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**State Level Performance  
Under Economic Reforms In India**

by

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# **State Level Performance Under Economic Reforms In India**

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## **Abstract**

Macroeconomic data for the 14 major Indian states reveal the extent of inter-state differences in the pace of economic growth in the past decade. Rising regional inequality, as measured by an increase in the Gini-coefficient from 1986-87 to 1997-98, has important implications for poverty reduction. Because of state specific characteristics, the divergent patterns of economic growth witnessed in the 1990s do not necessarily imply that the economic reforms at the national level were biased. But to mitigate such regional differences in the future requires deepening reforms and addressing the specific deficiencies that have decelerated growth in some states. This paper finds that variations in the private investment ratio are positively and significantly correlated with variations in growth, while public investment and plan expenditure seem to have had little direct impact. It also finds that provision of certain infrastructure, and to some extent also literacy, are associated with variations in growth. Based on the results from cross-sectional analysis, this paper points to strengthening finances and governance of the state governments as key factors in supplying economic and social infrastructure, thereby promoting private investment, productivity growth and, in turn, economic development. The role of the central government in supporting the developmental activities of the states and funding large-scale infrastructure development is also considered.

The impact of India's economic reforms on economic performance has been the subject of much academic study and public debate in India, but the focus has been largely on the performance of the economy as a whole or of individual sectors. The performance of individual states in the post-reforms period has not received comparable attention and yet there are very good reasons why such an analysis should be of special interest. First, balanced regional development has always been one of the declared objectives of national policy in India and it is relevant to ask whether economic reforms have promoted this objective. Second, India's federal democracy is increasingly characterized by regionalisation of politics, with politics at the state level being driven by state rather than national issues, and this makes the economic performance of individual states an issue of potential electoral importance. This is particularly so because liberalisation has eliminated many of the controls earlier exercised by the central government and thereby increased the role of state governments in many areas that are critical for economic development. Finally, since state level performance shows considerable variation across states, with many states recording strong growth in the post-reforms period, it is important to identify the reasons for their success in order to replicate it in other states.

This paper attempts to document the performance of the major states in the post-reform period 1991-92 to 1998-99 and compare it with performance in the previous decade. It also seeks to explore the reasons for the differences in growth across states and to identify the critical policy issues that need to be addressed if the slow growing states are to achieve more respectable growth rates in future. We note at the outset that there are severe data limitations that limit our ability to explain inter-state variations in performance. Nevertheless, we attempt to explore these issues to the extent possible, recognizing that in many cases we will raise more questions than we can answer.

## **I. Performance of the states: a review**

The growth performance of the 14 major states in the pre and post-reform period can be studied on the basis of the available data on the Gross State Domestic Product (GSDP) for each state.<sup>1/</sup> A comment on data problems is appropriate at this stage. Ideally, the GSDP data series for individual states should be fully consistent with the national accounts estimates of GDP, so that the disaggregated picture of economic performance at the state level corresponds with the picture for the country as a whole emerging from the national accounts. This type of consistency is not possible at present. Time series data on the GSDP in each state

are prepared by the Statistics Department of state governments, but these estimates do not add up to the GDP presented in the national accounts. The GSDP data prepared by the statistical departments of the states are used by the CSO as an input into national accounts estimation, but there are differences in methods of estimating the GSDP in different states and the state GSDP series are not modified to make them consistent with each other and with the national accounts.

The data problems associated with the GSDP series are important, but they should not deter us from using these data for analysing state performance. Most Indian states are much larger than most developing countries, and the national accounts data of developing countries have similar problems, but this has not deterred development economists from comparing performance across developing countries and drawing lessons from inter-country variations. Following established academic tradition, we therefore acknowledge the problem, but proceed undeterred.

a) Growth Performance

Table 1 presents the estimated growth rates of GSDP in the 14 major states in the pre-reform period 1980-81 to 1990-91 and in the post-reform period 1991-92 to 1998-99.<sup>2/</sup> The following conclusions are worth noting:

i] The growth rate of the combined GSDP of all the 14 states taken together increased from 5.2% in the pre-reform period to 5.9% in the post-reform period. This acceleration in the combined GSDP is similar to the picture that emerges from the national accounts, except that the post-reforms acceleration of GDP in the national accounts is much sharper. GDP grew at 5.5% per year in the first period, which was only marginally faster than the 5.2% growth recorded by the combined GDP of the 14 states. However, GDP growth accelerated to 6.5% in the second period, which was much faster than the 5.9% growth in the combined GSDP. The faster growth recorded in the national accounts probably reflects the impact of the revision in the national accounts GDP series introduced from 1993-94 onwards. It is possible that if the GSDP data were revised similarly, the growth rates of GSDP of the different states in the second period would be correspondingly higher. We note that if such a revision were to affect some states more than others, it could also alter our assessment of the relative performance of states, but in the absence of specific information that might have guided us on this issue, we assume that the adjustment would adjust growth rates upward across all states, leaving relative performance unaffected.

ii] There is variation in growth performance across states in both periods, with some states growing faster than others, but the degree of dispersion in growth rates increased

very significantly in the 1990s. The coefficient of variation of the growth rates increased from .15 in the first period to .27 in the second. The range of variation in the first period was from a low of 3.6% per year for Kerala to a high of 6.6% in Rajasthan, which gives a ratio of 1.8 between the highest and the lowest. In the second period, the range increased from a low of 2.9% per year for Bihar to a high of 8.2% for Gujarat, increasing the ratio to 2.8.

iii] The increased variation in growth performance in the 1990s reflects very different behaviour at different ends of the spectrum of per capita GSDP. Growth accelerated sharply for two states at the upper end of the spectrum, i.e. Gujarat and Maharashtra, but it actually decelerated in Bihar, Uttar Pradesh and Orissa, all three of which were not only at the lower end of the per capita GSDP spectrum but also had relatively low rates of growth to begin with. The growth pattern in the 1990s therefore increased regional inequality, an aspect discussed at greater length in the next sub-section.

iv] Only four states achieved relatively strong growth with growth rates of GSDP in the 1990s above 6.0 per cent in the second period. It is interesting to note that these states are fairly well distributed regionally i.e. Gujarat (8.2%) and Maharashtra (8.0%) in the West, West Bengal (7.0%) in the East and Tamil Nadu (6.0%) in the South. In addition, Madhya Pradesh and Rajasthan in the North and Karnataka in the South all grew at 5.9%, which is almost at the 6% level. It is very likely that if the GSDP series were revised to reflect the changes made in the national accounts, the growth rates of all seven states will exceed 6%. Except for Rajasthan, all these states also show acceleration in growth compared with the pre-reform period.

An interesting feature of the performance in the 1990s is that the popular characterisation of the so called BIMARU states (Bihar, Madhya Pradesh, Rajasthan and UP) as a homogeneous group of poor performers, a grouping originally proposed in the context of observed commonalities in demographic behaviour, does not hold as far as economic performance in the post-reforms period is concerned.<sup>3/</sup> Bihar and UP performed very poorly, growing much more slowly than the average, but the other two members of this group, Rajasthan and Madhya Pradesh have performed reasonably well. Rajasthan shows a deceleration in growth of GSDP compared with the 1980s, but it remained a good performer in the 1990s growing at about the average for all states. Madhya Pradesh on the other hand, which had grown more slowly than the average in the 1980s, accelerated significantly in the 1990s.

Simplistic perceptions about the role of geography in determining performance, such as for example the view that it is only the coastal States or the southern States that have done

well in the period of liberalization, are also not universally valid. Orissa is a coastal State, but its growth performance is very poor while Madhya Pradesh and Rajasthan are both heartland States and have performed reasonably well. Only two of the Southern States, Tamil Nadu and Karnataka, made it to the top six in terms of growth of GSDP in the 1990s. The Southern States as a group have done well, but they were by no means the only beneficiaries of the growth acceleration witnessed in the 1990s.

The remarkable performance of Gujarat and Maharashtra, both of which grew at over 8 per cent per annum in the 1990s, a rate normally associated with “miracle growth” economies, deserves careful study. These states clearly benefited the most in the post-reforms period, but it is important to note that their superior performance was not the result of any conscious policy which limited the benefits of liberalisation to these states, as was the case for example in China, where liberalisation initially was deliberately limited to designated coastal zones. Their superior performance must be attributed primarily to the ability of these two states to provide an environment most conducive to benefiting from the new policies. Their experience, together with the experience of the other strong performers should provide the basis for identifying the critical ingredients of success in accelerating growth, which should be emulated by others.

The performance of Kerala in the 1990s also deserves special mention. Kerala has long been commended for its achievements in human development, especially education and health, but it has also been criticised for under performance in economic growth.<sup>4/</sup> However, Kerala’s economic performance, which was relatively lackluster in the 1980s, appears to have improved markedly in the post-reforms period. From a GSDP growth rate of 3.6% in the 1980s, much below the average for the 14 states, it accelerated to 5.6% in the 1990s. This was still below the average, but because of Kerala’s low population growth, its performance in terms of growth of per capita GSDP in the 1990s was actually better than the average (Table 2).

#### b) Implications for Inter-State Inequality

The deceleration of growth in the poorer states witnessed in the 1990s has important implications for regional balance. Regional differences in per capita income levels have long been a matter of concern in India and for good reason. The per capita GSDP of Punjab, the richest state, is five times that of Bihar at the other end of the spectrum. Balanced regional development has always been stated as an objective in India’s plans and although this objective has never been quantified in terms of rates of convergence of per capita GSDP, or a reduction in regional inequality to some specified target in terms of one of the inequality

measures, the objective surely implies that regional differences in per capita incomes should narrow with development, and in any case not widen.

There are several studies that have sought to determine whether India's growth process shows convergence in per capita GSDP over time.<sup>5/</sup> These studies deal with long term trends and the general conclusion (different studies have used different periods between 1960 and 1995) seems to be that there is no evidence of unconditional convergence but there is evidence of conditional convergence. In other words, the long-term time paths of per capita GSDP across states show convergence after allowance is made for differences across states in some of the initial conditions that affect growth rates e.g. the share of agriculture and some measure of infrastructure development. Conditional convergence is of course quite consistent with divergence in per capita GSDP over certain periods.

In this paper we are concerned not with convergence in the sense of underlying long term trends, but the actual behaviour of per capita GSDP in the post-reform period, compared with pre-reform behaviour. From this perspective, the impact of the growth process on regional inequality in the 1990s is best seen by constructing a Gini-coefficient for the total population of the 14 states assuming that all individuals within a state have a gross income equal to the per capita GSDP.<sup>6/</sup> This provides a measure of inequality in the total population of the 14 states which ignores the inequality arising out of the unequal distribution within each state, and focusses only the inequality which arises because of inter-state differences in per capita GSDP. As shown in Table 3, the inter-state Gini-coefficient was fairly stable up to about 1986-87, but began to increase in the late 1980s and this trend continued through the 1990s. The increase in the Gini-coefficient from about 0.16 in 1986-87 to 0.23 in 1997-98 is very substantial and fitting a time trend to the series shows a statistically significant positive slope.

While inter-state inequality as measured by the gini-coefficient has clearly increased, the common perception that "the rich states got richer and the poor states got poorer" is misleading. Table 2, which presents growth rates of per capita GSDP of the different states in the two periods suggests that the pattern is somewhat more nuanced.

i] It is not true that all the richest states got richer relative to the poorer states. Punjab and Haryana were the two richest states in 1990-91 but their growth rates of per capita GSDP were not only lower in the 1990s than in the 1980s, but in both cases actually fell below the national average. Except for Bihar, Uttar Pradesh and Orissa, which grew even more slowly, all other states narrowed the distance between themselves and Punjab and Haryana. The deceleration in growth in Punjab and Haryana in the 1990s deserves closer

study to understand the reasons for the loss of growth momentum in these states that were among the good performers in the 1980s.

ii] Maharashtra and Gujarat, which are in the high income group and were ranked just below Punjab and Haryana at the start of the 1990s, accelerated very significantly and achieved the fastest rates of growth in per capita GSDP. These states clearly pulled ahead of all other states.

iii] Three of the poorest states, Bihar, Uttar Pradesh and Orissa, which together account for about a third of the population of the 14 states, fared very poorly in 1990s. It is important to emphasise that they did not actually become poorer as they also had positive growth rates of per capita GSDP, but the growth rates were very low. In the case of Bihar and Uttar Pradesh, per capita GSDP growth was a little less than 1.3 per cent per year, which was less than a third of the national average. It is possible that growth rates of income may be higher because of remittances from migrant labour. It is also important to note that not all the poorer states performed badly. Rajasthan, for example, experienced fairly good growth in per capita GSDP, more than double that of the other poor states, though still below the national average.

iv] Performance of four middle income states (West Bengal, Tamil Nadu, Kerala and Karnataka) was above the average, with West Bengal showing very strong growth. These states not only improved their position relative to the average, they also grew faster in terms of per capita GSDP than they did in the 1980s.

### c] Implications for Poverty

The difference in growth performance across states, with relatively low rates of growth for Uttar Pradesh, Bihar and Orissa have important implications for poverty reduction in India. India's past experience at the national level shows that as long as GDP growth was modest, i.e. between 3.5 to 4% up to the late 1970s, there was no significant reduction in poverty; the percentage of the population below the poverty line fluctuated, falling in good agricultural years and rising in bad, but with no trend decline. It was only after GDP growth accelerated in the 1980s that a trend reduction in poverty began to be noticed. Drawing on this experience, India's poverty reduction strategy consisted of a two-pronged approach relying upon an acceleration in growth to bring about a general improvement in living standards, supplemented by poverty alleviation programmes directed at identified poverty groups that may not benefit sufficiently from the growth process.

Extending this approach to the state level implies that poverty reduction in the major states requires rapid growth of GSDP, capable of generating a broad based expansion in



employment and income levels. This assertion needs to be modified to the extent that migration of labour from slow growing to faster growing states allows the benefits of growth to “trickle down” across states through the flow of workers remittances. However, while labour migration is important, it can only have a limited impact, especially in the larger states. It certainly cannot substitute for acceleration of growth of the domestic economy in these states.

The trends in poverty in individual states in the pre and post-reforms period can be seen from the official estimates of poverty at the state level and the all-India level presented in Table 4. These estimates are made by the Planning Commission based on the so-called “large sample” surveys covering about 120,000 households, conducted periodically by the National Sample Survey Organisation (NSSO).<sup>7/</sup> Table 4 shows that the percentage of the population below the poverty line show that the percentage in the 14 major states has declined steadily from 43.8% in 1983 to 26.4% in 1999-2000. The ten-year period 1983 to 1993-94 saw a relatively modest reduction of about 7.5 percentage points in the percentage of the population below the poverty line followed by a much larger decline of almost 10 percentage points in the subsequent six-year period 1993-94 to 1999-2000. It is tempting to conclude that the faster growth in the post-reforms period led to a faster pace of reduction in poverty but this conclusion needs to be qualified noting that the 1999-2000 survey may not fully comparable with the earlier survey because of certain modifications in the method of collecting information on consumption.<sup>8/</sup> However, while the non-comparability may exaggerate the extent of the decline, the direction of movement is not in doubt. It is also consistent with the findings of household income surveys conducted by the National Council of Applied Economic Research and reported in Lal, Mohan and Natarajan(2001).

Table 4 shows a significant decline in poverty in the post-reforms period in all states except Orissa. Poverty in Punjab and Haryana, which was low to begin with, has become marginal at 6% and 9% respectively. In Kerala too, it is down to 12%. Significant gains have also been made in Tamil Nadu, Karnataka, Andhra Pradesh and Rajasthan. Table 4 also shows a significant decline in poverty in Uttar Pradesh and Bihar despite relatively poor growth of GSDP in both states. This could reflect the impact of migrants’ remittances though we do not have reliable data on the extent of migration from these states from the relevant income classes. It is also possible that the extent of the decline between 1993-94 and 1999-2000 is exaggerated because of the non-comparability problem. However, it is important to note that even after allowing for the decline the level of poverty in these states is still high and indeed India’s poverty problem is becoming increasingly concentrated in this area. In

1980, the three states of Bihar, Uttar Pradesh and Orissa accounted for 37.5% of the total population below the poverty line in India, but by 1999-2000 this had increased to 46%.

Continuation of the growth pattern observed in the 1990s, with a region accounting for one third of the population and the largest concentration of poverty deriving very little benefit, while the rest of the country enjoys robust growth, present obvious problems. It will exacerbate regional inequality with further concentration of poverty in a particular region, which is surely a recipe for political instability. The development strategy for the future must therefore ensure that the slow growing states accelerate to a respectable growth of GSDP of say 6 per cent per year. This would ensure per capita GSDP growth of around 4%, which is certainly needed if there is to be a significant reduction in poverty in these states over the next ten years.

## **II. The Determinants of Growth in the States**

In this section, we attempt to explain the variation in growth across states, especially in the post-reforms period. First, we consider a question which has been the subject of much discussion in India and that is whether the economic reforms are in some ways directly responsible for the divergent pattern of growth witnessed in the 1990s. Thereafter, we seek to explain growth of GSDP in individual states in terms of the familiar explanatory variables conventionally used in such analyses, i.e. the level of investment in states, the quality of human resources and infrastructure endowments. The reader is warned that data limitations prevent us from proceeding very far with this approach, but it is worth exploring the limits of what is possible with the data available.

### **a) Have economic reforms caused regional inequality?**

The rationale of the various economic reforms initiatives at the national level such as abolition of industrial licensing and other types of control over private investment, liberalization of trade policy, financial sector reforms etc. was that they would increase efficiency and lead to higher factor productivity. Since these policies are generally applicable to all states, there is a natural presumption that they would provide efficiency gains for all these states, which should increase the growth potential of each state. On this view, the reforms generate potential gains for each state and while some states may benefit more than others, the reforms do not hurt any states. If some states have decelerated in the 1990s this must arise from other factors, including especially differences in policies followed by individual states.

However, it is important to recognize that even though the reforms themselves are non-discriminatory, they will affect states differently because of differences in state specific characteristics and this could lead to a deceleration in some states. For example, opening the economy to foreign trade can be viewed as improving the efficiency of resource use in the economy as a whole and thus potentially benefit all states, but if some states have a greater comparative advantage in exports, while others have developed a production structure excessively dependent on uncompetitive import substituting industries, the process of opening up could well lead to an acceleration in growth in the former in the short run while slowing it down in the latter, as investment is likely to move from the latter to the former, at least in the short run. This implies of course that some of the factors that make for greater competitive advantage are immobile in the short run. However over a period of time production structures, including factors that account for comparative advantage in particular states, can change and states initially excluded from acceleration can catch up.

The dismantling of industrial licensing provides another example where economic reform could generate differential outcomes leading to a deceleration in some states. The abolition of licensing eliminated the central government's ability to spread investment evenly across the country, which was a common practice earlier, leading to fragmented capacities which were not only sub-optimally located but also could not benefit from economies of scale. With liberalization of investment control and much stronger pressure of competition, including especially competition from imports, investment size began to be determined on economic grounds and location also was decided to a much greater extent on the basis of economic considerations. It is very likely that in practice this led to a reallocation of investment in favour of states perceived as having better infrastructure facilities, better labour skills and work culture, and a more investor friendly environment. The resulting reallocation of investment in the post-reforms period could lead to a substantial increase in investment in the better performing states, and a consequent increase in their growth rate, with a corresponding reduction in investment in less well endowed or well governed states and a deceleration in their growth.

The impact of economic reforms at the national level on the growth rate of individual states therefore depends upon the net effect of two sets of forces. There are the positive efficiency effects of reforms, which are potentially available to all states and which by themselves should improve factor productivity and growth in all states. However, there is also a potential reallocation of resources across states in search of efficiency. This reallocation may be driven by natural comparative advantage e.g. a coastal location for a

petrochemical complex dependent on imported feedstock, or initially favourable conditions that are not immutable, such as better infrastructure or a more favourable state policy environment. It must be recognized that such reallocation is necessary if the efficiency benefits of the reforms are to be realized for the country as a whole, but it can lead to negative effects in particular states. In certain circumstances these negative effects can swamp the positive effects in which case economic growth could actually fall.

The solution to this problem does not lie in backtracking from reforms, or even slowing them down. On the contrary, the compulsions of globalisation are such that India must look to every possible means of enhancing efficiency in resource use in order to increase competitiveness. Unless this is done, it will certainly not be possible to sustain the growth achieved in the post-reforms period, let alone accelerate it further. The better positioned states must therefore be allowed, and indeed even encouraged, to perform up to their full potential and the lessons learned from their success should be spread elsewhere. However, the states which have not benefited from the reforms, and indeed may even have suffered because of a reallocation of investment resources towards other better endowed states, must be assisted by addressing the specific deficiencies which are holding them back. To do this, we need to have some idea of what are the critical determinants of growth at the state level, given the existing framework of national policy, and how these determinants can be influenced through policy.

#### b) Investment Ratios at the State level

The rate of investment is generally regarded as one of the most important factors explaining growth in any economy and it is therefore appropriate to consider whether inter-state differences in growth are associated with differences in the rate of investment in individual states. This is particularly so in view of the possibility discussed above that economic reforms in certain circumstances could lead to a reallocation of investment away from some states and towards others. If this is indeed the explanation for the divergence in growth rates observed in the 1990s, with some states accelerating while others decelerated, it should be reflected in divergent movements in the investment ratio.

Unfortunately, data on the level of investment in individual states, comparable with the investment data at the national level obtained from the national accounts, are simply not available. The only information on investment expenditures at the state level available at present is the capex database compiled by the Centre for Monitoring the Indian Economy (CMIE). These data suffer from a number of problems that are worth listing at the outset. First, the data exclude investment in the unorganized or household sector, which is about

33% of total investment in the economy. The capex data refer only to expenditure on government projects (centre, state and local) and on private corporate sector projects that are currently being implemented. Second, the investment expenditure reported is not the expenditure by each project in a year, but the total expenditure for completing each project. The investment expenditure therefore captures investment made in previous years in all ongoing projects and also the expected investment in future years on these projects. Finally, the data are collected from multiple sources, including newspaper accounts and Press releases, and the investment values are therefore not based on comparable prices.

These are important limitations, but since the capex database provides the only information available on investment expenditures at the state level, it is worth examining in some detail. Table 5 presents the investment expenditure reported in the capex database for government projects and private corporate sector projects in each state at the end of the fiscal year 1995-96, expressed as a ratio of GSDP in 1995-96 in current prices. These investment ratios are much higher than the investment ratio derived from the national accounts because the investment refers not to the annual expenditure but the total expenditure on all ongoing projects.<sup>9/</sup> However, if the exaggeration is uniform for all states, the investment ratio derived from the capex data could be used as a proxy for the underlying investment ratio.

Since the data series is available only from 1995 onwards, it cannot be used to ascertain whether the rate of investment in different states behaved asymmetrically in the post-reforms period as speculated above. However, the available data can be used to test whether variations in investment across states are correlated with variations in growth. We note that the many limitations listed above warrant more than the usual caveats for the results reported. Three separate regression equations were estimated in which the dependent variable in each case was  $g$  = growth of GSDP in 1991-92 to 1998-99, while the independent variables were IPUB (cumulative expenditure in public sector projects as a ratio of GSDP), IPVT (cumulative expenditure in private sector projects as a ratio of GSDP) and ITOT=IPUB+IPVT. The results are reported below (t ratios in parentheses):<sup>10/</sup>

$$1. \quad g = 6.263 - 0.0349.IPUB \quad R^2 = .06$$

$$(0.86)$$

$$2. \quad g = 4.609 + 0.0635.IPVT \quad R^2 = .32$$

$$(2.42)$$

$$3. \quad g = 4.686 + 0.024 \text{ ITOT} \quad R^2 = .08$$

$$(1.05)$$

There is no significant relationship between the variation in growth across states and the variation in the capex public investment ratio. On the other hand, the private investment ratio proves to be highly significant and has the expected positive sign. This variable alone explains almost a third of the variation in growth across states.

It would be wrong to conclude from the lack of a significant relationship between growth and public investment that public investment is not important. It is entirely possible, as we shall argue, that acceleration of growth in future requires increased public investment in critical areas, including especially economic and social infrastructure. However, the regression equation does not reveal any significant relationship between growth and the measure of public investment available to us. This may be due to the fact that the capex public investment data are subject to large errors because of factors mentioned earlier. The inclusion of future investment in unfinished projects in particular is likely to introduce a larger error the more poorly managed the investment programme. Not only is there a data error in such cases but those situations, where there is under-funding of public sector investment projects leading to a proliferation of incomplete projects, are precisely those where such public investment expenditure as does take place is also in fructuous, and not reflected in a commensurate increase in growth.

The positive and significant coefficient on the private investment variable on the other hand conforms with the expectation that private investment matters and that states with a higher ratio of private investment to GSDP are likely to experience faster growth. It should be noted that the capex private investment data are subject to the same data infirmities that affect public investment data and yet the variable turns out to be highly significant. Since private investment is subject to greater financial discipline the data error arising from a large number of unfinished and under-funded projects is likely to be much smaller. Besides, private investment may also be more directly correlated with growth because of greater efficiency of resource use. These results certainly suggest that private investment is one of the principal drivers of growth and slow growing states must therefore pay special importance to identifying the factors that would stimulate private investment.

### c) Plan Expenditure

In the absence of reliable data on public investment the only substitute available is the size of plan expenditure. Plan expenditure is not identical to public investment, but it has the

advantage that data are available on an annual basis.<sup>11/</sup> Plan expenditure is undertaken by both the central government and the state government and what is relevant for the development of a state is the volume of plan expenditure in the state by both the center as well as the state. Unfortunately, while data on total plan expenditure by the central government are readily available, they cannot be disaggregated according to the state in which the expenditure was incurred. The only information available on plan expenditure in a state therefore relates to the state plan. Since a great deal of attention is focused on the size of state plan expenditure in public discussion in the performance of individual states, it is worth exploring the relationship between state plan expenditure and growth of GSDP.

Table 6 presents the average ratio of plan expenditure to GSDP in each state in the 1980s and compares it with the average ratio in the 1990s. The following features are worth noting:

i] State plan expenditure as a percentage of GSDP has declined in almost all the states (Rajasthan and Karnataka are the only exceptions). The percentage for the 14 states taken together declined from 5.7% in the 1980s to 4.5% in the 1990s. Since the current expenditure component of the plan has increased over this period, the decline of 1.2 percentage points in state plan expenditures as a percentage of GSDP indicates an even larger decline in public investment by state governments over the period.

ii] The decline in plan expenditures as a percentage of GSDP is not a phenomenon unique to the slower growing states. The drop is the largest in Bihar, but Gujarat and Maharashtra, two of the best performers, also show a significant decline, as do other good performers such as Madhya Pradesh, Tamil Nadu and West Bengal.

iii] There is no obvious relationship between the ratio of state plan expenditure as a percentage of GSDP and growth performance across states in either decade. Orissa, which had the highest ratio of state plan expenditure to GSDP at 7.1% in the 1990s, had a GSDP growth rate of only 3.25%. West Bengal, with the lowest plan ratio of 2.7%, had a relatively robust growth of 6.9%. Maharashtra, which was the second fastest growing state, had an average plan ratio of only 3.97% well below the average. Gujarat, which was the fastest growing state, had a plan ratio only equal to the average.

The lack of any significant relationship between the size of the state plan in relation to GSDP and growth of GSDP is borne out by the following regression equations where P= average ratio of plan expenditure to GSDP in the relevant period.

Period : 1980-81 to 1990-91

$$4. \quad g = 5.2084 - 0.0049 P \quad R^2 = .01$$

(.02)

Period : 1991-92 to 1997-98

$$5. \quad g = 6.0724 - 0.1149 P \quad R^2 = .01$$

(0.33)

The absence of any significant impact of plan size on growth is sobering, considering the attention focused on the size of state plans as instruments of development. One reason for this could be that it is the investment component of state plans which is potentially relevant for growth, and this component has declined steadily over time until it now accounts for only about half of state plan expenditure. Since state plan expenditures amounts to about 4.5% of the total GSDP of all 14 states, this means that investment in the state plans is only about 2.25% of GSDP, or only about 10% of the total investment in the economy. In other words, state plan expenditures can be very important for certain sectors, but they are a small part of total investment in the state, and this explains the lack of any significant relationship with growth.

It is also true that many plan programmes are ill designed and indifferently executed. There is an accumulation of evidence that many public expenditure projects at the state level are ineffective in promoting their stated economic and social objectives, which makes their contribution to growth and development highly questionable.

d) Human Resources

The quality of human resources, broadly defined to mean the educational attainment and skill level of the labour force, is another factor that is generally regarded as a critical determinant of growth. We should expect that states with superior availability of human skills, and more rapid growth in these skills, are more likely to have higher per capita GSDP and also experience faster growth. However, since data on the educational and skill characteristics of the labour force are simply not available, the literacy rate of the population is commonly used as a proxy for the quality of human resources. The data on literacy are summarised in Table 7.

Table 7 confirms that literacy in slow growing states of Uttar Pradesh, Bihar and Orissa is indeed very low. However, the poor growth performance of these states cannot be explained solely by the low levels of literacy. The situation in Madhya Pradesh, Rajasthan



and Andhra Pradesh at the start of the decade was only marginally better, and yet these states showed a much better performance in the 1990s. Estimating a regression equation relating growth in each period to the percentage of literacy L in the base year of the period, yields the following results.

Period 1980-81 to 1990-91

$$6. \quad g = 6.218 - 0.0272 L \quad R^2 = .16$$

(1.49)

Period 1991-92 to 1997-98

$$7. \quad g = 2.735157 + .0513 L \quad R^2 = .21$$

(1.76)

The literacy variable has the wrong sign and is not significant in the first period. It has the right sign in the second period but the level of significance, though greatly improved is still low. Using literacy in the base year of each period to explain variations in growth amounts to explaining growth in terms of a stock variable. We have also used the change in literacy in each period as an explanatory variable, but this does not yield a significant relationship.

It could be argued that the role of human skills in promoting growth is not independent of the level of investment and the two interact with each other to generate positive responses. With 14 observations we have too few degrees of freedom to use additional explanatory variables. We therefore estimated a regression equation relating growth to a composite variable obtained by multiplying each of the capex investment ratios with the literacy rate in the base year of the post-reforms period. The multiplicative form implies that the response of growth to a higher investment rate is greater the larger the literacy variable, thus building in a positive interaction effect. The results obtained are presented below.

$$8. \quad g = 3.945 + 0.1686 (IPUB \times L) \quad R^2 = .21$$

(1.79)

$$9. \quad g = 4.513 + 0.1918 (IPVT \times L) \quad R^2 = .40$$

(2.80)

$$10. \quad g = 3.89 + .0887 (\text{ITOT} \times L) \quad R^2 = .42$$

$$(2.97)$$

The introduction of a composite variable that allows for an interactive effect clearly improves the explanatory power of each of the investment variables. Interestingly, the  $R^2$  obtained from equation 10, which uses the total investment ratio to construct the composite variable is higher than the  $R$  in equation 9, which uses only the private investment ratio.

e) Quality of Infrastructure

The quality of infrastructure is widely regarded as an essential determinant of growth in the states. Infrastructure in this context is clearly a multi-dimensional feature. Agricultural growth depends upon rural infrastructure such as the spread and quality of irrigation, land development, extent of rural electrification and the spread of rural roads. Non-agricultural growth depends critically upon sectors such as electric power, road and rail transportation, ports and airports and increasingly telecommunications. Good infrastructure not only increases the productivity of existing resources going into production and therefore helps growth, it also helps to attract more investment that can be expected to increase growth further.

The CMIE has produced a composite index of the relative infrastructure capacity of different states based on 13 separate components.<sup>12/</sup> The values of composite index for different years are summarized in Table 8 (the individual components are listed in the footnote to the table). The relative index values for individual states conform to some expectations but also contain some surprises. Bihar fits the pattern of expectations and scores lowest on infrastructure. Its relative position has also deteriorated over time. Somewhat surprisingly however, Uttar Pradesh has a higher value for the index than the average for the country and it scores higher than Andhra Pradesh, Karnataka and West Bengal, all states that have grown markedly faster.

Testing for a statistically significant correlation between growth across states and the base year value of the composite infrastructure index INF, we have estimated the following equations:

Period 1980-81 to 1990-91

$$11. \quad g = 5.118 + .0005 \text{ INF} \quad R^2 = .00$$

$$(.08)$$

Period 1991-92 to 1997-98

$$12. \quad g = 5.183 + .0021 \text{ INF} \quad R^2 = .00$$

(.24)

In order to test for possible inter-action effects between private investment and infrastructure we also estimated equations using a composite variable which is the product of the investment ratio in the 1990s and the infrastructure variable. The composite explanatory variable is significant but it does not add to the explanatory power of the investment variable. The absence of any significant relationship in between growth and infrastructure is somewhat disappointing though it can be explained by the fact that some of the 13 variables included in the CMIE infrastructure index are not very relevant in explaining growth e.g. number of post offices or hospital beds or primary health centers per hundred thousand of the population. The quality of road connectivity is also not well captured by the roads density within a state since hinterland states may suffer from disadvantages because of poor connectivity through other states.

We have also tested for the impact of each of the individual components of the infrastructure index on growth in the states by estimating separate regression equations using each of the 13 individual components as explanatory variables. We find a significant relationship between growth and three of the individual indices in the second period viz. percentage of villages electrified in the base year (V), per capita energy consumption (E), and tele-density (T).

$$13. \quad g = 0.225 + 0.0596 V \quad R^2 = .28$$

(2.16)

$$14. \quad g = 3.896 + 0.018 E \quad R^2 = .26$$

(2.05)

$$15. \quad g = 3.54 + 3.3013 T \quad R^2 = .44$$

(3.09)

The positive significant relationship between growth and the two electricity related indices and the tele-density index are broadly in line with expectations. The equation with tele-density has the highest  $R^2$  which will no doubt cheer telecommunications enthusiasts, but we

hasten to caution that although telecommunication is undoubtedly important (as an efficiency enhancing and therefore growth promoting factor, this result should not be misread to imply that telecommunication is all that matters! We note that the absence of a positive relationship between growth and any of the infrastructure variables (including the three discussed above) in the first period remains a puzzle.

The statistical results presented in this section are clearly mixed. They provide welcome confirmation that variations in the private investment ratio are positively and significantly correlated with variations in growth. They also provide some confirmation that certain elements of infrastructure, and to some extent also literacy, are associated with variations in growth. They also suggest that public investment and state plan expenditure are not nearly as obviously correlated with growth as many would have expected. While this may reflect data limitations, it also suggests the need for some soul searching on the effectiveness of these expenditures. Needless to say, all these conclusions, including the lack of a significant relationship in some cases, are subject to the general qualification that the data available are far from ideal. Much more work needs to be done in improving the data available on possible factors which may help explain the variations in growth across states.

### **III. Towards a strategy for slow growing states**

In this section, we consider some of the policy issues that need to be addressed if the growth rate of the slow growing states is to be raised to a minimum of say 6%. Doubling the rate of growth in a group of states with a population exceeding 300 million is obviously not an easy task. Much of the responsibility for such acceleration lies with the state governments and will require a major re-orientation of policy in these states. This re-orientation will have to take place within a framework defined by the evolving economic reforms, which have been underway for the past decade and which are expected to be continued and further strengthened.

The slower growing states must therefore devise a strategy that recognizes that the economy will become more competitive internally and also more open to both foreign trade and foreign investment. The critical drivers of growth in this environment will be private investment and improvements in factor productivity. State policies must therefore focus on how private investment can be stimulated and supported. Since private investment is potentially mobile across states, all states must compete with each other to attract private investment. This is true not just of foreign investment but also of domestic corporate investment. Non-corporate investors and small business are seen to be less mobile than

corporate investors, but it must be recognized that concentrations of large corporate investment become a hub around which smaller non-corporate investment also flourishes.

a) Development of economic and social infrastructure

The most important area where government policy can help to accelerate development in a liberalized economy that relies upon private investment to achieve growth is the provision of basic economic and social infrastructure. The poorer and slower growing states generally lag behind the better performing states in this area and in a competitive environment this puts them in a disadvantaged position relative to the more advanced states. Because of the constitutional division of powers between the centre and the states, some of the infrastructure needs fall exclusively in the area of the central government e.g. railways, national highways, telecommunications, major ports and airports. Infrastructure needs in these sectors must be met either directly through increased central public investment or, when private investment is also feasible, by a combination of public and private investments. However, a large part of what is needed by way of infrastructure in individual states either falls in the exclusive area of responsibility of the state government (i.e. irrigation) or in what is described in the Constitution as the concurrent list as is the case for education and electric power. Both the center and the states can legislate in these areas and state laws must be consistent with central laws, but the delivery system in practice is generally in the hands of the state government.

Agriculture is important for all states, but it is especially so for the poorer states which are more dependent on agriculture. All the relevant infrastructure needs of agricultural development i.e. irrigation, land development and water management programmes, rural road connectivity, rural electrification, etc fall in the area of the state governments. This is also the case with social infrastructure i.e. the provision of health and education services, both areas where the poorer states have exceptionally large gaps and where improvements are needed to stimulate growth.

State governments are also responsible for many of the critical infrastructure requirements of industrial and commercial development. The availability of power at an appropriate price and of acceptable quality is a critical requirement for industrial and commercial development and this is also a state government responsibility. The generation transmission and distribution of power in all the major states is a state monopoly operated by the State Electricity Boards (SEBs). The financial position of the SEBs has deteriorated massively over time because of a combination of operational inefficiency and irrational electricity pricing, with very low electricity tariffs for farmers and household consumers

which are cross subsidized by very high electricity tariffs on industrial and commercial users. Operational inefficiencies are particularly marked in distribution where corruption is widespread leading to under-billing for electricity consumed. The resulting financial difficulties of SEBs have led to inadequate investment in both generation and distribution, leading in turn to power shortages, erratic voltage and unreliable supply. Major reforms in the power sector are desperately needed in all states to bring about rational tariff fixation and create stronger incentives to improve efficiencies at all levels. Fortunately, the need for reforms in this area is now well recognized and two of the slower growing states – Uttar Pradesh and Orissa – have actually commenced the process, but progress as yet has been slow. This is clearly an area that must have very high priority.

Urban infrastructure is also an important pre-condition for attracting private investment especially foreign investment. This too is entirely a state government responsibility and the slow growing states suffer from a severe competitive handicap in this area. Improvements in urban infrastructure must therefore be an area of priority attention for state governments wishing to attract private investment.

In practice, infrastructure development calls for additional financial resources and also improvement in governance, which would ensure that the resources are well spent. Some suggestions in this regard are offered in the next two sections.

#### b) The problem of state finances

As recently as 1990-91, several states had a positive balance from current revenues (BCR), which contributed at least a modest surplus that was supplemented by borrowings to finance state plan expenditures.<sup>13/</sup> This balance has now turned negative for all states which means that state governments have to borrow to finance the negative BCR and then borrow even more to finance the plan. The extent of fiscal stress in the states is perhaps best reflected in the fact that the states are resorting to larger and larger volumes of borrowing: the gross fiscal deficit of the states has increased from 3.2% of GDP in 1990-91 to 4.3% in 1998-99. And yet, as we have seen, plan expenditure as a percentage of GDP has declined in almost all states. In the process, there has been a steady build up of debt, which in turn has generated a rising interest burden.

These problems are not unique to the poorer states, but they are almost certainly more severe in these states, and corrective action is therefore more urgent. The steps that need to be taken to restore financial viability in the states are well known, though that does not make them any easier.

i] Direct and indirect subsidies provided by state governments, most of which are not well targeted, have become unsustainable. For example, the average tariff rate for electricity supplied to agriculture is around 25 paise per kwh for all states (some states have actually made it free) whereas the average cost of supplying power is Rs.2.81 per unit. Irrigation charges at present cover only around 20% of the maintenance costs of the system, to say nothing of capital charges. Fees in higher education have not been raised for several decades with the result that income from this source has declined from 20% of total costs in the 1960s to less than 6%. Public sector road transport services incur large losses. Health services, including hospital care in public hospitals are very heavily subsidised. Since the state budgets are unable to provide sufficient funds to the departments providing these services, the result is that the quality of services provided has deteriorated. An increase in user charges in all these areas is urgently needed to reduce the financial burden of providing these services.

ii] The State Electricity Boards (SEBs) are clearly the largest drain on the system. In 1992-93, SEB losses were Rs.2725 crores or 10% of total state plan expenditure in that year. They have increased to around Rs.25,000 crores in 1999-2000 or 30% of total state plan expenditure! The need for reforms in this area has been mentioned earlier. The inefficiency in the distribution segment is in major problem including especially theft of power through tampering of meters with the connivance of the distribution staff. While standards of governance in the public sector distribution system can be improved significantly, privatization of distribution is probably the best way of minimizing such losses. Understandably, privatisation is strongly resisted by vested interests and many states are therefore reluctant to accept this as an objective, preferring instead to focus, at least initially, on improving the efficiency of the public sector system. However many state governments such as Karnataka, Andhra Pradesh, Gujarat, Uttar Pradesh and Orissa have initiated the first steps towards privatisation.

iii] Public sector enterprises (PSEs) have proliferated at the state government level and many of them are little more than vehicles for creating jobs at all levels.<sup>14/</sup> There are 1071 public sector enterprises in the various states and of these only 247 are profit making. Most state PSEs are unlikely to yield significant resources from privatization proceeds, but privatisation could at least help avoid recurring losses which are otherwise a burden on the budget. There are some enterprises, e.g. tourism corporations running hotels or cement factories and sugar plants that could be privatised with some budgetary gain.

iv] The tax administration needs to be massively modernised in all states to create simple systems with transparent administrative procedures and an honest tax administration. States often complain that they do not have sufficient taxing power but in fact they have not used the powers available in many areas. The taxation of agriculture for example is constitutionally a state subject, but states have left this tax base untouched, with no state seeing fit to levy an agricultural income tax even on large farmers. Land revenue, which is a form of agricultural taxation, and could be a substitute for agricultural income tax, has been reduced over the years to negligible levels.

v] Most states suffer from deteriorating urban infrastructure because municipal tax revenues are inadequate to finance infrastructure and user charges for most services are very low. Urban property taxation is an important source of municipal revenue in most countries but the system in most Indian states is hopelessly outdated, with poor valuation practices leading to very low revenues. A major modernisation in the system of property taxation is urgently needed.

vi] Bureaucracy in the states has proliferated to a much greater extent than in the centre. This not only imposes a financial strain, it also perpetuates inefficiency and sluggishness in the system. Agencies responsible for delivering economic and social services face a situation where their budgets are almost exhausted after paying the salaries of a bloated bureaucracy, leaving little or nothing to meet the minimum non-salary cost of delivering the services that the programmes are meant to provide. It is necessary to downsize government as a whole and use the resources thus released to increase expenditures in critical areas, such as health and education, which are currently underfunded. Several states have recognized this problem and declared the intention to reduce the scale of the government primarily by reducing recruitment to fill vacancies caused by normal retirement. The seriousness of this commitment and its impact on the size of the bureaucracy can only be evaluated over time.

As pointed out earlier, these problems affect all states to varying degrees, but they are much more severe in the poorer states. Paradoxically, it is difficult to believe that the poorest states will actually take the lead in this area. They are more likely to follow the lead of the more advanced states, but this only means their performance will continue to lag behind the others.

### c) The Policy Environment and Governance

There is general agreement that growth depends heavily upon the efficiency of resource use, which in turn is determined by the overall policy environment and the quality of



governance. There are no objective measures of the quality of governance, but impressionistic evidence suggests that the slower growing states clearly lag behind the others.

Good governance affects growth in several ways. First, it has a direct impact on the effectiveness with which public sector developmental programmes in the state are implemented. Poor administration and corruption (the two are in fact intimately linked) are now widely recognised as major problems reducing the effectiveness of many government programmes. Since additional public investment in the infrastructure and social sectors is an important part of the growth acceleration strategy for poorer states, it follows that parallel improvements in governance at the state level are needed to ensure that the resources provided for this purpose are well spent. In many cases, improving the effectiveness of public expenditure requires decentralized control over the programmes with much greater people's participation. There are many successful examples of decentralization in states such as Kerala, Karnataka, Andhra Pradesh and Madhya Pradesh. These experiments need to be replicated in the slower growing states such as Uttar Pradesh, Bihar and Orissa.

Another channel through which the quality of governance at the state level can stimulate growth is by making the policy environment more business friendly. While the economic reforms have reduced the burden of central government controls on investment activity, there is need to introduce similar liberalization at the state level. Entrepreneurs setting up an industrial unit typically need as many as 30 separate permissions from various state government departments responsible for state level clearances, e.g. those related to environment regulations, labour welfare regulation, utilities, health, sanitary and safety inspection, sales tax, etc. Each interface with a separate part of the bureaucracy subjects the entrepreneur to the triple vicissitudes of harassment, delay and corruption. The high transactions costs are particularly onerous for small business, which is precisely the group which most state governments are otherwise keen to promote. One of the positive developments in recent times is that many states have taken initiatives in this area and have introduced simplified procedures and one-window arrangements to improve the business climate. However, these experiments are relatively recent and the lead has been taken by the better performing states. The poorer performing states have generally lagged far behind the others in this dimension. Sweeping reform of these regulatory systems at the state level is needed.

The general "law and order" situation is another aspect of governance at the state level that is relevant for creating an environment conducive to investment. There are no objective measures to assess performance in this dimension, but impressionistic evaluations

suggest that the slower growing states suffer from more than the usual problems in this dimension. Tensions associated with economic and caste stratification in parts of the country especially in rural areas have created disturbed conditions in some of the slow growing states which is bound to have an impact on developmental activity. There are reports of urban mafias engaged in extortion, various types of protection rackets, and even kidnapping in parts of some states. It is difficult to imagine any significant acceleration in economic growth without a significant improvement in this aspect of governance.

An area where the slower growing states could improve the investment climate at relatively low cost is the flexibility with which labour laws are administered. India's labour laws are often criticised because retrenchment of labour and closure of units both require the permission of the state government, which is almost never given. A comprehensive solution requires amending the relevant central legislation to remove the need for permission and this is one of the items on the agenda of "second generation" reforms that are currently being discussed in India. However, this is also an area where state governments could also act on their own by prescribing more flexible guidelines within which the relevant departments would act on these matters. States suffering from low levels of investment could reduce their competitive disadvantage vis-à-vis more industrialised states by allowing greater flexibility with regard to labour. No state government has experimented with this possibility thus far.

d) The role of the central government

The resources problem of the poorer states and their consequent inability to develop economic infrastructure and provide essential social services raises the issue of what the central government can do to assist these states to achieve these objectives. The total resources devolved from the centre to the states in the form of the statutory devolution of the states share of central taxes and special grants recommended by the Finance Commission, together with the flow of central assistance in support of state plans through the Planning Commission, already add up to a substantial amount and the central government's fiscal position does not allow any significant expansion in these flows. The central government's fiscal deficit was 5.6% of GDP in 1999-2000 and the consolidated deficit for the centre and states together was almost 10% of GDP.

Given the central government's evident compulsion to reduce its own fiscal deficit, there is obviously little scope for increasing the total flow of resources to the states. However, there is room to re-orient the expenditure undertaken by the center in a manner that provides greater developmental support to the states, especially the poorer states. At present, a very large volume of resources under the direct or indirect control of the central government is

devoted to various types of poverty alleviation programmes. For example, the budget directly provides Rs.7000 crores for poverty alleviation schemes in rural development, Rs.12,000 crores for food subsidy and Rs.14,000 crores fertilizer subsidy. Other programmes involve under-pricing of certain goods and services based on cross-subsidization from other parts of the system e.g. a subsidy of Rs.10,000 crores on kerosene (financed by overpricing petrol) and about Rs.3,000 crores on railway passengers (financed by overcharging freight). Although these amounts are cross-subsidized by other parts of the system they can become available as additional resources if user charges are raised to eliminate the need for cross-subsidy, and the resources thus released are mopped up through taxation.<sup>15/</sup> The total amount involved in these subsidies comes to Rs.46,000 crores which exceeds the total central assistance provided by the central government to the states in support of their plans. If these programmes could be reduced in scale by 50%, the resources so released could be used to expand central assistance to the states to be used for infrastructure development. Eliminating subsidy programmes is not easy, but all the available evidence suggests that the effectiveness of the existing programmes is extremely limited and the same resources would be much better spent in building infrastructure. There is little doubt that such a reallocation would strengthen the development prospect of the poorer states, and make a much bigger contribution to poverty reduction in the country.

A related issue, which has not received the attention it deserves, is the scope for improving the development effectiveness of central assistance to the states by linking it to performance. At present, most of the central assistance provided to support state plans is not subject to specific performance criteria or conditionality. It can be argued that such assistance would be more effective if it is linked to policy reforms and other specific performance criteria that would be designed to address the factors that constrain the growth performance of the states. Advocates of federal autonomy and decentralization will no doubt object to the suggestion on the grounds that resources should be provided on the basis of an entitlement criterion and accountability for the use of these resources should be left to the normal political process at state level. However, this approach also implies that the centre can have no particular responsibility to ensure that the specific constraints to growth at the state level are effectively addressed. A new window of concessional assistance was introduced in the year 2000-01 in the form of an Accelerated Power Development Programme under which states will receive central assistance to support a programme of power sector reforms. Such mechanisms should be expanded in future

In recent years, the progressivity built into the distribution of various types central transfers to the states under which poorer states receive additional resources has been criticised by some of the better performing states on the grounds that such mechanisms reward inefficiency and mismanagement. This type of argument can be made against any progressive distribution scheme and it does not provide a sufficient justification for abandoning progressivity. However, it does suggest that if transfers are to be progressive, they should at least be made conditional so that they are seen to contribute to a solution of the problem in the longer run. For example, if growth in the poorer states is held back by gaps in infrastructure and social development, then central assistance should perhaps be made available to these states linked to specific performance requirements, which may be project specific or linked to implementing broader policy reforms in critical sectors. This may appear intrusive, but as long as the design of the programmes, and the identification of milestones for implementation, has the full involvement of the state, there can be no objection to the arrangement.

The central government has a major role in developing infrastructure in the poorer states by shaping its own expenditure on infrastructure to help overcome infrastructure bottlenecks in the poorer states as quickly as possible. As pointed out earlier, there are many infrastructure areas that are the specific responsibility of the central government including especially the national highways, the railways, telecommunications, airports and major ports. Expanding central government expenditures to improve services in these areas, with special concern for meeting the needs of the slower growing states, can make a major contribution to accelerating growth in these states. The recently launched National Highways Development Project, which is being funded by a cess on petrol and diesel, is an example of a central government programme which could help to overcome transport bottlenecks affecting hinterland States. The project aims at four laning about 6000 kms of the National Highways on the so-called “Golden Quadrilateral” linking Delhi-Mumbai-Chennai-Calcutta, which carries a very large portion of the country’s road traffic. The project would greatly improve connectivity for Uttar Pradesh, Bihar and Orissa.

A similar large-scale effort is needed to modernise the railway system, with particular emphasis on its freight carrying capacity. Hinterland states would benefit the most from an efficient railway system, capable of transporting freight over long distances at attractive rates. Paradoxically, the pricing policy of the railways, which subsidises passenger traffic by overcharging freight, has precisely the opposite effect because it increases the cost of rail freight, a price distortion has made it cheaper for coastal power plants in the South to import

coal from Australia rather than transport it from the coalfields of Bihar! Ironically, although it is the freight carrying function of the railways, which is most likely to spur development in hinterland states, the demands upon the railways, even from these states, is usually for the addition of new railway lines and introduction of new passenger trains, which only worsen the financial position of the railways.

The scale on which the centre can undertake infrastructure development aimed at helping the poorer states is obviously constrained by the total availability of resources. One way of overcoming the resources problem would be to divert resources from existing subsidy-oriented programmes towards infrastructure development as discussed earlier. Another is to accelerate the privatisation of central public sector enterprises (PSEs) and earmark the proceeds from these sales specifically for the development of much needed economic and social infrastructure in the backward states. This would be a much more effective way of helping the poorer states than the traditional approach of pushing existing PSEs to make commercial investments in the less developed states. Such initiatives have done little in the past for the economic development of the area and have often increased the probability of driving the PSEs into sickness. On the other hand, privatising existing central PSEs, and using the proceeds to build social and economic infrastructure in the backward states will increase the efficiency with which existing PSE assets are used, while simultaneously helping to improve efficiency of resource use in the poorer states and hopefully leveraging a greater flow of private investment.

As pointed out earlier, doubling the rate of growth for the slow growing states, which have a combined population exceeding 300 million, is not a simple task and the policy directions outlined above are certainly not a comprehensive blueprint of what is needed. Detailed strategies have evolved for individual states, which address constraints and circumstances specific to each state. However the agenda we have outlined identifies some of the major areas of policy, which must be addressed if the slow growing states are to achieve a growth rate of 6% in the future. Determined action in these areas should make it possible to achieve this target. We hasten to add that even if this growth objective is achieved regional inequality would continue to increase since the rest of the country is projected to grow at a faster rate. However the rate of divergence in per capita incomes would be considerably moderated, compared to the trends observed in the 1990s, and the slower growing states would at least experience strong growth in per capita GSDP and sharply falling poverty levels.

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**Table 1**  
**Rate of Growth of Gross State Domestic Product**

(Per cent Per Year)

	<b>1980-81 to <u>1990-91</u></b>	<b>1991-92 to <u>1998-99</u></b>
1. Bihar	4.66	2.88
2. Rajasthan	6.60	5.85
3. Uttar Pradesh	4.95	3.58
4. Orissa	4.29	3.56
5. Madhya Pradesh	4.56	5.89
6. Andhra Pradesh	5.65	5.20
7. Tamil Nadu	5.38	6.02
8. Kerala	3.57	5.61
9. Karnataka	5.29	5.87
10. West Bengal	4.71	6.97
11. Gujarat	5.08	8.15
12. Haryana	6.43	5.13
13. Maharashtra	6.02	8.01
14. Punjab	5.32	4.77
<b>Combined GSDP of 14 States</b>	<b>5.24</b>	<b>5.90</b>
<b>GDP (National Accounts)</b>	<b>5.47</b>	<b>6.50</b>

**Table 2**  
**Annual Rates of Growth of Per Capita Gross State Domestic Product**  
**(Percent Per Year)**

	<b>1980-81</b>	<b>1991-92</b>
	<b><u>1990-91</u></b>	<b><u>1998-99</u></b>
	<b>(% p.a.)</b>	<b>(% p.a.)</b>
1. Bihar	2.45	1.27
2. Rajasthan	3.96	3.48
3. Uttar Pradesh	2.60	1.28
4. Orissa	2.38	2.08
5. Madhya Pradesh	2.08	3.67
6. Andhra Pradesh	3.34	3.67
7. Tamil Nadu	3.87	4.78
8. Kerala	2.19	4.35
9. Karnataka	3.28	4.08
10. West Bengal	2.39	5.14
11. Gujarat	3.08	6.73
12. Haryana	3.86	2.85
13. Maharashtra	3.58	6.19
14. Punjab	3.33	2.93
<b>15. Combined GSDP 14 States</b>	<b>3.03</b>	<b>4.02</b>



**Table 3**

**Trend in Inter State Inequality**

**Gini Coefficient**

1980-81	0.152
1981-82	0.152
1982-83	0.152
1983-84	0,151
1984-85	0.154
1985-86	0.159
1986-87	0.157
1987-88	0.161
1988-89	0.158
1989-90	0.175
1990-91	0.171
1991-92	0.175
1992-93	0.199
1993-94	0.207
1994-95	0.206
1995-96	0.230
1996-97	0.222
1997-98	0.235
1998-99	0.233

**Table 4**  
**Percentage of Population in Poverty**

	<b><u>1983</u></b>	<b><u>1987-88</u></b>	<b><u>1993-94</u></b>	<b><u>1999-2000</u></b>
1. Bihar	52.22	52.13	54.96	42.60
2. Rajasthan	34.46	35.15	27.41	15.28
3. Uttar Pradesh	47.07	41.46	40.85	31.15
4. Orissa	65.29	55.58	48.56	47.15
5. Madhya Pradesh	49.78	43.07	42.52	37.43
6. Andhra Pradesh	28.91	25.86	22.19	15.77
7. Tamil Nadu	51.66	43.39	35.03	21.12
8. Kerala	40.42	31.79	25.43	12.72
9. Karnataka	38.24	37.53	33.16	20.04
10. West Bengal	54.85	44.72	35.66	27.02
11. Gujarat	32.79	31.54	24.21	14.07
12. Haryana	21.37	16.64	25.05	8.74
13. Maharashtra	43.44	40.41	36.86	25.02
14. Punjab	16.18	13.20	11.77	6.16
<b>All 14 States</b>	<b>43.80</b>	<b>39.92</b>	<b>36.25</b>	<b>26.43</b>
<b>All India</b>	<b>44.48</b>	<b>38.86</b>	<b>35.97</b>	<b>26.10</b>

Source: Planning Commission

**Table 5**  
**Investment Activity in the States in 1995-96**

(As percentage of GSDP)

	<b><u>Govt. Projects</u></b>	<b><u>Private Projects</u></b>	<b><u>All Projects</u></b>
1. Bihar	17.02	2.68	19.70
2. Rajasthan	19.86	9.27	29.14
3. Uttar Pradesh	20.65	12.22	32.87
4. Orissa	48.55	15.17	63.72
5. Madhya Pradesh	36.56	6.51	43.07
6. Andhra Pradesh	21.78	15.87	37.65
7. Tamil Nadu	7.18	17.84	25.02
8. Kerala	17.25	1.77	19.02
9. Karnataka	18.13	23.93	42.06
10. West Bengal	17.23	12.21	29.45
11. Gujarat	27.40	57.68	85.08
12. Haryana	17.25	4.81	22.06
13. Maharashtra	10.95	17.80	28.76
14. Punjab	12.28	6.42	18.70
<b>All 14 States</b>	<b>19.06</b>	<b>16.45</b>	<b>35.51</b>

Source: Capex database, Centre for Monitoring the Indian Economy.

**Table 6**  
**Plan Expenditure as Percentage of GSDP**

	Average <b>1980-81</b> <u>1990-91</u> %	Average <b>1991-92</b> <u>1997-98</u> %
1. Bihar	6.20	2.87
2. Rajasthan	5.89	6.54
3. Uttar Pradesh	6.33	4.56
4. Orissa	7.41	7.10
5. Madhya Pradesh	7.39	4.97
6. Andhra Pradesh	5.70	4.28
7. Tamil Nadu	6.19	4.60
8. Kerala	5.22	4.99
9. Karnataka	5.61	6.49
10. West Bengal	3.56	2.70
11. Gujarat	6.52	4.51
12. Haryana	6.41	3.94
13. Maharashtra	5.68	3.97
14. Punjab	5.63	3.94
<b>All 14 States</b>	<b>5.69</b>	<b>4.50</b>

Source : Planning Commission. Data on plan expenditure at the state level for 1998-99 were not readily available and therefore have not been included in computing the average for the 1990s.

**Table 7**  
**Total Literacy Rate**

	<b><u>1981</u></b>	<b><u>1991</u></b>	<b><u>1997</u></b>
Bihar	26	38	49
Rajasthan	24	39	55
Uttar Pradesh	27	42	56
Orissa	34	49	51
Madhya Pradesh	28	44	56
Andhra Pradesh	30	44	54
Tamil Nadu	47	63	70
Kerala	70	90	93
Karnataka	38	56	58
West Bengal	41	58	72
Gujarat	44	61	68
Haryana	36	56	65
Maharashtra	47	65	74
Punjab	41	59	67
<b>All India</b>	<b>36</b>	<b>52</b>	<b>62</b>

**Table 8**  
**Relative Infrastructure Development Index**

	<b><u>1980-81</u></b>	<b><u>1991-92</u></b>	<b><u>1996-97</u></b>
1. Bihar	83.5	81.7	77.8
2. Rajasthan	74.4	82.6	83.9
3. Uttar Pradesh	97.7	102.3	103.8
4. Orissa	81.5	95.0	98.9
5. Madhya Pradesh	62.1	71.5	74.1
6. Andhra Pradesh	98.1	96.8	93.1
7. Tamil Nadu	158.6	145.9	138.9
8. Kerala	158.1	158.0	155.4
9. Karnataka	94.8	96.5	94.3
10. West Bengal	110.6	92.1	90.8
11. Gujarat	123.0	122.9	121.8
12. Haryana	145.0	143.0	137.2
13. Maharashtra	120.1	109.6	111.3
14. Punjab	207.3	193.4	185.6
<b>All India</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: CMIE

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- \* The author is currently a Member of the Planning Commission in the Government of India. The views expressed in the paper are those of the author and do not necessarily reflect the views of the Government of India. Section I of the paper draws upon Ahluwalia (2000), which is a lecture delivered by the author as part of the National Council For Applied Economic Research's Golden Jubilee Lecture Series. However, the coverage has been extended to include data for 1998-99. Thanks are due to Shankar Acharya, Anne Krueger, Jairam Ramesh and T.N. Srinivasan for helpful comments on an earlier draft.
- <sup>1/</sup> Because of the special features of the North Eastern and other special category states, and also some gaps in the data for some of these states, they have been excluded from the analysis. The small states of Goa and Delhi have also been excluded, the latter having the additional special feature of being the capital.
- <sup>2/</sup> The growth rate for each state in each period is estimated based on a loglinear trend. Assuming that the underlying relationship is  $Y=A(1+r)^t$  we estimate the regression equation  $\log Y = a+bt$  where  $b=\log(1+r)$ . The growth rate is then calculated as  $r = (\text{antilog } b)-1$ , where  $b$  is the regression estimate.
- <sup>3/</sup> The acronym BIMARU, taken from the initial letters for Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh was a pun on the Hindi word *Bimar*, meaning sick, and was first used by Ashish Bose in the context of demographic analysis as these states displayed much higher fertility rates than other states in the country.
- <sup>4/</sup> For example, Dreze and Sen (1995) commenting on the experience of Kerala in the 1980s, have stated, "Kerala has been very successful in developing the social opportunities (related to widespread education, health care, land reforms, social security, etc.) that constitute the centrally important social conditions for having participatory growth. And, yet, Kerala has had, in fact, little participatory economic growth at home. The failure in this case has arisen not from any lack of participation but the slow growth of Kerala's domestic economy. The roots of this failure include the continuation of over-regulated economic governance that has blighted the prospects of economic expansion all over India for many decades, the removal of which has met more resistance in Kerala than in most other Indian States." (pages 197-198).
- <sup>5/</sup> See for example Cashin and Sahay(1996), Nagraj, Varondakis and Veganzones(1998) and Bajpai and Sachs (1996).
- <sup>6/</sup> Ideally, we should use per capita state income and not per capita state domestic product for constructing the gini-coefficient. An income concept would take into account net factor income from outside the state accruing to residents in the state. Unfortunately, data on net factor income accruing to each state are not available making it impossible to construct an inequality measure based on state per capita income.
- <sup>7/</sup> The NSS also conducts annual surveys – the so called "thin sample" covering about 25,000 households - but the sample size is too small to provide reliable estimates of poverty for individual states. However, there has been an active debate on poverty estimates for the country as a whole in the post reform period, based on the thin sample surveys. Some scholars e.g. Datt (1999) and Gupta (1999) have commented that these surveys show a very marginal decline in poverty despite rapid growth. These conclusions have been challenged by other studies e.g. Bhalla (2000) and Natarajan (1998). For a review of these issues see Ahluwalia (2000). The results of the 1999-2000 however indicate that poverty has fallen over the period.
- <sup>8/</sup> Earlier, information on household expenditure for all items was collected on the basis of a 30-day recall period. In the 1999-2000 survey, the recall period for durable goods was changed to 365 days. In the case of food, the survey has adopted two alternatives. In earlier experiments conducted in the "thin sample" surveys conducted annually, the NSSO had experimented with a 7-day and 30-day recall period for food applying them to two different sub-samples. The response on the basis of 7-day recall consistently showed higher food consumption, which was also more consistent with the national accounts. In the 1999-2000, large sample surveys information based on the two different recall periods was sought from the same set of households. The 7-day recall still yields higher consumption but the difference has narrowed. The estimates presented in Table 4 are based on the 30-day recall period for food, which is comparable with the earlier surveys. However, it could be argued that questioning the same household about both the 7-day and 30-day recall has led to the 30-day estimate being adjusted upward, making it non-comparable with earlier surveys.
- <sup>9/</sup> Total investment in government sector projects reported in Table 5 for all the 14 States is over 19% of the combined GSDP, whereas the ratio of public investment to GDP for the country as a whole in the national accounts is only 6.5%. Similarly, the ratio of investment expenditure by private corporate project for all states is almost 16.5% of their combined GSDP, whereas private corporate sector investment in the national accounts is only 8.6% of GDP. The larger discrepancy in the case of public sector projects probably reflects the fact that these projects are typically of longer gestation, making the use of cumulative figures more distorting, and partly also because public sector projects are typically under-funded, leading to a proliferation of projects which take much longer to complete than they should. This creates a situation

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where there are a large number of projects under implementation at any given time, magnifying the degree of exaggeration caused by using total investment expenditure over the life of the project.

- <sup>10/</sup> The investment data pertains to the year 1995 but since it includes the total investment over the life of all projects under implementation in that year, it probably comes close to measuring investment activity over most of the post-reforms period.
- <sup>11/</sup> Plan expenditure in Indian parlance refers to expenditure on new projects taken up during a particular 5-year plan period. However, it includes both capital expenditure as well as current expenditure on the project. Investment expenditure is therefore typically less than plan expenditure.
- <sup>12/</sup> The 13 variables are per capita electric power, percent of villages electrified, railway route length per 000 sq.km., surfaced road length per 000 sq.km., unsurfaced road length, handling capacity of major ports, gross irrigated area as % of cropped area, tele-density plus the following per lakh of population: bank branches, post offices, primary schools, hospital beds, and primary health centers. Each indicator is computed for each State relative to the all India average=100. The composite index is the weighted sum of individual indices. For details see CMIE (1997).
- <sup>13/</sup> The Balance from Current Revenues is the surplus of current revenues over non-Plan current expenditure. When this is positive, it contributes along with borrowed resources, to finance the Plan.
- <sup>14/</sup> In many states, political personalities are appointed as Chairmen of State Corporations and given the rank of a Cabinet Minister in the state government.
- <sup>15/</sup> For example, the under-pricing of kerosene is covered by over pricing of gasoline. If the extent of under-pricing of kerosene could be reduced, it would be possible to levy an excise duty on gasoline and mop up the corresponding component of the gasoline price without increasing the price of gasoline to the consumer.