

**Structural Adjustment in India
A Survey of Recent Studies & Issues
for Further Research**

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Introduction

Since the early nineties the Indian economy has been subjected to a process of stabilization-cum-structural adjustment¹. Stabilization involves short-term demand management through monetary and fiscal policies. The specific objectives of stabilization are; first to bring inflation under control through restrictive monetary policy, secondly, to correct deficit in the balance of payments usually through devaluation of exchange rates accompanied by import liberalization and thirdly, to check fiscal deficits by curbing government spending, particularly the non-developmental expenditures.

Structural adjustment, on the other hand, is concerned with the supply side of the economy or raising the long term growth through improving efficiency, productivity and competitiveness. The underlying assumption is that the economy suffers from certain structural rigidities which not only hinder the growth process, but also undermine its capability to respond to crisis situations like the one in the early 1990s. Structural rigidities are both external and internal. The internal or domestic rigidities emanate from the Governmental interventions like the controls on entry and exit, restrictions on the scale of operation, intervention in pricing (both in the product and factor market) and so on. The rigidities in the external sector, on the other hand, arise from the man made restrictions on free trade like the exchange rate policy, import-export controls, controls on foreign investment and transfer of foreign technology and so on resulting in an unsustainable deficit or surplus in the balance of payment. The policy reforms initiated in India during the early nineties propose to do away with these rigidities and the resulting disequilibria through globalization and liberalization².

The roots of economic liberalization in India, however, could be traced back to the early eighties wherein the development strategy has moved away from the earlier regime of controls and planning³. This realization was manifested in the appointment of a series of committees in the late seventies to look into different aspects of Indian economy. The reports of these committees confirmed that the regulatory system in India had become a drag on the development process and underlined the need for change⁴. The acceleration of the liberalization process in the nineties, however, has been an immediate fall out of the economic crisis, particularly in the external front⁵. The situation has been best described by the Economic Survey 1991-92. To quote " By June 1991, the balance of payments crisis had become overwhelmingly a crisis of confidence in the Government's ability to manage the balance of payments.....A default on payments, for the first time in our history, had become a serious possibility in June 1991" (p.10)

The wide ranging reforms have led to a large number of studies. Some are *ex-ante* analysis, mostly cast in the computable general equilibrium framework with a view to simulate different scenarios. Others are, by and large, *ex-post* based on the limited empirical evidence. The inference of both sets of studies are liable to reservations; former on account of its restrictive assumptions and the latter due to the poor empirical and/or analytical base. This paper is an attempt to survey these studies and to identify the major gaps for further research⁶. The approach of the survey is broadly to assess the impact of reforms on the economy. We shall begin with a critical assessment of the underlying economic rationale of the liberal policy measures with a view to provide a broad framework of analysis to assess to reform process. The Second and third sections present the studies on the macro economic performance and those dealt with the specific sectors respectively. The final section presents the concluding observations.

The Economics of Economic Liberalization

An early theoretical case for liberalized policies has been based on the well known Pareto optimality of free trade. To the neoclassical school, Governmental interventions in the spheres of production and exchange could be justified only if they are meant for correcting market failures and the benefits of intervention exceed the cost.

The post-war period, however, witnessed the emergence of powerful counter arguments. The rise of Keynesianism in the western economies, the increasing legitimacy of social welfare institutions and the acceptance of the need to regulate financial institutions provided the ground for justifying the interventionist policies and weakened the ideological support for the free trade policies in the developing countries. The relevance of the neoclassical view was further undermined by the experience of socialist economies which appeared to be succeeding in bringing about structural transformation of their economies through central planning and Governmental intervention. Finally, the development economists also, by and large, stood for import substitution and the accompanying Governmental regulations in industry and trade.

The seventies marked the emergence of a large number of studies highlighting the efficiency losses associated with the import substituting industrialization. [Little, Scitovsky and Scott (1970), Balassa (1971) Kruger (1974) Bhagwati (1978)]. The success of the East Asian countries has been cited to suggest that the trade restricting, import substituting policies have failed and should be replaced with trade oriented, export promoting policies. But it has also been argued that the underlying force of the South East Asian miracle is a more active form of state intervention [Amsden (1989) and Wade (1990)]. After critically surveying the literature on both sides Rodrik (1995 pp 2947) remarks "these books (Amsden and Wade) cannot be easily dismissed; they present a serious challenge to those who deny the usefulness of an activist industrial policy". The present victory of the neoclassical school, perhaps, came with the downfall of the Soviet Union resulting in a total erosion of confidence in central planning and state intervention. The basic economic arguments made in favour of the market oriented policies, following Rodrik (1995) may be succinctly summarized.

- a) Market oriented liberal policies result in static resource allocation improvements. In the case of India, there has been a general consensus that the restrictive policy regime has given rise to a high cost industrial structure, plagued by rampant rent seeking, devoid of efficiency and competitiveness. But the empirical foundations of the neoclassical argument that the market distortions lie at the root of lower growth of the import substituting economies is not very strong. According to Taylor (1991) the results of the computable general equilibrium models applied to estimate welfare losses from distortions was rather surprising: 100 percent distortions reduced GDP by one half of one per cent!
- b) Economic liberalization facilitates technological change and faster growth. Studies on the dynamic effects of technological change, learning and growth have generally taken three different approaches; firm level case studies [eg. Lall (1987) for India and Katz (1987) for Latin America], cross industry studies [eg. Subrahmanian (1991) Katrak (1989), Deolalikar and Evenson (1989) Sidharthan (1988)] and cross country studies. While the literature in this area is enormous and still growing, the analytical foundations of the most studies have been too ambiguous and the preferred method of proof ranges from casual appeal to common sense. (Rodrik 1995)
- c) Outward oriented economies could better withstand the adverse external shocks. By analyzing the growth experience of different economies following the first oil shock (1974-78), Balassa (1981) argued that the export oriented countries, unlike their inward oriented counterparts were able to increase their share in world trade leading to higher output growth. Sachs's analysis (1985) for the early eighties also reached a conclusion similar to Balassa. However, there is counterfactual evidence which tends to go against these findings. For instance, while India was hardly affected by the external shock of the early eighties, open economies like Chile and South Korea were severely affected.
- d) Market based economic systems are less prone to rent seeking activities. It has been argued that the general policy environment of import substitution was the one which gave rise to a variety of incentive distortions and resource mis-allocations which were collectively termed as rent-seeking (Kruger 1974). But the basic issue is whether the liberalized policies alone could do away with rent-seeking. There is evidence to suggest that even under liberalized policies there exists substantial scope for rent seeking so long as governments exist and implement the policies. It has been shown that after the adoption of outward oriented policies the rent seekers in Turkey started running after export subsidies instead of import licenses or quotas.

On the whole, the analytical foundations and the empirical evidence in favour of the argument that a fully market-oriented restructuring would promote productivity, competitiveness and growth is yet to be made robust. A more realistic argument would be, while an abysmal policy regime can, perhaps, drive a country into economic ruin, a 'good' policy *per se* cannot make a poor country rich (Rodrik, 1992).

Structural Adjustment and the Macro Economic Performance

Given the fact that structural adjustment is a recent phenomenon in India, there are not many *ex post* analysis dealing with its impact on the macro economic variables. Therefore, we shall begin with a

quick overview of the experience of the economies in Africa and Latin America⁷ so that the results of the available studies could be viewed in a proper perspective. A large number of African countries have initiated the programme in the early eighties itself and by 1989, 37 African countries had signed SAP agreements with the World Bank. It is generally held that the performance of African countries under structural adjustment is less than satisfactory. One of the severe criticisms has, probably, come from the UN Economic Commission for Africa (UNECA). It has been argued that poverty in Africa has worsened in the 1980's under structural adjustment. The average annual growth rate of per capita income in 1980's was either stagnant or negative in most of the countries implementing adjustment and stabilization programme. For example, the average real income of Africa, south of the Sahara, in 1988 was no more than 80 per cent of their levels in the 1970's. In a few cases where improved per capita income was recorded, it was largely at the expense of higher external debt and the deterioration of social services (UNECA, 1989).

A more recent study (Ayittey, 1995) also has almost similar findings to offer. In 1990 per capita income in Africa declined for the twelfth consecutive year. Agricultural growth has been dismal with output growing at less than 1.5 per cent per year since 1970. Industrial output across Africa has also been declining with some regions experiencing de-industrialization. In terms of the social indicators of development the situation seems to have gone from bad to worse. About one in every four children die before they reach the age of five in Burkina Faso, Ethiopia and Mali mainly on account of malnourishment. The dismal performance is further evident from the fact that nine out of the ten countries with the lowest human development index in 1992, were from Africa.

Latin American countries also have been subjected to Structural adjustment prior to India. Here again, the overall economic performance was severely criticised by many. During 1950-80 Latin America underwent a massive transformation from a predominantly agrarian economy to semi industrialized urban economy. Total GDP growth recorded an annual rate of 5.5 per cent with the non agricultural GDP recording 5.8 per cent and the industrial GDP by 6.2 per cent (Garcia and Mezzera 1995). The GDP growth rate, however, fell from its historical rate of 5.5 per cent per annum to 1.2 percent (even less than the "Hindu growth rate") during 1980-89. Most of the impact took place during 1982-85, when average per capita expenditure fell, in real terms, by almost 17 per cent (Wells 1987). Growth in the formal sector employment also declined to under 3 per cent from the historical rate of over 4 per cent. The decline of employment during the eighties was most intense in the medium and large sized firms that had been the mainstay of modern sector expansion until 1980; jobs in these firms grew only by 0.5 per cent. Hence most of the employment growth was contributed to by the small firms employing up to ten workers; the recorded growth rate being 7.5 per cent. At the same time the informal sector employment grew by 6.7 per cent. (Garcia and Mezzera 1995)

The problems involved in these aggregative analysis is too obvious⁸. Further, an unanswered issue is; whether the situation would have been any better had these countries not opted for structural adjustment?. From the point of our discussion, the question is, What has been the Indian experience? Let us now examine the available literature.

Trade and Current Account Balance

The core of structural adjustment programme is, probably, the trade policy reforms. In India, as we have already seen, an immediate provocation for the structural adjustment also turned out to be the crisis in the external sector. Hence trade policy reforms² were initiated with a view to bring about the external balance through increased exports. What has been the impact of these policies on export, import and the external balance? There are not many *ex-post* studies that are addressed to this specific question. It could also be argued that four years is too short a time to have a proper assessment. Nevertheless, an understanding of even the short run impact could be of some relevance in guiding the future policies.

There are a few studies which looked into the short run effect of exchange rate depreciation on the macro economy employing Computable General Equilibrium Model. For instance, Hiran Sarkar and Manoj Panda (1992) have shown that if trade does not respond to the international price-domestic price differential the effect of devaluation would be stagflationary. Such an economic contraction could be countered if elasticity of trade with respect to the ratio of international price and domestic price is around 0.8 per cent. The general price level tends to rise implying thereby that devaluation is always inflationary. Trade deficit in rupees increases if trade does not respond to prices and exchange rate. The deficit starts decreasing when trade elasticity is more than 0.3. Finally both the exports and imports of consumer goods respond significantly to devaluation, possibly because of the lesser domestic price increase in this sector due to low requirement of imported inputs in its production.

An *ex-post* analysis of the trend in trade (export and import), prices and exchange rate behaviour during 1991-94 by Prabirjit Sarkar (1995) questioned the effectiveness of exchange rate policy as an instrument of trade policy. It was found that during June 1991 to August 1994 India's exports in US dollar rose at the statistically significant monthly rate of 1.1 per cent where as the recorded rate in imports was only 0.74 per cent. More interestingly, his regression analysis of monthly data during June 1988 to August 1994 using slope and intercept dummies found no trend break during the period of liberalization. Further with the consumer price index recording a monthly growth of 0.74 per cent, the real effective exchange rate has appreciated in contrast to the experience of the 1980s when the nominal and real effective exchange rate showed a tendency to depreciate. While the debate on the effectiveness of exchange rate policy is an old one, what is relevant in this context is an understanding of the factors responsible for the continuing inflation and prices and the need for containing the same.

Now let us see what the Economic Survey has to say on the external balance. It is stated that the current account deficit as a percentage of GDP has declined from 3.3 per cent in 1990-91 to 0.1 per cent in 1993-94. Similarly, the stock of foreign exchange reserves has increased from 0.6 months import in 1990 to 8.2 months import in 1994. The export import ratio has also shown a marked increase from 66 per cent in 1990-91 to 94 per cent in 1993-94 (Economic Survey 1994-95). The present foreign exchange reserve in terms of import cover (8.2 months) is found to be much more than that of other countries like China (4.6 months)

and South Korea (3.4 months). This tends to raise questions regarding the management of foreign exchange reserves of the country.

It has been argued that the policy of globalization coupled with the indiscriminate borrowing would lead the economy into a debt trap as it happened in some of the Latin American countries. The counter argument runs like this; though India has the fourth rank in terms of absolute amount of borrowing, its position slid down to 90th when we consider total debt as a proportion of GNP hence the country is still within its borrowing capability. Similarly, while the current debt service ratio of around 30 per cent is high as compared to that of early 80s (around 14 per cent) the same ratio had reached a higher level of 27 per cent in the late sixties. Further, it is also shown that India's terms of borrowing in terms of maturity, average interest rate, grace period and grant element has moved in favour of India in 1991 as compared to 1982 (Basu 1993, Bhagwati and Srinivasan 1993). Hence the fears regarding India's foreign debt and current account balance are unfounded¹⁰. In a similar vein an estimate of a simple macroeconomic model by Gupta (1994) reveals that while there is room for concern over India's public debt, the emerging situation on the external front appears relatively better. In the context of such lack of consensus on the impact of structural adjustment on external balance, it would be rewarding to analyze the trends in India's current account balance and the factors that shape it. Such an analysis in a comparison with that of other NICs would also be of some relevance for India's policy making. A preliminary attempt in this direction (Joseph and Nandakumar 1994) for the period 1972-1987 has shown that while China has succeeded in significantly diversifying her export basket, India's performance in this regard was rather poor. Another weak link in India's external front is the service sector. Studies (Vinodkumar 1995, Joseph and Pillai 1994) on the structure and competitiveness of India's service trade vis-a-vis South Korea and Brazil raised concern over the declining competitiveness and the growing deficit in India's service account.

On the whole, serious attempts towards analyzing the recent trends, patterns and direction of India's exports and their implications are yet to be made. In analyzing India's exports, one needs to analyze the primary commodities and manufactured exports separately since the factors shaping these two appear to be different. Bhaskar (1991) found that there was a decline in the real prices of primary commodities in the international market. This started in 1982 and the real commodity prices in 1985 were lower than their 1982 level and were in fact, at their lowest since the second World War¹¹. It was argued that the 'debt and devaluation induced supply shifts' are partially responsible for the depressed commodity prices¹². It was also shown that the primary commodity basket does not contain homogeneous products. They differ not only in terms of the extent of supply response to the changing market signals, but also in terms of their income elasticity. For example, tree crops and minerals cannot respond instantaneously to changes in market signals. Demand for cash crops like tea, coffee, cocoa, spices etc are highly income elastic. Therefore, there is a need for separate investigations of different primary commodities in order to see the impact of devaluation and other measures on commodity prices and export earning.

Though there is hardly any systematic empirical studies on the export performance of manufactured goods in general, there are some studies which deal with specific product eg. Chatterjee & Mohan (1993) on textiles and Sinha and Sinha (1991) on leather. Sinha and Sinha found that in constant dollar terms, there has been a consistent decline in the growth of exports since 1986-87 to 1989-90. Paradoxically, India's share declined in those products which registered higher increase in world demand. For example, the global import of leather and leather products was around US \$36 billion in 1988 of which footwear alone accounted for \$18 billion. The share of footwear in India's total leather exports declined from 27.5 per cent in 1980-81 to 13 per cent in 1989-90, whereas the share of footwear component increased from 36.8 per cent to around 47 per cent. The impending stagnation in leather exports is explained in terms of the tardy response of the industry to *changing global preferences*.

Chatterjee & Mohan (1993) found that India has comparative advantage in cotton garments. But most of the Indian firms operate on a much smaller scale compared to their competitors¹³. The study in general presents the case for further import liberalization so as to *increase the international competitiveness*. It may be noted that the above study has not analyzed in detail the impact of protectionist policies followed by major markets, say the EEC, through tariff and non-tariff measures. In the event of such barriers to trade and slow opening up of the market as envisaged in GATT¹⁴, it is instructive to ask whether the liberalized imports, greater foreign participation and deregulation will benefit the exports of Indian garments?

Mundle and Mukopadhyay (1992) examined the question as to whether the strategy of protection has enhanced the international competitiveness of Indian industry by taking the case of capital goods sector. It was found that there were very distinct gains from protection to the capital goods industry by way of extra growth from the mid 50's to early 70's, leading to much higher output than would have been achieved in the absence of protection. Despite these gains the Indian capital goods industry has failed to become internationally price competitive. The major component of domestic-international price difference is attributed to exogenous factors such as higher input prices or taxes. Nevertheless, conversion cost differences are still significant, implying relative inefficiency of the Indian manufacturing in the case of most capital goods except electrical machinery.¹⁵

In any analysis of export performance, a crucial question that we need to ask is, what is the base of our international competitiveness? Is our competitiveness a reflection of our under development? To be more specific, in a country where a vast pool of surplus labour lives in abject poverty, competitiveness based on low cost labour will be a reflection of the weakness rather than the strength of our economy. Another issue is whether the competitiveness is at the cost of environmental degradation? In fact, our understanding of the impact of structural adjustment measures, particularly the trade liberalization measures on the environment is rudimentary.¹⁶

Sanyal (1993) argues that long term competitiveness depends on productivity and nothing else. If the export basket consists of both dynamic high productivity industries and backward low productivity industries, restructuring export in favour of the former may lead to higher national economic welfare even if there is a fall

in the share of exports as a whole. Viewed thus, it is not necessary that the share of export in GDP of a particular country should rise to achieve higher welfare. The crucial question therefore in India today is whether the structural adjustment would bring about such a change in the structure of exports?

If we accept the fact that, it is the technological capability, *inter alia*, that determines the competitiveness, we need to get into another aspect, viz. the impact of structural adjustment on technological change.

Technology and Foreign Direct Investment

The process of technological change in a developing economy is often viewed as a combined effect of technology-import, local Research and Development (R&D), and the interaction between these two. One of the major questions of technological change in India so far studied has been whether technology import is a complement to or a substitute for local R & D and which factors shape the observed behaviour of the firms during the import substituting regime [Katrak (1985), Kumar (1987), Subrahmanian (1987 and 1991), Sidharthan (1988) to cite a few studies]. Most of these studies have found that technology importing firms used to spend more than proportionately on local R & D implying thereby a complementary relation between import and local R & D. At the same time the policy environment was so restrictive that it slowed down the inflow of advancements in technology from abroad so that large sectors of Indian Industry have fallen behind advances in technology and showed technological incompetence which in turn adversely affected the competitiveness of Indian Industry in the world market (Desai 1984).

To make the economy technologically dynamic and internationally competitive structural adjustment envisaged, among other things, the removal of restrictions on foreign investment, and relaxations in the terms and conditions of technology import. Naturally, the behaviour of technology suppliers with regard to the quantum and terms of supply, and that of technology-buyers with respect to the technology-import, local R & D and the relationship between these two, must have undergone changes under the liberalized and outward oriented policy regime. Also given the liberal approach towards foreign investment and terms of technology import on the one hand and availability of cheap R & D personnel and infrastructure on the other, the R & D integration between technology suppliers and their local counterparts would have increased. Since our understanding on these aspects remain rudimentary, more research is called for both at the conceptual and empirical level.

Another set of issues relates to the foreign investment and its impact on export performance. In the light of increasing competition among LDCs for foreign Direct investment (UNCTAD 1995) Wheeler and Mody (1992) analysed the determinants of US FDI in LDCs and concluded that these incentives are unnecessary for countries with an expanding market, good infrastructure and specialised input suppliers. Studies (Manoj Pant 1993; Subrahmanian and Joseph 1994) on the export intensity of foreign and local firms

in the Indian industries do not support the view that foreign firms tend to have higher export intensity. It has also been argued that it is not the productive capital but it is the financial capital that has become mobile. Hence what has flown into the country is mostly speculative funds in the form of portfolio investment rather than foreign direct investment (Mani 1995, Patnaik 1994a and 1994b). Though a detailed ex-post analysis of the impact of foreign investment on Indian industry is difficult today, an analysis of the pattern of foreign investment in terms of their regional distribution, industry and market orientation and the structure of investment in terms of direct foreign investment and portfolio investment would help policy formulation in more than one way.

Employment Under Structural Adjustment

In his pioneering attempt at estimating unemployment during the period of stabilization (1992-94) Mundle (1993) found that unemployment rate may go from the base scenario of 3.1 per cent in 1990-91 to 5 per cent in 1993-94 with high growth rate in GDP and 6.6 per cent with low growth rate¹⁷. The estimates are based on employment elasticity¹⁸ calculated using NSS data. But the NSS 43rd round seems to have under-estimated unemployment especially in the farm sector, since 1987-88 was a severe drought year (Visaria and Minhas, 1991). It also needs to be argued that since the projection is made at the aggregate level it does not incorporate the impact of sectoral variations in employment growth.

Some of these problems were partly resolved by Bhattacharya and Mitra (1993) in their analysis based on Census data. It was found that the rate of growth of total employment in the 80's as computed from 1981 and 1991 census (2.34 per cent p.a.) is higher than the corresponding growth rate as per NSS during late 70's and 80's. Employment in public manufacturing has grown at a fast rate of 2.8 per cent p.a. In contrast, employment in the private organized sector fell in absolute terms. The private unorganized sector, however, has grown rapidly to record an overall positive growth of employment in the private (both organized and unorganized) sector.¹⁹

Based on sectoral employment elasticities, Bhattacharya and Mitra also projected future unemployment. It was observed that in the moderate growth scenario the total employment in 1995-96 would grow to 298 million. During the same period the work force is expected to reach a level of 313 million. The resulting unemployment under the moderate growth scenario would be around 15 million in 1995-96 which is almost 5 per cent of the projected work force. Even under the accelerated growth scenario the projected unemployment in 1995-96 falls short of the projected work force by 6 million (2 per cent of the work force). Thus, it was concluded that unemployment rate is likely to increase at least by 2 per cent points due to structural adjustment during the first half of the 90's.

The crucial question here is how to account for the declining employment in the organized manufacturing sector. It has often been argued that low growth of employment in India results primarily from disturbance in the labour market caused by trade unions and government regulations. Nagaraj (1994) has taken up this issue in his analysis. It is shown that the wage rate according to occupational wage survey (OWS) and earning per man day as per ASI data have not gone up dis-proportionately. The wage rate over a long period in half the number of industries for which data are available (OWS) and earning per man day for registered manufacturing in general and consumer non-durable goods industries in particular in the 80's (ASI) has not kept pace with the growth of per capita income. However, earning per worker increased faster than per capita income in registered manufacturing as well as in consumer non-durable goods, since workers have evidently worked larger number of days. Further there was a distinct decline in the power of organized labour as reflected in the reduction in the number of man days lost due to the strikes. The crucial question, however, is if market imperfections are not responsible for reduction in employment generation in the industrial sector how to account for the observed trend. Nagaraj's own alternative hypothesis in terms of the changing composition of industrial output, increasing competition, employment overhang deserve further empirical verification.

Some Social Dimensions

There has been an increasing concern over the adverse implications of structural adjustment on the social dimensions like income distribution, poverty, gender, quality of life and so on. Even the Development Committee of the World Bank (1987) felt that the cost of adjustment has been unusually severe for the poor even in countries where adjustment programmes have restored reasonable growth rates. Another view is presented by Cornia et al. (1987). To them, structural adjustment is not the sole reason for the social setbacks and human difficulties experienced by the countries undertaken structural adjustment. At the same time it has been argued that in many countries adjustment was undertaken without due regard for its distributional or poverty implications. A different view is being held by economists like Srinivasan (1988).²⁰ To him there is nothing inherent in the adjustment policies that will retard growth, human development and welfare of the poor. It has been argued that welfare of the poor does not require special consideration in periods of adjustment any more than it does in any other period. If the weight assigned to the welfare of the poor is not particularly high in a given society the poor are more likely to be hurt than other groups during periods of adjustment. In such situations the poor should have a higher weight in policy making rather than just a choice among the policies. This ultimately depends on the political system.

It appears that the empirical analysis of these aspects are rather limited in the Indian context. Nevertheless there are a number of studies in the context of other countries. After surveying the literature on the impact of stabilization and adjustment programmes upon the poor Helliner (1987) concluded that it is difficult to make generalizations based on the experience of one or two countries. What is, therefore, required is detailed analysis of country specific experience with different kind of macro imbalance and different short to medium term policy responses. Particularly interesting may be the comparative empirical analysis of the

composition of cut backs in real governmental expenditures; impact of generalized inflation, and the impact of targeted interest rates and credit policies upon the poor. Another survey of studies on the impact of structural adjustment on income distribution in LDCs by Demery and Addison (1987) holds the view that most studies are inconclusive about the distributional effects - ie. who bears the immediate burden of adjustment and who is likely to benefit over the longer term - of stabilization and structural adjustment. Further, judgement based on one particular regional experience can be quite misleading for other parts of the developing world. Hence they also underline the need for country-specific studies.

Sector Specific Studies

There are a number of policy changes initiated as part of the structural adjustment process addressing specific sectors like industry, agriculture, service and so on. Though the reforms have been addressed primarily to specific sectors their impacts could have been economy wide. Similarly, the impact of certain policy measures also cut across different sectors and therefore it may be difficult to attribute an outcome to any specific policy measure.

- Industrial Sector

It is generally held that apart from the trade policy liberalization the major thrust of the reforms have been on industry and finance.²¹ The new policy measures in the industrial sector aimed at enhancing efficiency, productivity and international competitiveness by removing the barriers to entry and assigning greater role for the market. It may be noted that while financial sector reforms is a recent phenomenon and hence there are hardly any studies, the initiatives towards industrial sector reform could be traced back to the early 80's. This resulted in a number of studies dealing not only with the overall industrial growth and productivity but also with specific industries. Though these studies pertained to an import substituting environment their results may be of some relevance here.

There is a general consensus that the rate of growth of industrial production picked up substantially in the eighties (Nagaraj 1989, Kelker and Kumar 1990, Chakraborty and Rudra 1990, Ray 1991, Gupta 1993 to cite a few recent studies). The recorded rate of growth of 7.8 per cent per annum during 1980-81 to 1988-89 is stated to be high not only by Indian standards, but is comparable to that of the "star performers" like South Korea, Indonesia, Malaysia and so on. This higher output growth has been ascribed to changes in the policy orientation²³. At the same time, late eighties also marked the symptoms of slow down in industrial growth. Paradoxically, notwithstanding further acceleration in the pace of liberalization, the rate of growth in industrial output decelerated further in the early nineties. To illustrate, the recorded rate of growth in the index of industrial production during the initial years of reforms was only -0.2 per cent (1991-92) and 1.6 per cent (1992-93). Even after four years of reforms and four consecutive years of good agriculture, the recorded growth rate was only around 4 per cent. On the whole the downswing in the rate of industrial growth started

in 1989 continued even in 1994. These trends tend to support Raj (1984) that the industrial growth in India depicts a cyclical pattern²⁴.

Similar to output growth, the issue of productivity growth was also subjected to detailed analysis. Though there are a number of case studies, here we shall focus only on those studies which dealt with industrial sector as a whole. [Ahluwalia (1991) and Balakrishnan and Pushpangadan (1994)]. Ahluwalia found an improvement in total factor productivity (TFP) growth during the first half of the 80's. This has been explained in terms of the increased demand resulting from the expansionary fiscal policies, and the liberal policy framework which enabled producers to generate supply to the rising demands. Balakrishnan and Pushpangadan, however, had a different finding to offer. To them the claim of a rise in the rate of growth of productivity in the eighties is valid only if one adopts value added single deflator (VASD) as the measure of real value added²⁵.

Mani (1995) focussed on the policies affecting the structure of manufacturing sector, policy towards privatisation and with respect to foreign investments. Of the three let us look at the first one here. It was shown that large number of industries in India continue to be characterised by rather higher level of concentration notwithstanding the liberalised policies of the eighties. This has been attributed to the earlier policy of specifying the minimum economic scale of operation which acted as an entry barrier. At the same time there is hardly any institutional mechanism to protect the interest of the consumers. The MRTP Commission whose role is more preventive than curative has hardly been effective in the past. This tends to underline the need not only for reforming the existing institutional and legal structures but also to create new ones to meet the new circumstances.

Though there are a number of industry specific studies examining the implications on industrial structure, firm behaviour and performance, we have selected only those industries which are subjected to substantial liberalization in the eighties. The industries selected are; cement, electronics, capital goods, and automobiles.

Cement industry was freed from Government regulations as early as 1982 and since then this industry has transformed itself from a net importer to a net exporter. Gokarn and Vaidya, (1993) analyzed the performance²⁶ of the cement industry in terms of profit and price using the framework of strategic groups developed by Porter and Caves (1977)²⁷. The study found a declining trend in the real price of cement after the decontrol. The decline in the real price, however, did not affect the margin earned by big new firms. That is, the big new firms, on account of their better technology, managed to sustain a profit rate higher than both the economy wide rate and that of other groups. On the whole the cement industry after decontrol has had the outcomes very similar to that of a competitive industry.

While focusing on price and profit performance Gokarn and Vaidya left some of the crucial questions unanswered. Was there any change in the market structure of the industry? What was the pricing behaviour of the individual firms? Is there any evidence of collusive behaviour? These are some important questions to be answered to gauge the efficacy of liberal policy measures. Of these issues the first one was taken up by Pradhan (1992). It is found that concentration in the cement industry has been recording a declining trend since 1950s. With the partial decontrol of the prices and distribution of cement in 1982, the rate of decline has, however, slowed down. This study also noted an increasing regional concentration²⁸. Another study on Indian television industry (Joseph 1992) also found that there are evidences of regional market concentration. While there was a decline in the national concentration ratio in the eighties, in each of the regional markets the concentration ratio was found to be higher than 50 per cent without any signs of decline. Further regional market concentration is found crucial in determining the scale of operation and profit performance of firms. Bose (1993) argued that the removal of policy induced restrictions may not lead to increased competitiveness of industries which are characterized by increasing returns. It is thus evident that removal of entry barriers need not necessarily make the industry competitive in structure. The objective of de-licensing and deregulation will also be thwarted if there is collusive behaviour. Study by Sunil Mani (1994) on Indian tyre industry finds that even after liberalization the industry is characterized by concentrated market structure.

After analyzing the profitability and growth performance of Indian automobile industry in the context of the policy changes of 1981-82 Aggarwal (1991) did not find any evidence of firms enjoying supernormal profit. Profitability is found to be explained mainly by age of the firms, vertical integration and diversification. Important determinants of growth are found to be product diversification, capacity expansion and gross retained profit. Notwithstanding the liberal import of foreign technology, Narayana (1989) found considerable technological gap between firms in the Indian motor vehicle industry and that of the world leaders. This is attributed to low R & D efforts resulting from smaller scale of operation which in turn is attributed to the slow growth of domestic demand and the fragmentation of capacities. Another comparative study of motor vehicles and electronics has shown that liberal import of technology did not help increasing exports significantly (Narayana & Joseph, 1993).

An analysis of electronics industry (Joseph 1991) which was subjected to substantial liberalization in the eighties presented a mixed picture. While liberalization has led to the emergence of competitive market structure in certain products, others remained concentrated. Also the competitive strategy of most firms in this technology intensive industry has not been to build up technology capability. This in turn resulted in increasing import dependence accompanied by poor export performance and declining employment generation capacity.

- **Small Scale Sector**

Small scale sector holds a significant position in the Indian economy not only as a source of employment and output but also as an instrument of reducing the inter-regional disparities and major source

of foreign exchange. Recognizing the pivotal role of small scale sector in the process of industrialization the government of India, for the first time, announced a separate policy statement on small and tiny industrial sector in 1991²⁹. Though there is hardly any empirical investigation on the implications of new policy measures, it is worth recalling some of the major arguments put forward.

On the one hand it is argued (Sandesara 1991a and 1991b) that the inefficiencies in the small scale sector are not only because of its size but also because of other constraints like inadequate infrastructure, shortage of raw material, working capital and skilled personnel etc. Hence the new policy is founded on a sound understanding of the fundamental problems and the measures proposed are well directed to mitigate the handicaps of this sector. Further, drawing from the experience of NICs like South Korea, a case has been made for the new policy measures claiming that it would eventually facilitate the small scale sector to emerge as a vibrant sector (Sandesara 1993). Studies (Desai and Taneja 1993) also have shown that small scale sector is not always less capital intensive for their access to subsidies on capital induce them to substitute capital for labour. An *ex post* analysis (Awasti et al 1993) based on the feed back from small scale entrepreneurs in three states tend to suggest that the small scale units, in general, consider the new policy as growth augmenting.

On the other hand it has been argued that so far the small scale sector was insulated from competition from the large scale sector. As a result of the policy towards globalization and liberalization the SSI sector will get marginalised since they are not equipped to face the competition. It is also argued that since the power to withstand competition would vary across industries the opening should have been selective rather than across the board. Moreover, 24 per cent equity participation by large units would encourage large units to set up small units under their direct or indirect control to take advantage of the concessions available to the SSIs (Paranjape 1991). Since most of these arguments are not based on any *ex post* analysis there is the need for further empirical analysis.

Public Sector

It has been argued that the performance of public sector is far from satisfactory: Its poor performance, not only because of its size but also because of its composition, which is such that it can affect the supply of important productive inputs such as electricity, transportation, finance, and hence influence the efficiency of the private sector. The low profitability amounted to a macro economic failure as manifested in the fiscal and foreign exchange crisis that developed in the eighties (Bhagwati 1993). Streeten (1987) also argues that one of the most common sources of budget deficit in many developing countries is the pricing policy of state owned enterprises.

The argument that public sector deficit has fuelled the budget deficit has been challenged by Nagaraj (1993). Nagaraj argues that although the overall deficit of public sector enterprises increased during the last two decades, this increase seems insignificant compared to the sharp deterioration in the gross fiscal deficit.

The widening gap between the two suggest that the deterioration in gross fiscal deficit is not on account of the overall deficit of the public sector.

Nayyar (1993) argued that the scaling down of public sector investment would squeeze supply response in the medium term not only because it would cut back on infrastructure but also because it may dampen private investment³⁰. Though there is hardly any empirical verification of this hypothesis in the Indian context mention may be made of the simulation exercise by Raipuria and Metha (1991) which considered the possible impact of privatization: (a) Reduced level and share of public sector (by 25 per cent). This, it was shown, would lead to a decline in the private sector investment level by 10 per cent, that is reduced crowding-in effect. The above decline in public sector and private sector investment would lead to a decline in national output by 1.3 per cent. In the second scenario the decline in public sector investment is visualized on non-agricultural sector only. The result of this scenario is found to be not different from that of the first one. In the third scenario they have considered the impact of increase in private sector investment due to foreign direct investment. This, it was found, would lead to an increase in GDP level by 2 per cent and increase in per capita personal income by 1.5 per cent³¹ accompanied by an increase in the level of prices and trade deficit. Total imports would increase by 33 per cent compared to the base level scenario and the increase in exports being negligible, trade deficit would increase by 25 per cent.

Privatization as followed in India today involves the following (a) disinvestment; that is the transfer of a part of the ownership of state owned enterprises to the public through the floatation of shares. This tends to suggest that the motivation for this is not public sector reform but to control the fiscal deficits. b) de-reservation wherein the government allows the private firms to enter areas previously reserved for the public sector. Still there are controls and government intervention in relation to the mode of functioning and the prices that the new private entrants can charge for their product. The relevant question here is whether such measures would increase the allocative and cost efficiency on the one hand and the competition on the other?

There are hardly any studies dealing with these questions. However, Mani (1995) has shown that there was gross inefficiency involved in the sale of equities. The extent of loss to the government varied from 127 per cent to 616 per cent with an average loss of 256 per cent. Also it has been argued that the privatization is bound to result in large scale retrenchment adding to the backlog of unemployed resulting from the negative rate of growth in employment in the private sector. The magnitude of the problem is much beyond the confines of the envisaged safety net and hence call for further policy initiatives.

Agricultural Sector

Though an explicit liberalized policy on agriculture is yet to be announced, a number of elements of the current policy reforms, particularly those dealing with trade and subsidies, have a significant bearing on agriculture. However, studies dealing with the implication of these policy reforms on agriculture are not many.

Maiden attempt by Nayyar and Sen (1994) looked into the direction of the trade policy changes and analyzed their wide ranging implications on terms of trade, domestic prices and food security, distribution of income and regional comparative advantage and overall growth in output and employment. The study has some very interesting conclusions relevant to India's policy making. Given the fact that their period of study is only up to 1990 some of their results may be considered as tentative that deserve further empirical verification. Subrahmaniam (1993) analyzed the impact of trade liberalization on Indian agriculture using a computable general equilibrium (CGE) model.³² It is found that while liberalization raises the aggregate output in the long run, the medium run and the short run outcome may be unfavorable. While the higher agricultural prices that may result from liberalization would be beneficial to the agricultural sector, it would be harmful to the industrial sector. These changes can affect rural income distribution and result in lower real income for the poorest rural classes, the landless and the small farmers, who lose more by paying higher prices for food than they gain from higher wage income, a conclusion in tune with the findings of an earlier study by Narayana et al (1990). On the whole the study underlines the need for the policy makers to be aware of adverse impact of higher prices on the rural poor, though it may be advantageous to a few.

Employing a different version of the Agriculture, Growth and Redistribution of Incomes Model (AGRIM) developed by Narayana et. al (1990) Parik et.al (1995) examined the implications of trade liberalization on Indian Agriculture. The study finds that when both agricultural and non agricultural sectors are liberalized growth measured by real GDP rises by about 4.5 per cent over the reference run in the year 2000. However the ATL would result in a disruption of the agricultural output growth in the short run. Another interesting result is that non agricultural trade liberalization (NTL) has more growth inducing effect than the agricultural trade liberalization (ATL).³³

Regarding price, the model finds that trade liberalization would result in an upward pressure on the prices of several agricultural products and downward pressure in the prices of several non-agricultural products and some agricultural products. Regarding the overall terms of trade between agriculture and non agriculture it is found that terms of trade shifts in favour of agriculture in all the scenarios. The study also has certain interesting results to offer regarding the sectoral growth pattern, product structure and exports.

Regarding the welfare implications of trade liberalization Parik et al comes out with a result different from that of Subrahmaniam and Narayana et al. To them, agricultural liberalization would lead to a reduction in poverty. The marginal increase in the terms of trade of agriculture and the decline in the price of coarse grains and other food together result in different impact on consumer prices for different expenditure classes. The adverse income effect associated with it is more than compensated by the gains to the poor as consumers due to fall in the price of rice and coarse grains.

C oncluding Observations

In this paper we have made a modest attempt towards surveying some of the recent studies on structural adjustment programme in India and to identifying issues for further research. It was transpired that though there are a number of studies dealing with the economic reform, a common problem with most of them is the weak empirical base attributable to the nature of the issue at hand. Hence their conclusions may be considered at best as well thought out hypotheses that deserve further verification. It goes without saying that the observations drawn from the survey of such studies also cannot claim much credibility, hence to be viewed with due reservation.

While the official statistics present a comfortable situation on the external front, in the light of the results of empirical analysis one cannot consider it no more than a knife-edged equilibrium. Also there is the need for a better management of foreign exchange reserves and strengthening the weak links like trade in services. There are also a number of other issues, like the demand for India's exports, their competitiveness, impact of neo-protectionist measures on exports etc, that deserve careful analysis. An analysis of these issues in a comparative perspective with China would be more rewarding³⁴. It also appears that there will be an adverse impact, at least in the short run, on the poor and other social dimensions like income distribution and employment underlying the need for target oriented programmes.

The result of the sector specific studies is at best a mixed bag. To say the least, with liberalization market structure of most industries may become more competitive with its attendant efficiency gains and growth. But the removal of entry barriers is only a necessary but not the sufficient condition to make all industries competitive. The existence of imperfections like the barriers to exit arising from the existing institutional structures and legal framework coupled with the non institutional factors which are industry specific can significantly dilute the positive aspects of liberalization. An equally important question is related to the percolation of the reform process to the regional level. Reforms in the agricultural sector may have a short run adverse impact on output growth. Though Trade liberalization is expected to result in an increase in agricultural prices, it could aggravate the imbalances in the personal and regional distribution of income. All these call for more strategic intervention by the state. One important issue is what sort of new institutions are to be created or what kind of adaptations are to be made to the existing ones to ensure an efficient absorption of imported technology and its diffusion by fostering effective inter-firm and inter-industry linkages, to provide the necessary signals to the investment to avoid lop-sided growth and concentration of economic power, to act as a watch dog to the interest of consumers, labourers and capital. Research into these questions would definitely carry high social marginal product.

We have also found that notwithstanding the current victory of the neoclassical school, the analytical foundations and the empirical evidence in favour of the argument that a fully market-oriented restructuring would promote productivity, competitiveness and growth is yet to be made robust. Our quick review of the empirical evidence in terms of the experience of African and Latin American countries with structural

adjustment also provided support to the above conclusion. Given the "provisionality" of the data used in most of the ex post analysis of structural reform in India, any firm conclusion is bound to be premature. However, from the limited evidence it appears that a "good policy" (market oriented) per se cannot transform the Indian economy. This tends to open a wide range of new issues in the realm of political economy and institutions. A million dollar question is what really matters; policy or institutions ?

End Notes

1. It has been pointed out that the simultaneous pursuit of the stabilization and structural adjustment measures could be counter productive. Vinod Thomas (1991), also holds the view that when the inflation rate is high and variable stabilization should precede other reforms. Bajpai (1993) identified the following conflicting objectives. Tariff reductions would result in reducing government revenue while simultaneously increasing the import bill. This in turn, would naturally increase both the balance of payment deficit and the budget deficit. Similarly, the objective of privatization is in conflict with the objectives of liberalization of interest rate and increase in tax revenue. The two latter objectives curb private investment and are therefore subject to an inherent conflict. The elimination of subsidies particularly food subsidies and agricultural input subsidies has a direct bearing on the prevailing income distribution. The abolition of these subsidies could lead to an increase in the prices and hence bring down the real income of the lower strata. Finally, the devaluation of national currency seems to be in the conflict with the objective of output expansion.
2. The underlying Premises of the liberalization measures, according to Hamilton (1989) are; a) economic growth is paramount; and that by its single-minded pursuit welfare can be maximized (this is the trickle-down argument and express the belief that the distributive benefits of regulation do not outweigh the net efficiency losses), (b) rapid growth is best achieved when economic decisions are left to market forces, (c) government regulation, particularly in the market for capital, labour and traded goods - interferes with the freedom of individuals and firms to choose the most profitable avenues of investment and thereby causes mis-allocation of resources.
3. For a balanced account see Jalan (1991)
4. Important among them included, committee on import-export policy procedures (Alexander 1978), committee on controls and subsidies, (Dagli 1979) committee on export strategy (Tandon 1980).
5. There has been hardly any consensus on the underlying reason for this crisis. See in this context Bhagwati and Srinivasan (1993) and Srinivasan (1995) and Nayyar (1993).
6. It need to be stated at the outset that, given the broad canvas adopted we do not claim the survey is exhaustive. A number of important areas like those dealing with gender, environment, human development etc are left out. However, there are a number of surveys available on gender and environment. A number of studies, including surveys, relating to human resource development and employment are being carried out under the aegis of UNDP Project directed by T. N. Krishnan at the Center for Development Studies, Trivandrum.
7. We have purposefully avoided the experience of South east Asian countries for there are obvious problems in comparing them with India. For a detailed account of the country experiences the interested readers may refer to Schydrowsky (1995) Goldin (1993) Banuri (1991) Tayler (1988) Cline and Weintraub (1981)
8. For a critique of the above studies see among others Srinivasan (1988) and Berg (1995)
9. To cite the key elements of the new policy initiatives; a) rupee was devalued and made fully convertible on the trade account b) customs duties were slashed across the board to 85 per cent from 150 per cent and proposed to be reduced to the international level by 1997, c) banned list of exports shortened and increased the number of items under OGL and d) CCS and REP licenses have been suspended.
10. It need to be added that most of these arguments are not supported by any rigorous empirical analysis and leave scope for further research.
11. The index of commodity prices in real terms was derived by deflating commodity price in dollars by the index of industrial country export unit values in dollars.

12. Bhaskar further analyzed in detail, the international tea market and there was no strong evidence in favour of the hypothesis that exchange rate policies have encouraged over supply in the international tea market. Therefore, the study has concluded that demand factors may have played an important role in the tea market.
13. This is despite the fact that the policy had the provision for the entry of large firms with 75 per cent export commitments.
14. As per the GATT agreement the liberalization of garment and textile exports is scheduled as follows: By Dec.1992 4 per cent, 12 per cent by Jan.1, 1993, 17 per cent by Jan.1996, 18 per cent by 2000, and the remaining 49 per cent will be integrated only by Jan.1, 2003. For details see Debroy (1993).
15. A persuasive reader is, however, disappointed for the study does not provide the method of estimating conversion cost efficiency. Secondly, the decomposition analysis of domestic-international price difference is apparently done only for one year. Since the role of exogenous and endogenous factors would have changed over time, the results from a cross section analysis need not necessarily be revealing.
16. For a recent Survey on this issue see Joseph, Nandakumar and Sunny (1995)
17. The additional unemployment due to the stabilization policies would be 4 million and 10 million respectively in the high and low growth scenario.
18. As per NSS data employment elasticity declined from 0.51 during 1972-73 to 1977-78, to 0.34 per cent during 1983-84 to 1987-88
19. Given the fact that much of the manufacturing employment in the private unorganized sector consists of casual employment; the overall rate of casualisation would have increased (Deshpande and Deshpande 1992).
20. Srinivasan (1988) provides a detailed critique of the earlier studies which argued that structural adjustment adversely affected the poor.
21. The financial sector reforms which underlined the crucial role of market has the following key elements; a) banks are allowed to fix interest rates subject to a floor rate of 15 per cent, b) banks are allowed to approach the capital market for mobilizing equity funds c) SLRs and CRR reduced d) priority sector lending to be done away with and more privatization in the banking sector.
22. The new policy measures included, de-licensing for all industries except 18 major industry groups, amendment of FERA by which the FERA companies are allowed to raise their share up to 51 per cent, dis-mantling of the restrictions on MRTP companies, liberal approach towards the import of capital and technology and so on. For a critical assessment of some of these policy initiatives see Mani (1992)
23. Ahluwalia (1985) holds that the higher output growth could be attributed *inter alia* to the liberal policy regime. For a critique of this view see L.C. Jain (1993)
24. For a systematic empirical verification of this hypothesis see Anandaraj (1992)
25. Their own estimates of TFP based on value added double deflator (VADD) did not support the hypothesis that there was a turnaround in productivity in the eighties indicating thereby that the TFP estimates are very sensitive to the measure of real value added used for the analysis. Balakrishnan and Pushpangadan, however, accept the fact that while their estimate is a distinct improvement over earlier measures of productivity, further improvements could be made by correcting for substitution bias, capacity utilization etc. Such methodological improvements is indeed an area that deserves the attention of researchers.
26. The price trend was analyzed in terms of the percentage change in the real price of cement by taking the difference between the percentage change (over the previous year) in the wholesale price index for cement and the percentage change in the WPI for all manufacturers. The profit was measured in terms of Learner Index (price cost margin and the accounting rate of profit).

27. They have identified five different strategic groups viz., (a) The old big firms: using relatively older technology (wet process). (b) The big new firms using modern technology (c) The mini cement plants (d) The Diversified firms and (e) The Cement firms in the public sector.
28. The regional market concentration is an issue that has not attracted the attention of researchers on Indian industry, probably because of the lack of data. Pioneering theoretical contribution in this area was made by Sraffa (1928) and Hotelling (1929). An examination of region wise growth of Herfindhal Index (HI) confirmed that the trend of declining concentration did slow down and went up to register a positive growth in the eastern and northern region. The HI in the south did not record a significant difference in the rate of decline between pre and post 1982 years. In contrast to all the above three regions the west has accelerated though insignificant decline during the post partial de-control period.
29. The key elements of this policy are the following; a) investment limit increased from Rs 35 lakhs to Rs 60 Lakhs in the case of small scale and from Rs 45 lakhs to Rs 75 lakhs in the case of ancillary and export based units. In the case of tiny units the limit raised from Rs 2 lakhs to Rs 5 lakhs irrespective of their location, b) large industrial units were allowed to hold up to 24 per cent of the equity in SSI units and c) in tune with the general industrial policy de-regulation, de-bureaucratization and simplification of rules and procedures are also envisaged.
30. It is particularly true for industrial sector where public investment crowds-in rather than crowds-out private investment. See in this context Srinivasan and Narayana (1977) Rangarajan (1982)
31. The underlying assumption here regarding the rate of growth of population appears unreasonable.
32. A computable General equilibrium model seeks to model a market economy by solving a set of equations describing the behaviour of various agents in the economy subject to a set of market clearing constraints. In addition to the behavioural equations for utility-maximizing consumers and competitive profit maximizing producers in each sector of the economy, the model includes equations for income generation and distribution, saving, direct taxes and taxes on domestic and foreign trade, subsidies, government revenue and expenditure and the balance of trade. There could be reservations on the relevance of such a model in the context of Indian Agriculture where semi-feudal relationships still prevails.
33. This result has to be seen against the fact that the main driving force in the model is the relative price and the model essentially estimates the price induced effects. The relative magnitude of the effects of ATL and NTL then rest on price changes resulting from ATL and NTL. Given the assumption that distortions are more in the non agricultural sector as compared to the agricultural sector (as revealed by the protection factors) the price changes due to ATL are smaller in magnitude than those due to NTL and hence the observed GDP effects of reform in non agricultural and agricultural sectors.
34. Here it may be noted that China's performance in the export sector is an unequivocal success. China seems to have flooded the US market by identifying a niche in those products at the low end of the technology spectrum. Similarly India also need to identify its niche in the world market.

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