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Citation

Bajpai, Nirupam. "Sustaining High Rates of Economic Growth in India." CID Working Paper Series 2001.65, Harvard University, Cambridge, MA, March 2001.

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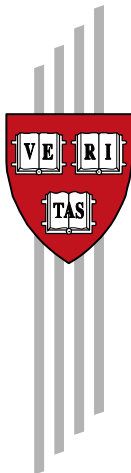
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Sustaining High Rates of Economic Growth in India

Nirupam Bajpai

CID Working Paper No. 65
March 2001

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Working Papers

Center for International Development
at Harvard University

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Abstract

Keeping the current state of the economy in mind and the on-going process of economic reforms, we suggest measures to strengthen India's growth strategy. Briefly put, we suggest a strategy focussing on export-led growth, which among other things requires greater emphasis on special economic zones, and openness of the economy, liberalization in India's labor laws, de-reservation of products for the small scale industry and other measures for the deregulation of India's private sector. Second, fiscal consolidation, which urgently requires expenditure reform to include a much smaller level of explicit and implicit subsidies, large scale disinvestment of India's public sector, and a major reduction in the size of the government, among other things. Third, global competitiveness so as to attract large-scale foreign direct investment for infrastructure development and export-oriented activities, and finally, liberalization and deregulation of India's information technology industry.

Key Words: Growth Strategy, India's Economic Development, India's Economic Reforms

JEL Classification Code: O11, O23, E65 and L86

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Sustaining High Rates of Economic Growth in India

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Introduction

During his address to the nation from the ramparts of the Red Fort, the Prime Minister announced on August 15, 2000 that the government had set a target of doubling India's per capita income by the year 2010¹. This is an ambitious target, but one that is certainly achievable. In order to achieve this target, India needs growth in GDP per capita of the order of 7 percent per year over the next ten years. And in order to achieve this growth rate on a sustained basis, India needs a well-focussed growth strategy.

Keeping the current state of the economy in mind and the on-going process of economic reforms, we suggest measures to strengthen India's growth strategy. Briefly put, we suggest a strategy focussing on export-led growth, which among other things requires greater emphasis on special economic zones, and openness of the economy, liberalization in India's labor laws, de-reservation of products for the small scale industry and other measures for the deregulation of India's private sector. Second, fiscal consolidation, which urgently requires expenditure reform to include a much smaller level of explicit and implicit subsidies, large scale disinvestment of India's public sector, and a major reduction in the size of the government, among other things. Third, global competitiveness so as to attract large scale foreign direct investment for infrastructure development and export-oriented activities, and finally, liberalization and deregulation for India's information technology industry.

We begin by laying out factors that are critical in achieving high economic growth. In this section we investigate the factors that have contributed to the rapid economic growth of the fastest-growing market economies. In the following section, we take up the case of China, which has several unique features worth emphasizing. By identifying several common features of the fast growing economies, we attempt to identify the important constituents for India's growth strategy. We stress that while India made substantial progress in market reforms during 1991-2000, much remains to be accomplished in the months and years ahead.

Economic growth is primarily based on three main factors: (1) the accumulation of the factors of production, including both human and physical capital; (2) the efficient allocation of resources within the economy; and (3) the improvements in technology over time. The theoretical and empirical debate centers on the choice of economic institutions (e.g. markets versus government allocation, open trade versus protectionism, etc.) that can most effectively deliver these three components of growth. One general implication of economic theory, confirmed by experience, is that poorer countries following appropriate policies can expect to grow more rapidly than richer countries.

In the current economic jargon, the poorer countries can expect to "converge" with the richer countries in per capita income levels. Convergence occurs mainly because of the first and third factors in growth. Poorer countries tend to accumulate capital more rapidly (in terms of

¹ See Bajpai and Sachs (2000)

percentage growth of the capital stock) than do richer countries, because poorer countries tend to have lower capital-labor ratios and higher rates of return on new investments, both of which promote a rapid increase in the capital stock. With regard to technology, poorer countries tend to have the advantage that they can make use of the technological advances of the richer countries, without having to reinvent these technologies.

These tendencies towards convergence have clearly played an important role in the rapid growth in several countries. But convergence can be achieved only when there are effective economic and governmental institutions supporting rapid capital accumulation, the efficient allocation of resources, and the rapid diffusion of technology from the more advanced economies.

Openness of the economy

Perhaps the most critical feature of fast growing economies has been the rapid growth of manufacturing exports. The rapid growth of manufacturing exports has been supported by trade policies that have allowed manufacturing exporters to operate at (nearly) world prices, both for inputs of capital and intermediate goods, and for the sale of exports on world markets. East Asian economies, for example, avoided the kinds of trade policies that undermine the capacity of manufacturing exporters to obtain necessary inputs at world prices, or that penalize exporters through heavy taxation of exports (effective taxation of exports can arise through: tariffs and quotas on inputs, inconvertibility of the currency, state monopolization of exports on unfavorable terms for exporters, or explicit taxation of exports).

The exact form of the trading regime has differed across countries, but the following elements have been common features in most of the fast growing economies: (1) convertibility of the currency for current account transactions; (2) zero or low tariffs (and the absence of licensing) for capital goods and intermediate inputs, and modest tariffs for most consumer goods; (3) implicit or explicit subsidization of exports; and (4) other institutions supportive of manufacturing exports (e.g. export processing zones, state guarantees on export credits). The East Asian economies, for instance, have been quite open to trade both for imports and exports, especially in comparison with other developing countries. Industrial policies, where they exist, have supported manufacturers not mainly through the protection of the home market, but through the implicit and explicit subsidization of export activities.

Openness, and the orientation to manufacturing exports, has made several contributions to growth. First, it has helped to ensure the efficient allocation of resources, through specialization, comparative advantage, and dynamic learning by doing. Second, openness has promoted domestic competition by limiting the market power of domestic firms, and by providing a rigorous international yardstick of performance. Third, openness has promoted the rapid accumulation of capital through foreign borrowing and foreign direct investment, which is then serviced by the rapid expansion of exports. Fourth, openness has promoted the rapid improvement of technology through the importation of foreign technologies. Technology may be imported directly through merchandise trade (e.g. in the form of machinery embodying a new technology), or it may come via foreign direct investment. In either case, openness has greatly

enhanced the domestic economy's awareness of, and access to, technological advances in the rest of the world.

India's average tariff rate of 27 percent vastly exceeds the average tariff rates of the other economies. India also displays continuing high barriers to foreign direct investment in contrast to most of the fast-growing Asian economies. It is true that not all of East Asia relied heavily on foreign direct investment to achieve rapid growth: Japan and Korea are the two main exceptions. But most of the region, especially in Southeast Asia, has relied heavily on FDI, and the East Asian countries tend to have much simpler rules for FDI approvals than are now in place in India.

Common features, such as currency convertibility, moderate tariffs strong private sector orientation -- rather than specific industrial policies are behind the widespread successes in the fast growing economies. While high performing economies have differed widely in the scope and ambition of industrial policy, it is true that a few institutions of industrial policy have been widely applied, and deserve a sympathetic look. Most importantly, virtually all of the East Asian countries have utilized export-processing zones (EPZs) or other special economic zones (SEZs), to help attract foreign investment and to initiate the process of manufacturing export-led growth.

These zones have not aimed to pick "winners" in the classic sense of industrial policy. Rather, they have attempted to carve out a geographical zone in which export-businesses can conduct profitable export-oriented activities, exempt from costly regulations, tax laws, and labor standards that apply more generally within the country. More generally, the relatively successful industrial policies have had a few common characteristics: (1) they have aimed to promote exports, rather than to protect the domestic market; (2) they have provided subsidies on the basis of successful performance (e.g. the growth of exports) rather than to cover losses; and (3) they have been temporary rather than permanent subsidies (e.g. a five-year tax holiday for new export firms).

China's Experience and Lessons for India

Since China is enormously relevant to India, as the world's only other billion-plus population country, we must have a special look at the Chinese experience for possible lessons for India. Our interpretation of China's recent growth experience is as follows. While China has indeed protected its large state-owned industrial sector, the source of dynamic growth in China lies in the *non-state sector*, which has operated much closer to market forces. Indeed, outside of the state-enterprise sector, the Chinese economy has much in common with the other East Asian economies, especially when these other economies were at an earlier stage of development. While the non-state Chinese economy operates without many of the legal underpinnings of a more advanced market economy, it is at least subject to the strong market forces, international trade, and low taxation that are the hallmarks of the fast-growing market economies of East Asia. Despite appearances, India is probably *less* market oriented than China at this point, despite the fact that China's state sector is somewhat larger than India's. Measured by output, the share of state-owned enterprises (SOEs) in the Chinese economy has declined, from 75 percent in the late 1970s to about 28 percent in 1999, but SOEs still account for some 44 percent of the economy's

urban employment, and for as much as 70 percent of government revenues. Virtually all of China's heavy industry is in the hands of SOEs, which use up most of China's stock of capital, but more importantly produce little in return. Also, around 80 percent of the country's bank loans are to SOEs. This results in crowding out China's small, but dynamic non-state sector from the capital market, and more significantly puts the entire financial system at risk, since a large share of these loans, according to some estimates as high as 25 percent of GDP, are unlikely to be paid back.

In China, the non-state sector is relatively unconstrained by government regulation while in India, the non-state sector or the private sector continues to be tied down by extensive regulations that hinder in dynamic development. Deregulation of India's private sector, in our view, is key if India is to attain and sustain high rates of economic growth. The Government of India announced two major reform initiatives in the budget for 2001/02. These are de-reservation of 14 products having export potential, such as leather, toys and shoes from the list of products reserved for the small-scale industry and reform of labor laws, that is, the Industrial Disputes Act².

The key, then, to understanding China's economic success lies in understanding the scope, and limitations, of the socialist (or state-owned) sector. When Deng Xiaoping began market reforms in China in 1978, state-enterprise employment was approximately 18 percent of the total Chinese labor force. Approximately 71 percent of the population was engaged in peasant farming, and another 10 percent or so operated in various non-state activities outside of agriculture, especially urban collective enterprises attached to state enterprises, and industrial township and village enterprises. The Chinese "gradual" reforms after 1978 have involved the liberalization of the non-state part of the economy, while preserving the socialist character of the pre-existing state-owned enterprises. Thus, in terms of the labor force, roughly 20 percent of the labor force has been maintained in the socialist sector, while a little more than 80 percent of the labor force has operated in the non-state part of the economy.

China's boom has come in three main ways. First, agriculture boomed as soon as the commune system was dismantled, and peasant farming resumed on the basis of household plots of land (leased from the state) and markets for agricultural output. This return to household plots and agricultural markets led to greatly improved incentives on the farms and to a one-time boost in productivity between 1978 and 1985. After 1985, however, agricultural productivity returned to a lower long-term trend growth rate. Second, rural industry was greatly liberalized after 1978, especially in the form of Township and Village Enterprises (TVEs), which are a mix of collective and privately owned enterprises in the rural areas.

These TVEs operate outside of the state plan, and largely without funds from state banks. Therefore, they are subject to quite rigorous market competition and hard budget constraints. Third, urban export-oriented enterprises were encouraged by the designation of a growing number of special economic zones (SEZs), coastal open cities, and economic and technological development zones (EDTZs), all designed to encourage manufacturing exports. These special areas received various kinds of favorable tax and regulatory treatment, such as tax holidays, and

² It is proposed that companies with 1000 plus employees need to secure prior permission from the government before retrenching any labor as against 100 plus previously.

duty-free access to imported inputs and capital goods needed for export production. Thus, the SEZs and other special areas were akin to the export processing zones that had been used in other parts of Asia as part of their initial export-led growth.

A major aspect of China's dynamism is the low rate of taxation of non-state enterprises. As already noted, many non-state enterprises are exempt from taxation as the result of special tax privileges associated with special economic zones. Moreover, Chinese government spending is a remarkably low 14 percent of GDP (compared with 33 percent in India), so that China can maintain very low tax rates on average throughout the economy. In China, for example, an individual taxpayer earning \$4,000 pays a 10 percent marginal tax rate, compared with a 30 percent marginal tax rate on the same income in India.

China's labor markets are also highly flexible in the non-state sector. While workers in the state sector are accorded generous job guarantees in both China and India, workers in the non-state sector do not receive guaranteed employment. One result has been the rapid growth of employment in China, since firms can hire workers without fear of being stuck with unwanted labor in the future due to restrictions on dismissals. Formal sector employment has increased dramatically, from 95 million in 1978 (9.7 percent of the economically active population) to 148.5 million in 1994 (19.2 percent of the economically active population). India, by contrast, has experienced a mere increase from 22.9 million in 1978 (just 6.8 percent of the economically active population) to 27.4 million in 1994 (a mere 5.4 percent of the economically active population).

Considerable evidence confirms that it is China's non-state sector, largely operating under free-market rules, rather than China's state sector, which has been the source of China's dynamism. First, the state-owned sector has continued to make large losses, despite more than 10 years of active experimentation by the government with alternative incentive schemes for management and workers. Second, the productivity growth in the state-owned sector has lagged far behind the productivity growth of the non-state sector, and according to some calculations, total factor productivity growth of the state sector has been close to zero. Third, the non-state sector accounts for the explosive rise of Chinese manufacturing exports. The share of TVE exports in total exports has grown from 16.4 percent in 1980 to around 44.4 percent in 1993. Fourth, overall GDP growth has been much faster in regions with a high proportion of employment in non-state enterprises, and in the special economic zones.

Decentralization of Economic Policy Making

One key institutional support for rapid growth in China has been the *decentralization of economic policy making in China*. One of the reasons that state control on the non-state sector has been limited is that the power of the central bureaucracy in Beijing has been substantially weakened in favor of provincial and local governments. In particular, the coastal provinces have been relatively free to pursue market-oriented policies in support of export-led growth without being blocked by planners in Beijing. The provinces have a significant control over government expenditure and taxation; infrastructure projects; and even the policies regarding foreign direct investment. Indeed, the provinces have been competing actively with each other to attract

foreign direct investment and to upgrade the infrastructure. The relative decentralization of economic policy making among the Chinese provinces contrasts markedly with the continued strength of the Indian Federal Government in Delhi in setting the overall economic agenda for India, including most major decisions over infrastructure expenditure and foreign investment.

India's constitution was designed to give primary economic policy making responsibility to the central government. The constitution, of course, designates three kinds of policy areas: those of exclusive provenance of the central government; those to be shared between the center and the states; and those that are the exclusive provenance of the state governments. In practice, the key fiscal, infrastructure, and regulatory decisions on economic management remain at the central government level. Recent political trends (the decline of the Congress Party, and the rise of regional political movements) suggest that economic and political authority will be more decentralized in the future. International experience, most notably that of China, suggests that such a trend will be desirable from the point of view of economic growth. Regional decentralization of economic policy making would tend to: (1) promote deregulation, especially as regions compete with each other to attract domestic and foreign investment; and (2) foster a choice of infrastructure more closely attuned to regional and local needs.

Substantial impetus can be imparted to the growth process should the central government decentralize economic policy making and allow the states to make crucial economic decisions on their own. Brazil, China, and Russia are examples where regional governments have taken the lead in pushing reforms and prompting further actions by the central government. In Brazil, it is Sao Paulo and Minas Gerais which are the reform leaders at the regional level; in China, it is the coastal provinces, and the provinces farthest from Beijing, in the lead; in Russia, reform leaders in Nizhny Novgorod and in the Russian Far East have been major spurs to reforms at the central level. With controlled decentralization in China, for example, provinces have increasingly been competing with each other in terms of attracting investments, both domestic and foreign, and in providing better infrastructure facilities, among other things.

Greater decentralization of decision making in India is likely to lead to greater competition among the states and therefore to higher efficiency and productivity in these regions. In India, key fiscal, infrastructure, and regulatory decisions on economic management remain at the central government level. Essentially what this centralized system of governance implies is that the states have very little jurisdiction in, or control over, policy and regulatory decisions that would make the states more attractive to prospective investors. A gradual process of decentralization has begun in India as a result of the fact that regional political parties have been lending support in the formation and running of the government at the center. This is a healthy development. Coalition governments at the Center made up of regional parties representing different states can exercise a great deal of influence in policy-making at the Center.

While it is true that the record of the coalition governments in India so far as stability at the Center is concerned is poor, but it is also important to recognize that coalition politics is rather new to the country, and with the passage of time is likely to mature. Signs of which are already being seen in the current BJP-led NDA government at the Center. Regional parties having representation in the Central government can play a critical role and negotiate for greater decision-making authority to be transferred to the state-level. Policy making at the sub-national level is essential in order for state governments to be able to follow development strategies suitable to their socio-economic, cultural, and geographic characteristics. Coastal states, for

example, can follow a more focused export-led growth strategy, or states with a large pool of trained manpower, such as IT professionals in Tamil Nadu or Karnataka can lay more emphasis on IT and service sector.

Decentralization of decision-making from the State to the local levels is equally important. Madhya Pradesh is probably the best example in this regard. M.P. became the First State in the country to hold elections to Panchayat Raj institutions after the 73rd amendment to the Indian constitution. This constitutional amendment provided for direct elections to all the three tiers³ of Panchayat bodies with reservations for weaker sections⁴. Panchayats in M.P. have taken up primary education and primary health as their focus areas.

The State government has empowered the Panchayats to set-up new schools in response to community demand, appoint teachers and locate land for schools. Importantly enough, the Panchayats also have the authority to dismiss teachers who are not performing. Education Committees comprising of Janpad Panchayat and District Panchayat members oversee all matters of school education like location of new schools, transfer of teachers within the District and staffing of District Institutes of Educational Training. The Gram Panchayats also manage all such schools that are set-up through the Education Guarantee Scheme⁵.

In the sphere of primary health, the Panchayats in M.P. recruit volunteers to become rural health practitioners⁶ and are also responsible for disease surveillance and for reporting epidemics. The Health Committees comprising members of the Gram, Janpad, and the District Panchayats supervise all aspects of primary health management. District Panchayats are empowered to appoint doctors in vacant positions. It is noteworthy that the State has successfully trained a new cadre of community health workers for more than 50,000 villages in the state.

The role that Panchayats in M.P. are playing may provide a strategy for all other states in India with respect to primary education and health. This is critical in view of the fact that the state bureaucrats stationed in the state capitals manage the prevailing system in almost all the Indian states. Both the primary schools and the Primary Health Care centers (PHCs), especially in the rural areas are in very bad shape and in desperate need of reform⁷. As long as the control and oversight of primary schools and PHCs continued to be at the state-level, there is little hope of any improvement.

It was interesting to find in some villages of Uttar Pradesh that there were privately run primary schools. These schools typically had a 4-5 room school building, 5-7 teachers, a school uniform for the children, descent desks and benches for the students and most importantly regularly run school schedules - all of this for a monthly fee of Rupees 40 per student.

³ The three tiers are Gram Panchayat, Janpad Panchayat, and District Panchayat.

⁴ 184,000 women were elected to various Panchayat Raj institutions in the State.

⁵ The Gram Panchayats are authorized to construct school buildings that cost below Rupees 3 lakhs or 300,000.

⁶ Popularly called Jan Swastya Rakshaks.

⁷ Some of the villages that the author visited in Uttar Pradesh presented a very grim picture of the state-run schools and PHCs. Rarely were the teachers present in the schools and doctors in the PHCs. Infrastructure was notoriously bad. The PHCs did not have a telephone, transport, or even the basic minimum medical equipment. It was discovered that some PHCs had no work since patients never came there, but did have 10-12 full time employees, including a position for a computer person.

Fiscal Consolidation

Despite almost a decade of fiscal consolidation efforts, India's fiscal deficit remains high. There are several risks with high fiscal deficits. First, budget deficits could once again spill over into macroeconomic instability, if the government resorts again to inflationary finance. This would happen, for example, if the government meets increasingly onerous terms in financing the increasing stock of public debt on the open market, and therefore turns to the Reserve Bank of India for increased financing. Second, the budget deficits imperil national saving rates, thereby reducing overall aggregate investment, and jeopardizing the sustainability of high growth. Third, the continuing large budget deficits, even if they do not spill over into macroeconomic instability in the short run, will require higher taxes in the long term, to cover the heavy burden of internal debt. High tax rates will place India at a significant disadvantage relative to other fast-growing countries, particularly in attracting investments by internationally mobile capital (both domestic and foreign).

With India's rate of government saving near zero, India's overall national saving rate is around 23 percent, rather than the 30 percent or higher seen in the fast-growing countries of East Asia, and the astonishing 43 percent seen in China in 1994. Government saving could be increased by reductions in government spending on subsidies to agriculture and industry. A more efficient tax system (e.g. based on value-added taxation rather than turnover taxes, high external tariffs, and inefficient internal trade taxes such as the Octroi) could also raise tax revenues while lower effective tax rates. Cuts in government spending as a percent of GDP would also permit a reduction of tax rates to more competitive levels.

While the budget proposals of the past few years undoubtedly hasten the pace of India's tax reforms, however, they do little in the field of expenditure reform. In the absence of substantial fiscal adjustment, neither will the government be able to maintain low inflation, nor will India achieve a path of sustainable high growth. Central government spending, current around 16 percent of GDP (center and states put together is around 33 percent of GDP) needs to be brought down substantially as a proportion of national product in order for India to achieve its reform goals of macroeconomic stability and long-term rapid growth. Fiscal deficit remains high and needs to be brought down mainly by reducing the revenue deficit⁸. The growing current expenditure, and the resultant government dissaving, termed the revenue deficit, is likely to reduce national saving rates and therefore the sustainable national investment rate as a percent of GDP. Cross-country evidence puts the reduction of national saving for each percent of GDP in *government* dissaving at around 0.5 percent. The reduction in government dissaving (i.e. the revenue deficit) is therefore a key area for action.

Fiscal deficit at the Center can be reduced and over a period of 3-4 years eliminated by cutting subsidies on food, fertilizers and transport. Reducing government employment (by not filling vacancies). Further reducing the grants to states. Closing down state-owned loss-making enterprises. Disinvestment in the non loss-making central public sector enterprises (PSEs) and

⁸ See Sachs and Bajpai (2001)

divesting its stake in the state-level PSEs⁹. Withdrawing the support of the central power sector undertaking, such as NTPC, NHPC, and the like that is given to the state electricity boards (SEBs). And by reducing the burden of interest payments on India's huge stock of public debt. Similarly, the States can reduce their fiscal deficits by aligning power tariffs with the costs incurred in providing power, aligning water tariffs with the costs incurred in providing water and aligning transport tariffs with the costs incurred in providing transport services. Reducing government employment (by not filling vacancies) and closing down state-owned loss-making enterprises and disinvesting in the others.

If the central and state governments were to undertake the contractionary fiscal measures mentioned above, there would be additional budgetary savings since real interest rates would decline and hence the interest payments. For details, see Sachs and Bajpai (2001). The central government has made a reasonably good beginning in this regard in the proposals announced in the union budget for 2001/02¹⁰. The fiscal deficit target fixed in the budget for 2000/01 has been achieved, and remains at 5.1 percent in the revised estimate of the current year. Similarly, the target of 3.6 percent revenue deficit has also been achieved. A reduction of 0.4 percent of GDP in the fiscal deficit is planned for the fiscal 2001/02. Some of the proposals announced in the union budget for 2001/02 are reducing government staff by 2 percent per annum, disinvestment in central PSEs to the tune of Rupees 120 billion (0.7% of GDP), and no hike in non-plan expenditure. On the other hand, food and fertilizer subsidies have been raised by as much as 40 percent over the fiscal 2000/01.

Disinvestment and Primary Education

India's state-owned enterprises (SOEs) do damage in two ways. First, many of the SOEs are inefficient and loss-making firms. Second, these firms tend to be protected by grants of state monopoly, especially in areas of finance, such as commercial banking and insurance, and infrastructure, in areas such as telecommunications, port facilities, and road building. An end to the state monopolization of these sectors is crucial to permit new, privately owned firms to introduce competition and higher productivity into these sectors. Privatization of these enterprises is also desirable in most cases, since the government has no particular comparative advantages in running these enterprises, and may have severe disadvantages (especially the politicization of key investment and employment decisions of the enterprises).

We are of the view that a comprehensive program of disinvestment can help raise substantial resources that could be used for achieving yet another goal announced by the Prime Minister in his Independence Day speech on August 15, 2000. The goal is to attain universal primary education in the country by the year 2010.

We suggest the following scheme for this: after careful analysis and background work, the government announces a major program of disinvestment and calls a meeting of all the

⁹ According to a Report of the Department of Disinvestment entitled "Disinvestment in States", there were 946 state-level public enterprises, of which as many as 551 units were loss making, while 241 units had been categorized as non-working state-level public enterprises.

¹⁰ Union budget presented to the Parliament on February 28, 2001.

sitting Members of Parliament (Lok Sabha - the Lower House) and informs them of this scheme wherein each Member of Parliament will be given an equal share of the disinvestment proceeds, but with the specific purpose of its usage ONLY for spending in their respective constituencies either for establishing more schools or training teachers or upgrading existing facilities and so on depending on the specific needs of each constituency.

Of course, this will require strict monitoring, preferably by the Prime Minister's office so as to ensure that funds are being utilized for the purpose they are meant for. Such a scheme is likely to help bring together the Members of Parliament from across party lines since they will all see a gain for them (irrespective of their party affiliations) as well as their respective constituencies and possibly unite them to pass the disinvestment plans on the floor of the house. Securing political acceptability to such an idea at the level of Members of Parliament will help a great deal in dealing with the opposition to disinvestment plans from the trade unions and others traditionally opposed to it. Should such a scheme work, it will not only help the government withdraw relatively easily from the loss-making public sector, from running textile mills to steel plants, from managing hotels to operating airlines and a variety of other sectors where the government is currently involved in, but will also help divert the much needed resources in the area of primary education.

Information Technology and Economic Growth

In addition to a strategy of export-led growth that we have outlined in the previous section, we are of the view that India's growth strategy should also focus heavily on information technology (IT)-led growth. The IT sector is one where India can play a much bigger role on a worldwide level than it has so far and benefit immensely from the on-going IT revolution. Service-sector export based on IT is another area where the government's policy could do much more to spur export growth. India is becoming one of the most important players of the world in the IT sector and it is the fastest growing foreign exchange earner for India. We believe that the government could do more for this industry, not through direct subsidies necessarily, but actually through liberalization of telecom, allowing for lower priced telecommunication services, by allowing new entry of major international players in telecom. These companies could lay down a tremendous fiber optic network in India and increase the bandwidth available for Indian business and put India even more closely to the international scene. We would like to see the government find some resources to support basic science and R&D in this sector to some extent because India has world-class engineers and scientists that have already brought India up in an important way in this sector and could keep India in the very forefront of this new technology.

Indications are multiplying these days that the world is rapidly making a transition from an industrial to a knowledge-based economy. In some parts of the world, that transition has already occurred. In June 1999, a path-breaking study found that the Internet-based knowledge economy generated US\$300 billion in U.S. revenue and created 1.2 million jobs in 1998 alone. In just five years, it has already outpaced century-old industries like the energy sector (1998 revenue: US\$223 billion) and could catch up with the auto industry (US\$350 billion) in the next few years. Also, the average revenue per Internet economy worker is about US\$250,000, or about

65 percent higher than their industrial economy counterparts¹¹. While the second industrial revolution was initiated in the labor-intensive manufacturing industry by automotive pioneers like Ford, it is clear that the third revolution is driven by the knowledge-based services sector. Today, and in the future, it is "brain" and not "brawn" that is the key to sustainable economic growth¹². Consequently, the level of development of the services sector, particularly the knowledge-intensive segments of it has become a key determinant of national competitiveness for economies around the world.

Against this backdrop, a developing country that aspires to achieve rapid growth and join the global knowledge economy like India ought to encourage the development of its services sector. This sector has been the engine of growth and employment in developed economies. In the post World-War II period, it has led GDP growth in these economies, more than doubling its share of GDP in the last 5 decades and substantially increasing its share of employment. In the U.S., which leads the global IT revolution, services contribute to almost 80% of GDP. In Singapore, it accounts for 72% of GDP¹³. In Ireland, the second largest software exporter in the world, the service industries employ 65% of the working population. It is estimated that in India it is a little over 50%.

Paradoxically, a key contributor to the services sector has been the non-services sector. Companies engaged in every type of commercial activity, be it in agriculture, manufacturing, finance or government rely on the competitive edge that service firms offer to be integral to their business success. This often is not apparent until you look in the annual reports of MNCs. For instance, unlike what its name may suggest, General Electric today derives most of its income not by selling electrical appliances, but financial services. Its financial arm, GE Capital, is today one of the world's leading financial service company with assets worth over US\$300 billion. At General Motors, #1 in *Fortune 500*, the auto financing business (GMAC) brings home more revenue than actual car sales!

From an economic development perspective, there are many compelling reasons for emerging economies to develop their services sector. To begin with, expanding this sector helps create national wealth: a positive correlation exists between high GDP per capita and the intensity of service activity in the economy, mostly because compensation levels in this sector normally surpass those in agriculture and industry. Moreover, in economies with a strong emphasis on services, people tend to climb the "value-chain ladder" much more rapidly. Finally, since service businesses are typically skill -and not investment- intensive, they are ideal sources of growth for countries with scarce capital and a large, qualified workforce. India, which possesses the world's second largest pool of scientific manpower, stands much to gain by developing its service industries.

The year 1998 heralded not only the preeminence of the services sector but also the key role-played by IT within that sector. Information services have become fundamental to the overall growth and development of the U.S. economy and others around the world¹⁴. In August 1999, the United States Postal Service acknowledged this by approving the use of the world's

¹¹ Findings of this first-ever study, funded by Cisco Systems, are available at www.internetindicators.com

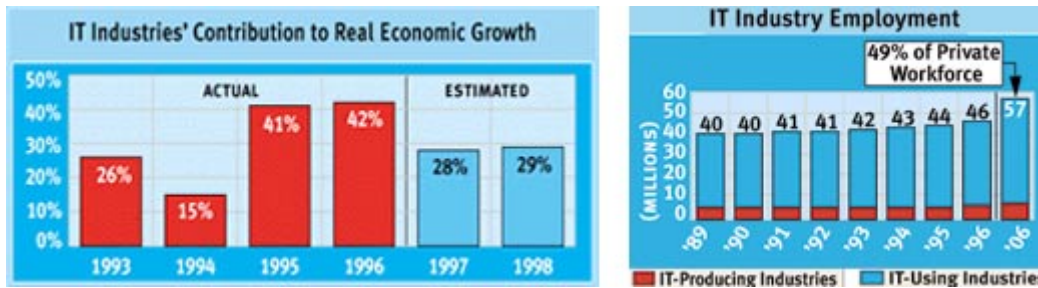
¹² Neef, Dale, Anthony Siesfeld and Jacquelyn Cefola (ed) (1998) *The Economic Impact of Knowledge*

¹³ CIA World Fact Book 1998

¹⁴ In 1998, more E-mail than "snail mail" was sent in the U.S. and phone lines carried more data than voice

very first electronic stamp, provided by E-Stamp.com¹⁵. For a long time however, it was difficult to evaluate the economic impact of the IT sector. Data made available now allow us to demonstrate its positive effects on worldwide economies. In June 1999, the U.S. Department of Commerce released "*The Emerging Digital Economy II*," a far reaching document¹⁶ that highlights the strong correlation between IT and national prosperity. This report finds for instance that, between 1995 and 1998, the IT industries, comprised of IT producers and users, contributed to an amazing 35% of the U.S. real economic growth. Also, almost half of the U.S. workforce is expected by 2006 to be employed in IT-based industries (Figure 1)

Figure 1: Information Technology Drives U.S. Growth



Source: U.S. Department of Commerce, *The Industry Standard*, July 1999

The most remarkable facet of the emerging "digital economy" is of course the Electronic Commerce. The Internet, which enables E-commerce, is radically changing not only the way businesses serve and communicate with their customers, but also the way they manage their relations with suppliers and partners. Both the new Internet-based companies and the traditional producers of goods and services are transforming their business processes into e-commerce processes in an effort to lower costs, improve customer service, and increase productivity (DOC, 1999). The value of e-commerce transactions worldwide is growing exponentially and is expected to reach US\$3.2 trillion by the year 2003. Driven by customer demand and business imperatives, the digital economy is becoming truly global. As of May 1999, 171 million people across the globe had access to the Internet, over half of them in North America¹⁷. While North America and Europe occupy a large absolute share of the Internet world, Asia-Pacific is catching up fast. It is estimated that by 2003, the Asia-Pacific region, with 81 million Internet users, will overtake Europe and become the world's second largest Internet user population (IDC). Singapore for instance has already launched an ambitious e-commerce initiative with the target of S\$4 billion products and services transacted electronically through Singapore, and 50 per cent of businesses to use e-commerce by 2003¹⁸.

The Internet, apart from enabling e-commerce, is also contributing to the rapid internationalization of the services sector. It makes it possible to unbundle the production and consumption of information-intensive service activities. These activities -e.g., computing, accounting, personnel, marketing, distribution, etc.- play a fundamental role not only in service

¹⁵ E-Stamp is an Internet startup founded by Salim Kara, an entrepreneur of Indian origin.

¹⁶ The 1999 report builds on the findings of last year edition, but focuses more on the emergence of E-commerce

¹⁷ Nua Internet Surveys, 1999 (www.nua.ie)

¹⁸ Full details on Singapore Government's E-commerce policies are available online at www.ec.gov.sg

industries but also in manufacturing and primary industries. As much as 75 percent of employment in manufacturing in the U.S. may be associated with service activities (World Bank, 1995). Typically, MNCs process at home the value-added services and outsource those with high labor-content to low-cost international service providers. India and the Philippines have thus emerged as favorite destinations for software outsourcing. Lately however, IT Enabled Services (ITES), or "remote processing," which involves *using* software rather than *writing* it, is being described as the next major driver of technology-led services industry. These services (e.g., customer interaction services) typically involve a much higher degree of consumer-provider interaction and bring in more revenue. Riding on the popularity of the Internet, this knowledge-added services market is expected to skyrocket to \$200 billion by 2010, according to McKinsey & Company¹⁹. Several countries around the world, like Ireland, Philippines, India and China, are vying for a piece of this lucrative pie.

Inspired by the success of Singapore, several developing countries consider IT as a unique opportunity to leapfrog whole stages of industrial development. Having missed the first 2 industrial revolutions, they are eager not to miss the third one - the making of the knowledge economy. A few developing countries are indeed closing the gap, some of them at a breathtaking speed. In China, five years ago, just one percent of the population owned a telephone. Today, more than 110 million people, or 10 percent of the population, have one. The number of Internet users in China has grown from 4 million in 1998 to 10 million in 2000, compared to a paltry 2.45 million in India as of September 2000²⁰. China is aggressively developing its IT-based services sector. Between 1980 and 1990, China's services sector grew at an astonishing 13.1 percent per annum.

The engine of growth of the booming Indian IT sector is the software industry, which has grown at an average annual rate of 60% between 1992 and 2000. The Indian software industry, which today employs 160,000 professionals, has grown from a mere US\$20 million 10 years ago to US\$5.6 billion in 1999-00, of which US\$3.9 billion was exported. The industry has clearly emerged as a major export earner for the country, contributing to around 10% of total merchandise exports. It has also achieved worldwide reputation for providing excellent quality: many local software firms have earned ISO 9000 as well as SEI-CMM certification, with five of them having reached Level 5²¹ (only 9 firms worldwide have reached this level). India has achieved this feat by leveraging its most valuable resource: highly skilled manpower. The country today boasts of the second-largest English-speaking pool of scientific manpower in the world and graduates 70,000 computer professionals every year, in addition to the graduates from the prestigious Indian Institute of Technology (IIT). Technical excellence explains why India was identified by 82% of American companies as their top destination for software outsourcing, according to a World Bank survey²².

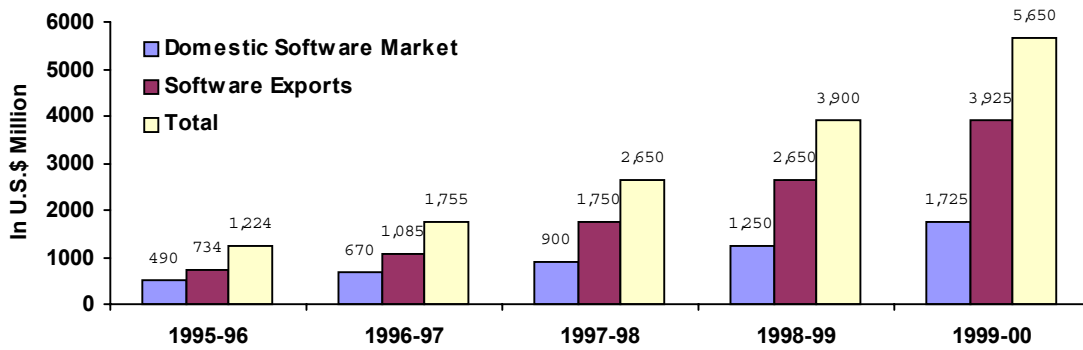
¹⁹ Far Eastern Economic Review, "At Your Service," September 2, 1999

²⁰ According to the IT Ministry, GOI, as of 9/30/00, there were 2,455,509 internet subscribers in India, of which Maharashtra had 619,524; Delhi had 319,616; Tamil Nadu had 291,032; Karnataka had 193,876; Gujarat had 113,633; and Andhra Pradesh had 91,103.

²¹ Level 5 of Capability Maturity Model for Software (CMM) indicates the highest level of excellence in quality.

²² Business Week, NASSCOM - Indian Infotech Goes Global, Special Advertising Sections, July 1999

Figure 2: Performance of the Indian Software Industry



Source: NASSCOM, 1999

Realizing the strategic importance of IT for the country, the Indian government has set for itself an ambitious target of making India a Global IT Power and a key contributor to the world IT industry by 2008. In 1998, a National IT Task Force was set up and a National IT Policy formulated. The policy calls for raising the software industry's turnover to US\$85 billion by 2008, \$50 billion of this coming from exports. It also proposes to strengthen the country's human infrastructure through the establishment of an Indian Institute of Information Technology (IIIT) in every state. Emboldened by the thrust given by the federal government to IT development, 14 of the 26 state governments have already come up with their own IT policies that aim to leverage the comparative advantages of their respective states.

The Indian IT industry needs to aggressively pursue two key segments: Electronic Commerce and IT Enabled Services:

- *Internet & E-commerce Opportunities*: with Internet access now liberalized, Indian IT firms are eager to tap into the lucrative Internet software and services market. Goldman Sachs Asia predicts that by 2003 India will have 9 million Internet users and 400 ISPs. E-commerce also has great potential in India. According to IDC (India), Indian eBusiness revenues will grow from US\$14 million in 1999 to \$162 million in 2001. NASSCOM forecasts that India could earn at least US\$1 billion from exports of eBusiness software solutions in year 2002.
- *IT Enabled Services (ITES)*: value-added 'remote services' like back office operations, call centers, medical transcription, etc. could some day make India's US\$3.9 billion software exports in 2000 look like a paltry figure. The worldwide ITES market is poised to grow from the present US\$10 billion to US\$180 billion by 2010.

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