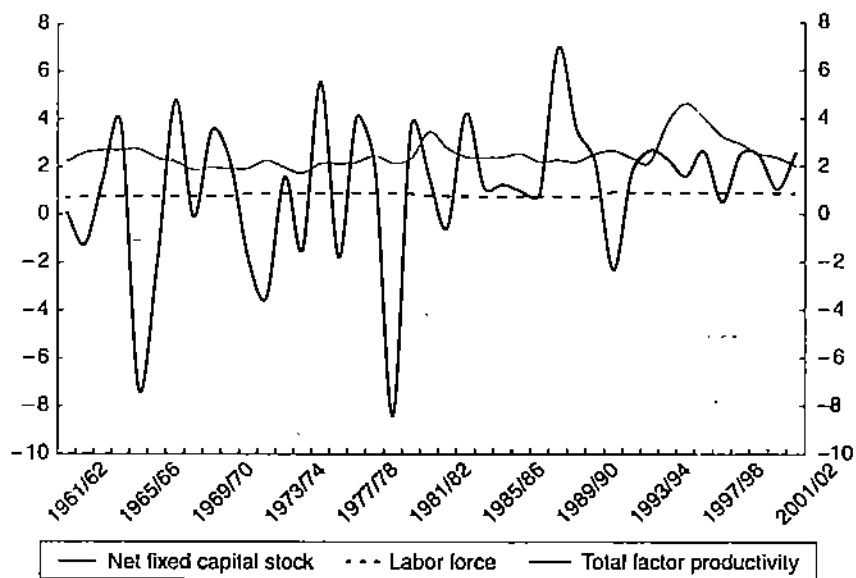


Figure 2 India: factor decomposition of real GDP growth, 1961/62–2001/02 (in percent)

Source: Authors' estimates. Singh & Beny (2005)

