Economic Reforms and Employment Growth in India : An Empirical Analysis

* T. Sampathkumar
** V. Pradeep

Abstract

The present study attempted to estimate the impact of economic reforms on employment growth in the organized sector using the data for a period of 40 years from 1970-71 to 2009-10 by applying a dummy variable approach. It was found that though an increase in absolute terms was observed in employment growth, the growth in relative terms was miserable. Employment growth in the private sector increased at a rate of 2.8% with a marginal rate of acceleration at 0.02 % while the same in the public sector and in the organized sector as a whole witnessed a deceleration at a rate of 0.08% and 0.05%, respectively during the study period. While employment growth in the private sector marked an increase, employment growth in the public sector declined significantly during the post-reform period in the country. The public sector is no longer seen as an employment provider; it has, in fact, experienced an absolute decline in employment in recent years. Faster economic growth resulting from liberalization is, however, expected to lead to the expansion of employment. Economic growth rate has accelerated, but employment growth has seen a deceleration.

Keywords : **India, employment, organized sector, growth, reforms**

JEL Classification : E24, O17, O40

Paper Submission Date : June 15, 2016 ; Paper sent back for Revision : January 5, 2017 ; Paper Acceptance Date : February 2 , 2017

Expansion and creation of employment opportunities have been the laudable objectives of economic reforms being followed since the early 1990s in India. It is often assumed that economic liberalization can lead to a remarkable change in productivity and growth and this view has been challenged by new theories of endogenous growth (Pradeep & Chen, 2012). Studies like Dopke (2001) and Kapsos (2005) exhibited a positive and strong relationship between economic growth and employment growth in a region; as economy develops, employment is generated, the extent of employment is peculiar to the time frame and the economic activity under consideration. Lifting of industrial controls and trade restrictions are expected to result in higher output growth leading to creation of new employment opportunities in different sectors of an economy. But the emerging evidence in India in 1990s on the employment front has been rather disappointing (Bhattacharya & Sakthivel, 2004).In view of the declining employment growth particularly after 1991, the Planning Commission constituted several committees within a span of four-five years on employment. While the task force (Planning Commission, 2001) harped on the virtues of organized sector employment with service sector taking the lead, the Special Group (Planning Commission, 2002) advocated the idea of a big push to the unorganized sector with agriculture at the core of employment expansion. While the former had put the growth rate of employment at 0.98% between 1993-94 and 1999-2000, later it was estimated to be 1.07%. However, the report of the special group, using the NSSO data on current daily status (CDS) estimated the employment growth in the organized

* *Assistant Professor,* Post Graduate & Research Department of Economics, Government Arts College (Autonomous), Coimbatore - 641 018, Tamil Nadu. E-mail: tsampath_136@yahoo.com
** *Assistant Professor,* Great Lakes Institute of Management, Dr. Bala V. Balachandar Campus, East Coast Road, Kanchipuram - 603 102, Tamil Nadu. E-mail: vpradeep_slm@yahoo.co.in

sector between the period 1983 and 1993-94 at as high as 2.7%, while in the task force report, the usual principal and subsidiary status (UPSS) based growth rate was 2.04%.

The growth of employment estimated by the two different committees set up by the Planning Commission (2008) differed in terms of their estimate but both came out with an increase in the growth of employment in the organized sector. The introductory paragraph of the report of the task force on employment opportunities (Planning Commission, 2001), commissioned by the Government of India states that the need to ensure adequate growth in employment opportunities to provide productive employment for the continuing increase in the labour force is widely regarded as one of the most important problems facing the country. There is widespread concern that the acceleration in GDP growth in the post reforms period has not been accompanied by a commensurate expansion in employment. Public sector employment is expected to fall as the public sector withdraws from many areas. There are fears that the process of internal liberalization and globalization, inevitable though they may be, are creating an environment which is not conducive to expanding employment in the organized private sector. Existing industrial units are shedding excess labour in order to remain competitive and new technology, which is essential to ensure competitiveness, is typically more automated and therefore not job creating. The net result of these forces, it is feared, could be a very slow expansion in employment opportunities in the organized sector.

The report of the special group noted that the present rising unemployment is primarily an outcome of a declining job creating capacity of growth observed since 1993 - 94. The employment growth fell to 1.07% per annum(between 1993-94 and 1999-2000) from 2.7% per annum in the past (between 1983 and1993-94) in spite of acceleration in GDP growth from 5.2% between 1983 and 1993-94 to6.7% between 1993-94 and 1999-2000. It means that the capacity of job creation per unit of output went down about three times compared to that in the 80s and early 90s. For example, the employment elasticity of the 80s and early 90s of 0.52 went down to 0.16 in the late nineties. The organized sector's employment generating capacity (measured in terms of employment elasticity)came down to near zero and in the public sector has been negative in most cases.

The two major committees constituted by the Planning Commission of India came out with similar findings of declining employment growth in the organized sector though they differed in their estimates. It is clear from the estimates that the economic reforms have not benefited the economy in generating employment opportunities as argued by the advocates of reforms in the country. In most other countries, both developed and developing, the informal employment serves as a double - edged weapon. On the one hand, by absorbing unemployed and underemployed laborers, informal sectors prevent them from falling into complete unemployment and hence absolute poverty. On the other hand, informal employment is characterized by lack of access to social security system and social protection network, still placing those laborers in a relatively vulnerable status (Cai & Wang, 2010).In view of this declining trend in the expansion of employment, the study attempted to quantify the effect of economic reforms in employment growth especially, in the organized sector to assess whether the reforms process initiated in the country since 1991 had any role in the expansion of employment growth in the organized sector. It also attempted to estimate whether the declining growth in employment is similar in public and private sectors within the organized sector as the policy reforms focused on privatization. It can therefore be expected that the economic reforms would affect public and private sectors differently. Therefore, there is a need to estimate employment growth in the public sector and private sector separately as the impact of reforms on these sectors are different.

Review of Earlier Studies

Bhalotra (2002) assessed changes in the level and structure of employment and wages in India, relating them to trends in productivity. Raveendran and Unni (2006) and Unni and Ravindran (2007) estimated that India's overall employment growth considerably increased from one percent per annum to nearly three percent and industrial employment growth increased from 2.9% to 4.2% between 1993-94 to 1999-2000 and 1999-2000 to 2004-05. Unni and Rani (2004) observed that the recent increase in employment growth has been mostly within the unorganized and unregulated informal sectors particularly, in the period after. In case of organized sector, annual employment growth decreased from 3.44% per annum during 1990-91 to 1996-97 to -0.63% in 1997-98 to 2004-05. Papola (2006) found that the slow growth of employment in the organized sector has been a major factor in stagnancy in the proportion of regular wage and salary earners.

Government of India (2005) estimated that in the pos-2000 period, organized sector employment showed an absolute decline; it declined by about one million from around 28 million to 27 million during 2000-2003. In the same way Planning Commission (2002) observed that of around 21 million new employment opportunities generated during 1994-2000 only about 4% had been in the organized sector and the rest 96% were in the unorganized sector.

Rangarajan (2006) ascertained that the growth process has brought about significant changes in the structure of the Indian economy. He observed that the employment shift lagged behind shift in output. Sethi and Kaur (2012) examined the impact of economic growth on employment situation in Punjab, Haryana, and India as a whole in pre and post reform era, and found that the existence of high employment elasticity of economic growth in Punjab and Haryana states, particularly in post-reform era. Agarwal (2014) examined the trends in growth rate and structural changes in employment during the period 1983 to 2010 and found that the sectoral shift of the GDP in favour of the services sector had not been successful in making corresponding changes in employment patterns.

The studies thus came out with contradictory views on employment growth during the post reform period. It cannot be denied that there was an expansion of employment opportunities in the organized sector in absolute terms as it increased from 17.83 million in 1970-71 to 26.74 million in 1990-91 and further to 28.7 million. But the question arises whether the increase in employment growth in the organized sector is due to employment growth in public or private sector and can it be attributed to the effect of reforms process? Therefore, there is a need to estimate the impact of economic reforms on the employment growth in the organized sector and its two parts namely, public sector and private sector and that become the focus of the study.

Data and Methodology

The present study attempted to estimate the impact of economic reforms on the employment growth in India. In order to achieve the objective, the study collected data on employment in the organized sector comprising both public and private sector from the Hand Book of Statistics on Indian Economy, Reserve Bank of India. The data were collected for a period of 40 years from 1970-71 to 2009-10 [1]. The growth acceleration (deceleration) was estimated through a semi-log quadratic function and the impact of economic reforms on the employment growth was estimated using a dummy variable approach.

(1) Employment Situation in India : The task force constituted in 2001 found that the rate of growth of employment declined sharply from 2.04%per year in the period 1983 to 1993-94 to only 0.98%per year in the period 1993-94 to 1999- 2000 (Table 1). This sharp decline in the growth of employment has naturally been the focus of much attention and comment, raising fears that economic growth in the 1990s has been of a “jobless” variety. Kannan and Raveendran (2009) found that the average annual growth of employment in the manufacturing industries during the period 1981-82 to 2004 - 05 was 0.78%. During the pre-reform period from 1981-82 to 1991-92, the employment growth rate in manufacturing industries was 0.40% while it marginally increased to 0.63% during the post-reform period from 1992-93 to 2004-05.

It can be observed from Table 2 that agriculture was the main source of employment at the national level as its share was estimated at 44.1% in 1991. The share of manufacturing sector in the provision of employment was estimated at 10.35 % followed by trading at 9.35%. The share of agriculture in the provision of employment was

[1] Due to financial constraint, we were not able to collect data for further years.

Table 1. Rate of Growth of Population, Labour Force, and Employment

Period	Rate of growth of population (%PA)	Rate of growth of labour force (UPSS) (%PA)	Rate of growth of employment (%PA)
1972-73 to 1977-78	2.27	2.94	2.73
1977-78 to 1983	2.19	2.04	2.17
1983 to 1987-88	2.14	1.74	1.54
1987-88 to 1993-94	2.1	2.29	2.43
1983 to 1993-94	(2.12)	(2.05)	(2.04)
1993-94 to 1999-2000	1.93	1.03	0.98

Source : Planning Commission (2001)

Table 2. Sector- Wise Share of Employment

Industrial Classification	March 1991			March 2009		
	Rural	Urban	Total	Rural	Urban	Total
Agriculture, forestry, and Fishing	64.8	23.4	44.1	57.6	9.9	33.75
Mining & quarrying	3.5	2.8	3.15	2.2	1.5	1.85
Manufacturing	7.8	12.9	10.35	6.7	15.4	11.05
Electricity etc	2.8	2.9	2.85	1.3	3.3	2.3
Construction	5.7	6.9	6.3	7.2	8.6	7.9
Wholesale, retail, and others	4.3	14.4	9.35	5.9	17.3	11.6
Transport, storage, and others	1.3	6.2	3.75	2.8	7.8	5.3
Financial ,insurance, and others	0.9	4.3	2.6	1.4	6.1	3.75
Community services and others	5.4	11.6	8.5	6.3	14.6	10.45
Others	3.5	14.6	9.05	8.6	15.5	12.05
All	100	100	100	100	100	100

Source : Directorate of Employment and Training, Ministry of Labour (Various Years)

found to be higher in rural areas as its share was higher and significant at 64.8% than that of urban areas where the share was 23.4%. The manufacturing and service sectors dominated in providing employment in urban areas whereas the contribution of these sectors in rural areas was only marginal in 1991.

There was a significant shift in the occupation pattern from agriculture to service in 2009. At the national level the agricultural sector provided employment to the tune of 33.75% followed by trading at 11.6%, manufacturing at 11.05%,and community services at 10.45%. Similar trend could be observed in the rural and urban population also. In the case of rural areas the share of agriculture was estimated at 57.6% and in urban areas the percentage of population engaged in agriculture and allied activities was just 10%. Within rural and urban classification, the urban work force largely engaged in service related activities like trading, financial services, and community services, but the share of these sectors in rural areas was marginal.

A comparison of the changes in the occupational structure reveals a strong shift from agriculture to manufacturing and service sectors in the country during the reference periods. The share of agriculture sector declined sharply from 44.1% in 1191 to 33.75% by March 2009. The same trend could be noticed in urban and rural areas also. The workers in rural areas still depended on agriculture for their livelihood to the extent of 57.6% though the dependence declined from 64.8%. In the urban areas, the percentage of workforce depending on agriculture was marginal at 9.9% as compared to rural areas and the major sources of employment in urban areas were the manufacturing and service sectors. The inadequate increase in aggregate employment in 2009 was associated with a sharp drop in the pace of creation of work opportunities in agriculture. Agriculture should not be

Table 3. Employment Growth in Organized Sector (in million)

Year	Public sector	Private sector	Organised sector
1970-71	11.1	6.73	17.83
1980-81	15.48 (3.07)	7.4 (0.87)	22.88 (2.30)
1990-91	19.06 (1.91)	7.68 (0.34)	26.74 (1.43)
2000-01	19.14 (0.04)	8.65 (1.09)	27.79 (0.35)
2009-10	17.85 (-0.70)	10.85 (2.08)	28.7 (0.29)

Source: Figures in the parentheses are the compound growth rates of Ministry of Labour, GOI (DGE&T)

expected to create additional employment but, rather, to reduce the extent of underemployment and thereby increase incomes and wages of those employed in agriculture while surplus labour shifted to the non-agriculture sector. However, the increase in employment in the non-agricultural sectors was disappointing.

The Table 3 summarizes employment growth in the organized sector in the country. It is obvious from the table that there has been an absolute increase in the employment in the organized sector from 17.83 million persons in 1970-71 to 28.7 million in 2009-10. A similar trend could be observed both in the public and private sector also which increased from 11.1 million to 17.85 million and from 6.73 million to 10.85 million, respectively. It is worthy to note that though the employment growth was significant in the absolute terms, the growth in relative terms was dismal.

The overall employment growth in the organized sector declined gradually from 2.3% per annum to just 0.29% in the last decade. While the average annual growth was positive in the organized sector as a whole, the employment growth in the private sector registered a higher growth of 2.08% ; the public sector recorded a negative growth of 0.7% per annum. The decline in employment growth in the public sector and an increase in the private sector can be attributed to the measures of economic reforms being in force since 1991. As a policy measure, many of the sectors reserved for the public sector have been opened for private participation, there are comparatively greater private and foreign firms in the private sector which augmented employment growth in the private sector particularly in the later part of the study period.

(2) Employment Growth in the Organized Sector - Econometric Evidence : The present study focused on the differences in the growth rates of employment between pre and post reform periods and to investigate whether the growth is structurally different or not. The exercise has been carried out separately for public and private sector to make a comparison within the organized sector.

First, using a semi-logarithmic specification, a non-linear (quadratic) trend (equation 1) was fitted to the series of employment in public (*ln PubEmp*), private (*ln PvtEmp*) and for the entire organized sector (*ln Emp*) for the period 1970-71 to 2009-10. The equation takes the following form:

$$lnY = \alpha + \beta_1 t + \beta_2 t^2 \qquad (1)$$

where, Y being the dependent variable and t is time, taking value 1 (for the first year, i.e., 1970-71) to 40 (for the last year, i.e., 2009-10). α being the constant, the co-efficient β_1 is interpreted as average annual trend growth and β_1 gives the rate of acceleration or deceleration in the average growth. The estimated results obtained for the regression equation 1 are reported in the Table 4.

The coefficients of β_1 are positive in all three equations and β_2 are positive in private sector and negative for the public sector and for the entire organized sector. It could also be noted that the parameters β_1 and β_2 are statistically significant at 1%, 5%, and 20% level. It can be inferred that employment growth in the organized sector and in public and private sector witnessed an increasing trend at the rate of three percent, 4.3% and 2.8%, respectively

Table 4. Estimates of Growth Acceleration (or Deceleration)

$lnY = \alpha + \beta_1 t + \beta_2 t^2$

Variable	Organised sector ($lnEmp_t$)	Public sector ($lnPubEmp_t$)	Private sector ($lnPvtEmp_t$)
Constant	2.87 (273.25)*	2.28 (304.98)*	1.92 (101.49)*
T	0.03 (26.50)*	0.04 (49.33)*	0.028 (1.31)***
t^2	-0.0005 (-17.42)*	-0.0008 (-38.57)*	0.0002 (3.25)**
R^2	0.98	0.99	0.90
F	773.81*	1973.63*	171.89*
DW statistic	0.454	0.816	0.33

Figures in the parentheses are the '*t*' ratios.

*, **, *** are significant at the 1%, 5%, and 20 % level

during the period from 1970-71 to 2009-10. The parameter β_2 explains the rate of acceleration/deceleration in the employment growth in the organized sector. Since this parameter is positive only for the private sector, it can further be inferred that employment growth in the private sector increased at a rate of 2.8% with an acceleration of 0.02% per annum. In the case of public sector and the entire organized sector, the co-efficient is negative indicating deceleration in employment growth. It was observed from the estimated equation 1 that there was an employment growth of three percent in the organized sector with a deceleration of 0.05% and in the public sector the average growth was 0.43% with a 0.08% decline per annum over time.

In order to investigate the role of policy reforms initiated in the 1990s in bringing about acceleration in the growth of employment, the present analysis separately covers the two sub-periods namely the pre- reform (from 1970-71 to 1991-92) and post-reform periods (from 1992-93 to 2009-10). The post-reform period comprises 18 years, beginning from 1992-93 upto the most recent year for which data are available i. e. 2009-10. It must be recognized here that the policy reforms initiated in July 1991 were driven by the crisis faced during 1991-92. The effect of reforms on various indicators of economic growth should therefore be analyzed from 1992-93 onwards instead of from 1990-91 (Kaur, 2007 ; Panagariya, 2004). Thus, the pre-reform period covers 22 years while the post-reform period comprises 18 years in the study. Balakarishnan (2005) argued that the power of the trend-break test is greater when the periods considered are broadly the same.

To put it in another way, the underlying exercise compares whether trend growth rates in the two periods are significantly different. To carry out this analysis, the trend growth rates for the two periods using a semi-logarithmic linear trend equation were estimated separately.

$$lnY_t = \alpha + \beta t, \text{ for the pre-reform period. } t = 1\ldots\ldots22 \qquad (2)$$

and

$$lnY_t = \alpha + \beta_1 t, \text{ for the post-reform period. } t = 23\ldots\ldots40 \qquad (3)$$

The estimated regression results for the pre-reform period (equation2) and post-reform period (equation 3) have been presented in Table 5 and Table 6, respectively.

Comparing equations 2 and 3 for the public, private and for the entire sector, it can be noticed that the trend growth rate in the post-reform period was negative for the entire organized sector at 0.023% (but not statistically significant) and 0.062% in the public sector which was statistically significant. But in the case of private sector, the trend growth was higher and statistically significant at 1.3% (0.66% in the pre-reform period). It is ,therefore, evident that the employment growth in the post-reform period declined significantly in the organized sector and in the public sector but, there was a significant increase in the employment growth in the private sector as the estimated parameter was found positive and statistically significant in the post-reform period.

Table 5. Estimates of Employment Growth During Pre - Reform Period

$lnY_t = \alpha + \beta t$

Variable	Organised sector *($lnEmp_t$)*	Public sector *($lnPubEmp_t$)*	Private sector *($lnPvtEmp_t$)*
Constant	2.91 (274.87)*	2.45 (159.25)*	1.90 (238.16)*
T	0.02 (24.07)*	0.025 (21.70)*	0.0066 (10.84)*
R^2	0.96	0.96	0.85
F	579.15*	471.03*	117.42*
DW statistic	0.39	0.36	0.76

Figures in parentheses are the '*t*' ratios

*significant at the 1% level

Table 6. Estimates of Employment Growth During the Post-Reform Period

$lnY_t = \alpha + \beta_1 t$

Variable	Organised sector *($lnEmp_t$)*	Public sector *($lnPubEmp_t$)*	Private sector *($lnPvtEmp_t$)*
Constant	3.32 (97.37)*	3.14 (158.30)*	1.76 (22.17)
T	-0.00023 (-0.21)	-0.00062 (-10.67)*	0.013 (5.17)*
R^2	0.003	0.88	0.63
F	0.05	113.87*	26.73*
DW statistic	0.33	0.52	0.27

Figures in parentheses are the '*t*' ratios

*significant at the 1% level

Now, in order to investigate the issue of a structural difference in the trend equations for the two periods, a null hypothesis was formulated that the set of parameters in the pre-reform period (equation 2) is equal to the set of parameters in the post- reform period (equation 3). Assuming the two equations to be structurally the same, the study tests the null hypothesis (jointly):

$$\alpha + \alpha_1 \quad \text{and } \beta = \beta_1$$

To find the difference in the parameters of intercept as well as slope in the pre and post-reform periods using a "Dummy variable approach", (which is preferred to 'Chow test' approach as it explicitly tells whether the two regression equations are different on account of differences in the parameters of the slope or of the constant or of both). The study introduced both additive dummy, *D*, (it checks for change in the constant of trend equation)) and multiplicative dummy, *Dt, D* multiplied by *t*, (it finds whether the trend rate of growth in the post-reform period has improved or not) dummies to equation 2 and estimated the following expanded regression equation by pooling all 40 observations for the entire organized sector and for the public and private sector :

$$lnY = \alpha + \alpha_1 D_i + \beta_1 t + \beta_2 (D_i t) + u_i t \quad = 1 \ldots\ldots 10 \qquad (4)$$

where $Di = 0$ for all the observations for the pre-reform period (i.e.1970-71 to 1991-92) and 1 for the observations for the post-reform period, (i.e., 1992-93 to 2009-10). From this, it would follow :

$$E\,(Y_t / D_i = 0) = \alpha + \beta t \quad \text{for the pre- reform period} \qquad (5)$$

and

$$E\,(Y_t / D_i = 1) = (\alpha + \alpha_1) + (\beta_1 + \beta_2)t = \gamma_1 + \gamma_2 t \quad \text{for the post-reform period} \qquad (6)$$

The letter E in equation 5 and 6 stands for expected value and is common in the representation of equation. In equation 6 the notations $\gamma_1 + \gamma_2 t$ represent the equality of the constants $(\alpha + \alpha_1)$ and coefficients $(\beta_1 + \beta_2)$ obtained from previous equations. It should be noted that the equations 2 and 3 are same as equations 5 and 6, respectively, with $\alpha = \gamma_1 = (\alpha + \alpha_1)$ *and* $\beta = \gamma_2 = (\beta_1 + \beta_2)$. The parameter $\alpha_1$is the differential intercept (it tells by how much the value of the intercept in post-reform period differs from that of the pre-reform period) and β_2 is the differential slope parameter (indicating the difference in the slopes of regression lines) for the period for which Di =1, that is, post-reform period. The signs of these parameters indicate the direction of change in the intercept and slope during the post-reform period. The results obtained by estimating equation 4 using employment data for the entire organized sector and public and private sector are given in the Table 7.

Table 7. Regression Estimates of Impact of Economic Reforms on Employment Growth

$lnY = \alpha + \alpha_1 D_i + \beta_1 t + \beta_2 (D_i t) + u_i$

Variable	Organized sector *($lnEmp_t$)*	Public sector *($lnPubEmp_t$)*	Private sector *($lnPvtEmp_t$)*
Constant	2.91 (277.03)*	2.45 (201.64)*	1.90 (110.38)*
D_i	0.41 (11.58)*	0.686 (16.42)*	-0.137 (-2.32)**
T	0.019 (24.25)*	0.025 (27.48)*	0.0066 (5.02)*
Dt	-0.0196 (-14.59)*	-0.032 (-20.60)*	0.063 (2.86)*
R^2	0.97	0.97	0.90
F	400.83*	408.99*	107.38*
DW statistic	0.38	0.41	0.33

Figures in the parentheses are the *'t'* ratios
*, ** significant at the 1% and 5% level

Table 7 presents regression estimates of regression equation 4, it can be noticed that the t-test statistics on both the differential intercept and differential slope parameters are statistically significant at 1% level (5%level in the differential intercept in the equation for the private sector). It can be inferred that the regressions for the two periods are different, that is, the trend growth equation for the post-reform period is structurally different from that of the pre-reform period. The estimated annual trend growth in employment in organized sector of -0.023% in equation 3 during the post-reform period is significantly different from the annual growth of 2% estimated for the pre-reform period in equation 2. Similar inferences can be made with regard to the trend growth in the employment of public and private sector as the estimated trend growth rate differed significantly between pre and post-reform periods. The dummy variable approach is useful to test the shift in regression in terms of intercept or slope or both. But the Chow test helps to determine the overall structural difference between the two regressions. Hence, the study performed Chow test to test the stability of the entire regression, using a F-statistic in equation 4 by testing the null hypothesis that parameters of both the additive and multiplicative dummies are simultaneously equal to zero, that is,

$$\alpha_1 = \beta_2 = 0$$

As the value of the F-statistic was statistically significant at the 1% level (115.04 for the entire organized sector, 228.08 for public sector and 4.35 for the private sector), the study rejects the null hypothesis and concludes that the trend growth equation for the post-reform period is statistically different from that of the pre-reform period. The estimated regression equation for the post-reform period shifted upward with a higher slope in the private sector while it shifted downwards in the public sector and in the entire organized sector. The exercise performed thus indicates that there is a significant fall in the growth of employment in the organized sector in India. While this is the case at the aggregate level, there is a significant pickup in the average annual growth rate of employment in the private sector while the employment growth in the public sector declined significantly during the post-reform period in the country.

Conclusion

This study applying "dummy variable approach" attempted to estimate the impact of economic reforms on employment growth in the organized sector using the data for a period of 40 years from 1970-71 to 2009-10. It was found from the study that there was an increase in employment growth, in absolute terms, in the organized sector from 17.83 million in 1970-71 to 28.7 million in 2009-10. A similar trend could be observed both in the public and private sector also which increased from 11.1 million to 17.85 million and from 6.73 million to 10.85 million respectively. But during the post-reform period particularly after 2001, the employment growth increased in the organized sector from 27.79 million to 28.7 million and in private sector the increase was from 8.65 million to 10.85 million but there was an absolute decline in the employment growth in public sector from 19.14 million to 17.85 million. It is interesting to note that though the employment growth observed significant in the absolute terms, the growth in relative terms was miserable. The estimate of growth acceleration revealed that the employment growth in the private sector increased at a rate of 2.8%with a marginal rate of acceleration at 0.02%while the same in public sector and in the organized sector as a whole witnessed deceleration at a rate of 0.08% and 0.05% respectively during the study period. The estimated trend growth was found positive in public, private, and in the entire organized sector at 2.5%, 0.66%, and 2%, respectively during the pre-reform period but was found negative for the public sector (-0.062%) and for the entire organized sector (0.023%). It was the private sector which recorded a positive trend growth of 1.3% during the post-reform period.

The study applied dummy variable model to test the significance of economic reforms on difference in the growth rate estimated during the pre and post-reform period. It was found from the results that the regressions for the two periods are different, i.e. the trend growth equation for the post-reform period is structurally different from that of the pre-reform period. The estimated annual trend growth in employment in organized sector of -0.023% during the post-reform period was significantly different from the annual growth of two percent estimated during the pre-reform period. Similar inferences can also be made with regard to the trend growth in the employment of public and private sector as the estimated trend growth rate differed significantly between pre and post-reform periods.

The exercise performed thus indicates that there is a significant fall in the growth of employment in the organized sector in India. While this is the case at the aggregate level, the employment growth in the private sector marked an increase, the employment growth in the public sector declined significantly during the post-reform period in the country. In spite of this declining growth, the public sector still constitutes a major portion in employment in the organized sector. The withdrawal of restrictions and controls on the private sector, allowing and relaxing the ceiling on foreign direct investment and other policy measures facilitated the private sector to provide more employment opportunities in the country recording an increasing trend during the post-reform period. As Papola (2007) rightly pointed out that the public sector was no longer seen as an employment provider; it has, in fact, experienced an absolute decline in employment in recent years. Faster economic growth resulting from liberalization, was, however, expected to lead to the expansion of employment. The economic growth rate has accelerated but employment growth has seen a deceleration.

Policy Implications, Limitations of the Study, and Scope for Future Research

Agriculture still dominates in providing employment particularly in rural areas. As compared to the growth of agriculture, the growth in employment seems to be higher which significantly affects agricultural productivity and the level of income of workers engaged in this sector. With the estimate of around 2-3%of growth in agriculture, employment growth in this sector must be contained so as to raise the levels of productivity growth with a reasonable income to workers (Papola & Sahu, 2012). Further, the employment in the service sector compared to its growth in recent times is too slow. The government should find and implement necessary programmes like intensive training so as to absorb urban unemployed in this sector. During post reform period, as observed in the study, there has been a significant decline in the growth of employment in the organized sector and public sectors. Among others, the absence of necessary technical skill may perhaps be the reason for the lower employment growth in this sector. Hence, the focus of education must be shifted towards skill development needed by the industry, in addition to basic education. This may be of helpful for the urban and rural masses in finding suitable employment in the industry.

The study was conducted for the employment growth in the organized sector only in relation to the economic reforms being implemented in the country. But, in India the unorganized or informal sector has a greater share not only in income generation but also in the provision of employment. Therefore, a detailed study on the employment generation in the informal sector can be carried out to understand and to distinguish the pattern of employment in the formal and informal sectors of the country.

References

Agarwal, A. (2014).Growth and structural transformation of the workforce: Are we heading in the right direction? *Arthshastra Indian Journal of Economics and Research, 3*(5), 43-55.doi: 10.17010/aijer/2014/v3i5/55994

Balakrishnan, P. (2005, September 3). Macroeconomic policy and economic growth in the 1990s. *Economic and Political Weekly, 40* (36), 3969 - 3977.

Bhalotra, S. R. (2002). *The impact of economic liberalization on employment and wages in India.* Geneva : The International Policy Group, International Labour Office, Geneva.

Bhattacharya, B.B., & Sakthivel, S. (2004). *Economic reforms and jobless growth in India in the 1990s* (Working Paper E/245/2004). New Delhi : Institute of Economic Growth.

Cai, F., & Wang, M. (2010). Growth and structural changes in employment in transition China. *Journal of Comparative Economics, 38* (1), 71-81.doi::10.1016/j.jce.2009.10.006

Dopke, S. (2001). *The employment intensity of growth in Europe* (Kiel Working Paper No.1021). Germany : Kiel Institute of World Economics.

Directorate of Employment and Training, Ministry of Labour. (Various Years). *Annual report (various issues)*. New Delhi : Government of India.

Government of India. (2005). *Economic survey.* New Delhi : Ministry of Finance, Economic Division, Government of India.

Kannan, K. P., & Raveendran, G. (2009).Growth sans employment: A quarter century of jobless growth in India's organized manufacturing. *Economic and Political Weekly, 44* (10), 80-91.

Kapsos, S. (2005). *The employment intensity of growth: Trends and macroeconomic determinants* (Employment Strategy Paper No.12). ILO, Geneva.

Kaur, P. (2007). Growth acceleration in India. *Economic and Political Weekly, 42* (15), 1380-1386.

Panagariya, A. (2004).Growth and reforms during 1980s and 1990s. *Economic and Political Weekly, 39* (25), 2581-2594.

Papola, T. S. (2006). *Employment trends in India.* Institute for Studies in Industrial Development, New Delhi. Retrieved from http://isid.org.in/pdf/EmployTrenz.pdf

Papola, T. S. (2007). *Employment in the development agenda : Economic and social policies* (Discussion Paper, DP/170/2007). Geneva : International Institute for Labour Studies.

Papola, T.S., & Sahu, P. (2012). *Growth and structure of employment in India - Long term and post-reform performance and the emerging challenge.* Retrieved from http://www.isidev.nic.in/pdf/ICSSR_TSP_PPS.pdf

Planning Commission. (2001). *Report of the task force on employment opportunities.* New Delhi : Government of India.

Planning Commission. (2002). *Special group on targeting on ten million employment per year.* New Delhi : Government of India.

Planning Commission. (2008). *Report of the steering committee on labour & employment constituted for the Eleventh Five Year Plan (2007 - 2012)*. Government of India (Labour, Employment & Manpower Division) XI Five Year Plan Steering Committee Sl. No. 21/2007, New Delhi, September.

Pradeep, V., & Chen, J. (2012).Measuring productivity growth, efficiency change and technical progress in small scale firms in India during pre and post-reform periods. *Journal of Economic Policy Reform, 15* (2), 153-169.doi: http://dx.doi.org/10.1080/17487870.2012.671622

Rangarajan, C. (2006). *Employment and growth. Monograph. No.2/226*. Madras School of Economics, Chennai, India.

Raveendran, G., & Unni, J. (2006).Are the results of the economic census robust? *Economic and Political Weekly, 41*(19), 3558-3590.

Sethi, A.S., & Kaur, S. (2012).Economic reforms and employment elasticity in India with special reference to Punjab and Haryana States. *The Indian Economic Journal (Special Issue on Economic Growth and Employment Linkages ; Theme 1A on Growth and Employment Linkages, Paper No. 24), 60* (3), 230-244.

Unni, J., & Rani, U. (2004).Unorganized and organized manufacturing in India – Potential for employment generating growth. *Economic and Political Weekly, 39* (41), 4568 - 4580.

Unni, J., & Raveendran, G. (2007). Growth of employment (1993-94 to 2004-05): Illusion of inclusiveness? *Economic and Political Weekly, 42* (3), 196 - 199.