

JOBLESS GROWTH IN INDIAN REGISTERED MANUFACTURING SECTOR

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Abstract

India has made remarkable economic progress in recent times. However, this growth has been skewed geographically and across sectors; and has failed to generate more jobs, especially in the registered manufacturing sector. In this perspective, this paper seeks to examine the relationship between output growth and employment growth in registered manufacturing sector in India for the period 1973-2009, taking a panel of 15 states. At the aggregate as well as at the individual State level, employment growth has shown worrying picture in Indian manufacturing industry since 1980. It implies that industrial corporations deliberately follow labour saving technique of production in our labour surplus economy. Thus more and more labour displacing production techniques have been favoured and as a result growth has been jobless. It is feared that liberalization policy may intensify jobless growth in future.

Keyword: Employment growth, value added, labour productivity, jobless growth.

Introduction

The size of the employment in any country depends to a great extent on the level of development. The priority and attention it has received in development plans have, however, varied from time to time and so have the approaches and strategies as well as policies and programmes for employment generation. Ensuring a regular and adequate supply of suitably skilled workforce was conceived to be a matter of greater concern. Improving the quality of employment, in terms of reasonable and rising level of wages and a minimum measure of social security against the common risks of work and life was, however, considered an important concern of state policy. Public sector, providing conditions of good quality employment, was regarded as 'model employer' and expanded its workforce continuously for about four decades. The private sector was expected to follow the rules of employment as laid down in various legislations and agreements so as not only to protect employment but ensure its quality. Growth of employment emerged as an important concern in development planning around the middle of 1970s, when it was realized that economic and demographic performance of the economy had fallen short of earlier expectations and as a result unemployment had been on an increase. The problem was sought to be tackled through a two-pronged strategy: on the one hand, efforts were initiated to make development more employment oriented, by encouraging growth of employment intensive sectors and including employment among the objectives of macro-economic policies, and, on the other, special employment programmes, for creating both short-term wage employment and self-employment were introduced.

Slow growth of employment has been a matter of anxiety for planners and policy makers in India, particularly during the past two decades when a relatively high rate of economic growth has not been accompanied by correspondingly high rate of employment expansion. The phenomenon has often been described as 'jobless growth', in which output expanded but formal employment has almost stagnated.

The decade of the 1990s witnessed the process of economic reforms in India, which included a significant liberalisation of both industrial activities and trade. Many expected this process of economic reforms to boost employment in the manufacturing sector, as there was increased outward orientation because the trade and the industrial sectors were

deregulated. The centrality of the role of employment in transferring the benefits of growth to the poor relies on the fact that labours is about the only resource in which the poor are relatively abundant.

The magnitude of the benefits of growth to the poor, therefore, largely depends on the nature and extent of employment that growth itself generates. However, the relationship between economic growth and employment is not automatic and predetermined and not all growth is equally employment intensive. The recent experience of some of the fastest growing Asian countries testifies that the employment intensity of growth, that is. the rate at which employment grows when output increases, can not only be low but also decline over time despite a positive growth rate of the economy. In the case of India, the incredible growth performance in the last two and a half decades has rapidly modified the economic structure of the country, but without the expected transformations in terms of occupation. Major objectives of the new industrial policy were to build on the gains already achieved, correct the weaknesses, maintain a sustained growth in productivity and gainful employment and attain international competitiveness. Naturally, the question arises in the minds of all researchers in the field of industrial economics is what is the actual growth of employment in Indian manufacturing during liberalization period. Hence, the present paper has analysed employment growth in registered Indian manufacturing industry for the period from 1973-04 to 2008-09.

Methodology

The basic data for the present study has been collected from the various volumes of Annual Survey of Industries (ASI) published by Central Statistical Organization (CSO), government of India. This study has used gross value added at constant prices (2004-05=100) as a measure of output. Total number of persons engaged has been used as a measure of labour input. The study period (1973-74 to 2003-04) has been divided into three distinct sub-periods namely i) pre-liberalization period (1973-74 to 1980-81), ii) mild-liberalization period (1981-82 to 1990-91) and iii) intensive-liberalization period (1991-92 to 2008-09).

The selected se states which together have contributed more than 90 per cent of Indian registered manufacturing gross value added in every year of the study period of 36 years 1973-74 to 2008-09. Growth rates are perhaps the most commonly used measure in economic profession. The sub-period growth rates could be measured usually by running regressions separately for each period. However, in the case of independent estimation, the trend line is likely to be discontinuous and hence, some time-disparity may arise in between the sub-periods and whole period growth rates. Recently Boyce (1986) has suggested a method of kinked exponential model for removing the inconsistency in the case of exponential trend equations. This method is based on the elimination of the discontinuity between sub-periods by imposing linear restriction.

For the three sub-periods by adding the three separate linear trends $Y_1 = a_1D_1 + b_1D_1t$, $Y_2 = a_2D_2 + b_2D_2t$ and $Y_3 = a_3D_3 + b_3D_3t$, one can obtain a discontinuous linear model as indicated below:

$$Y_t = a_1D_1 + b_1D_1t + a_2D_2 + b_2D_2t + a_3D_3 + b_3D_3t + u_t \quad \text{----- 1, where}$$

$$D_1 = 1 \text{ for the first period} \\ = 0 \text{ otherwise}$$

$$D_2 = 1 \text{ for the second period} \\ = 0 \text{ otherwise}$$

$$D_3 = 1 \text{ for the third period} \\ = 0 \text{ otherwise}$$

This possibility of discontinuity could be eliminated by two linear restrictions such that the first two lines intersect at the break point K1 and second and third lines intersect at the second break point K2. In mathematical terminology it is like

$$\begin{aligned} a_1 + b_1K_1 &= a_2 + b_2K_1 && \text{----- 2 and} \\ a_2 + b_2K_2 &= a_3 + b_3K_2 && \text{----- 3} \end{aligned}$$

After solving equation 1 with these restrictions 2 and 3, one can easily get the restricted model as

$$Y_t = a_1 + b_1 (D_1t + D_2K_1 + D_3K_1) + b_2 (D_2t + K_2D_3 - K_1D_2 - K_1D_3) + b_3 (D_3t - K_2D_3) + ut$$

For the present study, double kink exponential model has been used. This model is $\ln Y_t = a_1 + b_1 (D_1t + D_2K_1 + D_3K_1) + b_2 (D_2t + K_2D_3 - K_1D_2 - K_1D_3) + b_3 (D_3t - K_2D_3) + ut$

Here, the sub-periods are 1973-74 to 1980-81, 1981-82 to 1990-91 and 1991-92 to 2008-09. K1 and K2 are the two break points, hence $t = 9$ at K1 and $t = 19$ at K2 and t is time period and b_1 , b_2 and b_3 are the parameters to be estimated on the basis of observed data. Growth rate for the sub-period has been calculated by $[\exp(b_i) - 1]$.

Results and Discussion

Growth of Gross Value Added

Growth of gross value added at the aggregate level has been 6.92 per cent per annum during 1973-74 to 2003-09. Growth has exceeded 4 per cent per annum in thirteen States except West Bengal (2.2 per cent per annum) and Bihar (-0.39 per cent per annum) during the study period. Growth of value added has been the highest in Haryana (8.79 per cent per annum), followed by Gujarat (8.37 per cent per annum), Karnataka (8.16 per cent per annum), Andhra Pradesh (7.89 per cent per annum), Rajasthan (7.53 per cent per annum), Orissa (7.44 per cent per annum), Tamil Nadu (6.73 per cent per annum) and Uttar Pradesh (6.65 per cent per annum) during the entire period of study.

Growth of value added in twelve states except Haryana, Punjab and Kerala have been relatively higher during mild-liberalization period compared to pre-liberalization period. Growth of value added has been the lowest in Orissa (1.69 per cent per annum) among all the fifteen states during pre-liberalization period. However, growth of value added has been more than ten per cent per annum in Orissa during mild-liberalization period. All other States excluding West Bengal have registered growth of gross value added exceeding 6 per cent per annum in mild-liberalization period. Gujarat and Haryana have recorded continuous increase in growth of gross value added in all the three sub-periods.

In the intensive-liberalization period, growth of value added has improved neither at aggregate nor at the individual State level setting aside Gujarat, Karnataka and Haryana. Gross value added has registered an impressive growth of 9.88 per cent per annum and 9.35 per cent per annum in Haryana and Gujarat respectively during the period. For the other thirteen states during the same period, growth of value added has been lower compared to that during mild-liberalization period. All other States excluding Bihar have registered growth of gross value added has been positive during mild-liberalization period. On the whole, comparative analysis across the three times period has revealed that LPG policy has shrunk growth of value added at the aggregate and at thirteen States' level.

Growth of Employment

In the recent past there has been deceleration in the growth of employment in India in spite of accelerated output growth. During the entire period of study, employment growth has been one per cent at the aggregate manufacturing industry. Out of the fifteen major states, twelve states have shown positive growth of employment except Madhya Pradesh, Bihar and West Bengal. Employment growth has been found to be positive but less

than one per cent in Assam, Uttar Pradesh and Maharashtra. The highest growth of employment has been in Haryana recording 3.68 per cent per annum followed by Punjab (2.70 per cent per annum), Tamil Nadu (2.59 per cent per annum), Andhra Pradesh (2.20 per cent per annum), Rajasthan (2.15 per cent per annum), and Karnataka (2.14 per cent per annum) during the entire period of study.

Average Annual Growth Rate of Gross Value Added in Indian Manufacturing
(Per cent per annum)

State \ Period	Pre Liberalization Period (1973-81)	Mild Liberalization Period (1981-91)	Intensive-Liberalization Period (1991-09)	Entire Period (1973-09)
All India	6.05	7.45	6.75	6.92
Maharashtra	4.45	7.02	6.51	6.42
Gujarat	6.49	7.83	9.35	8.37
Tamil Nadu	6.79	8.45	5.37	6.73
Uttar Pradesh	6.87	11.79	2.68	6.65
Andhra Pradesh	7.71	8.98	7.06	7.89
Karnataka	6.41	7.05	9.56	8.16
Madhya Pradesh	6.21	11.23	1.62	5.88
Haryana	11.51	6.29	9.88	8.73
Punjab	10.45	9.56	3.91	6.94
West Bengal	1.98	2.21	2.94	2.52
Rajasthan	9.13	8.57	6.25	7.53
Bihar	5.06	12.64	-11.06	-0.39
Kerala	7.42	6.10	2.69	4.63
Orissa	1.69	10.38	6.78	7.44
Assam	2.03	6.33	4.68	4.92

Note: Growth rate for the sub-periods given above are calculated from kinked exponential model, where as growth rate for 1973-09 is calculated from the semi-log trend equation.

Source: Computed using ASI data

Employment has grown significantly at a modest rate of 3.31 per cent per annum during pre-liberalization period and declined to 0.63 per cent during mild-liberalization period at the aggregate level. All the twelve States except Madhya Pradesh, Bihar and Kerala have had relatively higher growth of employment during pre-liberalization period compared to mild-liberalization period. Growth of employment in West Bengal has been positive though less than one per cent during pre-liberalization period and, it has become negative

during mild-liberalization period. Employment growth has been the highest in Punjab (4.23 per cent per annum) followed by Madhya Pradesh (3.76 per cent per annum), Haryana (3.04 per cent per annum), Bihar (2.40 per cent per annum) and Andhra Pradesh (2.34 per cent per annum), during mild-liberalization period.

Growth of employment has been less than one per cent (0.80 per cent per annum) in aggregative Indian manufacturing sector during intensive-liberalization period. Industrially developed States such as Gujarat and Maharashtra have had growth less than one per cent per annum and negative respectively during mild-liberalization period. During intensive-liberalization period, growth of employment has been again less than one per cent at the aggregate level. The better performance in terms of growth of employment has been seen in Tamil Nadu, Karnataka, Haryana, and Kerala during intensive-liberalization period. The highest growth of employment has been in Haryana (3.16 per cent per annum) followed by Karnataka (2.80 per cent per annum) and Tamil Nadu (2.62 per cent per annum) during intensive-liberalization period. Employment growth has become more negative during the same period in Bihar (-9.92 per cent per annum), Madhya Pradesh (-3.85 per cent per annum), West Bengal (-2.91 per cent per annum, Uttar Pradesh (-1.05 per cent per annum) and Orissa (-0.77 per cent per annum). Number of States having negative growth rate of employment increased to five during intensive-liberalization period against four during mild-liberalization period. Therefore, employment performance has shown an unhappy during intensive-liberalization period in Indian manufacturing. In all the thirteen states excluding Haryana, Karnataka and Tamil Nadu there has been either negative or

sluggish growth of employment during intensive-liberalization period. Employment growth in manufacturing sector has been discouraging in labour abounded India.

Average Annual Growth Rate of Employment in Indian Manufacturing
(Per cent per annum)

State	Period	Pre-Liberalization Period (1973-81)	Mild - Liberalization Period (1981-91)	Intensive Liberalization Period (1991-09)	Entire Period (1973-09)
All India		3.31	0.63	0.80	1.08
Maharashtra		1.43	0.22	0.19	0.21
Gujarat		3.45	-0.17	1.79	1.27
Tamil Nadu		4.04	2.02	2.62	2.59
Uttar Pradesh		6.58	-0.43	-1.05	0.23
Andhra Pradesh		6.25	2.34	0.94	2.20
Karnataka		2.81	1.06	2.80	2.14
Madhya Pradesh		3.43	3.76	-3.85	-0.01
Haryana		7.23	3.04	3.16	3.68
Punjab		6.55	4.23	0.42	2.70
West Bengal		0.22	-1.66	-2.91	-2.00
Rajasthan		6.90	1.75	1.10	2.15
Bihar		1.38	2.40	-9.92	-3.83
Kerala		0.44	0.74	1.37	1.00
Orissa		3.97	2.24	-0.77	1.03
Assam		1.66	-0.39	0.60	0.39

Note: Growth rate for the sub-periods given above are calculated from kinked exponential model, where as growth rate for 1973-09 is calculated from the semi-log trend equation.
Source: Computed using ASI data

Five out of fifteen states have had negative growth of employment during intensive-liberalization period. Implementation of voluntary retirement schemes introduced by the Government and hire and fire policy of the corporate sector, a tactics adopted under the banner of LPG has instead of creating employment opportunities resulted in shrinking the already created employment opportunities leading to negative growth rate of employment in India.

At the aggregate level, growth of gross value added has been nearly 6.75 per cent per annum and that of number of employees has been 0.80 per cent per annum during intensive liberalization period showing apparently that adoption of LPG policies have failed not only to promote but also to maintain employment growth in manufacturing sector of India. In fact there has been negative growth of employment. It may be a worldwide phenomenon. However, India is a labour surplus economy anxiously waiting to reap demographic dividend in near future. India's path of growth is not matched by employment generation. It is also feared that liberalization policy may intensify jobless growth in future.

Output per Employee of the Manufacturing Sector across States

Output per employee is referred as labour productivity. In the present study output per employee is measured as (real) gross value added per employee. During 1973-09, labour productivity growth rate has been 5.77 per cent at the aggregate level. All the fifteen major states have shown positive growth of labour during the entire period of study as a whole. However, across the states there has been a substantial variation. For the five States namely Gujarat, Uttar Pradesh, Orissa Maharashtra and Karnataka, growth rate of labour productivity has crossed the aggregate level during entire period of study as a whole and for the rest of the ten States it has been the reverse.

Labour productivity growth across states and across time periods an interesting picture. During pre-liberalization period, average annual growth of labour productivity has been the least at the aggregate level. Orissa which has negative growth of output per employee (-2.19 per cent per annum) during pre liberalization period and it has been 7.96 per cent growth per annum during mil liberalization period. Except four States namely Haryana (3.15 per cent per annum), West Bengal (3.94 per cent per annum), Punjab (5.11 per cent per annum) and Kerala (5.31 per cent per annum), the rest of eleven States have

shown labour productivity growth higher than 6 per cent per annum and highest growth level of 12.27 per cent per annum has been realized by Uttar Pradesh during mild liberalization period.

During intensive liberalization period whereas , Tamil Nadu and Kerala had lower growth of labour productivity (less than 3 per cent per annum) and negative growth has been observed in Bihar (-1.27 per cent per annum) the rest of the States have realized more than 3 per cent. Orissa has been the highest growth rate of labour productivity (7.61 per cent per annum), followed by Gujarat (7.42 per cent per annum).

Growth Rate of Output per Employee Across States In Indian Manufacturing
(Per cent per annum)

State \ Period	Pre-Liberalization Period (1973-81)	Mild-Liberalization Period (1981-91)	Intensive Liberalization Period (1991-09)	Entire Period (1973-09)
All -India	2.64	6.77	5.94	5.77
Maharashtra	2.99	7.25	6.31	6.19
Gujarat	2.93	8.02	7.42	7.01
Tamil Nadu	2.63	6.23	2.68	4.03
Uttar Pradesh	0.28	12.27	3.76	6.41
Andhra Pradesh	1.37	6.49	6..07	5.55
Karnataka	3.49	5.93	6.57	5.89
Madhya Pradesh	2.99	7.22	5.69	5.88
Haryana	3.99	3.15	6.52	4.87
Punjab	3.66	5.11	3.48	4.12
West Bengal	1.75	3.94	6.02	1.62
Rajasthan	2.09	6.70	5.08	5.27
Bihar	3.63	10.00	-1.27	3.57
Kerala	6.94	5.31	1.30	3.59
Orissa	-2.19	7.96	7.61	6.30
Assam	0.37	6.75	4.05	4.54

Note: Growth rate for the sub-periods given above are calculated from kinked exponential model, whereas growth rate for 1973-09 is calculated from the semi-log trend equation.
Source: Computed using ASI data.

Growth of labour productivity Indian aggregate registered manufacturing industry has been increased from 2.64 per cent in pre-liberalization period to 6.77 per cent in mild-liberalization period and close to 6 per cent in intensive-liberalization period. On the whole, it can be concluded that growth of labour productivity has been positive and higher at national level and in most of the states after reform process came into force but growth of employment did not respond well in consonance with labour productivity growth.

Policy Implications

The role of manufacturing sector is recognized to be not only for enabling high GDP growth but also for facilitating large-scale employment. However, in India the performance of manufacturing sector creating employment has always unsatisfactory. Slower growth in employment in the manufacturing sector has resulted in sharp decline of share of labour in value added. At the aggregate as well as at the individual State level, employment growth has shown worrying picture in Indian manufacturing industry since 1980. The organized manufacturing had accounted for 3.31 per cent of employment during 1973-81. Thereafter it declined to 0.63 per cent during mild-liberalization period and further to 0.80 per cent during intensive- liberalization period. In most of the states, there has been either negative or sluggish growth of employment during intensive- liberalization period. It implies that industrial corporations deliberately follow labour saving technique of production in our labour surplus economy. The liberalization programme promoted

process of capital deepening in Indian manufacturing. Thus more and more labour displacing production techniques have been favoured and as a result growth has been jobless. Drastic cut short in growth of number of employees has resulted in higher labour productivity during intensive liberalization period compared to pre liberalization period. It is feared that liberalization policy may intensify jobless growth in future. Therefore, higher labour productivity growth has not been something to be appreciated. Our results show that in those states where the growth of value added in registered manufacturing has risen over time, the jobless growth problem has worsened. Continuous decline in employment growth in Maharashtra has been a matter of serious concern as one fifth of total value added in Indian manufacturing has been accounted by the state of Maharashtra during the study period.

Growth in value added in Indian manufacturing has not been sufficient to generate the required employment opportunities in Indian registered manufacturing sector. It is often rightly argued that a high rate of economic growth is a necessary, but not a sufficient condition to solve the unemployment problem in India. Inclusive growth is growth that ensures meaningful and sustainable jobs for all, which includes the poorest of the poor. It is to be noted that growth of Indian Manufacturing industry could not be truly inclusive growth unless there has been corresponding growth in direct and indirect employment in manufacturing sector.

India's path of growth is not matched by employment generation. This will lead to social unrest unless the government rethinks of economic priorities. The labour- saving bias in the technical progress should be wiped out by encouraging the application of labour-intensive techniques on wider scale. Such a situation in capital deepening in Indian manufacturing may be profitable to individual industrialists, but it is certainly not beneficial to the society, because it increase unemployment. Therefore, there is an urgent need to remove prevailing distortions in labour market.

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