The Contribution of the Manufacturing Sector in the path of Inclusive Growth in the Indian Economy

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Abstract

Today while India stands as one of the fastest growing economy in the world, she is still characterized by the presence of rampant unemployment, poverty and mass destitution. In order to trickle down the benefits of the ongoing growth process to the grass root level, the recent five year plans have been focusing on the agenda of 'inclusive' growth that ensures all sections of the society would be contributing to and benefited of this growth process. In this regards it has been equivocally acknowledged by all that this objective could only be achieved by accomplishing a high growth rate of income followed by providing the general mass with productive employment.

This paper aims to analyze the contribution of the secondary (manufacturing) sector on the growth pattern of the Indian economy in terms of both income and employment generation. The concerned period of analysis is 1983-84 to 2009-10 which for a meaningful inter-temporal comparison, has been decomposed into two sub-parts: 1983-84 to 1993-94, representing the pre-reforms period, and 1993-94 to 2005-06, the postreforms period (which had brought significant structural changes in the overall secondary sector). While the data on income have been collected from the CSO publications and the RBI website; the unit level data as well as published reports on Employment/Unemployment from the quinquennial (thick) rounds of the NSSO have been used for examining issues relating to employment. This analysis has been extended into further levels of disintegration in terms of states, regions (rural & urban), production sectors as well as gender wherever possible.

While this paper on one hand aims to investigate the input of the manufacturing sector in the overall growth of income in the country as well as in the increasing divergence among the growth rates of the major states; it also focuses on the impact of this sector as regards to the employment scenario of the country. Moreover, the issue of quality of employment in terms of the proportion of 'working poor' in this sector has also been scrutinized. Finally, certain polices have been recommended that could be helpful in further evoking this sector as a facilitator of 'inclusive' growth.

1. Introduction

1.1 While the major agenda in the five-year plans of the Indian economy has been in general to establish an atmosphere of overall economic development ensuring enhancement in terms of various socio-economic dimensions of life, in reality priority has only been

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given to the achievement of high rate of economic growth considering it to be both necessary and sufficient pre-requisite to address various socio-economic problems of a developing nation like ours. The issue of employment has been left as a corollary to economic growth even though the importance of acceleration in quantity and up gradation in quality of employment for achieving socio-economic harmony has been established at various levels.

1.2 Data reveals that in spite of following a state-led development path targeting accelerated growth of income, the growth rate of GDP (at constant prices), hovered around only 3.5 per cent per annum until the end of seventies. Further, the nation did not exhibit any significant growth in the scenario of employment.

1.3 Following introduction of several changes in strategies in late seventies the growth rate of income started aggravating but was soon followed by growing budgetary problems resulting in deteriorated terms of trade in international market coupled with gradual decline in the net receipts from the 'invisibles' and reduction in the concessional loans from international agencies like the World Bank and the International Development Association. In order to overcome this severe balance of payment crisis and huge external debt India introduced the Structural Adjustment Programme (SAP) and Macroeconomic Stabilization Policies under the guidelines of the IMF and the World Bank adopted the policy of economic reforms in July 1991 following the path of globalisation, liberalization and privatization under the close resemblance of the 'Washington Consensus' approach to development. Under this approach, attainment of high growth of the economy via maximization of profit achieved through global competition is considered to be the appropriate mechanism to address the problems of the country. The critics however anxiously condemned the reform measures mainly focusing the impact of these polices on inter-regional inequality, unemployment, poverty and so on.

1.4 At this onset various researchers and academicians attempting to analyze the growth performance in the post-reforms period have observed that growth of GDP has not only been sustainable but has also surpassed all expectations by most accounts (Ahluwalia, 2002; Shetty, 2003; Ahmed, 2007; GOI, 2007). However, it has been pointed out that the growth of income in India in the reforms period has been lop-sided as it eluded the primary sector and became confined to the secondary and tertiary sectors of the economy. Further, researchers examining convergence/divergence of growth rates across different states varied in their conclusions. For instance, Dholakia (1994), Cashin and Sahay (1996), Bajpai and Sachs (1996) and Nagaraj (1997) found presence of convergence of income growth across the states of India, Marjit and Mitra (1996), Ghosh et al. (1998), Rao, Shand and Kalirajan (1999), Dasgupta et al. (2000), Aiyer (2001), Nayyar (2008) and Birthal *et al.* (2011) noted clear evidence of divergence.

1.5 Another important aspect for research investigation in the context of globalization has been changing employment scenario in the country both in terms of quantity and quality. The most dominant conclusion here is that employment generation has remained dismal in post-reforms period. This is precisely what is observed from the data available from the quinquennial surveys on employment/unemployment by the NSSO (Bhalla & Hazell, 2003; Aluwalia, 2006). Their findings were contradicted by others who found a rise

in the growth rate of employment in the post-reforms period, particularly after 1999-2000 [Rangarajan, 2007; Sundaram, 2007; Unni and Raveendran, 2007; Papola, 2008; Abraham, 2009 and World Bank, 2010]. Further, adoption of privatization and liberalization led to a decline of the 'white-collar' jobs; the private sector employers in order to emerge as an efficient global competitor have adopted strategies of 'informalization' and 'casualization' of the work force. This had led to a considerable growth of casual and contractual labours over the post-reforms period in India on one hand and decline of formal jobs in the organized sector on the other (Aluwalia, 2006; Ahmed, 2007; Unni and Raveendran, 2007; GOI, 2009; Sundaram & Tendulkar 2006, and World Bank, 2010). These have led to the rise in the problem of widespread poverty and 'working poor'.

1.6 Turning towards the manufacturing sector, it needs no mentioning that there is an unambiguous recognition of the importance of this sector in the overall development of an economy. For instance, in the neo-classical model developed by Solow (1956), capital formation has been projected as the major criteria for productivity growth that ultimately leads to overall development of the economy. Moreover in the technological growth models (Romer, 1986 and Lucus, 1988), technological changes driven by R&D have been considered as the basis of uplifting the standard of economic growth which in turn is geared up primarily by the private firms that tend to maximize their profit. Moreover, the benefit of overall growth of the industrial sector in an over-populated economy like ours is manifold. First this sector provides a platform for re-orienting the excess labourers in the primary sector. Second, having strong linkage with the other sectors, the development of this sector has the potential to propel the other sectors in the higher growth path.

1.7 The two hundred years of British colonial rule had destroyed the indigenous industries, the initial policy makers in the post-independent India did recognize that the only way to revive the industrial sector was to strengthen and expand the basic infrastructural production capacity of the nation. However, apprehending of absence of fervent participation of the private players owing to long gestation period and low returns, the state-led growth path was followed and was facilitated through licensing policy. Further the fear of inability of the Indian industries to withstand foreign competition led the policymakers to adopt the principle of 'protecting the infant industry' by following a strict import-substitution policy and shielding the economy from international trade. As a result of these the growth rate in industries initially witnessed acceleration between 1956 and 1965 but was soon followed by an era of slowdown during 1965-66/79-80. The factors like decline in public investment, poor administration & management, inefficiency and restrictive industrial & trade policies were held responsible for this slowdown (Ahluwalia, 1985). In order to restore efficiency, major departure from the previously implemented licensing policy was undertaken and this indeed resulted in impressive growth for manufacturing sector in the eighties. In July 1991 when the economy opened up to structural reforms in the early nineties following the path of globalization, liberalization and privatization, while the propagators of the reforms visualized of enhanced income growth and employment opportunities in this sector in the post-reforms era, the critics perceived that the era of reforms could have been detrimental as far as employment is concerned. The former group expected a rise in the income through greater export earnings (with a perfect supply side) would expand employment performance of the economy leading to a favourable employment-effect under globalization [Heckscher-Ohlin theory developed in 1933 (Sodersten and Reed, 1994)]. According to them, free international trade would be beneficial for a labour-abundant country like India owing to specialization in production and exportation of the good that requires intensive usage labour leading to optimum usage of the resources. The critics on the other hand argued that the reforms would lead to an atmosphere of enhanced international competition faced by the firms which might lead them to attempt for minimization of cost by retrenchment of workers and adoption of labour-saving technologies thereby worsening the prevailing employment scenario in the economy. In addition to these, another issue that has geared up is regarding the influence of the industrial sector in the phenomenon of divergence among the states. Fear regarding clustering of industries by private players in the regions with already improved technological frontier and coastal areas has increased which was absent during the reign of the government as a controller of industrial locations.

2. Data Base and Methodology

2.1 This study is exclusively based on secondary data spread over a period of about thirty years (1983 to 2009-10). This total period of study has been segregated into two parts: 1983 to 1993-94 which has been referred to as the pre-reforms period and 1993-94 to 2009-10 as the post-reforms period.

2.2 Although the new economic reforms were introduced officially in July 1991, in our study, 1993-94 has been taken as the point of transition of the economy from the prereforms period to the age of the reforms. The choice of this year has not been based on any statistical exercise but has been derived primarily from economic point of view. It has been agreed at various levels that in a large heterogeneous country like India, the gestation period of newly implemented strategies should be moderately high. In this connection, it would not be far from reality to view that the effects of the reforms introduced in early 1990s would take a year or two to show up its effects. We must also admit that, apart from this consideration, choice of 1993-94 as the divider between pre- and post-reform periods is guided by the availability of employment data released by the NSSO.

2.3 Since we attempted to provide a detailed view of the globalization mediated changes in income and employment that are occurring in the era of globalization at a disaggregated level, we have extended our analysis to examine the scenarios of income and employment prevailing in the states. Fifteen major states – Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal have been considered.

2.4 Since, the study period covers a span of three decades during which several sociopolitico-economic changes have taken place in the country; one such being the formation of three new states, Jharkhand, Uttaranchal and Chhattisgarh that are respectively carved out of Bihar, Uttar Pradesh and Madhya Pradesh in 2000. Consequently, the data on income as well as employment released thereafter has been provided separately for these states. Hence, in order to attain inter-temporal comparability, we have merged Bihar with Jharkhand, Uttar Pradesh with Uttaranchal and Madhya Pradesh with Chhattisgarh. This implies that any discussion regarding Bihar, Uttar Pradesh and Madhya Pradesh in our study refer to these undivided states. 2.5 To examine issues relating to growth of income, data on NSDP and per capita NSDP (PCNSDP), as released by the Central Statistical Organization (CSO) have been used. However, data of NSDP and PCNSDP have also been collected from the website of Reserve Bank of India. Both NSDP and PCNSDP when observed over a period of time, reveal the real growth in the level of income and hence development of the economies of the states. Estimates of NSDP at current prices reflect the value of income during that concerned year, whereas those measured at the constant prices reflect the growth in real income disregarding the effects of price fluctuations.

2.6 Of late, CSO has revised the base year of the NSDP series for 1983 to 1993-94 and introduced a new system of National Statistical Accounting (SNA). This revision involved a number of methodological and conceptual improvements in the data base. Not only the base year has been changed over time but the production boundaries for the sectors like agriculture, real estate and finance have been redefined and redesigned. Changes have also been made in occupational categories considered. Instead of defining these categories as par the Census as done earlier, they have been redefined by using the NSSO occupational data base. This implies that any comparison of income growth based on the two series having different base years would lead to incorrect conclusions. Therefore, before starting the analysis of the data, a comparable income series with a single base year, namely 1993-94, has been constructed by us by following the popularly used 'splicing method'. Thus, we used the NSDP data series for the entire period of 1983 to 2009-10 at 1993-94 base year prices. The estimates of the growth rates of NSDP have been obtained from the most popular method of fitting exponential (log-linear) trend equation.

2.7 The data on employment has been taken from both from unit level data as well as the published reports of employment/unemployment surveys (EUS) conducted by the National Sample Survey Organization (NSSO). To get a clear view of the changes in employment have considered EUS data from three thick/quinquennial rounds corresponding to the years of 1983 (38th round), 1993-94 (50th round) and 2009-10 (66th round). The growth rates in this case have been computed by using the formula:

$$r = \{(P_r/P_o)^{1/t} - 1\} * 100$$

where r = annual compound growth rate, $P_t = the value of the variable at tth period and <math>P_o$ = the value of the variable at initial (base) period.

2.8 In order to assess the link between the income growth and employment growth the concept of income elasticity of employment has been used that captures the quantitative responsiveness of employment with respect to the changes in income/output and is measured as

Employment Elasticity (E) =
$$\frac{\text{Growth Rate of Employment}}{\text{Growth Rate of Income/Output}}$$

2.9 Finally in order to analyze the extent of working poor in the economy, particularly in the manufacturing sector, the data on per capita monthly consumption expenditure for the households to which the workers belong have been utilized. If the per capita monthly

consumption expenditure is less than the 'poverty line' for a worker, she/he is designated as poor and if it is greater or equal to the poverty line, the worker is non-poor².

3. Results & Discussions

3.1 Growth of Income

Growth Rates of NSDP at all-India Level

Table 1 presents the estimated growth rates of NSDP in all-India as well as 15 major 3.1.1 states in the pre-reforms and post-reforms periods calculated by fitting exponential functions. It can be seen that, at the all-India level (considering all states and union territories), the growth rate of NSDP increased from 5.25 per cent in pre-reforms period to 5.85 per cent in the post-reforms period leading to a growth rate of 5.38 per cent for the entire period (1983-84 to 2009-10). Comparison of the growth rates of the NSDP for the major states between pre-reforms and post-reforms period revealed that the growth rate of these 15 states taken together has increased from 5.18 per cent in initial period to 5.82 per cent in the later. Further, there have been considerable variations in the growth performance of NSDP across the states both in the pre-reforms and post-reforms periods with some states surpassing the national average while others lagging behind. As shown in Table 1, during the pre-reforms period, Maharashtra was the star performer experiencing the highest growth rate of 7.24 per cent. It was followed by Andhra Pradesh (6.31), Haryana (6.14) and Rajasthan (5.91). Tamil Nadu (5.68), Karnataka (5.63) and Kerala (5.21) were also above the national average of 5.18 per cent. On the other hand, Bihar lagged behind all others with a growth rate of 2.22 per cent followed by Orissa (3.07) and Assam (3.12). Other states with low growth rates of NSDP were Madhya Pradesh (4.75), Gujarat (4.67), West Bengal (4.62) and Uttar Pradesh (4.44).

3.1.2 The scenario changed considerably in the post-reforms period. The top position was now captured by Haryana with a growth rate of 7.32 per cent being followed by Gujarat (6.96) and Maharashtra (6.85). The states that have faced considerable rise in the growth rate of NSDP are Bihar (2.22 to 5.36), Gujarat (4.67 to 6.92), Haryana (5.63 to 6.40), Kerala (5.21 to 6.28), Orissa (3.07 to 5.65), Tamil Nadu (5.68 to 6.15), West Bengal (4.62 to 6.26). Assam (3.12 to 3.44) and Uttar Pradesh (4.44 to 4.56) too faced a moderate rise in growth rate of NSDP. The states that faced deceleration of growth rate were Rajasthan (5.91 to 5.59), Punjab (5.09 to 4.83), Maharashtra (7.24 to 6.85) and Madhya Pradesh (4.75 to 4.56).

3.1.3 Considering the growth rate of NSDP in the manufacturing sector, it is observed this has received a setback in most of the states except those for Assam, Bihar, Punjab, Rajasthan and West Bengal resulting in a fall in growth rate of income in this sector from 6.12 per cent in the pre-reforms period to 5.42 per cent in the post-reforms period. Yet the effect of rise in the growth rate of NSDP for the manufacturing sector on the overall

² The poverty line used by us is the 'official poverty line' as suggested by the Planning Commission.

growth rate of NSDP in the major states has been mixed. While in the states of Bihar, Gujarat, Tamil Nadu and West Bengal, the acceleration in growth of manufacturing sector has been successful to boost up the overall growth rate of income; in certain others like Madhya Pradesh, Punjab and Rajasthan, the rise in the growth rate of this sector has been nullified leading to overall decline in the growth rate of NSDP in these states.

3.1.4 Hence, it has been observed that the manufacturing sector fails to establish any considerable impact towards the overall economic growth in the post-reforms period. In the following section of this paper, we turn too see what has been the extent of regional inequality in the states, particularly in the post-reforms period and the whether there has been any significant contribution of the manufacturing sector towards this incident.

Regional Inequality

3.1.5 The extent of regional inequality can be judged by making an inter-temporal comparison of the values of coefficient of variation (CV) and Gini-coefficient computed by using data on PCNSDP for major states of India. The estimates of CV and Gini-coefficient for 15 major states for the period between 1983 and 2009-10 are given in Table 2.

3.1.6 At the very beginning, it should be noted that values of both CV and Gini-coefficient have taken relatively low values in the initial years of the pre-reforms period, signifying that the variations present across the states have not been considerable enough during these years. It appears that values Gini coefficient are consistent with those of the CV values and both demonstrate rising trends over the years. While the CV across the states was 26.001 in 1983-84, its value has increased consistently over the years and ultimately ended at 45.391 in 2009-10. Similarly, while the value of Gini-coefficient was recorded at 0.138 in 1983-84; it too exhibited a rising trend in the post-reforms period and reached the value of 0.262 in 2009-10. Thus, our findings here support the conclusions of most other researchers that the inter-state / inter-regional inequality has not only increased in India in the post-reforms period, but continued to remain serious.

Testing of Convergence/Divergence Hypothesis

3.1.7 The idea of convergence/divergence was first introduced by Solow (1956). In simple terms, it may be described as the tendency of the poorer regions to grow relatively faster and catch-up with rich regions. As regards to the empirical verification of convergence/divergence hypothesis in the Indian economy, there exists several contradicting observations. In this study, one of such tests have been empirically tested which is popularly known as β -Convergence. According to this concept, the poorer regions tend to grow faster than their rich counterparts. This hypothesis is based on the assumption that the regions have 'similar parametric specifications' (the regions have access to same technology, rate of savings, depreciation and population growth) but differ only in respect to their level of capital. However, this is a departure from reality as in practical situations the regions may differ in many other aspects, other than differing only in terms of capital and the presence of these differences may generate different steady states. In the statistical exercise, the existence of β -Convergence is examined empirically by regressing the growth rate of PCNSDP on the log of the PCNSDP of the base year.

Hence, in form of a regression equation can be expressed as:

$$GR \ of \ PCNSDP = a + b \ log \ (PCNSDP_{Base \ Year})$$

3.1.8 A negative and statistically significant estimate of 'b' indicates convergence. It signifies that the regions with higher income tend to record lower rates of growth and vice versa, ultimately leading to convergence of the regions. The empirical results from testing of convergence/divergence hypothesis in the context of our study have been presented in Table 3.

3.1.9 It is observed that the estimated coefficients generated from analysis of β - convergence for all the periods are positive and statistically significant indicating the absence of β -convergence across the states even after the introduction of the reforms. This observation corroborates with the findings of many researchers that inter-state inequality across states in India has been rising in the post-reforms period (Rao *et al.*, 1999; Dasgupta *et al.*, 2000; Nayyar, 2008, Birthal *et al.*, 2011; and Kumar and Subramanian, 2012).

3.1.10 While the incident of divergence across the Indian states has been statistically confirmed, the contribution of the manufacturing sector in this phenomenon is the next issue of analysis. This can be done by examining the rank correlation coefficient of the states based on their growth rates of PCNSDP and growth of income in the manufacturing sector (refer Table 4).

3.1.11 It can be clearly illustrated from Table 4 that estimate of the rank correlation coefficient in the post-reforms period (0.66) is considerably higher than that experienced during the pre-reforms period (0.37). Further, the Spearman's Rank Correlation test applied to examine the presence of significant relation between the two growth rates indicated presence of a considerable association between them. This corroborates that differences in the growth rates of the manufacturing sector across the states is responsible for rising divergence across the states. Hence the incidence of 'preferred' regions of investments by the private players guided by the differences in the overall infrastructure and the extent of industrial base across the states leads to differences development of the manufacturing sector that in turn contributes to make the rich states richer and the poor states poorer.

3.2 Scenario of Employment

Growth of Employment

3.2.1 Employment forms the basis of any economic development since it is not only an important means for nurturing national identity and social equality but also a basic source of human dignity and self-respect (GOI, 2001). Further, a widespread productive employment opportunity is essential for sustainable development of an economy besides being necessary for poverty reduction and equitable distribution of income. However, in India, the issue of employment had not been given adequate priority since the initial years of the planning era as and it was believed that an increase in the growth rate of income would be sufficient to automatically generate adequate employment opportunities thereby declining

the rate of poverty, destitution and socio-economic inequality in the country. It was only the Seventh Five Years Plan launched in 1985 (almost three and half decades after the independence) which for the first time brought employment into the limelight of planning schedule and academic discussions that gained further momentum after the official introduction of the New Economic Reforms in July 1991 which represented a paradigm shift in economic policy in India.

3.2.2 In contrary to the increasing growth rate of NSDP in post-globalization period, the growth rate of employment in the country has remained dismal. The growth rate of overall employment (UPSS approach) has declined from 2.33 per cent in the pre-reforms period to 1.38 per cent in the post-reforms period

3.2.3 The scenario in the rural sector has been more alarming where the growth rate has sharply reduced from 2.04 per cent to 0.91 per cent as compared to the urban sector that faced a fall from 3.42 per cent to 2.84 per cent. Moreover, it can be seen that the females have been affected more adversely compared to their male counterpart and this remains valid for both rural and urban sectors.

3.2.4 For any country, one of the major indicators of overall development is the role played by the manufacturing sector both in terms of output as well as employment. Yet, in India, the growth of employment in this sector has remained unsatisfactory. Although the share of this sector has been almost one-fourth of total urban employment, its contribution in the rural sector has remained low. As a result, the overall share of this sector in total employment has remained slightly more than one-tenth and has increased marginally over the years (except between 1983 and 1993-94 when the share per thousand workers declined from 107 to 106) [various rounds of NSSO reports].

3.2.5 Further, it can be seen (refer Table 5) that the growth rate of employment in this sector has actually increased in the urban sector from 2.09 per cent in the pre-reforms period to 2.66 per cent in the post-reforms period, and this has benefited both the urban males and females. However, in spite of this improved growth rate faced by the urban persons, the overall growth rate of employment in this sector decreased from 2.18 per cent during 1983/1993-94 to 1.88 per cent during 1993-94/2009-10. This has been a resultant of the fall in the growth rate of rural employment from 2.26 per cent to 1.05 per cent. Contrary to the urban sector, here both the rural males and rural females suffered deceleration in employment growth rates. While for the rural males, the decline was from 2.07 per cent to 1.36 per cent, the corresponding fall for the rural females was from 2.47 per cent to 0.46 per cent. Although the growth rate of employment in this sector decreased in the post-globalization period, proper policies directed towards employment enhancement in this sector might help to create employment opportunities in future.

Growth of Employment in Production Sectors (Manufacturing)-an Analysis at 2-Digit Level

3.2.6 Table 6 presents the growth rates of employment in the various production sectors (2-digit level) at the all-India level witnessed in pre-reforms period and post-reforms period both in the rural and urban sector.

3.2.7 Unlike the downturn in the employment growth rate of the overall manufacturing sector, examination of the growth rates of employment in the production divisions under the secondary sector reveals that several of these have faced increased growth rate of employment in the post-reforms period. These are 'textile manufacturing', 'leather manufacturing', 'refined petroleum', 'chemical manufacturing', 'basic metal', 'transport equipment', 'furniture manufacturing', 'recycling' and 'other manufacturing'. On the other hand, the sub-sectors that faced decline in the growth rate of employment in the post-reforms period are 'rubber industry', 'beverages' (4.96 per cent to 1.67 per cent), 'paper', 'publishing', 'fabricated metal', 'machinery equipment', 'electric machinery', 'manufacturing of radio and TV', 'medical equipment' and 'motor vehicles'.

Growth of Employment in the States

3.2.8 During pre-reforms period (1983 to 1993-94), the growth rate of total employment was highest for Haryana (2.89), which is followed by Andhra Pradesh (2.74), West Bengal (2.38) and Karnataka (2.37). Other states with high growth rate of employment during this period were Rajasthan (2.28), Maharashtra (2.25), Madhya Pradesh (2.18) and Gujarat (2.01). On the contrary, the states facing low growth rates of employment were Kerala (1.23), Bihar (1.25), Uttar Pradesh (1.75) and Tamil Nadu (1.79). However, Punjab lagged behind all others with a growth rate of only 0.69 per cent.

3.2.9 The post-globalization period witnessed a decline in the growth rates of employment in 12 out of 15 major states, which are Andhra Pradesh (2.74 to 0.40 per cent), Gujarat (2.01 to 1.63), Haryana (2.89 to 2.42), Karnataka (2.37 to 1.24), Kerala (1.23 to 0.36), Madhya Pradesh (2.18 to 1.23), Maharashtra (2.25 to 1.12), Orissa (2.01 to 0.94), Rajasthan (2.28 to 1.44), Tamil Nadu (1.79 to 0.58), Uttar Pradesh (1.75 to 1.61) and West Bengal (2.38 to 1.52). The three states that experienced rise in growth rate of employment in the post-reforms period are Assam (1.82 to 1.98), Bihar (1.25 to 1.34) and Punjab (0.69 to 1.62). It should be mentioned here that all these states faced a very low growth rate of employment in the pre-reforms period and were in fact among the lowest in the list of states. Hence, in general, the trend of employment growth during this period has been one of decline for the manufacturing sector even in the major states.

Income Elasticity of Employment in the Manufacturing Sector

3.2.10 Table 8 depicts that growth rates of both NSDP and employment in this sector have declined in the post-reforms period compared to that in the pre-reforms period. While the growth rate of NSDP has dropped from 6.12 per cent to 5.40 per cent, the corresponding decrease in the employment growth rate has been from 2.18 per cent to 1.88 per cent. This has resulted in a marginal decline of the value of elasticity 0.36 during the pre-reforms period to 0.35 in the post-reforms period.

3.2.11 Even this marginal decline in the value of elasticity poses a serious challenge regarding employment generation because given the present condition of shrinking employment opportunities in the primary sector today, it is the secondary and the tertiary sectors that have to bear the burden of increasing demand for employment generation.

3.2.12 The state level comparison of the values of employment elasticity in pre-reforms and post-reforms periods for this sector exhibits that as against negative value faced by two states [Bihar (-1.09) and Orissa (-0.03)] in the pre-reforms period, in the post-reforms period, none of the states faced negative elasticity. While in the pre-reforms period the value of elasticity was highest for Assam (6.69) and lowest for Bihar (-1.09), in the postreforms period too Assam (1.90) faced the maximum value of elasticity though the minimum is now faced by Kerala (0.03). The elasticity values have revived for Andhra Pradesh (0.19 to 0.24), Bihar (-1.09 to 0.46), Haryana (0.36 to 0.58), Madhya Pradesh (0.15 to 0.19), Orissa (-0.03 to 0.93) and Uttar Pradesh (0.24 to 0.38). However, amongst these states, only in Bihar and Madhya Pradesh, a rise in the growth rate of NSDP has led to a rise in the growth rate of employment. Just the opposite has occurred in Andhra Pradesh and Uttar Pradesh where the decreasing growth rate of NSDP is accompanied by reduced growth rate of employment. In two other states (Haryana and Orissa), the growth rate of NSDP and growth rate of employment have moved in the opposite direction. Yet, owing to the differences in relative magnitude of the changes, the value of elasticity has improved in these states.

3.2.13 This leads to the conclusion that considering the overall post-reform years, the globalization based strategies haven't been conducive to the manufacturing sector from the perspectives of both economic growth and employment. Even the values of employment elasticity during this period at both all India level as well as in the states have deteriorated compared to that experienced in the pre-reforms period indicates that this sector needs special attention to evolve with its full potential in the post-globalization era.

Analysis of Employment Quality in the Manufacturing Sector

3.2.14 Having examining the growth rate of employment in the manufacturing sector in the previous section, in this section, the quality of employment in this sector has been evaluated. The quality of employment depends on various factors like those of remuneration, working condition, job security and several others. Of late, ILO (2003) has propagated the term 'decent work' which covers various dimensions such as access to adequate income earning opportunities, social protection, basic human and workers' rights to organize and protest as well as participation in social dialogue on issues concerning labour and other supplementary benefits. However, as there is no scope for assessing the quality of employment on the basis all of these criteria owing to non-availability of suitable data from the NSSO rounds; in this section, we concentrate on examining the incidence of poverty among the total workers in the economy and their share in the manufacturing sector. For this purpose data on per capita monthly consumption expenditure for the households to which the workers belong to have been utilized. If the per capita monthly consumption expenditure is less than the 'poverty line' for a worker, she/he is designated as poor and if it is greater or equal to the poverty line, the worker is non-poor³.

3.2.15 For the total employed, it can be observed that the incidence of poverty (percentage of total workers) has actually decreased over the years from 46.1 per cent in 1983 to 37.6

³ The poverty line used by us is the 'official poverty line' as suggested by the Planning Commission.

per cent in 1993-94 and finally to 27.4 per cent in 2009-10. The scenario remains similar for the manufacturing sector also. Here too the estimates of workers below the poverty line have declined gradually since 1983. Hence, while the contribution of the manufacturing sector remains quite dissatisfactory both in cases of growth rates of income as well as employment, the share of the working poor in the sector has declined.

4. Summary

4.1 In order to ensure achievement of overall economic development, the importance of expansion in employment along with increased growth of income has been acknowledged at various levels. Moreover, it has been proved time and again that extensive prevalence of productive and quality employment is the only sustainable medium that has the potential to eradicate various socio-economic problems and establish equity and harmony in long run. It is well known that in a developing economy, employment, especially decent employment is crucial for bringing an overall inclusive development. The rise in the level of employment leads to pro-poor growth thereby leading to poverty reduction. The United Nations has recognized employment to be one of the universal human rights. The approach paper to the Twelfth Five Year Plan (2012-2017) too highlights that inclusive growth is a multi-dimensional concept which can be realized only with presence of adequate employment opportunities. In this course several attempts has been made to enhance the growth rate of income as this has been considered to be both necessary as well as sufficient to accelerate the growth rate of employment. However, the size of the population leads to continuous flow of enormous numbers of unskilled labourers in the labour market that creates an excessive pressure in the labour market widening the gap with full-employment equilibrium. In addition to these, the sole attention of government towards formulation of strategies and policies for enhancing income growth and treating employment only as a corollary to it has also been another key reason behind the lag of employment opportunities from adequate level.

4.2 At this onset it has been proved theoretically as well empirically that the secondary / manufacturing sector has significant role in the overall development of the economy through acceleration of both growth of income and employment. Further, in case of India that started primarily as an agricultural economy, the basic agenda for development does call for expansion of a strong industrial base. Several five Year Plans have acknowledged the importance of this sector and have emphasized for its development. Yet the performance of this sector has been always a debatable issue which has further fuelled up since the initiation of the reforms. While the promoters of the reform policies have argued regarding expansion of this sector in terms of both income and employment in the era of free trade; others have expressed their concern regarding the future of this sector especially in terms of employment generation amidst an environment characterized by liberalization & privatization.

4.3 Against this background, this study attempts to build a detailed understanding of the growth processes in the Indian economy in the era of globalization, particularly from the perspective of employment generating capacities of observed growth patterns in the manufacturing sector. Apart from analyzing growth patterns and employment performances at the all-India level and individual states during the period of globalization, it also examines,

the nexus (link), if any, between economic growth and employment so as to assess the employment generating capacities of higher economic growth.

4.4 The present paper depicts that although there has been acceleration in the growth rates of NSDP at the all-India level in the post-reforms period as compared to the prereforms period, the growth rate of NSDP in the manufacturing sector has declined over the post-reform years. Further in several major states too, the growth of income in this sector has faced a considerable setback.

4.5 Our formal testing of the 'convergence/divergence hypothesis' revealed clear presence of β -Divergence both in the pre-reforms and the post-reforms periods, representing a situation of clear divergence among the states and hence that of rising inter-state disparity. In this connection the contribution of the manufacturing sector in the incident of rising divergence has also been confirmed through Spearman's Rank Correlation test.

4.6 Turning towards the issue of employment, the overall economy has experienced a severe setback as regards to the growth rate of employment in the post-reforms era compared to that in the pre-reforms era. Another feature of employment that caught attention in recent years is the decline of growth rate of employment in the manufacturing sector of several states.

4.7 As far as the relation between growth of income and employment in the overall economy as well as in the manufacturing sector is concerned, presence of any strong nexus between the growth of income and employment in the economy hasn't been found which thereby discard the claims of the propagators of reforms regarding the mechanism of 'trickle down hypothesis'. It is evident that the rise of income in the economy is directing the increase in demands towards such products and services which are mainly capital-intensive leading to a shortfall of employment level as compared to what was being expected.

4.8 Examination of employment growth rates in the manufacturing sector revealed that this sector too has suffered from decline (2.18 per cent to 1.88 per cent) of growth rate of employment for both males and females in rural as well as urban sectors. The analysis of the growth rates of the states however exhibit that while most of the states have faced a downfall in the growth rate of employment in this sector, some like Bihar, Karnataka, Madhya Pradesh, Orissa and Punjab have seen acceleration in growth rates.

4.9 The investigation of the income elasticity of employment calculated for the total economy and also for the manufacturing sector between growth of income and employment too depicted decline in the values in the post-reform years indicating lack of strong reliance between the two. However, the investigation regarding the quality of employment in the manufacturing sector however displayed declining trend in the share of working poor over the years.

4.10 Hence it can be concluded this study clearly showed that the enhanced economic growth in India during post-reforms period has not been followed by any substantive growth of employment indicating absence of link between current growth processes and

employment generation. The scenario remains further dismal in case of the manufacturing sector that has witnessed decline in both income and employment growth rates. In such a situation, India may follow the Global Employment Agenda (GEA) developed by the ILO so that employment is brought at the centre of the socio-economic planning so as to enhance the rate of employment generation.

4.11 Given that the employment generation in the primary sector (which continues to remain as the main employer of labour force) has come to a standstill, the manufacturing sector needs to bear a considerable role in enhancing the overall employment performance. Hence, suitable policies that would increase the prospects of both income and employment in this sector need to be devised. Further the pattern of industrialization has to be reoriented in a suitable way that it helps in pro-poor economic growth. Policies focusing on higher returns to unskilled labour (that comprises of the majority of the Indian labour force) would be helpful in further reduction of the proportion of working poor in this sector. At a more disaggregated level, promotion of production sectors like food production, beverage production, textile manufacturing, manufacturing of furniture, manufacturing of basic metals could be seriously looked upon as these hold high promise of additional employment generation in the future.

4.12 In view of the fact that the employment opportunities (especially those for the females) have been adversely affected in the post-reforms period, the labourers have to be equipped with suitable skills that would help them to get absorbed in the employment generating sectors. In this connection, the importance of education, especially technical education, has to be appreciated that would enhance their employability in the production sectors that demand for higher skills and expertise. In this context, spread of vocational training along with provision of appropriate infrastructural facilities and availability of credit at lower interest rates would be helpful in increasing the self-employed in this sector. The schemes leading to expansion of cottage industries as well as SSI would also be beneficial for greater expansion of income and employment in this sector. Moreover, providing the private entrepreneurs with several beneficial schemes such as credit at lower rates and exemption tax conditioned with location of industries in backward regions would be helpful in initiating industrialization and infrastructural development in these areas which would then create a self-sustaining path of development leading to decline in the regional disparity across the states.

4.13 The Economic Survey 2012-13 observed that the Indian economy will host a pool of almost 16.7 million unemployed by 2020. This highlights the gravity of the situation and calls for immediate formulation of strategies targeting achievement of higher growth of employment. It has been proven several times that the major impediment in achieving the dream of holistic development of the nation has been the failure to generate adequate employment opportunities. Providing an opportunity to the citizens to take up gainful, productive, and quality employment is the link that percolates down the benefits of economic growth even to the lower socio-economic sections. The manufacturing sector in India has the potential to evolve as a grand facilitator of inclusive growth in India and hence in order to achieve the goal of sustainable and inclusive economic growth, the memo of employment generation along with reduction in regional disparity and numbers of working poor has to be harnessed as an integral part of the Plan and implemented efficiently.

References

Abraham, V. (2009), "Employment Growth in Rural India: Distress- Driven?", *Economic & Political Weekly*, 44(16):97-104.

Ahluwalia, I. J. (1985), *Industrial Growth in India: Stagnation since the Mid-sixties*, Oxford University Press.

Ahluwalia, M. S. (2002), "Economic Reforms in India since 1991: Has Gradualism Worked?", *Journal of Economic Perspectives*, 16(3):67-88.

— (2006), "India's Experience with Globalisation", *The Australian Economic Review*, 39(1):1-13.

Ahmed (2007), India's Long term Growth Experience- Lessons and Prospects, Sage Publications, New Delhi.

Aiyar, S. (2001), "Growth Theory and Convergence across Indian states: a Panel Study" in T. Collen (ed.), *India at the Crossroads: Sustaining Growth and Reducing Poverty*, International Monetary Fund.

Bajpai, N. and J. D. Sachs (1996), "Trends in Interstate Inequalities of Income in India", Development Discussion Paper No. 5, Harvard Institute for International Development.

Barrow, R and X Sala-i-Martin (1995), Economic Growth, Mc Graw-Hill, New York.

Bhalla, G.S. and P. Hazell (2003), "Rural Employment and Poverty", *Economic & Political Weekly*, 30(33):3473-3484.

Birthal P.S, H. Singh and S. Kumar (2011), "Agriculture, Economic Growth and Regional Disparities in India", *Journal of International Development*, 23(1):119-131.

Cashin, P and R. Sahay (1996), "Internal Migration, Centre-State Grants and Economic Growth in the States of India", *IMF Staff Papers*, 43(1).

Dasgupta, D., P. Maiti, R. Mukherjee, S. Sarkar, S. Chakrabarti, (2000), "Growth and Interstate Disparities in India", *Economic & Political Weekly*, 35(27):2413-2422.

Dholakia, R. (1994), "Spatial Dimension of Acceleration of Economic Growth in India", *Economic& Political Weekly*, 29(35):2303-2309.

Ghosh, B., S. Marjit and C. Neogi (1998), "Economic Growth and Regional Divergence in India, 1960 to 1995", *Economic & Political Weekly*, 33(26):1623-1630.

Government of India (2007), "Towards Faster and More Inclusive Growth: An Approach Paper to the Eleventh Five Year Plan", Government of India, New Delhi.

-----(2009), The Challenge of Employment in India: An Informal Economy Perspective, New Delhi.

International Labour Organisation (ILO), (2003), "Measuring Decent Work", *International Labour Review*, Vol.192, No.2, Geneva Special Issue.

Kumar, U. and A. Subramanian (2012), "Growth in India's States in the First Decade of 21st Century: Four Facts", *Economic & Political Weekly*, 67(3):48-57.

Lucas, R.E. Jr. (1988), 'On the mechanics of economic development', *Journal of Monetary Economics*, Vol.22, pp. 3-42.

Marjit. S and S. Mitra (1996), "Convergence in Regional Growth Rates: Indian Research Agenda", *Economic & Political Weekly*, 31(33):2239-2242.

Nagaraj, R, A. Varoudakis and M.A. Veganzones (1997), "Long-Run Growth and Convergence across Indian States", IGIDR, Mumbai (mimeographed).

Nayyar, G. (2008), "Economic Growth and Regional Inequality in India", *Economic & Political Weekly*, 43(06):58-67.

Papola, T.S. (2008), Employment Challenge and Strategies in India, ILO Asia-Pacific Working Paper series, ILO Sub regional Office for South Asia, New Delhi, January.

Rangarajan, C. (2007), "Revisiting Employment & Growth", *ICRA Bulletin of Money & Finance*, September 2007, Pp 57-68.

Rao, M. G., R. T. Shand and Kalirajan (1999), "Convergence of Incomes across Indian States: A Divergent Views", *Economic & Political Weekly*, 34(13):769-78.

Romer, P.M. (1986), "Increasing returns and long-run growth". *Journal of Political Economy*, Vol. 94, Pp. 1002-37.

Shetty, S. L. (2003): "Growth of SDP and Structural Changes in State Economics", *Economic & Political Weekly*, Vol.38, No.49, pp.5189-5200, December 6.

Sodersten, B. and G. Reed (1994), International Economics, Macmillan, London, 3rd Edition.

Solow, R. M. (1956), "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, Vol. 70, Pp. 65-94.

Sundaram, K. (2007), Employment and Poverty in India: 2000-2005, Working Paper 155, Centre for Development economics, Delhi School of Economics, June.

—— and S.D. Tendulkar (2002), "The Working Poor in India: Employment Poverty Linkages and Employment Policy Options, Issues in Employment and Poverty Discussion Paper, ILO, Geneva.

— (2006): "Trends in Labour and employment in India, 1983-2003: some Fresh Results", Conference Papers Series, Conference on Labour and Employment Issues in India, organized by Institute of Human Development, New Delhi, July 9.

Unni, J. and G. Raveendran, (2007), "Growth of Employment (1993-94 to 2004-05): Illusion of Inclusiveness?", *Economic & Political Weekly*, 40(03):196-200.

World Bank (2010), "India's Employment Challenge – Creating Jobs, Helping Workers", Poverty Reduction Management Unit, South Asia, Oxford University Press, New Delhi.

States	Growth Rate	of Total NSDP	Growth Rate of NSDP in the Manufacturing Sector (Registered & Unregistered)		
	Pre-Reforms Period	Post-Reforms Period	Pre-Reforms Period	Post-Reforms Period	
Andhra Pradesh	6.31	6.58	9.78	5.26	
Assam	3.12	3.44	0.49	0.55	
Bihar	2.22	5.35	2.16	3.93	
Gujarat	4.67	6.96	6.12	7.27	
Haryana	6.14	7.32	7.57	6.43	
Karnataka	5.63	6.4	7.74	6.85	
Kerala	5.21	6.28	5.71	2.73	
Madhya Pradesh	4.75	4.56	7.48	8.05	
Maharashtra	7.24	6.85	7.43	5.59	
Orissa	3.07	5.65	4.68	1.43	
Punjab	5.09	4.83	2.14	5.49	
Rajasthan	5.91	5.59	4.47	5.81	
Tamil Nadu	5.68	6.15	3.19	3.31	
Uttar Pradesh	4.44	4.59	6.88	3.91	
West Bengal	4.62	6.26	3.14	5.07	
all-India	5.25	5.85	6.12	5.42	

Table 1: The Growth Rates of NSDP in the States and in their Manufacturing Sector in Pre-Reforms as well as post-Reforms Periods

Source: CSO, Website of RBI

Year	Coefficient of variation	Gini coefficient
1983-84	26.001	0.138
1984-85	27.773	0.144
1985-86	29.968	0.152
1986-87	29.907	0.151
1987-88	30.085	0.153
1988-89	29.964	0.155
1989-90	31.114	0.162
1990-91	31.440	0.167
1991-92	31.603	0.167
1992-93	34.063	0.184
1993-94	34.425	0.176
1994-95	34.098	0.175
1995-96	35.272	0.188
1996-97	36.374	0.216
1997-98	35.193	0.19
1998-99	35.498	0.193
1999-00	35.812	0.209
2000-01	35.819	0.219
2001-02	35.606	0.223
2002-03	36.649	0.228
2003-04	37.434	0.231
2004-05	38.889	0.237
2005-06	39.194	0.242
2006-07	40.821	0.245
2007-08	41.806	0.251
2008-09	42.075	0.257
2009-10	45.391	0.262

Table 2: Behaviour of CV of PCNSDP and Gini-coefficient Over Time

Source: Same as Table 1

Table 3: Em	pirical Results	from Testi	ng of Conve	rgence Hypo	theses in India
	r		· · ·	O ¹ · · · J ¹ ·	

Hypothesis tested	Period	Estimated equation
B-Convergence	1983-84 to 1993-94	GR of PCNSDP = -9.57 + 1.38** log (PCNSDP 1983-84)
	(pre-reforms)	(2.26) (2.09)
	1993-94 to 2009-10	GR of PCNSDP = -9.14 + 0.556*** log (PCNSDP 1993-94)
	(post-reforms)	(6.23) (1.99)
	1983-84 to 2009-10	GR of PCNSDP = -2.19 + 0.66*** log (PCNSDP 1993-94)
	(entire period)	(2.11) (1.92)

Notes: (i) Figures in brackets are computed t-values; (ii) *, ** and *** imply significance at 1, 5 and 10 per cent levels respectively. Source: Same as Table 1

Table 4: The Rank Correlation Coefficient between Growth Rates of PCNSDP & Manufacturing Sector in 15 Major States in Pre-Reforms & Post-Reforms Periods

Estimates of Rank Correlation Coefficient	Pre-Reforms Period	Post-Reforms Period	
	0.37	0.66*	
	(1.546)	(4.216)	

*Notes: (i) Figures in brackets are computed t-values; (ii) * imply significance at 5 per cent level. Source: Same as Table 1*

Table 5: Growth Rate of Employment (UPSS Approach) in the Overall Economy as well as in the Manufacturing Sector in the Pre-Reforms and Post-Reforms Periods

Categories	Growth Rate of the Economy (U	Employment in JPSS approach)	Growth Rate of Employment in the Manufacturing Sector (UPSS approach)		
	Pre-Reforms	Post-Reforms	Pre-Reforms	Post-Reforms	
	Period	Period	Period	Period	
Rural Males	2.25	1.36	2.07	1.36	
Rural Females	1.68	0.03	2.47	0.46	
Rural Person	2.04	0.91	2.26	1.05	
Urban Males	3.37	3.01	2.01	2.52	
Urban Females	3.61	2.18	2.43	3.12	
Urban Persons	3.42	2.84	2.09	2.66	
Total Males	2.53	1.82	2.06	2.01	
Total Females	1.93	0.38	2.46	1.55	
Total Persons	2.33	1.38	2.18	1.88	

Source: Various Rounds of EUS, NSSO

Production Sectors	Growth Rates in Pre-Reforms Period (1983/1993-94)			Growth Rates in Post-Reforms Period (1993-94/2009-10)		
(Manufacturing)	RP	UP	TP	RP	UP	TP
Food	6.18	3.36	5.01	0.25	2.23	1.07
Beverages	6.15	3.15	4.96	0.91	2.84	1.67
Tobacco	4.97	1.45	3.65	0.91	-0.79	0.39
Textiles	-1.36	-0.04	-0.63	-1.19	0.08	-0.43
Leather	-2.75	6.52	1.86	0.91	2.84	2.18
Wood	4.60	3.18	4.11	0.17	-1.52	-0.34
Paper	5.24	3.33	4.32	0.91	2.84	1.86
Publishing	4.85	3.49	3.97	0.91	4.71	3.52
Refined Petrol	-	1.45	1.45	-	2.84	2.84
Chemical	-0.69	-0.34	-0.46	0.91	0.70	0.77
Rubber	24.73	16.70	19.03	0.91	1.68	1.40
Non-metallic Items	4.05	1.64	3.36	1.66	2.17	1.79
Basic Metal	0.43	2.25	1.73	0.91	2.17	1.86
Fabricated Metal	4.81	4.66	4.71	3.50	2.33	2.77
Machinery equipment	4.52	6.29	5.75	0.91	2.84	2.35
Electrical Machinery	4.75	5.87	5.32	0.91	5.48	3.69
Radio, TV etc	4.34	2.80	3.49	-	-5.69	-9.39
Medical Equipments	3.73	-	3.73	-	-11.35	-11.35
Motor Vehicles	2.70	3.51	3.16	0.91	1.42	1.21
Transport equipments	2.84	3.72	3.23	0.91	6.18	3.81
Furniture	4.62	3.89	4.46	11.59	24.76	16.82
Recycling	-	1.78	-0.87	-	2.84	2.84
Other Manufacturing	-2.61	4.05	-0.36	-1.03	6.37	2.79
Total Manufacturing	2.26	2.09	2.18	1.05	2.66	1.88

Table 6: Growth Rates of Employment (UPSS) in the Various sub-Sectors under the Manufacturing Sector at the all-India level in the Pre-Reforms as well as Post-Reforms Periods

Source: Unit Level Data of Various Rounds of EUS, NSSO RP: Rural Person, UP: Urban Person, TP: Total Person

States	Growth Rate of Total Employment (UPSS approach)		Growth Rate of Employment in the Manufacturing Sector (UPSS approach)		
	Pre-Reforms	Post-Reforms	Pre-Reforms	Post-Reforms	
Andhra Pradesh	2.74	0.4	1.9	1.26	
Assam	1.82	1.98	3.28	1.04	
Bihar	1.25	1.34	-2.35	1.8	
Gujarat	2.01	1.63	4.5	0.77	
Haryana	2.89	2.42	2.72	3.72	
Karnataka	2.37	1.24	2.57	0.77	
Kerala	1.23	0.36	0.5	0.08	
Madhya Pradesh	2.18	1.23	1.14	1.56	
Maharashtra	2.25	1.12	2.24	0.54	
Orissa	2.01	0.94	-0.14	1.32	
Punjab	0.69	1.62	1.04	1.96	
Rajasthan	2.28	1.44	2.11	0.99	
Tamil Nadu	1.79	0.58	2.58	0.31	
Uttar Pradesh	1.75	1.61	1.66	1.47	
West Bengal	2.38	1.52	4.05	0.88	
all-India	2.33	1.38	2.18	1.88	

Table 7: The Growth Rates of Overall Employment in the States and in their Manufacturing Sector in Pre-Reforms as well as post-Reforms Periods

Source: Same as Table6.

	Growth Rate of NSDP		Growth Rate of workers as per US (PS+SS) Basis		Output Elasticity of Employment	
States	Pre- Reforms Period (1983/ 1993-94)	Post- Reforms Period (1993-94/ 2009-10)	Pre- Reforms Period (1983/ 1993-94)	Post- Reforms Period (1993-94/ 2009-10)	Pre- Reforms Period (1983/ 1993-94)	Post- Reforms Period (1993-94/ 2009-10)
Andhra Pradesh	9.78	5.26	1.9	1.26	0.19	0.24
Assam	0.49	0.55	3.28	1.04	6.69	1.9
Bihar	2.16	3.93	-2.35	1.8	-1.09	0.46
Gujarat	6.12	7.27	4.5	0.77	0.74	0.11
Haryana	7.57	6.43	2.72	3.72	0.36	0.58
Karnataka	7.74	6.85	2.57	0.77	0.33	0.11
Kerala	5.71	2.73	0.5	0.08	0.09	0.03
Madhya Pradesh	7.48	8.05	1.14	1.56	0.15	0.19
Maharashtra	7.43	5.59	2.24	0.54	0.3	0.1
Orissa	4.68	1.43	-0.14	1.32	-0.03	0.93
Punjab	2.14	5.49	1.04	1.96	0.49	0.36
Rajasthan	4.47	5.8	2.11	0.99	0.47	0.17
Tamil Nadu	3.19	3.31	2.58	0.31	0.81	0.09
Uttar Pradesh	6.88	3.91	1.66	1.47	0.24	0.38
West Bengal	3.14	5.07	4.05	0.88	1.29	0.17
All-India	6.12	5.4	2.18	1.88	0.35	0.21

Table 8: Growth Rate of NSDP, Growth Rate of Employment (UPSS) and Employment Elasticity in the Pre-Reforms and Post-Reforms Periods for 15 Major States : Manufacturing Sector

Source: Same as Table 1 and 5

Table 9: Incidence	of Poverty Am	ong Workers ((US-PS+SS)):All-India

Years	Total Workers	Workers in Manufacturing Sector
1983	46.1	12.93
1993-94	37.6	10.03
2009-10	27.4	9.27

Source: Same as Table 6