Economic Reforms and Growth Prospects in India

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1. Introduction

Global economic environment is changing rapidly in the last 10 years. This change is reflected in widening and intensifying international linkages in trade and finance. It is being driven by a near-universal push toward trade and capital market liberalisation. Not only have production processes spread to many countries, but also the service sector has increasingly become dominant in many countries. The global strategic and political environment has also been changing rapidly in recent years (after collapse of the Soviet Union and the end of the cold war) with moves towards regional trade and security blocks. In this context, India is on the move. India has seen its influence in world affairs wane in part because its economic clout has not been able to match the leading posture it assumed. Until recently, India was striving for self-reliance in a highly controlled, centrally planned and closed economy. India's trade with the rest of world has been insignificant. Today, India is trying to break with the economic policies that underpinned Nehruvian thinking, and to open itself to world trade.

Starting in June 1991, the Indian government introduced a number of liberalising measures, including significant tariff reduction, abolition of all quantitative restrictions on non-consumer goods, unification of the exchange rates, and adoption of a liberal set of rules for FDI, and introduction of current account convertibility. While the industrial reforms seek to bring about a greater competitive domestic environment, the trade reforms seek to improve international competitiveness. The private sector is allowed in many industries that were earlier exclusively reserved for the public sector. In these areas, the public

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sector will have to compete with the private sector, even though the public sector may continue to play a dominant role. These reforms are not meant to diminish the role of the state, but to redefine it, expanding it in some areas and reducing it in some others. Basically its aim was to have a better mix of 'market' and 'State'.

Due to advancement of science and technology and consequent upon productivity growth, the average time needed for reaching economic maturity has been declining steadily. While Great Britain took nearly 150 years for the evolution of its industry, US did it in about 100 years, and Japan and other East Asian countries[1] were able to compress this time to 30-40 years. The big question is can India do it in about 30 years? If India sets course on a 7 % GDP growth rate, it will have to wait about 68 years to be on par with the GDP of the developed world. Therefore, India is trying to accelerate its annual growth to exceed 7 % over the next few decades. In this regard, one of the key questions asked has been whether it is possible to accelerate and sustain a higher growth rate over a long period. Against this background, this paper first review India's development strategies including recent economic reforms and then discusses economic performance and its outlooks. It also reviews policy options to increase India's overall performance.

2. India's Development Strategies before 1990s

Even before a new modern nation state came into existence, India had a remarkable history in maritime trade. India was not only exposed to free trade from a very early time but it also maintained its competitive position in world trade in several goods. Even during colonial times, India's competitive strength remained fairly intact. However, it lacked exposure to modern technology with well-organised markets and faced internal price repression and a deluge of non-competitive imports.

In the post-independence period, the problem of transforming an agrarian economy to an industrial one, building domestic capability in crucial sectors and addressing the

[1] East Asia, for the purpose of this paper, includes China, Hong Kong, Indonesia, Japan, Malaysia, Singapore, South Korea, Taiwan and Thailand.

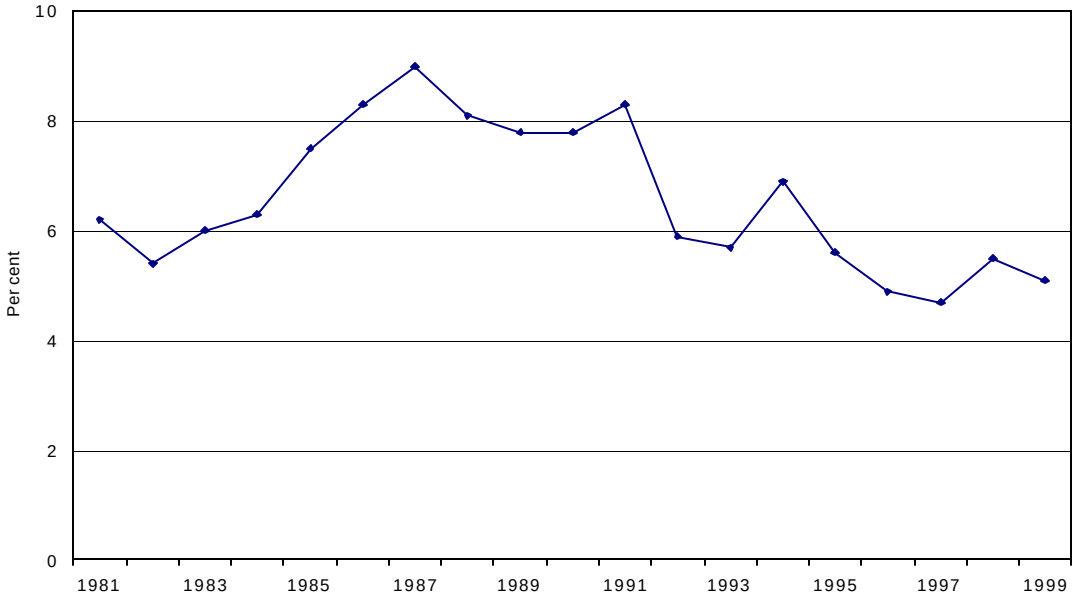
immediate need and aspirations of people weighed heavily. The role of government in economic management, therefore, grew in relative importance. India adopted a process of planning that determined how much to save, where to invest and in what forms to invest. This was not a command economy. India adopted a mixed economy strategy with the state and the private sector competing for scarce resources. Self-reliance was a principal objective. Import substitution and export pessimism was an underlying strategy/assumption. Doubts about the effectiveness of this policy regime arose as early as the mid-1970s. After considerable thinking, a process of reorientation of the policy framework began in the late 1970s and gathered some momentum in the 1980s. The most important changes related to reducing the domestic barriers to entry and expansion. Larger scope was also provided for big business groups to participate in the process of industrialisation. Attempts were made to shift from direct physical controls to indirect financial incentives and disincentives. Overall, the 1980s witnessed a gradual and definite deregulation from domestic controls. Trade policy was also liberalised to some extent in the 1980s. For example, there was some liberalisation of imports of capital goods in the second half of 1980s, with emphasis on technological up grading of Indian industry. Consequently, the second half of the 1980s witnessed a record growth of industrial production of 8-9 % per annum. The acceleration of growth during the 1980s was achieved with distinctly better productivity performance.

However, during the 1980s the government had started to live beyond its means. Consequently, the fiscal deficit, which had remained moderate until the1980s, started to rise in the second half of the1980s. The average fiscal deficit of the Central Government alone was 8.2 % of the GDP during 1985-86 to 1989-90 (see Chart 1). This was mainly due to the fast rising expenditures on subsidies, interest payments, salaries and defence. As the government borrowed internally and externally to finance the growing fiscal gaps, the economy exhibited serious structural problems which posed obstacles to the sustainability of the higher growth that had been set in motion during the 1980s.

Macroeconomic Crisis

In the early 1990s, the Indian economy suffered from a very acute macroeconomic crisis, the like of which it had never faced in the past. The foreign currency reserves of the country had tumbled to $ 1 billion, just enough to pay for two weeks of imports. For the

Chart 1: Central Government Fiscal Deficit as a Percentage of GDP



first time in its history, India was faced with the prospect of defaulting on its international payments. Access to external commercial credit markets was almost closed as international credit ratings tumbled. Hot money naturally disappeared. The inflation rate climbed to a peak of 17 % by August 1991. The ratio of the fiscal deficit of the Central Government to GDP had reached almost a double-digit level, and the current account deficit rose to nearly 3 % of GDP. India was on the verge of a calamitous economic precipice, in some respects like the crises that occurred in Latin America and East Asia later in the decade.

In the past, macroeconomic crises in India were mainly due to supply shocks, both internal and external. The economic crisis of the mid-sixties owed its origin to two successive droughts of 1965-66 and 1966-67 and the two wars: the Indo-China war of 1962 and the Indo-Pak war of 1965. The second major crisis occurred in the mid-seventies due to the combined effect of monsoon failures of 1972 and 1974, and the first external oil shock. The third major crisis occurred in 1979, again due to the combined effect of bad weather and the second oil shock. In all three cases, the economy stabilised immediately after a good harvest.

Unlike the earlier crises, the one in early 1990s was not due to adverse weather conditions or military operations. The food grain output in the previous three years (1988-91) was quite good. The Gulf crisis of 1990-91 might have aggravated the problem, but it cannot be regarded as the root cause of the economic crisis in the early 1990s. This means that the crisis of the early 1990s is not as simple as those in the past. The crisis drew attention to the deep structural imbalances in factor and product market activities, and also in the fiscal system. This, in a sense, underlined the need for a comprehensive programme of reform.

India's response to the crisis and the subsequent adjustment was smooth and far less costly than that of many other countries. The crisis was met with some decisive policy measures such as the downward adjustment of the rupee, the pledging of a part of the country's gold reserves to avert default of scheduled repayments, import-compression measures, a tightening of monetary policy and the timely receipt of exceptional assistance from international financial institutions. A comprehensive stabilisation and structural reform programme to correct the macroeconomic imbalances followed these policy initiatives, details of which are given in the following section.

3. Economic Reforms in the 1990s

This section attempts to present a consolidated account of reform measures undertaken so far, and indicate where India was before reform and where it is now. India began to undertake bold economic reforms in June 1991, prompted mainly by the balance of payments crisis and partly by the necessity to use domestic resources more efficiently. The balance of payments crisis was aggravated by an unmanageable fiscal imbalance. The response to the crisis was to put in place a set of policies aimed at stabilisation and structural reforms. While stabilisation policies were meant to put the house in order to correct the fiscal and balance of payments imbalances, the structural reforms were aimed at preventing the recurrence of such crises.

Even though India has made considerable progress in implementing economic and structural reforms since the early 1990s, the reform process has slowed in the past few

years, partly due to political uncertainty and partly due to the contagion of the Asian financial crisis. The government not only needs to resume and accelerate the pace of economic reform but also to widen its scope to achieve sustained higher economic growth. Among the various areas that need attention, financial sector reform, reforms in the infrastructure sector, public finance consolidation, agriculture, and expansion of access to basic education and health services are critical. Specific elements of these policies are discussed below.

Financial sector reforms

In India, reform of the financial sector was identified, from the very beginning, as an integral part of the economic reforms. By and large, financial sector reforms in India have proceeded in the following five directions.

The first important direction of reform has been the strengthening of market institutions and allowing greater freedom to financial intermediaries. These reforms have taken the form of gradual liberalisation of interest rates, development of money and capital markets and giving operational flexibility to banks in management of their liabilities subject to transparency and prudential norms.

The second important element of reform concerns the "safety" aspect of the financial system. Steps have been taken in recent years aimed at prescribing certain prudential standards for the financial system and addressing certain structural weakness, which could minimise the occurrence of trouble in future. Measures such as income recognition norms, asset classification, meeting minimum capital adequacy standards through recapitalisation and devising a supervisory framework are steps in this direction.

The third important directional change has been the removal of operational constraints through lowering the share of pre-empted resources in the total resources of the banking system. This was achieved through gradual liberalisation of the cash reserve ratio (CRR) and the statutory liquidity ratio (SLR).

The fourth directional change has been in the area of creating a more competitive environment with transparency in the financial sector through reform measures such as relaxation of entry and exit norms, reduction in public ownership in the banking industry and letting banks access capital market for meeting their fund requirement. It may also be noted that not only in the banking sector, but also in the insurance sector there has been recent opening to private institutions. The last and important directional change has been the creation of financial institutions in terms of a supervisory body, audit standards, technology and a legal framework.

Thus the first phase of financial sector reforms focused on improvement in prudential norms and standards, interest rate liberalisation, strengthening supervision, and increased competition in the banking sector. India has made substantial progress towards improving the performance of the financial system and putting in place a new financial system with more autonomy, transparency and accountability. Compared to the experience of many other developing countries embarking on financial sector reform, India has treaded cautiously and in an orderly manner, which has helped India in minimising the adjustment costs involved in the process. The government in 1997 appointed a second Committee on Banking Sector Reforms under the chairmanship of M. Narasimham to review what had been accomplished and to chart the agenda for a second stage of banking sector reforms. The Government also appointed the Khan Committee on Harmonising the Role and Operations of Development Finance Institutions and Banks. These committees have already presented their recommendations. These recommendations include strengthening prudential regulations by raising the capital adequacy ratio, tightening loan classification and provisioning standards, upgrading banks' risk management systems, improving the legal framework for loan recovery and moving toward universal banking, with progressive elimination of the boundary between banks and financial development institutions.

Moreover, there is a strong case for reduction of government ownership, as it is a deterrent to professionalism, managerial freedom, customer-friendliness and entrepreneurial behaviour. Another important issue that needs attention is the perception that the Indian banking system is costly due to its relatively high operating cost. This

raises the necessity of maintaining a high lending rate, which affects growth of the economy adversely. Since operating costs depend on labour productivity, technology, innovation and organisational effectiveness, greater use of computers and communication technology will not only help to reduce the operating cost and provide better customer service but will also help to cope with the explosive growth in the number of transactions in the financial sector.

Infrastructure Development

Another important area of policy priority is increasing investment in physical infrastructure. Adequate infrastructure facilities (power, transport and communication) at reasonable cost are absolutely necessary if rapid economic growth is to be achieved and sustained. There is, at present, a large gap between the demand for and supply of infrastructure. The Government has embarked on a strategy to upgrade infrastructure services, including an increase in investment in infrastructure. Notwithstanding some progress, the injection of private capital in key infrastructure sub-sectors has been slower than anticipated, and they have therefore failed to keep pace with developments in the overall economy. Consequently, these basic infrastructure services have emerged as major impediments to a higher, sustainable growth path.

Public Finance Consolidation

Reduction of the government (central and state) fiscal deficits is a key element for improving India's economic growth. There was encouraging progress at the start of the reforms, when the fiscal deficit was reduced from 8.3 % of GDP in 1990-91 to 5.9 % in 1991-92, but performance thereafter was disappointing. The deficit declined marginally in 1992-93 and then increased to 7.4 % in 1993-94. It declined again, but remained well above 5 %. The inability to reduce the fiscal deficit in line with expectations is one of the most disappointing aspects of India's reforms. The sharp reduction in the fiscal deficit in 1991-92 was achieved through a combination of a significant decline in expenditure as a percentage of GDP and a marginal increase in revenues. Total expenditure continued to decline as a percentage of GDP in subsequent years but total revenues also declined. The scope for reducing the deficit in the future depends upon the scope for reducing expenditures or increasing revenues as a percentage of GDP. What was required was to

reduce government expenditure in some areas and to increase it in others- education, health care, nutrition etc.

Therefore, the emphasis is now focused mainly on the government's efforts to mobilise resources by broadening the tax base and revising the tax rate structure. India's tax reforms were based on the Report of Tax Reforms Committee headed by Raja Chelliah. The Government needs to take steps to strengthen non-tax revenues, including implementing an appropriate pricing policy for utilities. Further tax reforms would help cut the deficit, while adding to the efficiency and equity of the revenue system. This was done through continuation of the efforts to double the number of contributors on the basis of outward signs of wealth, tougher treatment of perquisites and fringe benefits and strengthening of the identification numbering system.

Corporate tax collections could also be increased by limiting business expense deductions, freezing new tax concessions etc. Customs revenues could well increase from their current level as quantitative restrictions are removed. India already depends heavily on customs revenue, and attempts to raise more by increasing tariffs would have negative effects on efficiency. Excise duties are a major source of indirect tax revenue in India, but performance in this area has been unexpectedly poor. Though the industrial sector, which is the base of excise duties, has grown faster than GDP, the excise duties as a percentage of GDP declined from 4.4 % of GDP in 1990-91 to 3.4 % in 1997-98. The reasons for the poor performance of excise duties need to be analysed so that corrective steps can be taken.

At the state level, the lack of deficit reduction has put many Indian states in an increasingly unsustainable position. Therefore, there is a clear need for state governments to initiate broadly based fiscal reforms. Unless addressed, the state's capacity to deliver some basic needs like education and health will weaken.

Agriculture

If the economy is to grow at a higher rate, say in the 8-10 % range per annum, then the agricultural sector must grow at an annual rate of 4-5 % on a sustainable basis.[2] With the net sown area remaining constant, and the possibility of a decline due to urbanisation and industrialisation, as in China, agricultural output can be increased only through enhanced crop yields or other efficiency improvements. Indian agriculture already enjoys a lower ICOR of 2.5 to 3. In fact, it is one of the few sectors where India enjoys an international competitive advantage. Future agricultural strategies should focus on augmenting the existing land and water resources, harnessing new technologies to increase productivity, implementation of realistic pricing policies and creative management practices that improve input use.

Expanding Access to Education

Adult literacy in India reached only 50 %, which is low not only in comparison with China's 78 %, but even compared with an average figure of 55 % for all the "low-income countries excluding China and India" (Dreze and Sen, 1995). India has been left behind in the field of basic education, even by countries that have not done better than India in many other development aspects, such as Ghana, Kenya, Zimbabwe, Zambia, Myanmar and the Philippines. The Ninth Five-Year Plan (1997-2002) has called for increasing the share of GDP allocated to education from 4 % – which was among the lowest in Asia – to 6 %, with half of total outlays to be allocated to primary education (Planning Commission, 1999). While the increase in resource allocation is important, this is clearly not enough. The government-run public schools need to be reformed in a way to avoid teacher absenteeism, improve attendance through peer monitoring effects, competition, and decentralisation of supervision at local/village levels. The enrolment rates for higher education (6 %) in the 18-23 age group are also low compared to many developing countries. Insufficient financial resources and poor quality of education with little relevance to practical life are common in higher education. Though the government has identified the need to introduce a fee structure that reflects unit costs, course type, and

[2] India's agricultural production has increased by only 2.7 % per annum during the last four decades.

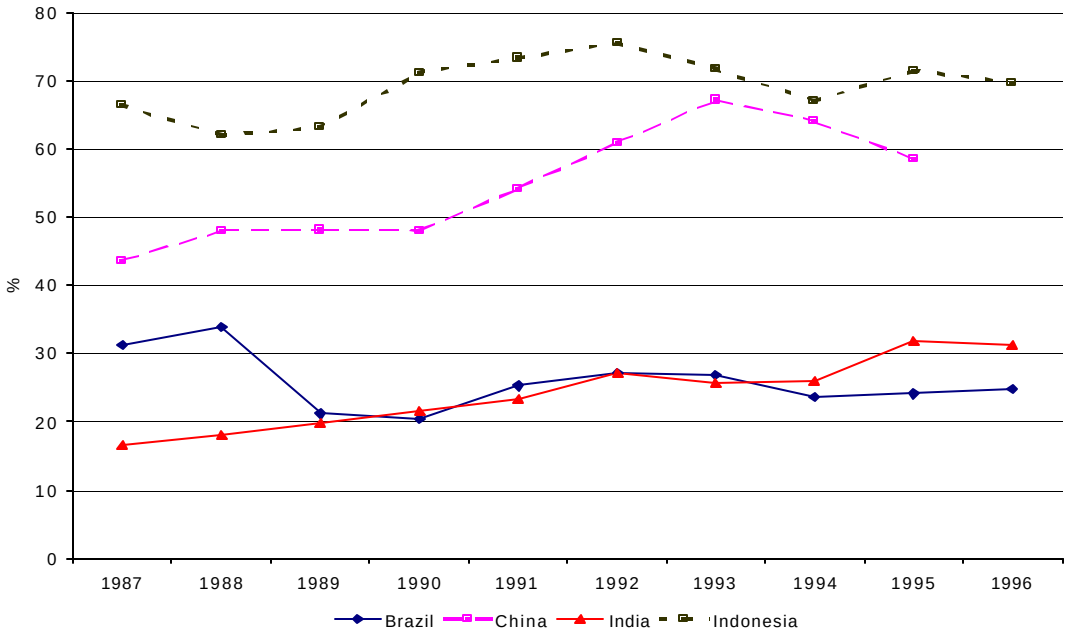
ability to pay (see Ninth-Five Year Plan Document), whether they will be able to implement these policies remains to be seen.

Given the fact that Indian nationals who have received a good education are doing exceptionally well, particularly in software, finance, and other knowledge-based activities, there is a clear need to improve India's overall education situation in order to accelerate and sustain higher economic growth.

4. India in the Global Economy

To what extent has India integrated itself with the rest of world? Has the pace of integration quickened since the beginning of economic reforms in the early 1990s? The ideal measure of integration is the closeness of domestic prices, wages and interest rates to world levels. Since this is difficult to calculate, many indirect measures such as average tariffs, quantitative restrictions, and membership in WTO are often used in the literature. Integration can also measured by quantifiable variables such as FDI to GDP ratio, trade to GDP ratio, share of manufactures in a country's exports. Though quantity measures are susceptible to systematic influence such as the size of the country and neglect of quality considerations, the rest of this section reviews India's integration with the world economy using some of the quantitative indicators such as trade to GDP ratio and FDI to GDP ratio.

Chart 2: Trade in Goods as % of Goods GDP

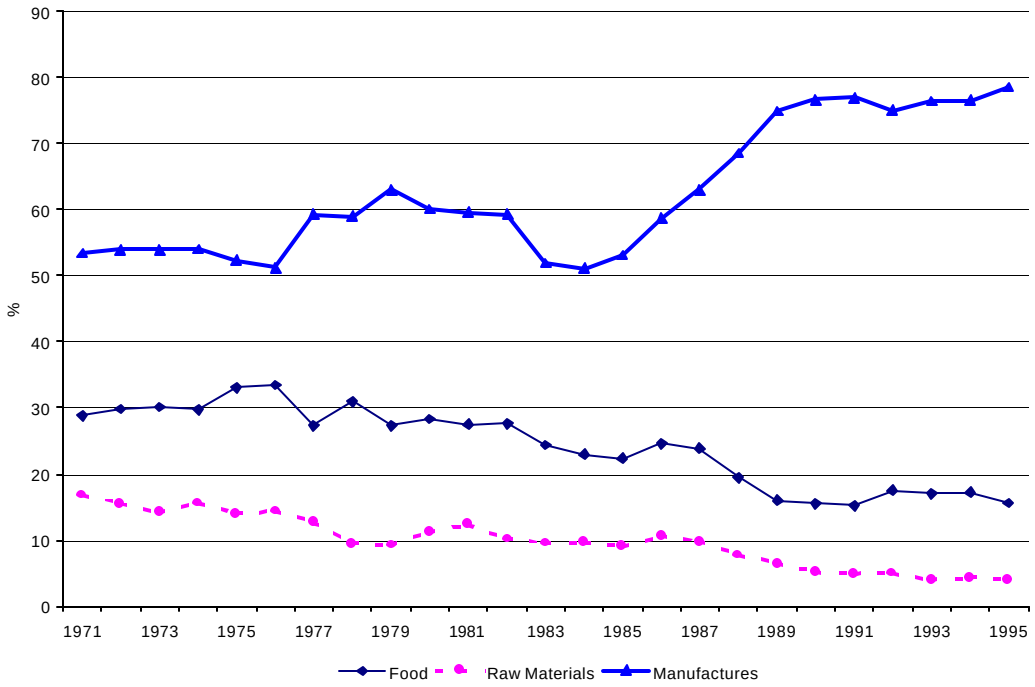


Countries that are highly integrated in the world economy tend to exhibit a high trade to GDP ratio. In India, this has increased over the years but not on pace with that of the more dynamic developing countries such as China (see Chart 2). For example, the ratio of exports to GDP which was less than 4 % during the 1960s and early 1970s, rose to 5 % in the 1980s and is now a little over 9 %. Exports and imports taken together today stand at about 22 % of India's GDP. If international transactions in services are included, the degree of openness of the Indian economy is well over 30 %. However, the ratio is one of lowest in the world. At the end of 1970s when China opened its economy to the rest of the world, external trade accounted for less than 10 % of its GDP. But now it accounts for about 40 % of China's GDP. Another indicator for measuring a country's integration with rest of the world is through estimation of a country's mean tariff rate. According to the World Bank (1999), the mean tariff rate for all products in India has declined from 80 % in 1990 to 30 % in 1997. In the case of China, these rates are at about 43 and 18 %, respectively. This shows that while the degree of protection for Indian products has come down, it is still high compared to other developing countries.

There is much evidence that countries that are integrated faster into the world economy experience not only rapid export growth but also export diversification. The average annual export volume growth for India during the period 1981-90 was 5.7 %. But this

rate has accelerated to 12 % during the period 1991-95, when there was large-scale trade liberalisation. Although Indian performance was better, compared to its own past as well as those of many low and middle-income countries, its performance did not match that of East Asia, as a whole. For example, average annual export volume growth during the period 1991-95 was 17 % in China, about 13 % in Korea and Indonesia and 18 % in Thailand. Moreover, growth of goods imports was slower (8.3 %) compared to growth of goods exports (13.5 %) during the period 1985-95, so that the ratio of exports to imports improved markedly (see ADB 1999). Export earnings can now finance 80 % of the import bill, against only 52 % in 1980. One feature of sustained integration is a well-diversified export base, geographically as well as by product. The 1990s saw a redirection of export towards East Asia. In fact, East Asia is becoming increasingly important as an export market for India. The share of India's exports to East Asia increased from 8. 6 % in 1986 to 21.2 % in 1995. Meanwhile, exports to the United States declined. Similarly, the share of imports from East Asia has grown from 12 % in 1986 to 21 % in 1995, at the expense of Japan.

Chart 3: Composition of India's Exports



Another indicator of integration is how much a country is moving away from traditional and primary products into new high-value-added exports. This is reflected in the share of technologically advanced goods in manufactured exports. While, India has been lagging in this area, East Asian countries have seen fast rises in the share of technologically advanced goods. A comparison with China is particularly revealing. In 1995, 9.7 and 16.3 % of China's exports were in science-based goods and differentiated products, respectively, as compared to 5 and 4.1 % for India.[3] The story is the same in comparison with other East Asian countries. In India, the share of these goods increased marginally, from 4 % in 1970 to 7.7 % in 1994, while East Asian countries such as Malaysia, Thailand, Korea and Indonesia increased shares significantly from 1.6, 0.4, 8.8 and 0.5 % to 56.8, 35.4, 42.6, and 9 %, respectively, during the same period. Clearly, this relatively slow progress in high value-added exports may act as a constraint on India's long-term export performance and growth potential.

Product composition of exports has changed substantially in the last 25 years, shifting away from primary commodities such as food, beverages, tobacco, crude materials to

[3] Differentiated products are technology-intensive engineering products, while science based products use leading-edge technologies.

manufactures such as chemical products, manufactured goods, machinery and transport equipment. These manufactured products comprising SITC categories 5 to 9 have increased their share of merchandise exports from 53.5 % in 1991 to 78.6 % in 1995 (see Chart 3). It is obvious that the share of manufacturing exports in total exports is relatively high despite a low share of manufacturing in overall GDP.

In brief, India significantly improved its export performance in the 1990s due to favourable worldwide factors (at least during 1990-96), exchange rate devaluation and first effects of large-scale deregulation – conditions that may not be realised in the future.

Similarly, India's financial integration with rest of the world has also increased during the 1990s. The level and pace at which FDI increases serve as important indicators of financial integration. India has become one of the most dynamic countries in Asia for foreign direct investment in the last decade. The FDI flows expanded more than six times, reaching a peak of $ 3.7 billion in 1997. The inflows, however, slowed in 1998 against the backdrop of the Asian financial crisis. The FDI flows to India were about one-half of those to South Korea in the early 1990s, but in 1995-98 India almost caught up. The manufacturing sector attracted significant amounts of investment flows, accounting for about 83 % of the total funds into India in 1995. Portfolio investment has also expanded rapidly in the post-reform period. From a level of $ 4 million in 1991, the inflow on account of foreign institutional investors (FIIs) and Global Depository Receipts (GDR) taken together quickly increased to $3.6 billion in 1993-94 and fluctuated thereafter. It declined to $1.5 billion in 1997-98 reflecting the effect of the Asian crisis on capital flows to emerging markets. Despite widespread concern about the volatility and unreliability of portfolio capital flows, India's experience in this area has been fairly encouraging. However, international comparisons suggest that India's performance with respect to FDI has been modest or rather low. The disparity between India and East Asia is especially striking.

Table 1: FDI Inflows during the 1990s (in billion US dollars)

	1991	1992	1993	1994	1995	1996	1997	1998	Total
India	0.1	0.2	0.6	1.0	2.0	2.4	3.3	2.3	11.9
China	4.4	11.2	27.5	33.8	35.8	40.8	44.2	45.5	243.2
Hong Kong	0.5	2.1	1.7	2.0	2.1	2.5	2.6	1.6	15.1
Indonesia	1.5	1.8	2.0	2.1	4.3	6.2	4.7	-0.4	22.2
Korea	1.2	0.7	0.6	0.8	1.8	2.3	2.8	5.1	15.3
Malaysia	4.0	5.2	5.0	4.3	4.1	4.7	5.1	3.7	36.1
Philippines	0.5	0.2	1.2	1.6	1.5	1.5	1.3	1.7	9.5
Singapore	4.9	2.2	4.7	8.4	8.2	9.4	9.7	7.2	54.7
Taiwan	1.3	0.9	0.9	1.4	1.6	1.9	2.2	N.A	10.2
Thailand	2.0	2.1	1.8	1.3	2.0	2.3	3.6	6.8	21.9

Sources: Asian Development Outlook and UNCTAD reports (various issues)

At the peak, net private capital inflows accounted for as much as 17.4 % of GDP in Malaysia in 1993 and 12.7 % of GDP in Thailand in 1995. Similarly, the total private inflow into China has been $ 50 billion of which FDI was $ 40 billion in 1996; that is about 4.6 of its GDP. Compared to this, the inflow into India was modest, at about 0.7 % of GDP.

India has to undertake urgently well thought out and decisive measures to compete effectively for global capital flows, since economies of much lower global importance and potential have been able to attract much larger flows. In brief, India still is not attracting attention from foreign investors commensurate with its size and economic potential. This is of concern because the pace and level of integration are found to be empirically associated with economic growth. The World Bank (1996) presents evidence that developing countries that have adopted polices of rapid integration during 1984-93 experienced three percentage points higher per capita GDP growth than those with the slowest pace. Sachs and Warner (1995) also reveal that countries that have open policies experienced a similar higher growth over countries with closed economies. The Asian Development Bank (ADB 1997) also revealed that between 1965 and 1990, the annual economic growth rate was, on average, 2 % higher in those Asian economies that maintained outward oriented policies than in those that had adopted inward-looking policies. It is, however, to be emphasised at this point that India had a much more stable economic condition than did the crisis-ridden economies of East Asia. The creation of

appropriate institutions, in advance of widespread liberalisation, has been a more reliable development policy for India.

4. Economic Performance

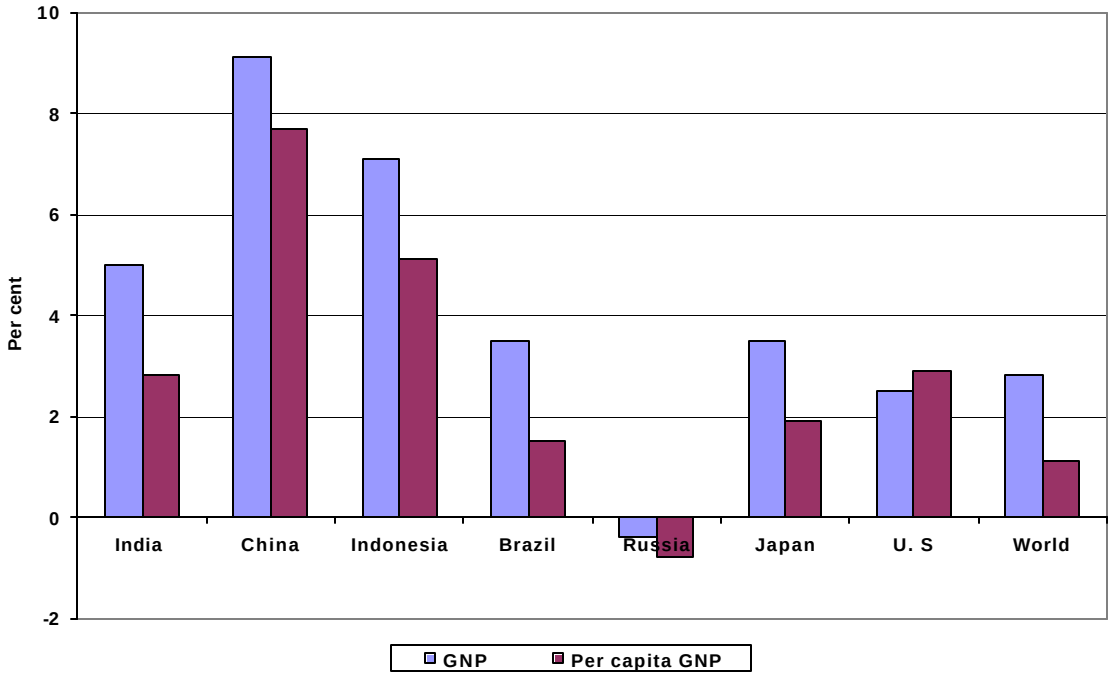
This section reviews India's macroeconomic performance in international perspective. The success of India's ongoing economic reforms will depend not only on how far its macroeconomic performance improves relative to its own past but will also depend on the performance of other countries, particularly East Asian countries whom India considered as models for economic reforms, prior to their deep recessions of 1997-98.

East Asia is a diverse region, both in terms of where its economies are today and their growth histories. Since 1960 these eight or nine East Asian economies have grown about twice as fast as the rest of East Asia and the industrial economies, about three times as fast as Latin America and South Asia, and about five times as fast as Sub-Saharan Africa. Starting in 1955, with an economy destroyed by the Second World War, Japan trebled its GDP in one decade, doubled it in the next and doubled it again in the following decade. Within a mere 30 years, it raised its real GDP about 12 times. It became the first country to catch up with the West. Emulating the Japanese model the Asian newly industrialized economies (NIEs) such as South Korea, Taiwan, Singapore and Hong Kong also achieved remarkably high growth rates over the last three decades. Indonesia, Malaysia and Thailand picked up momentum somewhat later. Though their performance was not as stellar as that of Japan and the NIEs, these economies are still substantially richer today than they had been 30 years earlier. China is perhaps an even more dramatic example of increased growth momentum. While its performance in the 1950s, 1960s and 1970s was not much better than India's, the economic reforms during 1978-79 and the early 1980s changed all that. At 8.4 % a year, China had the region's highest average growth rate during the last two decades.

The performance of the Indian Economy since Independence has been well documented. The annual growth rate in the 1950s was 3.94 % followed by a growth rate of 3.74 % in the 1960s and 3.17 % in the 1970s. It was only in the 1980s that the growth rate crossed 5

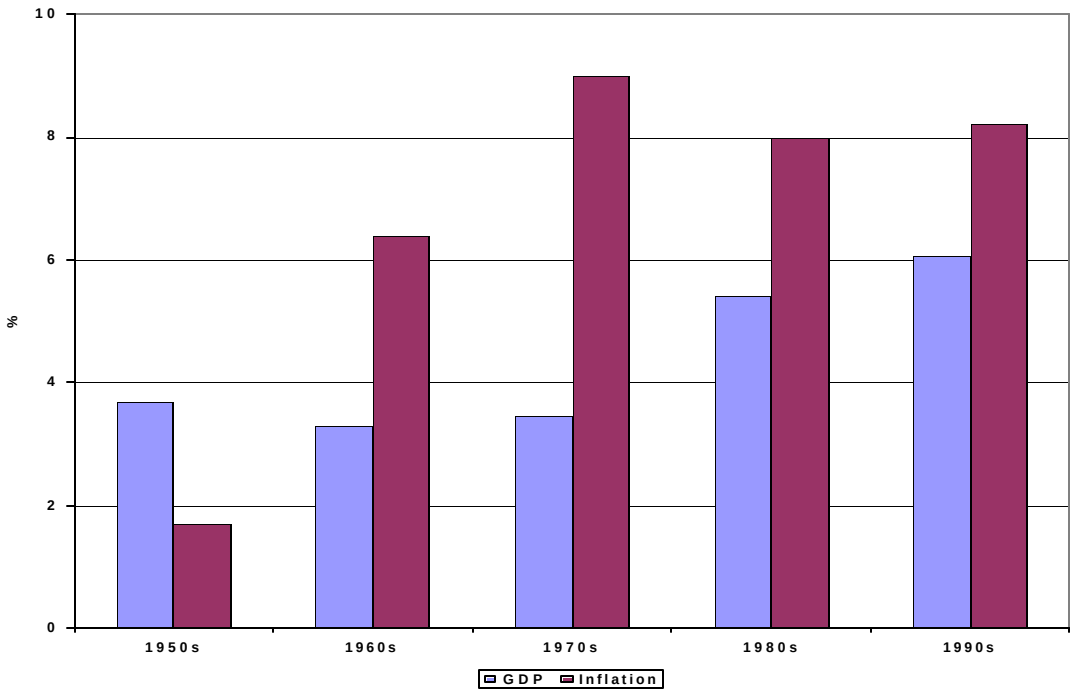
% per annum. During the 1980s India's growth in real GDP was at an annual average of 5.6 % (see Chart 5). This is better than world output growth of 3.3 %, that of developing countries at 4.3 %, and of Asia, excluding China and India, at 5.1 %.

Chart 4: Economic Performance- GNP Annual Growth Rate, 1975-95



With regard to inflation, it was very low at 1.7 % per annum in the 1950s. The average inflation rate edged up to 6.4 % in the 1960s (see Chart 5). During the 1970s, it became higher at 9.0 % per annum. During the 1980s, the average inflation in India moved down to 8.0 % as against an annual average of 36.0 % in developing countries, 8.8 % in Asia and 9.6 % in Asia, excluding China and India.

Chart 5: Average Annual Changes in GDP and Inflation



On the external front, although one may tend to overlook it because of the persistence of trade and balance of payments problems, the fact remains that India's export performance, in some real sense, had shown sustained improvement over the three decades up to the beginning of the 1980s. The volume of exports went up at an annual rate of 2.9 % during the 1950s, 3.4 % during the 1960s and 7.6 % during the 1970s.[4] It slackened with the onset of the international recession at the turn of the 1980s. During the 1980s, India's exports grew in US dollar terms at an annual average rate of 8.1 % and imports at 7.2 %. The average current account deficit was of the order of 2.0 % of GDP during the 1980s. Given the low interface with the world economy, relative to other countries, India faced a severe BoP crisis with a current account deficit of 3.2 %. This order of deficit could not be sustained because the current receipts-to-GDP ratio was low at 8.5 %.

[4] However, India's share in world exports declined steadily from over 2 % in 1950 to 0.4 % in 1980 and increased only slightly to 0.5 % in 1990. India missed the opportunity of integrating itself into world trade actively at a time when world trade was expanding at a faster rate. In the 1960s and 1970s, world trade, in volume terms, expanded at an annual growth rate of 7.3 %. East Asian experience showed that the external sector could be a leading sector and act as an engine of growth, although not independently, as demonstrated in the recent crisis period.

Table 2: Gross Domestic Savings as % of GDP

	1961-70	1971-80	1981-90	1991-97
India	14.0	18.9	20.1	23.7
China	21.5	30.1	34.3	40.7
Hong Kong	25.0	28.4	30.7	32.9
Indonesia	7.6	21.6	32.0	30.1
Korea	9.9	22.3	31.9	35.1
Malaysia	23.8	29.1	33.0	38.1
Philippines	19.1	26.5	22.3	17.1
Singapore	18.0	30.0	42.5	48.1
Taiwan	25.0	32.1	32.9	26.5
Thailand	19.4	22.2	24.4	34.2

Sources: Asian Development Outlook (various issues)

Another important feature is the increase in the domestic savings rate. It increased from 10.8 % of GDP in the 1950s to 18.9 % in the 1970s, 20 % in the 1980s. At the end of 1970s, while the domestic saving rate and the investment rate kept increasing, the annual GDP growth rate remained below 4 %, indicating a rise in the incremental capital-output ratio (ICOR). The ICOR, reflecting the productivity of investments, started declining in the 1980s.[5]

On the human development side also, India has made substantial progress over the last two or three decades. The average life expectancy has gone up from 49 years in 1970 to 63 years in 1997 (HDR, 1999). While, the infant mortality rate (per thousand live births) declined from 130 to 71, the adult literacy rate improved from 34 to 52 % during the same period. Consequently, during the last 18 years HDI increased sharply by 90 %, against 44 % observed between 1960 and 1980. We can also note that the rate of increase in recent decades is much higher than in many other Asian countries. On the face of it, these achievements do look impressive. In terms of overall international perspectives, however, India is far behind. In fact, India has been left behind in the field of basic education, even by countries that have not done better than India in many other development aspects, such as Ghana, Kenya, Zimbabwe, Zambia, Myanmar and the Philippines.

[5] ICOR denotes additional capital required to produce an extra unit of output. Hence a lower ICOR generally reflects higher productivity of investment.

Table 3: Trends in Human Development Index (HDI)

Country	*1960*	*1980*	*1998*	*% change*	
				1960-80	**1980-98**
India	0.21	0.30	0.56	44	90
China	0.25	0.48	0.71	92	49
Hong Kong	0.56	0.83	0.87	48	5
Indonesia	0.22	0.42	0.67	87	60
Japan	0.69	0.91	0.92	32	2
S. Korea	0.40	0.67	0.85	67	28
Malaysia	0.33	0.69	0.77	108	12
Philippines	0.42	0.56	0.74	33	34
Singapore	0.52	0.78	0.88	50	13
Thailand	0.37	0.55	0.75	48	35

Sources: Human Development Report (various issues)

Not too long ago, India acted as if the HIV/AIDS (Human Immunodeficiency virus/ Acquired Immune Deficiency Syndrome) was of no significance. Now, it has elevated the disease to being one of the country's most pressing human development challenges. India is currently experiencing one of the most rapidly progressing HIV epidemics in the world. Even if the HIV prevalence rate reaches a 'low' level of 5 % seen in many other countries, more than 37 million people in India would be carrying the HIV virus. Despite the active government intervention, the absolute number of HIV-infected people is bound to increase. The increase could be as large as 1-2 million every year with the total number of infected persons doubling every 2-3 years.

India presents a fertile ground for the spread of the virus, because of its high levels of poverty and inequality, its historical migrant labour system, and a lack of adequate access to basic services by the majority of the people. Of the 180-odd million migrant workers in India, many are men living away from their wives and families and are most likely to have unsafe sex. Then, there are the hundreds of truckers who ferry goods from one end of the country to the other. This sector is also prone to get infected, due to their unsafe

sex practices. This mobility of the male population has brought the virus to the rural areas. The recent FAO and UNAIDS report, *"Sustainable Agricultural/Rural Development and Vulnerability to the AIDS Epidemic"* shows clearly how, in India, the HIV is spreading faster in some rural areas than in urban ones.

What is frightening for India is that 89 % of reported cases are in the sexually active age group of 18-40 years. The sexually active age group is also the most economically productive group. Since sexual behaviour is a private and sensitive subject, possibilities of intervention to arrest the spread of the disease is limited. What is more frightening is that HIV infection is spreading rapidly in more advanced states such as Maharashtra, Tamil Nadu, Andhra Pradesh and Karnataka in the southern and western parts of India, where heterosexual sex was the predominant mode of transmission. The rapid spread of AIDS in more advanced states will pose a serious threat to sustaining higher economic growth in India over the next several decades (see Box 1).

Box 1

HIV/AIDS: A Threat to India's Development

The latest set of statistics released by UNAIDS on the global status of HIV/AIDS is alarming, to say the least. The report says that over a third of today's 15-year-olds will die of AIDS in the worst affected countries, particularly in sub-Saharan countries.

Estimates for India are even more alarming. Though the deadly virus started spreading in India much later than it did in Africa, it is estimated that India now has more HIV-infected people than any other country in the world. According to the UNAIDS report titled 'AIDS Epidemic Update-December 1999', there are about four million HIV infected persons in India, and the rate of HIV prevalence in the adult population is below 1 %. Even this low percentage makes India tops on the world HIV chart. The figure is about 60 % of the 6.5 million HIV positive people in Asia and about 12 % of the 34 million world-wide. China, in contrast, has about half-a-million HIV-infected in a population of over a billion.

Sub-Saharan experience suggests that a mature HIV/AIDS epidemic reduces life expectancy, increases the demand for medical care, worsens other illness and exacerbates poverty and inequality. According to UNAIDS, during 1999 alone, 310, 000 people died in India due to AIDS. Because of this, the country's life expectancy may fall in the future. In recent years, India's ranking in the UNDP's human development index has gradually been rising, but if the HIV epidemic is not checked, this will be affected negatively. AIDS could also hinder economic growth and worsen poverty. Empirical works presented at the 13th international conference on AIDS in Durban (July 2000) organised by UNAIDS and the World Bank clearly show that AIDS not only hurts individuals, families and firms, but also significantly reduces economic growth. A study of South Africa, where an estimated 20% of the population is infected with HIV, researchers forecast that GDP will be 17 % lower by 2010 than it would have been without AIDS. Another study in Jamaica and Trinidad and Tobago also warned that AIDS would significantly harm economic growth. A study of diamond-rich Botswana, which has a 36% HIV prevalence rate -- the highest in the world -- warned that the country would face "a rapid increase in the number of very poor and destitute households in the coming decade." Although income from diamond exports would cushion the impact on GDP growth, per capita household income for the poorest quarter of all households is likely to fall by 13%, the study said. Thus, as the pandemic progresses, impacts of AIDS are reverberating through all sectors of the economy, creating soaring health and social welfare costs, labour shortages and lowered productivity. The impacts on national economies, the agricultural sector and food security will be significant. Although available data are limited, they provide sufficient evidence that the profound demographic effects of AIDS will seriously hamper, if not reverse, economic growth. In this context, unless it is checked, AIDS could pose a serious threat to India's development.

Post-Reform Performance

The economic restructuring measures produced appreciable results. Initially, growth declined sharply in response to the contractionary fiscal and monetary policies adopted to address the crisis. The reforms and good monsoons helped growth rebound to 5 % in 1992-94. For three consecutive years, 1994-97, real GDP grew by more than 7 %, placing India among the world's best performing countries. Growth fell to 5 % in 1997-98, but it picked up to 6.8 % 1998-99, due to fluctuations in agricultural production. For the current year 1999-2000, the economy is expected to grow by about 6 %. The industrial sector pla yed an important role, both in accelerating and decelerating economic growth. The easing of constraints in the early 1990s led to a steady increase in industrial growth. However, it has sharply decelerated from 12 % in 1995-96 to 6 % or less in the last three years. There are now encouraging signs that industrial production is picking up again. Growth of GDP from manufacturing will almost double to 7 % in 1999-2000 from 3.6 % in 1998-99. The growth in GDP from the construction sector is likely to accelerate to 9 % in 1999-2000 from 5.7 % in 1998-99. Despite this encouraging sign, low overall productivity of investment, excessive fragmentation of markets, shortage of investible funds, and the poor infrastructure may pose significant problems to sustained higher industrial growth.

For decades, industrialisation was seen in India as the driving force of modernisation and prosperity. The service economy was seen as a mere adjunct to manufacturing, not as a driving force in its own right. This is partly because the miracle economies of East Asia had a very high share of industry in GDP in their peak growth periods, higher in some cases than the share of services. The services share of China is depressed by statistical undercounting, but even in Indonesia and Thailand in 1997, the share of industry (43 and 47 % respectively) exceeded that of services (41 % in both cases). In India, the share of industry is around 29 % against 48 % for services. The growth rate in the services sector continued to increase steadily during the last two decades. The average annual growth rate of the services sector has increased from 6.6 % during 1981-90 to 7.1 % during 1990-98. India has a major comparative advantage in services. India's service exports in 1997 were US $ 9.3 billion, against its merchandise exports of $ 32.2 billion. Data for

recent years are not yet available, but given the fast rise of software exports and decline in merchandise exports, one could expect that India's service exports will turn out to be around one-third of merchandise exports, which is higher than the global average of one-quarter (see Box 2).

Box 2

Indian Software and Services Sector

India is quietly but quickly emerging as a leader in the area of information technology particularly in software engineering and web-based services. The Indian software industry has zoomed from a mere US $150 million ten years ago to a whopping US $4 billion in 1998-99. During the last five years, it has been growing at the rate of 56 % per annum. Within this industry, the export component has been growing at the annual rate of about 60 %, while that for the domestic component has been at 46 %. Despite these higher growth rates, India's share in the world software product market is still very low. In India, software contributes a major portion (about two-thirds) of India's I.T industry. Southern states, namely Andhra Pradesh, Karnataka and Tamilnadu in their drive to emerge as coveted Silicon Valleys in India, contributed a large portion to domestic I.T spending.

According to a recent study by Mckinsey &Co for India's National Association of Software and Service Companies (NASSCOM- the apex body and umbrella organisation of I.T. Software and Services industry in India), software industry's remarkable performance could continue unabated for some more years. Even with a higher base, the Indian software industry, particularly, its exports would be able to grow by more than 50 % during the next few years. It is projected that during the year 2007-08, Indian software exports would zoom to 50 billion US dollars from current levels of 4 billion dollars. Similarly, Indian software and I.T industries would zoom to 87 and 140 billion dollars from current levels of 5.7 and 8.6 billion dollars, respectively. This is due to the fact that India possesses the world's second largest pool of scientific manpower which is also English speaking. For achieving this velocity of business, both the software industry and Government of India are currently taking some bold initiatives.

Until a few years back, the bulk of Indian software exports has been in the form of professional services. During the last few years, there has been a visible shift towards offshore project development, i.e., software developed on Indian land. Given liberalised economic policy, proliferation of software technology parks and availability of high speed data transfer, the share of offshore project and package development is expected to increase further from a current level of 34 %. In other words, though the degree of on-site development (work being done at the client's site) is still very high at about 59 %, it is likely to decrease further in the coming years with improved data transfer technology. Similarly, an analysis of break-up of software activity of both domestic as well as export industry reveals that Products & Packages tops the list with a share of 48.5% in the domestic market, whereas professional services command a share of almost 44.15% in the export market. Projects are also gaining strength in both the domestic market as well as exports. They command almost 36.5% market share in the export and 28.5% in the domestic market.

Currently India exports almost 61% of its total software exports to USA followed by Europe with a share of 23 %. More market opportunities in Japan, Australia, South Africa, Korea, Canada, Latin America and Middle East are being discovered, and software exports during the next few years are expected to increase further.

The inflation rate was, on average, at a high of 10.7 % per annum in the first five years of the reform period, but gradually came down to less than 5 % in the last few years. Inflation measured by the WPI showed some deceleration from about 8 % in 1995-96 to about 6.5 % in 1996-97 and 4.8 % in 1997-98. In 1998-99, due to shortfalls in production of some agricultural commodities, the inflation rate went up to 6.9 %. However, surprisingly the inflation rate dropped dramatically last year. The inflation rate has been less than 4 % since April 1999. As a result, the inflation rate is expected to be around 3.3 % for 1999-2000.

The gross domestic saving rate continued to rise after liberalisation. It rose from about 20 % of GDP in the late 1980s to more than 24 % in recent years, although it has declined to 22.3 % in 1998-99. Gross domestic capital formation has remained higher than gross domestic saving by 1 or 2 % of GDP. Foreign saving bridged this investment-saving gap. Foreign direct investment, which was virtually zero prior to the 1990s, gradually increased to reach US $ 3.2 billion in 1997-98. However, it declined to US $ 2.5 billion in 1998-99. The declining trend continued in 1999-2000. Portfolio investment fell substantially to 1.8 billion dollars in 1997-98 from 3.3 billion dollars in the previous year. In 1998-99, it turned into net outflows amounting to 0.4 billion dollars. However, recent trends indicate a sharp reversal, and there are likely to be net inflows for 1999-2000. The ICOR has also declined to less than 4 in the 1990s.

The external sector was at the centre stage of liberalisation programmes. Changes in this sector have thus been the most dramatic, reflecting huge inflows of foreign capital, the build-up of foreign reserves and the increasing importance of imports and exports in the Indian economy. The ratio of exports to GDP, which was less than 4 % during the 1960s and early 1970s, rose to 5 % in the 1980s and is now at about 9 %. The share of exports and imports taken together rose from about 14 % in 1991-92 to about 22 % in recent years. If international transactions in services are included, the degree of openness of the Indian economy is well over 30 %. Exports of goods, after having grown sharply at about 20 % per annum during 1994-96, have slackened since 1997. Merchandise export growth in dollar terms was about 5.3 % in 1996-97. It fell further to 4.6 % during 1997-98 and has turned negative (3.9 %) in 1998-99. Both global and domestic factors contributed to

this negative growth in exports. Reduced competitiveness of India's exports in the aftermath of the massive currency depreciation of East Asian economies, the post-Pokhran (nuclear test) sanctions and the significant recession in international markets are all major factors from the external side. In 1998, world exports grew by only about 3.5 % compared to about 10 and 7 % in 1996 and 1997, respectively. Political uncertainty, infrastructure constraints, high transaction costs etc. are domestic major factors. However, for the current financial year 1999-2000, exports have experienced a significant turnaround. They are expected to grow by more than 10 %. Software exports, which are not captured in the customs data, also continued to show strong growth of more than 50 %.

Imports have also decelerated in recent years. After displaying a strong growth of 28 % in 1995-96, they declined to 6 % and then to 1 %, respectively, in 1996-97 and 1997-98. The slowdown in industrial activity and low international oil prices caused this slowdown. However, imports like exports, in the current year 1999-2000, are expected to rise by more than 10 %. During February 2000 itself imports have risen sharply by 22 %, partly because of increased industrial tempo and partly because of higher prices of oil. The trade deficit, which reflects changes in the relative growth rates of exports and imports, has been showing a steadily widening trend in recent years. It increased from 6.8 billion dollars in 1997-98 to 8.2 billion dollars in 1998-99. However, current receipts (net invisibles), including exports of services and remittances, have continued to remain strong at about 9 billion US dollars per annum. Consequently, the current account deficit has remained subdued. To some extent, the softening of the deficit in the current and last year has also been due to low oil prices. The deficit, however, may increase this year due to higher oil prices. The current account deficit of the BOP had declined to 1 % of GDP (or US $ 4.0 billion) in 1998-99 from 1.4 % ($ 5.5 billion) in 1997-98.

In short, India's economy has been undergoing long-term acceleration. India grew at an annual average rate of about 3.7 % during 1960-61 to 1979-80. In the 1980s, its growth rate improved significantly, to reach an average of 5.8 %. This was the period when the first steps at economic reforms were introduced, and they clearly had favourable effects on economic growth. The growth rate declined to 5.1% in the first half of the 1990s, due

to contractionary fiscal and monetary policies adopted to address the BOP crisis in 1990-91. However, the reforms and good monsoons helped growth accelerate further to 6.5 % per year in the second half of the 1990s. This shows that India has capacity to grow at about 7 % per year as well as reflects that accelerating growth to 8 % is not impossible. The real issue is whether India can sustain this higher growth over the long run, as well as whether it could further accelerate the growth to reach a double-digit level at least for some years when infrastructure bottlenecks have been substantially reduced. Another interesting and related feature is the slowing down of population growth in recent years. It is projected that annual population growth will be decrease to 1.6 % during the next decade. If India achieves GDP growth of 7-8 % in the next decade, then its per capita income is likely to increase by 6 % per annum, against less than 2 % observed in earlier decades. This would be a remarkable achievement by any standards.

However, there is a reason to believe that growth impulses from the first generation of reforms may have ebbed. There is also danger that the economy could settle down to a lower growth trajectory of 5-6 %. That is why India urgently needs to implement the second generation of reforms to remove impediments and raise the growth potential, while maintaining prudent macroeconomic management. Fortunately, the government has recognised this problem. In the Budget Speech for 1999-2000, the Finance Minister stressed the need of the Second Generation Reforms that must be put in place to make India economically strong and fully capable of competing successfully in the evolving world order. It is important to refocus government priorities in those areas that are the basic responsibility of the government and to withdraw from areas where the private sector can play a more efficient role.

5. Long-term Growth Prospects

This section analyses the economic growth potential in the long term, using a macro-econometric model. First we briefly explain the model and then use it to make forecasts for the next five years.

5.1. The Model

The model is broadly classified into nine blocks of equations (including identities). The size and structure of each block is presented in Table 4 below. Each set of relationships is classified into identities and estimated equations. The latter are further divided into those that are behavioural or technological, and those that merely link one variable with one or more other variables in a definitional/accounting sense or to account merely for the trends.

Each of the first five blocks takes up one sector of the economy (namely Agriculture, Manufacturing, Infrastructure, Services and Public Administration) determining output, product prices, capital formation, deflators for capital formation and allocation of resources like land in case of agriculture. This five fold disaggregation has been adopted by us in the past and rationalised elsewhere (see Krishnamurty et al 1998) on analytical and data-availability considerations. It is of some interest to note that the share of agriculture and allied activities declined from one-half of GDP in the early sixties to less than 30 % by the early nineties. Other sectors improved their shares. Manufacturing rose from about 15 % to more than 20 %, while infrastructure increased from about 10 % to nearly 15 %. The service sector contribution went up from less than one-fourth to nearly one-third. Public administration and defence also gained. Its share rose from less than 3 % to about 5 %.

Since consumption is usually disaggregated, broadly by type of item, it does not fit into our sectoral scheme. Consequently, we have a different scheme of disaggregation for it and deal with it separately in block 6. Block 7 deals with monetary relationships: supply of money, demand for money, credit (short and long term), structure of interest rates and exchange rate are explained. Block 8 deals with trade and external transactions. Block 9 is included to bring together all macroeconomic aggregates, which lie scattered in different segments of the model. These include gross domestic product, aggregate demand, general price level, and capital formation.

Table 4: Size and Structure of the Model

No.	Block	Total Number of Equations	Technological /Behavioural Equations	Linking/ Trend Equations	Identities
1.	Agriculture	34	15	2	17
2.	Manufacturing	17	8	2	7
3.	Infrastructure	16	8	0	8
4.	Services	17	8	0	9
5.	Public Administration	11	5	0	6
6.	Consumption & Related Prices	11	4	2	5
7.	Monetary Sector	45	34	5	6
8.	Trade & Balance of Payments	93	17	4	72
9.	Macro Aggregates & Identities	51	4	0	47
10.	Total	295	103	15	177

Source: Palanivel and Klein, 1999

The agriculture block is further disaggregated into foodgrains and non-foodgrains components. Yield in both foodgrains and non-foodgrains are determined by capital stock, cropped area and rainfall. Cropped area is allocated between foodgrains and non-food crops, primarily by the relative prices of these categories. Yield and area of these two categories determine agricultural output. The wholesale prices are determined by money supply per unit of real GDP on the one hand and the available supply of the product (foodgrains and non-food items), on the other. In addition, food prices are determined by per capita real consumption expenditure and the procurement prices for the two major foodgrains (rice and wheat) fixed by the government every year. Private and public capital formation in agriculture is disaggregated into fixed investment and inventory components.

While capital formation by the private sector is endogenously determined, capital formation by the public sector is exogenous in nominal terms. Private capital formation is explained in terms of three factors, namely, average of agricultural GDP, relative price of agriculture and real public investment in this sector. Private inventory investment is also explained on similar lines. The remaining equations in this sub sector are mostly linking equations.

Manufacturing output is determined by capital stock, domestically produced raw materials, which largely correspond to non-food agricultural products, and infrastructure, comprising power, transport, coal etc. and imported raw materials, petroleum & related products and chemicals. The prices of manufactures are determined by money supply per unit of real GDP, prices of agricultural raw materials and various administered prices. General resource availability, public investment and bank credit determine private investment in the manufacturing sector.

Similarly, infrastructure output is determined by the stock of capital; prices are explained by administered prices with some cost elements. Capital formation is explained by public investment and resource constraints. Inventory investment is explained by output in a partial adjustment framework. Depreciation is explained by output and capital stock.

Capital stock and the performance of the non-service sectors explain output in the service sector. In a somewhat similar fashion, output, in the case of public administration and defence, is partly dependent on the level of capital stock and partly on the magnitude of real public expenditure on consumption as well as capital formation. Private capital formation in the service sector is assumed to move in sympathy with the resources available to the private sector, i.e., total resources less private investment in agriculture and total public investment. It is also subject to an enabling influence coming from short and long term institutional credit availability and to a crowding-in phenomenon associated with total public sector capital formation. Inventory investment in the service sector is explained in a partial adjustment framework by short-term institutional credit. It is needless to add that in public administration and defence, capital formation is entirely due to the public sector and hence exogenous.

Overall, we can say that the level of output[6] in the economy is determined by the available capital stock, given abundant labour supply, while the price levels are explained by money supply per unit of real GDP, some supply factors like foodgrains output, and some cost factors like administered prices. Private consumption expenditure is explained in terms of a trend component of disposable income and its short-term variation. While the former is intended to capture the permanent income effect, the latter represents transitory income. Government final consumption expenditure is determined mainly by real GDP at market prices. These five sub sector outputs with prices and capital formation through identities determine economy-wide aggregates such as real and nominal GDP, the overall wholesale price index, the implicit GDP deflator, total capital formation etc.

In the monetary block, the demand for currency in nominal terms is explained by nominal private final consumption expenditure, expected inflation rate, deposit rate and the share of non-agriculture GDP in the total GDP. Similarly, demand for nominal demand deposits is explained by nominal non-agricultural income, expected inflation rate, and bank deposit rate. Likewise, demand for nominal time deposits is related to non-agricultural income, relative return on commercial bank deposits to competing assets such as the average return on government securities and the expected inflation rate. The supply stock of money is explained in terms of two broad groups: (i) those that affect the money multiplier and (ii) those that affect reserve money. The interest rate equations are explained by the expected inflation rate, banks' resource base and other related variables in a partial adjustment framework. Banks' investments in government and other approved securities are determined by the statutory liquidity ratio, the return on government securities and the return on competing investments in the private sector in a partial adjustment framework. Short-term credit to the private sector is explained by nominal GDP, the lending rate and banks' investment in government securities. Long-term credit to the private sector, which is mainly to manufacturing, is explained by nominal manufacturing output, prime lending rates and credit availability from other sources. The exchange rate (rupees per dollar) is

[6] Modelling of output in all sectors has one common feature, i.e., all production relations have been specified in productivity form. In agriculture, we try to explain yield per unit of land whereas in other sectors, productivity is per unit of capital. This enables us to deal with productivity directly and also to reduce problems of multi-collinearity.

explained by the ratio of current account external deficit or gross fiscal deficit to GDP, the inflation rate and foreign exchange reserves in a partial adjustment framework.

In explaining merchandise exports and imports, we deal separately with four categories used in the LINK system. These are SITC 0-1, SITC 2-4, SITC 3 and SITC 5-9. Both volumes as well as unit values are determined in all cases except the volume of exports of SITC 3, which is very small for India. Three factors, namely, world economic activity represented by world real GDP, incentives for importers represented by the ratio of export unit value in dollars to the world export unit value for the relevant category, and an incentive to exporters, represented by the ratio of export unit value in rupees to the appropriate domestic price level are used in determining the volume of export. Similarly, two factors, namely, the appropriate level of domestic activity and the corresponding unit value index relative to an appropriate domestic price level are used in explaining the volume of imports. Unit values of exports in rupee terms are determined by an appropriate domestic price level and relevant export volumes. Unit values of imports in rupee terms are explained in a simple way by linking with corresponding world export unit values in US dollars and the exchange rate (rupee per dollar).

The parameters of the model have been estimated using the annual time series data for the fiscal years 1970-71 through 1994-95. The model was estimated by OLS as we have only about 25 observations and many exogenous variables. Our reliance on OLS estimation, in some cases incorporating the Cochrane-Orcutt procedure to take care of serially correlated errors, has provided reasonable system simulation. How seriously this biases our results is hard to know, but OLS estimation in the context of large models is believed to be quite robust. Equations are specified in both linear and log linear forms. The choice of variables and functional forms of equations are made on the basis of theoretical, institutional and data availability criteria. The model has already been presented and analysed elsewhere (See Palanivel and Klein 1999).

The model was dynamically simulated with historically given data on exogenous variables for the period 1985-86 to 1994-95 to examine the model performance. Forty out of the eighty variables showed a RMSPE under 5 %. Another 21 fall within the 10 %

limit; only 19 variables out of 80 are estimated with RMSPE exceeding the 10 % mark. It is worth emphasising that most of the important economic variables (major aggregates) like real and nominal GDP, wholesale and consumer prices, sectoral outputs and prices, nominal and real private final consumption, money supply, deposit and lending rates, yield on government securities, bank credits, total exports and imports in dollar terms, nominal and real gross investment all have RMSPE less than 10 %. The overall performance of the model in terms of its ex-post simulation ability in the last 10 years reinforces confidence in its validity and robustness and provides a reasonable basis for undertaking actual forecasts for the future.

5.2 Economic Outlook

Our earlier forecasts for India (Palanivel and Klein 1999) were somewhat pessimistic, reflecting the then prevailing unfavourable domestic and external conditions.[7] But most of the unfavourable factors are now gone.[8] Consequently, not only industry but also external trade has shown a strong recovery in recent months compared, to a cyclical downturn of the previous two years. The inflation rate dropped to record low levels of 2 to 3 %. The balance of payments survived the twin shocks of the East Asian crisis and the economic sanctions. This was reflected in a continuing rise in foreign exchange reserves with a relatively stable exchange rate. The restoration of confidence in the economy has also been reflected in the rise in the domestic stock market as well as FDI inflows in recent months. Under these conditions, it is imperative that we should think about a strong growth scenario that includes both fiscal and monetary policy - one that would be able to look at India's position now, when the South East Asian economies are not so much of a target for India. The scenario is, in fact, an optimistic one, arising from a constellation of better than normal exogenous factors. The scenario is based on the following assumptions:

[7] They include slowdown of investment as a result of poor expectations, economic sanctions and the hostile international environment due to India's nuclear test, shadows of the East Asian economic crisis and, domestic political uncertainty which has prevented any major policy initiatives.

[8] For example the East Asian crisis that loomed as a large black cloud over the world in 1998-99 seemed to disappear as quickly and unexpectedly as it had arrived. The affected countries, except Indonesia, recovered as quickly as they had collapsed. This recovery contributed to the recovery of world output and trade volumes.

1. Weather conditions are assumed to be normal. Representation for rainfall in the system is 0 for normal, -1 for below normal and +1 for above normal weather conditions (for more details see Palanivel 1993a).
2. Our assumption about the growth of public sector investment is in terms of nominal outlays. If government is able to restrain its administrative and defence expenditures the nominal outlay on capital formation could increase annually by 12 %. We, therefore, assume this outlay will grow by 12 % per annum. Real private investment is endogenous in the model. Yet, we do find it appropriate to tamper with the behavioural relationships estimated on past data in view of the changing economic climate. The deregulation and liberalisation policies have been intended to attract foreign direct investment to promote domestic private investment in sectors thus far reserved for the public sector and should induce higher investment propensities over and above the changes that are already built into the estimated relationships. The fact that manufacturing and infrastructure sectors are particularly sensitive to the new policy signals is well known. To reflect this in the formal exercise we introduce a boost factor into the estimated investment equations for these sectors in the form of multiplicative trends. We assume a boost of 2, 3 and 3 % per annum, respectively, for real private investment in agriculture, manufacturing and infrastructure sectors beyond the sample period.
3. For the same reason, we introduce a boost or restraint factor in the export and import volume equations too. To be precise, the extent of successful market penetration, market determined exchange rates and other favourable non-price factors with regard to exports and various policy measures undertaken, or in process, are assumed to contribute 1 % per annum quantum boost to exports for SITC categories: 0-1, 2-4 and 5-9 for each of the years in the post sample period. The extent to which present trends in imports may decelerate due to improvement in the quantity and quality of domestic products, as well as due to the peaking of pent-up demand for imported goods and the holding of low inventories due to import liberalisation -- we assume import restraint of 1 % per annum for quantum of imports of SITC 0-1, 3, and 5-9 for each of the years in the post sample period. Domestic production of crude oil, an important variable in determining the quantum of imports of SITC 3, has fallen drastically short of the Eighth Plan target. In

view of this, it is assumed to be 39, 41, 43, 45 and 47 million tonnes respectively for the next five years.

4. For world GDP growth and international prices which affect exports, we take the UN Project LINK projections (September 1999)
5. The 1999-2000 Budget indicated a medium-term fiscal correction target of eliminating the revenue deficit and reducing the fiscal deficit to below 2 % of GDP in four years. The budget also switched over to a new accounting practice from April 1999 whereby states' share in small savings will be credited to a national small savings fund. The fiscal deficit under this system is estimated to be 4.1 % of GDP in 1999-2000 as against 5.4 % under the old system. Since the model is built using the old system, we will continue to use the old system. Given the committed nature of certain government expenditures, it is not easy to reduce the fiscal deficit in short run. Therefore, we believe that the ratio of the fiscal deficit will be maintained at 5.0 % for the next few years. Similarly, given a low inflation rate with a need to give a boost to economic recovery, the Reserve Bank may target M3 growth at around 18 % per annum. In order to achieve this, the cash reserve ratio (CRR) is assumed to be 8 % for the next five years. The bank rate is assumed to be 7-8 % for the next few years. For the years 1995-96 to 1998-99 the actual values of the bank rate, CRR, and RGFD are used.

Having mentioned all our assumptions, let us examine our forecasts[9]. While analysing our forecasts, we focused mainly on major economic variables, namely, real GDP, wholesale price index, money supply, total exports, imports and current account balance in dollar terms, and real gross investment.

Estimated figures (forecasts) for 1995-96 through 2004-05 are presented below, along with official figures (wherever available) which are either preliminary or quick estimates. Our estimates of real GDP are close to official figures of the Central Statistical Organisation (CSO) for the period 1995-96 to 1998-99. Due to normal rainfall, it is predicted that rate of

[9] It needs to be noted that since the structural model has been estimated mostly on the basis of data relating to the pre-reform period (only the last 4 out of 25 observations relate to the reform period), the parameters of the model are likely to change beyond the sample period due to a change in the economic regime. Therefore, the levels and growth rates of key variables as obtained in the beyond sample period should be considered only as indicative, and efficacy of the model should be judged by the plausibility and consistency of the overall growth scenario.

growth in agricultural output will be about 3 % during next five years. Value added in manufacturing is estimated to grow at about 8-9 % levels. The story will be similar for the infrastructure sector. With recoveries in manufacturing and infrastructures, the service sector is likely to grow at about 9 % per annum during the next five years. During the last few years, public administration witnessed a sharp increase of over 10 % in value added, mainly due to increased salaries of government and defence personnel. However, it is likely to return to 4-5 % levels over the next five years. These sectoral growth rates imply an overall real GDP growth of about 6-6.5 % in 1999-2000 and pick-up to a little over 7 % during the next five years.

Table 5A: **Actual and Estimated Values for Components of the Real GDP**

Year	ZXAG	ZXAGE	ZXMN	ZXMNE	ZXIN	ZXINE	ZXSR	ZXSRE	ZXAD	ZXADE	ZGDP	ZGDPE
1995-96	736.0	735.2	616.0	611.6	394.0	396.7	870.0	878.1	134.2	135.7	2750.2	2757.3
1996-97	800.0	794.2	661.0	658.3	418.0	423.6	934.0	957.9	142.0	144.0	2955.0	2978.0
1997-98	791.0	787.9	705.0	697.4	440.0	446.1	1007.0	1033.4	160.2	157.2	3103.2	3122.0
1998-99	844.0	843.9	746.0	742.9	462.0	472.0	1084.0	1107.1	177.8	172.1	3313.8	3338.0
1999-00		860.0		794.6		502.2		1217.0		184.9		3558.6
2000-01		882.8		864.0		540.8		1333.1		194.2		3814.9
2001-02		917.0		939.5		584.9		1447.7		202.1		4091.2
2002-03		942.9		1016.3		633.6		1575.4		209.5		4377.8
2003-04		971.3		1104.8		686.8		1705.3		219.6		4687.8
2004-05		995.8		1194.0		738.4		1857.1		230.7		5016.1
	Growth Rates (%)											
1995-96	-0.1	0.3	14.1	12.8	9.1	7.1	10.7	11.0	6.0	7.3	7.8	7.6
1996-97	8.7	8.0	7.3	7.6	6.1	6.8	7.4	9.1	5.8	6.1	7.4	8.0
1997-98	-1.1	-0.8	6.7	5.9	5.3	5.3	7.8	7.9	12.8	9.2	5.0	4.8
1998-99	6.7	7.1	5.8	6.5	5.0	5.8	7.6	7.1	11.0	9.5	6.8	6.9
1999-00		1.9		7.0		6.4		9.9		7.4		6.6
2000-01		2.7		8.7		7.7		9.5		5.0		7.2
2001-02		3.9		8.7		8.1		8.6		4.1		7.2
2002-03		2.8		8.2		8.3		8.8		3.7		7.0
2003-04		3.0		8.7		8.4		8.2		4.8		7.1
2004-05		2.5		8.1		7.5		8.9		5.0		7.0

Note:
ZXAG and ZXAGE are actual and estimated values of real GDP from agricultural and allied activities
ZXMN and ZXMNE are actual and estimated values of real GDP from manufacturing
ZXIN and ZXINE are actual and estimated values of real GDP from Infrastructure
ZXSR and ZXSR E are actual and estimated values of real GDP from Services
ZXAD and ZXADE are actual and estimated values of real GDP from public administration and defences
ZGDP and ZGDPE are actual and estimated values of overall real GDP

Our estimates of the rate of inflation measured by changes in the wholesale price index (WPI) show a steady decline for the period 1995-96 to 1999-2000 except 1998-99. For 1998-99, the rate was high, mainly due to prices of agricultural commodities. For last year (1999-2000), our estimate of the rate of inflation is 2.9 %, while officially it was put

at 3.8 %. An increase in the rate of inflation (to a level about 6 %) is quite likely for the current fiscal year 2000-01. In subsequent years it is expected to be about 7 %.

Table 5B: **Actual and Estimated Values for Indices of Wholesale Prices (Base 1981-82=100)**

Year	WPAG	WPAGE	WPMN	WPMNE	WP	WPE
1995-96	330.5	332.0	293.1	293.3	295.8	296.2
1996-97	358.4	355.9	305.0	303.7	314.6	313.5
1997-98	370.0	366.6	317.5	315.1	329.8	327.8
1998-99	412.6	405.3	331.8	331.7	352.6	349.6
1999-00	414.2	415.9	340.2	342.8	362.8	362.8
2000-01		443.6		360.4		383.8
2001-02		473.2		386.3		409.4
2002-03		509.9		412.5		437.6
2003-04		548.4		441.3		468.8
2004-05		583.5		470.9		499.5
Growth Rates (%)						
1995-96	7.4	9.5	9.0	11.2	7.7	9.6
1996-97	8.4	7.2	4.1	3.5	6.4	5.8
1997-98	3.2	3.0	4.1	3.8	4.8	4.5
1998-99	11.5	10.5	4.5	5.2	6.9	6.7
1999-00	0.4	2.6	2.5	3.4	2.9	3.8
2000-01		6.7		5.1		5.8
2001-02		6.7		7.2		6.7
2002-03		7.8		6.8		6.9
2003-04		7.5		7.0		7.1
2004-05		6.4		6.7		6.6

Note :
WP and WPE are actual and estimated values of the aggregate wholesale price Index (WPI)
WPAG and WPAGE are actual and estimated values of WPI of agricultural items
WPMN and WPMNE are actual and estimated values of WPI of manufacturing products

Due to many factors such as deceleration in domestic manufacturing activities, decline in world trade, and East Asian crises, performance of the external sector was not satisfactory during 1996-97 and 1998-00. According to customs data on merchandise trade, after registering a modest growth of 5 % in 1996-97, it decelerated further to 4.5 % in 1997-98. In fact, during 1998-99, exports declined by about 5 %. During 1999-2000 both domestic and external environment improved significantly. Consequently, exports are expected to rise over 13 %. Our model solutions corroborate this fairly closely. For the next five years, exports (in current US dollars) are forecast to grow by 15-20 %. Like exports, imports are expected to grow up to 12 % in 1999-2000, and, gradually accelerate to about 19 % over the next five years. The trade deficit will be of the order of US $ 9 billion in 1999-2000 and is likely to widen in subsequent years. In dealing with foreign

trade performance, it is necessary to distinguish between the data released by the Directorate General of Commercial Intelligence and Statistics (DGCI&S) and the data of the Reserve Bank of India in the balance-of-payments (RBI-BOP) accounts. DGCI&S data refer to customs series, while RBI-BOP refer to payment and receipt. Data on imports in the latter include non-dutied and non-dutiable imports. Making reasonable assumptions about the mark-up on exports (2-3 %) and imports (6-8 %) on account of the above, we find that the trade deficit on the BOP basis is also expected to widen, year-after-year.

Table 5C: **Trade Flows, Money Supply and Exchange Rate**

Year	EX09D	EX09DE	IM09D	IM09DE	TBD	TBDE	M3	M3E	RSUS	RSUSE
1995-96	31.80	31.97	36.68	37.62	-4.88	-5.65	6040.7	6149.6	33.45	33.15
1996-97	33.47	33.25	39.13	39.12	-5.66	-5.87	7018.5	7140.5	35.50	35.66
1997-98	35.01	34.97	41.48	41.99	-6.48	-7.03	8213.3	8296.4	37.16	37.38
1998-99	33.22	33.52	42.39	42.31	-9.17	-8.79	9786.3	9806.2	42.07	42.05
1999-00	37.56	38.08	46.17	47.20	-8.61	-9.13	11117.1	11131.5		43.81
2000-01		44.04		53.97		-9.93		13070.8		45.90
2001-02		51.16		63.62		-12.46		15201.7		48.15
2002-03		60.01		75.20		-15.20		17552.1		49.52
2003-04		72.29		89.78		-17.49		20007.1		51.47
2004-05		85.28		106.94		-21.66		22864.7		53.04
	Growth Rates (%)									
1995-96	20.8	21.1	28.0	30.2	110.0	125.0	13.7	13.6	6.5	6.1
1996-97	5.3	4.0	6.7	4.0	16.0	3.9	16.2	16.1	6.1	7.6
1997-98	4.6	5.2	6.0	7.4	14.4	19.7	17.0	16.2	4.7	4.8
1998-99	-5.1	-4.1	2.2	0.7	41.6	25.1	19.2	18.2	13.2	12.5
1999-00	13.1	13.6	8.9	11.6	-6.1	3.8	13.6	13.5		4.2
2000-01		15.7		14.3		8.8		17.4		4.8
2001-02		16.1		17.9		25.5		16.3		4.9
2002-03		17.3		18.2		22.0		15.5		2.9
2003-04		20.5		19.4		15.1		14.0		3.9
2004-05		18.0		19.1		23.8		14.3		3.1

Note :

EX09D and EX09DE actual and estimated values (in $) of merchandise exports (DGCI&S data)
IM09D and IM09DE actual and estimated values (in $) of merchandise imports
TBD and TBDE actual and estimated values (in $) of trade balance
M3 and M3E actual and estimated values of money supply
RSUS and RSUSE actual and estimated values of the exchange rate

Taking net invisibles into account, on the basis of reasonable assumptions (i.e., net invisibles are assumed to be about 1.5 % of GDP in our model), the current account deficit will gradually be widened. However, as a percentage of GDPMP, the current account deficit turns out to be within the sustainable limit (given current large foreign

exchange reserves of US $ 35 billion and increasing private foreign investment flows) for the next five years.

The money supply is likely to grow at about 13.5 % for 1999-2000 and 14-17 % for the next five years. The exchange rate is expected to have depreciated further at the rate of 3-5 % per annum over the next five years.

Table 5D: **Savings, Investment and Trade Flows as % of GDP**

Year	RGDS	RGDSE	RGIA	RGIAE	RCMERT	RCMERTE	RDMERT	RDMERTE	RCABRBI	RCABRBIE
1995-96	26.2	26.6	27.4	28.1	8.8	9.0	11.7	11.9	-1.75	-2.11
1996-97	26.9	25.5	28.8	28.5	9.7	9.9	13.1	13.5	-1.27	-2.70
1997-98	24.9	24.9	26.3	26.5	9.5	9.5	13.6	13.7	-1.46	-2.67
1998-99	26.1	24.8	27.6	27.6	9.2	9.5	13.3	13.6	-1.00	-2.00
1999-00		24.3		25.3		8.9		12.4	-1.50	-1.88
2000-01		26.5		27.9		9.4		12.8		-1.85
2001-02		27.5		29.0		10.0		13.4		-2.17
2002-03		27.8		29.9		10.7		14.3		-2.40
2003-04		28.4		30.8		11.2		15.1		-2.54
2004-05		28.9		31.5		12.3		16.3		-2.92

Note : RGDS and RGDSE actual and estimated values of savings rates
RGIA and RGIAE are actual and estimated values of Investment rates
RCMERT and RCMERTE are actual and estimated values of exports (BOP) in terms of GDP
RDMERT and RDMERTE are actual and estimated values of imports (BOP) in terms of GDP
RCABRBI and RCABRBIE are actual and estimated values of ratio of current account balance

The gross domestic saving rate is projected to rise to about 29 % of the GDP over the next five years. Gross domestic capital formation has remained higher than gross domestic saving by 1 or 2 % of GDP. Broadly, our model predicts that, with the changes suggested, the economy can move to a higher growth path with a tolerable inflation rate. Positive aspects of reforms and favourable weather conditions are key reasons for this relatively good performance

Let us briefly analyse the effect of monetary policy through our model. In India, monetary policy is mainly concerned with the growth of money supply and the growth of bank credit.

Table 6: % Deviations from Base-Run Simulations

YEAR	ZGDPE	WPE	EX09DE	IM09DE	M3E	RSUSE
	Base-Run Simulations					
2001	3814.92	383.79	44.04	53.97	13070.84	45.90
2002	4091.16	409.43	51.16	63.62	15201.72	48.15
2003	4377.76	437.65	60.01	75.20	17552.12	49.52
2004	4687.77	468.77	72.29	89.78	20007.08	51.47
2005	5016.05	499.55	85.28	106.94	22864.72	53.04
	Simulation 1: If Bank credit increases by 10 % in 1999-2002					
2001	0.01	0.58	0.28	1.08	1.62	0.03
2002	0.12	1.07	0.44	1.75	1.58	0.05
2003	0.25	1.26	0.40	2.13	2.14	0.06
2004	0.39	1.53	0.36	2.62	2.48	0.06
2005	0.53	1.75	0.31	3.04	2.90	0.07
Average	0.26	1.24	0.36	2.12	2.14	0.05
	Simulation 2: If GM3 is maintained at 12 % in 1999-2002					
2001	-0.02	-2.23	-1.06	-2.97	-6.13	-0.11
2002	-0.23	-5.52	-2.44	-6.66	-9.57	-0.26
2003	-0.55	-8.08	-3.09	-9.54	-12.77	-0.37
2004	-0.89	-10.00	-2.99	-11.69	-14.57	-0.44
2005	-1.23	-11.56	-2.59	-13.39	-16.61	-0.49
Average	-0.58	-7.48	-2.43	-8.85	-11.93	-0.34
	Simulation 3: If GM3 is maintained at 20 % in 1999-2002					
2001	0.02	2.49	1.17	2.89	7.14	0.12
2002	0.17	7.57	3.28	8.54	14.80	0.34
2003	0.48	13.27	5.02	14.84	23.00	0.56
2004	0.89	19.32	5.94	21.44	31.78	0.76
2005	1.38	25.86	6.28	28.37	41.19	0.95
Average	0.59	13.70	4.34	15.22	23.58	0.54
	Simulation 4: if bank rate, CRR and SLR are reduced by 2 % in 1999-2002					
2001	0.00	0.24	0.11	0.29	0.65	0.01
2002	0.01	-0.41	-0.23	-0.47	-1.68	-0.02
2003	-0.03	-2.37	-1.17	-2.65	-4.77	-0.11
2004	-0.15	-5.20	-2.26	-5.71	-9.21	-0.24
2005	-0.37	-8.45	-3.13	-9.11	-13.27	-0.38
Average	-0.11	-3.24	-1.33	-3.53	-5.66	-0.15

The first experiment here (S1) is conducted with a 10 % sustained increase in bank credit (both short and long-term) from its forecasted value from 2000-01 to 2004-05. A second experiment (S2) is conducted with an assumption that the growth of money supply is maintained at 12 % per annum for the period 2000-01 to 2004-05. A third experiment (S3) is conducted, on the assumption that the growth of money supply is maintained at 20

% per annum for the period 2000-01 to 2004-05. A fourth experiment (S4) under monetary policy is conducted with the assumption that the bank rate, cash reserve ratio and the statutory liquidity ratio are reduced by 2 % every year from baseline levels for the period 2000-01 to 2004-05. In each simulation with a prescribed exogenous shock, all other exogenous variables remain unchanged.

A 10 % increase in bank credit from its forecasted value for the period 2000-01 to 2004-05 is likely to increase real GDP by 0.20 % per annum while it pushes up inflation annually by 1 % (see Table 6). Similarly, the results reveal that more money supply means more output, a higher price level, a large trade deficit or vice versa. If growth of money supply were maintained at about 12 %, this would reduce the level of GDP and inflation by about 0.2 and 3.7 % per annum respectively. On the other hand, if growth of money supply is maintained at about 20 %, both output and price levels would increase, but the increase in price levels are not sustainable in the long run. The story is almost the same if we change the bank rate, CRR, and SLR. Output increases by about 0.2 % per annum, but the increase in the price level is high.

8. Summary and Conclusions

In recent decades, India's economy has experienced profound changes. The most important changes relate to deregulation of domestic industry. The system of industrial licensing and production controls has been dismantled. Trade has been liberalised significantly. Financial development has also improved, especially the depth of financial intermediation, private sector participation in banking, and the size and activity of stock markets. There has also been a significant change in public perceptions about the role of the state and the role of the markets in the Indian economy. Meanwhile, a new breed of skills has come to exist in the areas of technology and management, which could be seen by the remarkable success of Indian firms in the area of information technology in the 1990s. It is too early to see clearly how much the new advancements in information technology can lead India at higher development ground, but the outlook is definitely promising.

In this context, some of the key questions concerning India's development are about the impact of reforms on the economy. How has the economy been performing over the period? To what extent has India integrated itself into the rest of the world? What are the prospects in the near future? Could India accelerate and sustain its GDP growth in the coming years? These questions are addressed in this paper.

The economic reforms of the 1990s have helped India to accelerate its GDP growth. India grew at an annual average rate of about 3.7 % during 1960-61 to 1979-80. In the 1980s, its growth rate improved significantly, to reach an average of 5.8 %. This was the period when the first steps towards economic reform were introduced, and they clearly had favourable effects on economic growth. The growth rate declined to 5.1% in the first half of the 1990s, due to contractionary fiscal and monetary policies adopted to address the BOP crisis in 1990-91. However, the reforms and good monsoons helped growth to accelerate further to 6.5 % per year in the second half of the 1990s. In fact, for three consecutive years, 1994-97, real GDP grew by more than 7 %, placing India among the world's best performing countries. This not only shows that India has capacity to grow at about 7 % per year, but also reflects that accelerating growth to 8 % is not impossible. We believe that, as our model estimates show, the Indian economy is likely to grow at little above 7 % per annum during the next 4 or 5 years even at the current level of investment and resource efficiency. Certainly the rate could be raised if India were able to raise its investment as well as efficiency levels.

The real issue is whether India can sustain this higher growth over the long run, as well as whether India could further accelerate growth to reach a double-digit level, at least for some years when infrastructure bottlenecks have been substantially reduced. In other words, we ask whether India has the necessary resources to support this high growth target. The gross domestic saving rate continued to rise after liberalisation. It rose from about 20 % of GDP in the late 1980s to more than 24 % in recent years. It could go up further by 2-3 % with continued fiscal reforms, especially in areas like reduction in the current account deficit and reforms in public sector enterprises. The gross domestic investment rate could rise over and above the gross domestic savings rate by about 2 or 3 % due to net foreign capital inflows, which constitute foreign savings. Investment rates

of 28-30 % of GDP with an improvement in resource utilisation efficiency could support GDP growth of about 10 %.

Another interesting and related feature is the slowing down of population growth in recent years. It is projected that annual population growth will be down to 1.6 % during the next decade. If India achieves GDP growth of 7-8 % in the next decade, then India's per capita income is likely to increase by 6 % per annum against less than 2 % observed in the earlier decades. This would be a remarkable achievement, by any standards. However, there is a reason to believe that growth impulses from the first generation of reforms may have ebbed. There is also danger that the economy could settle down to a lower growth trajectory of 5-6 %. That is why India urgently needs to implement the second generation of reforms to remove impediments and raise the growth potential, while maintaining prudent macroeconomic management. Fortunately, the government has recognised this problem. In the Budget Speech for 1999-2000, the Finance Minister stressed the need to debate seriously and decide on the Second Generation Reforms that must be put in place to make India economically strong and fully capable of competing successfully in the evolving world order. It is important to refocus government priorities on those areas that are the basic responsibility of the government and to withdraw from areas where the private sector can play a more efficient role.

With regard to India's integration with the rest of the world, we find that the trade to GDP ratio has increased over the years but not in pace with that of the more dynamic developing countries like China. For example, the ratio of exports to GDP which was less than 4 % during the 1960s and early 1970s, rose to 5 % in the 1980s and is now a little over 9 %. Exports and imports taken together today stand at about 22 % of India's GDP. If international transactions in services are included, the degree of openness of the Indian economy is well over 30 %. However, the ratio is one of lowest in the world. India's financial integration with rest of the world has also increased during the 1990s. India has become one of the most dynamic countries in Asia for foreign direct investment in the last decade. The FDI flows expanded more than six times, reaching a peak of $ 3.7 billion in 1997. The FDI flows to India were about one-half of those to South Korea in the early 1990s, but in 1995-98 India almost caught up.

Finally, India's recent economic performance has to be assessed against the backdrop of an exceptionally unfavourable domestic and external economic environment. Since most of the unfavourable factors are now gone, India should try to improve its resource efficiency to realize its full potential in order to make a significant impact on poverty reduction.

References

ADB (Asian Development Bank) 1997. *Emerging Asia: Changes and Challenges*, Manila.

ADB (Asian Development Bank) 1999. *Asian Development Outlook-1999,* Oxford University Press.

Ahluwalia, J. S. and I. M. Little 1998. *India's Economic Reforms and Development Essays* (Eds) Oxford University Press. Delhi.

Dreze, Jean and Amartya Sen 1995. *India: Economic Development and Social Opportunity,* Oxford University Press.

FAO and UNAIDS Joint Publication 1999. *Sustainable Agricultural/Rural Development and Vulnerability to the AIDS Epidemic* (This document was coauthored by Daphne Topouzis and Jacques du Guerny) UNAIDS Best Practice Collection December 1999

Institute of Economic Growth and Delhi School of Economics (IEG - DSE) (1994), "A new Econometric Model for India", Paper Presented at Fall Link Meeting, September 1994, Salamanca, Spain, and (Mimeo).

Jalan, Bimal. 1998. "Towards A More Vibrant Banking System", Inaugural address at the Banks Economists Conference, Bangalore, December 12.

Joshi, Vijay and I. M. D. Little 1996. *India's Economic Reforms 1991-2001,* Oxford University Press.

Krishnamurty, K, V. Pandit and T. Palanivel (1995) "Price Behaviour During the Eighties", in V. N. Kothari (ed.) *Indian Economy in the Eighties*, M.S. University press, Baroda.

Krishnamurty, K, V. Pandit and T. Palanivel (1996) "Outlook for Indian Economy: Alternative Scenarios - 1996-1998", *Economic and Political Weekly,* March 16.

Krishnamurty, K, V. Pandit, T. Palanivel, P. Saibaba and D. Pratap (1999) "An Econometric Model for India, 1971-95", *Journal of Quantitative Economics* (forthcoming).

Mammen Thampy 1999. *India's Economic Prospects: A Macroeconomic and Econometric Analysis* (Economic Ideas Leading to the 21st Century, Vol. 4), September, World Scientific

Ministry of Finance, *Economic Survey* (various issues), Government of India.

NCAER 1996 *India Infrastructure Report: Policy Imperatives for Growth and Welfare* (Rahesh Mohan Committee Report).

Palanivel, T. (1993a) *"Rainfall Index in India: Methodology and Analysis"*, Institute of Economic Growth, Delhi, March (mimeo).

Palanivel, T. (1993b) *"Production Relations in the Agricultural Sector"*, Institute of Economic Growth, Delhi, September (mimeo).

Palanivel, T., and L. R. Klein (1999) "An Econometric Model for India: Emphasis on Monetary Sector", *The Developing Economies*, Vol. 39, No. 3, September. Pp. 275-336

Pandit, V., K. Krishnamurty and T. Palanivel (1993) "Modelling Private Consumption's expenditure in India", Institute of Economic Growth, Delhi, October (mimeo)

Pandit, V., K. Krishnamurty and T. Palanivel (1995) "Gazing the Crystal Ball: Indian Economy, Circa 1995", *Economic and Political Weekly*, May 6-13.

Parikh, K. 1997. (Eds) *India Development Report: 1999-2000*, Oxford University Press.

Planning Commission 1999. *Ninth Five-Year Plan 1992-2002*, Government of India.

Rangarajan, C. 1999. *"Indian Economic Reforms* – Approach And Content", Inaugural address at the International Seminar On 'Economic Reforms In India And China', at University Of Hyderabad, March 12.

RBI (Reserve Bank of India) 1999. *Annual Report 1998/99*, Mumbai.

RBI (Reserve Bank of India) 1999. *Harmonising the Role and Operation of Development Financial Institutions and Banks*, Discussion paper, Mumbai.

Reddy, Y. V. 1998. "Financial Sector Reform: Review and Prospects", at the Conference on "Growth, Governance and Empowerment: The Future of India's Economy" at University of California, Santa Cruz on November 20.

Report of the Narasimham Committee, *Financial System* 1991 Government of India, New Delhi.

Report of the Narasimham Committee *Banking sector Reforms 1998* Government of India, New Delhi, April.

UNCTAD, *World Investment Report* (various issues)

United Nations, *Human Development Report* (various issues)