Comments on Dani Rodrik and Arvind Subramanian, "From 'Hindu Growth' to Productivity Surge: The Mystery of the Indian Growth Transition"

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In April 2001, Dani Rodrik and I were discussants at an Asian Economic Panel meeting in Cambridge, Massachusetts. He then expressed his puzzlement at India's growth acceleration having taken place in the eighties rather than after 1991, when systemic reforms were initiated. I responded that the fact that puzzled him was not a puzzle and was very well known to economists working on India. Most of them, including myself and my co-author Suresh Tendulkar (Srinivasan and Tendulkar 2003), attributed the acceleration to basically two factors: hesitant and limited reforms (relating to industrial licensing and foreign trade in particular, coupled with a significant depreciation of the real exchange rate from the mid-eighties) and fiscal expansionism (financed by borrowing at home and abroad) leading to Latin American-style debt-led growth. We pointed out that a number of factors in the late seventies including a comfortable stock of foodgrains in government hands (stocks of wheat and rice had grown from 2.6 million tones at the end of March 1973 to 11.1 million tones at the end of March 1983), inflow of remittances from Indian workers in West Asia after the second oil shock (private transfers (net) grew from $116 million in 1970-71 to $2.7 billion in 1980-81) and discovery of significant oil offshore in the West Coast emboldened the government to experiment with liberalization[1]. However, we argued that without systemic reforms, the accelerated growth of the 1980s was unsustainable and would have led, as it did, to the macroeconomic and balance of payments

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[1] Data on stocks and transfers are from RBI (2003), Tables 23 and 137, respectively.

crisis of 1991. The more interesting questions to us were not why growth accelerated in the 1980s or how the macroeconomic crisis came about in 1991, but why the crisis led to systemic (and thus far unreversed) reforms than a reversion to the pre-1980s economic management. After all, in 1966, India had experienced a severe macroeconomic crisis, went to IMF and World Bank for assistance and, under their conditionalities and advice, devalued the rupee, relaxed import restrictions and liberalized the economy as in 1991. But the liberalization then was reversed within 18 months, and this did not happen in 1991. Apparently, my explanation did not register with Dani, let alone convince him. He still feels the need to assert, now with Arvind as his coauthor (Rodrik and Subramanian 2004), that it is conventional wisdom that a breakthrough in the growth process occurred in 1991. The authors attribute this wisdom to Montek Ahluwalia, as well as to myself and my coauthor Suresh Tendulkar. Let me say categorically that, contrary to the assertion of the authors, Suresh and I never said growth accelerated only after 1991—in fact, their own quote from our book clearly shows that we recognized the acceleration happened in the 1980s.

Moreover, Indian economists had already begun examining the 1980s growth acceleration in the early nineties. There was a debate on the sustainability of the acceleration. I had then corresponded with a senior government economist, the late Dr. Arun Ghosh (who initially wanted to remain anonymous and later revealed himself) on India's development strategy[2]. He argued that the 1980s' growth was at the cost of future growth because India was then not only close to the debt trap internationally, but also internally. In response, I conceded that, "it was true India was getting close to a debt trap, and indeed we might catch the Latin American disease." I added that, "[T]he so-called 5.5% growth of the eighties was in part a

[2] The debate among Indian economists is usually published in the pages of the *Economic and Political Weekly* (EPW) of Mumbai. My exchange with Arun Ghosh was published in Srinivasan (1991) and my other contributions to the debate in the EPW during 1991-92 are reprinted in Chapter 10 of Narayana (2001).

reflection of employment and real wage expansion (per capita emoluments of public sector employees grew 3.45 times between 1980-81 and 1990-91 while consumer price index grew only by 2.37 times during the same period (Ministry of Finance, 2004, Table 3.4)) in the service-oriented public sector[3]. Since there is no direct measure of productivity of much of this sector, if the public sector pays a higher wage to a larger number, even if there is no change in productivity, it will be counted as growth! But its cost would be reflected in larger budget *and* current account deficits, financed by domestic and foreign debt. The otherwise interesting study of Vijay Kelkar and Rajiv Kumar (1990) which documents an increase in growth rate in the eighties in many industries does not examine whether total factor productivity increased (or at least did not fall) at the same time. Growth rate comparisons across countries and over time within a country can be misleading *even if* problems of aggregation, price deflation, exchange rate conversion were absent: after all, one could sustain growth for a while by simply using more and more inputs in the face of declining productivity as the Soviets did. Such comparisons have to be supplemented by resource-use efficiency comparisons."

I could have called such efficiency comparisons as TFP growth rate comparisons, but did not. The reason was, and still is, that for various reasons, TFP calculations in the Indian context are even more problematic than they are in other countries and lead to widely varying estimates. I will come back to some of them in a moment. Rodrik and Subramanian cite some of the TFP estimates but there are many more in the Indian literature, including a very recent one by Arvind Virmani (2004a), who has also written extensively on Indian growth performance (Virmani 2004b, 2004c). Taken at face value (a dubious proposition when it comes to TFP estimates, and

[3] It is important to keep in mind that in the eighties, the financial sector was largely a state monopoly and so were telecommunications, transport (other than road transport). Also, health care and education services had a large public sector component. It will be a mistake to confine publicly provided services to the category of Public Administration and Defence in National Accounts.

cross-country regressions) most of them show a significantly higher TFP growth in the eighties and a slow down in the nineties, which is consistent with the hypothesis of unsustainability of 1980s growth acceleration without systemic reforms.

I had hoped that, even though the authors had seen a mystery where none existed, they will nonetheless provide a rigorous as well as interesting analysis of their mystery. I was extremely disappointed. They do not ask whether the growth process in the 90s after systemic reforms is distinguishable from that of the 1980s. This is the right question to ask if one were to test an appropriate characterization of the conventional wisdom, rather than the inappropriate and trivial characterization of it by the authors that growth acceleration started only after the reforms. After all, the average growth rate in the 1980s and 1990s was not different, but this average was much higher than that of the three decades prior to the 1980s. Given this fact, it could be argued, as the authors suggest, that a fundamental shift in the growth process came about in the 1980s, and the growth process after the systemic reforms of 1991 and thereafter did not contribute to the shift. Testing and not rejecting the hypothesis of no difference between the growth processes of the two decades would have refuted the appropriate version of conventional wisdom. Instead, the authors claim to "investigate" and reject a number of hypotheses or explanations for 1980s growth. Some of these hypotheses have not been proposed by any other analyst as far as I know, because they are prima facie implausible. If I am mistaken and, indeed, there were proponents of these, the authors should cite them. For example, few analysts have suggested that there were extensive and systemic liberalization of the regime of economic management, including the trade and investment regime in the eighties. To be sure, there was some relaxation of the severities of the regime and reduction of their distortionary effects and these indeed provide beneficial[4]. But

[4] For a detailed discussion of the growth and reforms during the 1980s and 1990s, see Panagariya (2004). He argues that liberalization was already underway in the 1980s, and it played a crucial role in stimulating growth during that

saying this is not to say that such changes represented a systemic departure from the dirigiste development strategy pursued since the 1950s and thus significantly altered forever the growth process of the economy. No one, to the best of my knowledge, suggested a "green revolution" or favorable external environment in the 1980s as possible explanations of 1980s growth increase.

In any case, the authors' investigation of the various hypotheses can hardly be called hypothesis testing—each is investigated with a different model—fiscal stimulus hypothesis is dismissed with a few words on why it cannot explain productivity growth—public investment hypothesis is investigated with an aggregate growth model and so on. There is no single overarching model or framework in the paper that is firmly rooted in the institutional realities of the Indian economy of the relevant period, and into which the hypotheses are embedded. Let me present some salient facts of India's recent growth performance and also some relevant institutional features before I turn to the authors' vague hypothesis of attitudinal shift on the part of national government in 1980 in favor of private business and their analytically incoherent distinction between pro-market and pro-business orientation.

Table 1A shows that, indeed, GDP growth accelerated in the eighties as compared to the preceding three decades, and that the growth rate in the 1990s was only marginally higher. It also shows that except electricity, gas and water supply, all other sectors experienced some growth acceleration. The acceleration was particularly pronounced in the service sectors, almost all of which were non-tradable then. From Table 1B, it is evident that it is essential to break the 1990s into two sub-periods: the period up to 1996-97 and the years thereafter. Growth perceptibly slowed down for 1996-97 for a number of reasons relating to a slackening of the reform process and a worsening of the investment climate for the private sector. The authors

decade. I agree with much of Panagariya's analysis, though I view the reforms of the 1980s as hesitant and more limited than he suggests.

have not paid enough attention to the realities of the Indian economy to have noticed the slow down, let alone analyze it.

Table IIA documents the fiscal profligacy of the 1980s. It also shows that the Indian economy's fiscal position in 2002-03 is even worse than it was during the crisis of 1990-91[5]. Again, had the authors spent some time absorbing facts of Indian growth experience, they would have asked why the rising fiscal deficit since the mid-nineties has not been reflected in any symptom of a macroeconomic crisis. Had they done so, they would have found a part of the explanation in the growth slow down of the second half of the eighties and the poor climate for private investment. Table IIB shows the domestic savings rate marginally increased in the 1980s and 1990s, while investment rate climbed steeply in the 1980s, only to fluctuate in the second half of the 1990s and eventually decline after 1999-2000. It also shows that the savings of the public sector steadily declined in the 1980s and turned negative for 1998-99 on. The contribution of external finance to investment was large in 1990-91. Table III confirms the latter—external debt outstanding more than tripled, and private debt grew more than eleven fold between 1980 and 1990. Table IIB also documents the importance of direct savings and investment by household sector (of which unincorporated enterprises is a part) in the form of physical assets. This is estimated as a residual by subtracting private corporate and public investment from total investment in the economy as estimated by the commodity flow method. Being a residual, it absorbs the errors in measurement in total as well as corporate and public investment. What is more, little is known about the productivity of this sizeable component of investment.

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[5] The fiscal deficit began climbing after falling to a low of 6.4% of GDP in 1996-97 from its level of 9.4% in 1990-91 (Singh and Srinivasan, 2004, Table 1).

Tables IVA and IVB highlight the particular features of India's labor force and its employment, namely, the heavy dependence on agriculture and the large share of self-employment in total employment. Most importantly, Table IVB shows that the employment in organized private and public sectors, in 2001 at 28 million, is less than 10% of total employment of 337 million in the economy in 1999-00. Further, in the 1980s, employment in the public sector grew, while that in the private sector remained virtually stable, with the employment in manufacturing marginally declining. Clearly, with a declining employment and better utilization of capacity in manufacturing, it should not surprise anyone if labor productivity is increased. Any analysis of total factor productivity which does not properly allow for these features of the Indian labor market, such as that of the authors and others they cite, is not very useful[6].

Finally, Table V documents the real exchange rate depreciation since the mid-1980s. I have gone over these features of the Indian economy in the eighties and nineties in some detail only for the reason that any analysis, such as that of the authors, which does not take them into account in an analytically convincing fashion is not illuminating. Let me elaborate a bit further.

The Indian economy in the 1980s was virtually closed to consumer goods imports (except for foodgrains and a few others that were imported by state monopolies accounting for less than 5% of total imports in value). Only intermediates and capital goods were allowed to be imported under high tariffs and qualitative restrictions. As we all know from Lerner symmetry theorem, implicit and explicit taxes on imports implicitly tax exports. Until the mid-1980s or so, there was no real exchange depreciation either. There was excess capacity in the industrial sector (though it is hard to quantify), which in itself was a reflection of the draconian control regime

[6] A better founded analysis will distinguish between organized and unorganized segments of each sector with self-employment being significant in the latter. Also, the direct investment in physical assets by households is almost entirely in the latter. For agriculture, the analysis would allow for trends in gross cropped area and for the increases in the proportion of cropped area that is irrigated. Given the fact that employment data for the economy as a whole are available only every five years, TFP estimates based on annual time series for GDP are problematic.

(though in the second half of the eighties exports grew in response to real exchange rate deprecation). Liberalizing at the margin of the use of this capacity[7] and also imports of intermediates created the potential for output growth. However, the demand for output had to be generated largely from domestic resources since, as I said earlier, export growth was limited by the foreign trade regime. Fiscal expansion provided the means for creating domestic demand. The external resources needed for additional demand for imports of intermediate goods and replacement equipment as capacity utilization increased was financed by borrowing abroad from private creditors[8]. It is redundant to add, but I will in any case, that this way of generating growth was obviously not sustainable. The authors dismiss this explanation of 1980s growth as arising in large part from fiscal expansionism financed by debt accumulation by calling it derisively as "Keynesianism-run-amok." Their dismissal is, in fact, "ignorance-run-amok" of the essential features of the Indian economy of the 1980s.

The effect of lagged public investment on growth, which the authors see in their regressions, has to be seen again in light of the fact that until the 1990s, India's infrastructure industries of telecommunication, ports, transports and power were all in the public sector. There is a long-standing hypothesis, which is also empirically supported by data and had been earlier used to explain a growth slowdown in the seventies, that public investment in India is largely in infrastructure and crowds in private savings and investment, by reducing the infrastructural bottlenecks to output and thus raising the rate of return for private investment. And with the lags in infrastructure investment being long, it is no wonder that public investment in the late

[7] The so-called "broad-banding" allowed capacity licensed for the production of one good to be used for the production of a closely related good. An increase up to 25% of licensed capacity of production was also allowed under certain conditions.

[8] Current account deficit rose from $2.80 billion in 1980-81 to $9.68 billion in 1990-91. Net commercial borrowings and deposits of non-resident Indians rose from $0.25 billion and $0.22 billion to $2.25 billion and $1.5 billion during the same period (RBI 2003, Table 135)

seventies contributed to growth in the 1980s, although a distributional la, rather than a fixed lag of five years assumed by the authors, may be more appropriate. It is also clear as the eighties wore on, the pressure on public expenditure from rising deficits, particularly in the states, constrained public investment: from 1986-87 on the share of public investment in GDP began a steady and deep decline from 11.2% to 5.7% in 2002-03 (Ministry of Finance 2004, Table 1.5, p. S8). It is no surprise, therefore, that the same growth effects are not seen in the 1990s. Once again, had the authors not been ignorant of the facts of the role of public investment in India, they would have understood better the findings from their own regression.

The authors believe that around 1980 there was an "attitudinal shift" towards pro-business on the part of the national government[9]. Since they do not distinguish the 1990s from the 1980s, they must believe that a once and for all change in the growth process was triggered by this attitudinal shift. They do not provide any direct evidence for the attitudinal shift at all but from indirect inferences from the correlation between growth rates of states ruled by the same party as at the Centre and from an alleged "striking shift in the early 1980s in private investment towards corporate sector investment (and away from the household sector, comprising largely of unincorporated enterprises" (p.10). First, it is not the case that the household sector consists largely of unincorporated enterprises. Second, as Table VI shows, there was no striking shift of private investment towards the corporate sector.

The crude political economy story that once attitudes shifted at the Centre in the 1980s, it percolated to the states ruled by the same party in unconvincing—during the 1980s, the states did not have any significant policy choices to make relating to manufacturing, trade or foreign

[9] I do not wish to dismiss the fact that Prime Minister Rajiv Gandhi and a bunch of young former employees of the World Bank whom he appointed to senior positions in the economic bureaucracy had favorable attitudes towards business, markets and the value of openness. However, they did not bring about a fundamental change in the regime of economic management as compared to that of Mrs. Gandhi's long reign.

investment. In the paper, the differences across states in growth figures in the growth convergence regressions and those on the role of manufacturing in productivity surge. The authors find that "when they introduce state-level manufacturing shares in the growth regression and allow the coefficients to vary by decade, not only are the shares for the 1980s and 1990s highly positive, but also these variables can 'knock out' the pure period dummies (see columns 1-2). In other words, whatever it is that happened in the early 1980s, it stimulated growth primarily in states with a high level of formal manufacturing activities" (p.17). At the time of independence, manufacturing in particular (and industry more generally) was concentrated in a few states. During the heydays of planning, a conscious attempt was made to steer industry to other states both by choice of locations of publicly owned plants, but also those of private plants through industrial licensing. Since the hesitant liberalization of the 1980s, as well as the more systemic liberalization of the 1990s, affected manufacturing much more than it did, for example, agriculture, it is no surprise that period dummies are knocked out once share of manufacturing is introduced in the regression. However, a more pertinent interpretation of interstate differences in growth would be based on differences in physical and human (education and health) infrastructure and in, for want of a better term, in "governance[10]." Liberalization or reforms are enabling policies in that they open up opportunities that were limited or non-existent earlier, and those individuals, households, farms, firms, and states which are in a better position (because of their initial endowments of physical and human infrastructure and better governance) to take advantage of the newly opened up opportunities do so ahead of others not so favored initially. This, of course, naturally leads to a widening of disparities across states, households, individuals, etc., after liberalization. The policy-relevant issue is not so much the widening of disparities but whether a process is in place for the initially disadvantaged to catch up with the advantaged or

[10] See Acharya (2004) for a discussion of interstate differences in demographics for future economic growth.

could be put in place if one does not exist. Be that as it may, my hunch is that, had the authors included variables that represented human and physical infrastructure as well as governance at the beginning of each decade, both the period dummies and the manufacturing share variables would be "knocked out."

The distinction drawn by the authors between pro-market (i.e., economic liberalization focusing on removal of impediments to markets and favoring entrants and consumers) and pro-business (i.e., focusing on raising profitability of the established industrial and commercial establishments and favoring incumbents and producers) orientation is certainly overdrawn, and arguably incoherent analytically. The authors consider trade liberalization as an archetypal market-oriented policy without recognizing that, in the context of the 1980s India, trade liberalization did not include consumer goods. It was largely a liberalization of imports of intermediate goods and some equipment (for much of which there was little import competing domestic production). Clearly, such liberalization favors incumbents and producers and not consumers, and potential entrants, since industrial licensing was not given up but only those who had already been licensed were allowed greater flexibility in the use of their licensed capacity. By the same token, any policy (e.g., reduction of corporate taxes) which raises the profits of incumbents also raises that of potential entrants if allowed to enter. In short, the distinction made by the authors has no economic logic behind it.

I will conclude my discussion with two final comments. First, there is nothing in the paper which explicates a convincing mechanism through which whatever changes that happened in the 1980s in the economic environment could result in "large productivity responses." After all, TFP estimates are residuals, and even if one were to interpret them as proxying (Hicks Neutral) technological advance, one has to explain how whatever happened in the 1980s, once

and for all brought about the technical advance. Second, the authors' claim that, based on their cross-country "regressions of income on the deep determinants," India appears "to be far inside the possibility frontier" (p. 17). Only aficianados of what I would characterize as "mindless cross-country regression" methodology would be excited by its use in supporting the finding that India was inside the possibility frontier. I would rather look at India's economic history during and after the colonial era in assessing India's underperformance relative to the strength of its institutions.

Table VII reports Angus Maddison's estimates of India's per capita GDP and China's in PPP terms since 1700. While I do not wish to impute undue accuracy and reliability to the figures, I would argue that they support the argument that India did well during the first wave of globalization (1870-1913) under British colonial rule (the British crown assumed direct rule of India after 1857) and the policy of free trade that the colonial rulers imposed. China, by contrast, suffered several foreign induced conflicts in the same period. Even during the period 1913-28, Lal (1988, Table 8.5) points out that "Indian industrial growth was above the world average." Clearly, Indian institutional endowments were supportive of significant growth, given a conducive policy environment.

I would argue that at the time of independence from colonial rule on August 15, 1947, India inherited an honest, efficient, and independent civil service recruited through a difficult competitive examination and interview process, a cadre of political leaders (in power and in opposition) whose honesty, incorruptibility and commitment to development were beyond doubt, and a vibrant entrepreneurial class[11]. Of course, the trauma of partition, particularly the death of hundreds of thousands and movement of millions of refugees across borders, and the

[11] Alas, civil service quality and independence of civil service deteriorated, and political and administrative corruption became endemic over the years, in large part due to the dirigiste development strategy that was pursued.

deterioration in transport and other infrastructure during the war had to be attended to. The erstwhile princely states had to be integrated into the system. Once these tasks were completed, the institutional endowments of India ought to have enabled it to grow much faster than it did during the first three decades after independence, had the policy regime allowed it to happen. One counterfactual in particular has always intrigued me: by the time Nehru died in 1964, many of the problems with infrastructure at the time of independence had been addressed, schools of higher education in engineering and management (the Indian Institutes of Technology and Management) had been established, and appropriate and inexpensive import substitution in consumer goods had been completed[12]. Had the brief liberalization and opening that followed the 1966 macro crisis been in place thereafter, and greater attention been paid to agriculture and social sectors, would India have replicated and exceeded the performance of the East Asian miracle economies that switched to an oriented strategy at that time? I believe that it would have, and there would have been no one living under India's modest poverty line by now. By sticking to a dysfunctional development strategy for far too long, India's policy makers probably condemned India's poor to remain poor for an avoidably long time.

[12] The First Five Year Plan (1951-56) was more of a compendium of investment projects that had been initiated earlier than a fully articulated and forward-looking development strategy. It turned out—with the dominant agricultural sector performing well because of good weather, with the growth targets being modest, and with a comfortable balance of payments situation arising from the boom in exports due to the Korean War—that the first plan was successful in achieving its targets without creating any significant fiscal or balance of payments problem. Although it set an overall interventionist framework of policy, the Second Plan authored by Professor P. C. Mahalanobis provided the analytical foundation for the inward-oriented development strategy that was pursued for the subsequent 35 years. It emphasized the development of heavy industries, import-substitution across the board, and vast expansion of the public sector. The massive investment (relative to resources available for its financing) proposed in the Second Plan precipitated a balance of payments crisis. In response, an elaborate system of controls (that was expanded in subsequent decades) was put in place to enforce the plans and their underlying development strategy. However, it is fair to say that at the time of Nehru's death, the control system had not become the monster that strangulated the economy and spawned extensive political and economic corruption. It became most expansive, inclusive and debilitating in the late sixties and seventies of the Indira Gandhi era. This is the period when commercial banks were nationalized, financial repression was pursued with a vengeance, and several laws imposing draconian controls (the Monopolies and Restrictive Trade Practices Act, the Foreign Exchange Regulation Act, Conservation of Foreign Exchange and Prevention of Smuggling Act, to mention a few) were enacted.

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SOME SALIENT FACTS

I A. Growth of Real GDP and Major Sectors: Annual Average Rate (Percent)[13]

	1951-52 to 1979-80	1980-81 to 1990-91	1991-92 to 2000-01
GDP (at factor cost)	3.5	5.5	6.0
Agriculture (31)	2.3	4.2	3.3
Manufacturing (21) of which:	5.3	6.1	6.8
Registered (13)	6.1	6.8	7.1
Unregistered (8)	4.5	5.0	6.3
Electricity, Gas & Water (2)	9.6	9.0	5.7
Construction (4)	4.9	5.2	5.3
Trade, Hotels & Restaurants (12)	4.8	5.4	8.1
Storage, Transport & Communication (5)	5.7	5.7	8.9
Financial, Insurance, Real Estate, Banking & Housing Services (10)	3.5	9.4	7.7
Community, Social & Personal Services (11) of which:	4.3	5.6	7.1
Public Administration and Defence (5)	6.1	6.2	6.3
Other Services (6)	3.3	5.2	7.7
A. Tradable Goods	2.8	4.7	4.5
B. Non-Tradable Services	4.7	6.3	7.5

Source: A. Virmani (2004c, Table 2).

[13] Figures in parentheses are percentage share of value added in 1990-91 of each sector in GDP at factor cost at 1980-81 prices taken from Statement II of CSO (1993).

SOME SALIENT FACTS

I B. Growth of GDP and Major Sectors

	1951/52-1980/81	**1981/82-1990/91**	**1992/93-1996/97**	**1997/98-2001/02**	**2002/03[a]**	**2003/04[b]**
GDP	**3.6**	**5.6**	**6.7**	**5.5**	**4.0**	**8.3**
Agriculture	2.5	3.6	4.7	1.9	-5.2	9.1
Industry	5.3	7.1	7.6	4.5	6.4	6.5
Services	4.5	6.7	7.6	8.1	7.1	8.4

a: Quick Estimates
b: Revised Estimates

Source: Acharya (2004), Table 1.

SOME SALIENT FACTS

II A. Fiscal Deficits (Percent of GDP)

	Centre	States	Consolidated
1980-81	5.8	2.6	7.5
1990-91	6.6	3.3	9.4
2002-03	5.9	4.7	10.1

Source: Singh and Srinivasan (2004).

SOME SALIENT FACTS

II B. Gross Savings and Investment (Percent of GDP at Current Market Prices)

	Gross Savings				Gross Investment			
	80-81	**90-91**	**01-02**	**02-03**	**80-81**	**90-91**	**01-02**	**02-03**
Household: Financial	6.3	8.7	11.1	10.3				
Physical	9.7	11.3	11.6	12.3				
Total	16.0	20.0	22.7	22.6	9.7	11.3	11.6	12.3
Private Corporate	1.7	2.7	3.5	3.4	2.5	4.6	4.9	4.8
Public Sector	3.4	1.0	-2.7	-1.8	8.6	9.7	5.8	5.7
Total	21.1	23.7	23.5	24.2	20.8	25.6	22.3	22.8
Current Account Deficit Plus Capital Transfer	1.5	3.4	-0.4	-0.9				
Finance for Investment	22.6	27.1	23.1	23.3				
Errors and Omissions (E&O)					1.8	1.8	0.8	0.5
Gross Investment (Adjusted for E&O)					22.6	27.1	23.1	23.3

Sources: CSO (1995), Statements 18 and 19; CSO (2004).

SOME SALIENT FACTS

III. External Debt (US $ Million)

	1980	**1990**	**1991**
I. Debt Outstanding	18,709	61,716	64,315
II. Public and Publicly Guaranteed	18,373	60,228	62,842
Official	16,316	36,735	40,344
Private	2,056	23,482	22,498
III. Private Non-guaranteed	336	1,488	1,473
IV. Use of IMF Credit	977	2,623	3,451
V. Short-Term Debt	926	4,800	3,791
VI. Interest Rate (Percent)/Maturity (Years)	5.4 / 33.7	4.8 / 25.0	5.8 / 19.6
Official	2.5 / 40.8	3.6 / 29.0	4.2 / 25.9
Private	15.6 / 9.0	8.7 / 11.0	8.7 / 7.7
Memo: External Reserves	7,228	2,842	6,264

Source: World Bank (2002): 194-97.

SOME SALIENT FACTS

IV A. Employment

	1972-73	1977-78	1983	1987-88	1993-94	1999-00
Labor Force (millions)			261		336	363
Work Force (millions)			240	273	316	337
Percentage of Workforce Employed in: Agriculture	74	71	69	65	65	62
Manufacturing	9	10	11	11	11	11
Services	8	8	9	9	10	9
Other	9	11	11	15	14	18
Self-Employed	65	63	61	59	58	56
Regular Employee	9	8	7	8	6	7
Casual Labor	25	30	32	33	36	37

Sources: Ministry of Labor and Employment, Table 2.12
Ministry of Finance (2004), Table 10.8.

SOME SALIENT FACTS

IV B. Employment

Employment in Organized Sector (millions)

		Public	**Private**	**Total**
1. Manufacturing	1981	1.50	4.55	6.05
	1991	1.85	4.48	6.33
	2001	1.43	5.01	6.44
2. Transport and Communication	1981	2.71	.06	2.77
	1991	3.03	.05	3.08
	2001	3.04	.08	3.12
3. Community, Social and Personal Services	1981	7.36	1.22	8.58
	1991	9.23	1.49	10.72
	2001	9.83	1.73	11.56
4. Total	1981	15.48	7.39	22.87
	1991	19.06	7.67	26.73
	2000	19.31	8.65	27.96

Source: Ministry of Finance (2004), Tables 3.1-3.3

SOME SALIENT FACTS

V. Indices of Real Effective Exchange Rate (REER) and Nominal Effective Exchange Rate (NEER) of the Indian Rupee

(36-country bilateral weights)

(Financial Year – Annual Average)

Year					Year				
	REER	**NEER**	**REER**	**NEER**					
1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
1975-76	107.31	100.28	106.27	97.95	**1989-90**	77.34	71.60	78.44	72.16
1976-77	102.49	101.13	101.34	98.67	**1990-91**	73.33	66.19	75.58	67.20
1977-78	101.21	102.18	100.12	99.86	**1991-92**	61.36	51.12	64.20	52.51
1978-79	93.11	99.68	91.98	97.18	**1992-93**	54.42	42.30	57.08	43.46
1979-80	99.09	102.79	97.08	99.43	**1993-94**	59.09	43.48	61.59	44.69
1980-81	106.15	106.48	104.48	103.46	**1994-95**	63.29	42.20	66.04	43.37
1981-82	105.74	106.20	104.48	103.54	**1995-96**	60.94	38.74	63.62	39.73
1982-83	102.09	107.09	101.17	104.75	**1996-97**	61.14	38.09	63.81	38.97
1983-84	104.51	106.68	104.24	105.27	**1997-98**	63.76	38.93	67.02	40.01
1984-85	100.44	101.77	100.86	101.47	**1998-99**	60.13	35.32	63.44	36.34
1985-86	97.85	98.52	98.27	98.50	**1999-00**	59.70	34.30	63.29	35.46
1986-87	90.12	85.77	90.24	85.85	**2000-01**	62.47	34.24	66.53	35.52
1987-88	85.39	81.20	85.36	81.16	**2001-02**[P]	64.36	34.54	68.43	35.75
1988-89	80.26	75.25	80.41	75.57					

P – Provisional

Note: 1. Data up to 1991-92 are based on Official Exchange Rates and data from 1992-93 onwards are based on FEDAI Indicative Rates

2. REER Indices have been recalculated from 1994-95 onwards using the new Wholesale Price Index series (Base: 1993-94=100)

SOME SALIENT FACTS

VI. Investment by Private Corporate and Household Sectors (Percent of GDP at Current Market Prices)

	Public	Corporate	Household
1980-81	8.7	2.5	9.7
1981-82	10.5	5.7	8.3
1982-83	11.3	5.7	6.0
1983-84	9.8	3.4	7.6
1984-85	10.8	4.4	5.9
1985-86	11.1	5.5	7.4
1986-87	11.7	5.3	7.0
1987-88	10.2	3.8	8.9
1988-89	9.9	4.1	10.4
1989-90	10.0	4.3	10.0
1990-91	9.7	4.6	11.3

Source: CSO (1991, 1995), Statement 19

SOME SALIENT FACTS

VII. GDP Per Capita (1990 International Dollars): 1700-1998

	1700	**1820**	**1870**	**1913**	**1950**	**1973**	**1998**
China	600	600	530	552	439	839	3117
India	550	533	533	673	619	853	1746

Source: Maddison, Angus. 2002.