A STUDY ON TRENDS IN EARNINGS, EMPLOYMENT AND LABOUR MARKET REFORMS IN MANUFACTURING INDUSTRIES IN THE POST REFORM INDIA

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Abstract

Manufacturing sector is a key sector for the sustainable development of any particular economy in the long run. A large amount of productive employment can be generated by this sector with suitable policy implications. A growing population has been facing many issues with long run unemployment and poverty. Eradication of poverty can be achieved by employment generation through establishment of many complementary industries in the modern era in India. Many government policies have been initiated by the government of India but it is not a permanent solution. Until providing a reasonable amount of living and faire wages could not able to improve the standard of living of the employees. There are greater disparities in per capita earnings and volatility in the employment conditions in Indian manufacturing sector. The perspective plan formulations are essentially required to the employment generations across the country. The present study attempts to examine the trends in earnings and employment and also labour reforms in manufacturing industries in the post reform India.

Keywords: productive employment, per capita earnings, employment generations, labour reforms.

Introduction

In the post reform period there is greater structural transformation in many sectors in Indian economy. This process had brought new technology, machineries, capital, equipment and funds to various sectors of the economy. Manufacturing sector in India also experienced major shift with structural changes. As a result the level of

employment and wage earnings fluctuated significantly. Some manufacturing industries had been experienced with increased wages and reduced employment opportunities. Finally it has led to many issues in labour market. Presently labour market regulation has to consider the major factors such as wages and employment generation as key issues in India.

Review of Literature

R. Nagaraj (1994), in his work "Employment and Wages in Manufacturing Industries: Trends, Hypothesis and Evidence", examined the postulated association between increase in earnings per worker, increase in capital intensity and a decline in employment growth in registered manufacturing. The study found that, earnings per worker increased at a faster rate than per capita income growth mainly due to an increase in the number of mandays per worker.Trilok Singh and Papola (2013), in their research work "Role of Labour Regulation and Reforms in India: Country case study on Labour Market Segmentation", had evaluated the size, structure, segmentation and growth of labour market in India. With brief assessment of regulatory legislation the study had examined the labour laws related to conditions of work, wages and remuneration, social security, employment security and industrial relation. The study also aimed to appraise the labour market reforms. It had also been established the relationship between the structural changes in GDP and employment in various sectors. It is also important to note that the study focused on unemployment percentages and distribution of workers on the basis of status of employment in formal and informal sectors. The study had been concluded that there was multiplicity of labour laws (both central and state laws) made to many complications in protecting the interest of labourers in India.J. Singh in his study "Labour Reforms in India – An Overview" had been explained the comprehensive issues related to labour reforms. He had quoted that Indian economy had been experiencing higher growth at the cost of low wages and was the major option for the policy makers. The study had examined the dichotomy characteristics of Indian labour market. It can be seen in the existing organized and unorganized sectors. The wages are too high in the organized sectors and too low in the unorganized sector as the study observed. It clearly shows how far the Indian labour market segmented. It is also suggested that the labour market regulation must be designed in a manner that prevent employers from being vindictive. Finally the concluded that labour laws have to be relating to forming trade union industrial relation and job security. But the present study gives information on the trends in wages and average daily employment in manufacturing sector in India.

Objectives

1. To assess the trend in per capita annual earnings of employees and average daily employment in manufacturing industries in India during the period 2009-2013.
2. To compare the per capita annual earnings of employees and average daily employmentin manufacturing industries in Indiaduring the period 2009-2013.
3. To give policy suggestions for labour reforms in Indian manufacturing industries.

Hypotheses

1. **H₀:** There is no significant difference in per capita annual earnings of employees in manufacturing industries in Indiaduring the period 2009-2013.

2. **H₁:** There is significant difference in per capita annual earnings of employees in manufacturing industries in Indiaduring the period 2009-2013.

3. **H₀:** There is no significant difference in annual daily employment in manufacturing industries in India during the period 2009-2013.

4. **H₁:** There is significant difference in annual daily employment in manufacturing industries in India during the period 2009-2013.

Methodology

The study attempts to compare the per capita annual earnings of employees and annual daily employment from 15 manufacturing industries in India for the period 2009, 2011 and 2013. The data has been collected from the Indian Labour Year Book. The 15 selected manufacturing industries are Manufacture of wearing apparel, Manufacture of leather and related products, Manufacture of wood products and cork, except furniture; manufacture ofarticles of straw and plaiting materials, Manufacture of paper and paper products, Printing and reproduction of recorded media, Manufacture of coke and refined petroleumproducts, Manufacture of chemicals and chemical products, Manufacture of pharmaceuticals, medicinal, chemical and botanical products, Manufacture of rubber and plastics products, Manufacture of other non-metallic mineralproducts, Manufacture of Basic Metals,Manufacture of fabricated metal products, exceptmachinery and equipment, Manufacture of computer, electronic and optical products, Manufacture of electrical equipment, Manufacture of machinery and equipment and Manufacture of motor vehicles, trailers and semitrailers.

In order to analyse the data the statistical tools such as descriptive statistics, Analysis of Variance (ANOVA, F-test), and Tukey's HSD– test (Honestly Significant Difference) have been used with the help of SPSS (Statistical Package for Social Sciences). The data has been presented in the form of tables and graphs.

Industry-Wise per capita Annual Earnings of Employees in Manufacturing Industries in India

Table 1: Descriptives. Industry-wise per capita annual earnings of employees in manufacturing industries in India

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
2009	15	64868.7333	12078.75790	3118.72188	58179.7402	71557.7265	42663.00	83273.00
2011	15	80819.7333	7808.27237	2016.08726	76495.6562	85143.8104	66254.00	98917.00
2013	15	103387.5333	25091.37631	6478.56550	89492.3923	117282.6744	71773.00	183249.0
Total	45	83025.3333	22837.06477	3404.34862	76164.3195	89886.3471	42663.00	183249.0

The table-1 shows Industry-wise per capita annual earnings of employees in manufacturing industries in India during 2009, 2011 and 2013. Each year 15

manufacturing industries have been selected (N=15). The average per capita annual earnings of employees in manufacturing industries was 64868, 80819and 103387 for the years 2009, 2011 and 2013 respectively. It indicates that there was a continuous increment in the average per capita annual earnings of employees in manufacturing industries during this period. It was increased from 64868 (2009) to 103387(2013). Between 2009 and 2013 the average per capita annual earnings of employees was 83025. The standard deviation of per capita annual earnings of employees in manufacturing industries for 2011 was less compared to 2009 and 2013. This implies that there is a greater spread of per capita annual earnings of employees in manufacturing industries in 2009 and 2013.

The result of our confidence interval indicate that we can be 95% confident that the level of per capita annual earnings of employees in manufacturing industries is somewhere between 58179 and 71557 during 2009. For 2011 and 2013 it lies between 76495 & 85143 and 89492 and 117282 respectively. The minimum average per capita annual earnings of employees in manufacturing industries for the period 2009, 2011 and 2013 were 42663, 66254 and 71773 respectively and during this period from 2009 to 2013 the minimum average per capita annual earnings was 42663.The maximum average per capita annual earnings of employees in manufacturing industries for the period 2009, 2011 and 2013 were 83273, 98917 and 183249 respectively and during this period from 2009 to 2013 the maximum average per capita annual earnings was 183249. It is very clear from the table that there was a continuous increase in the minimum and maximum average per capita annual earnings of employees in manufacturing industries in India from 2009 to 2013.

Table 2: Test of Homogeneity of Variances.
Industry-wise per capita annual earnings of employees in manufacturing industries in India

Levene Statistic	df1	df2	Sig.
1.891	2	42	.164

From the table-2 we see that, Levene's test shows that homogeneity of variance (one of the assumptions of ANOVA) is not significant (p>0.05). The significance value is 0.164; this value is greater than the alpha value 0.05. We can conclude that, the population variances (average per capita annual earnings of employees in manufacturing industries) for each year are approximately equal. We can see the ANOVA results ahead.

Table 3: Analysis of Variance (ANOVA). Industry-wise per capita annual earnings of employees in manufacturing industries in India

	Sum of Squares	df	Mean Square	F	Sig.
BetweenGroups (Combined)	11237189756.401	2	5618594878.201	**20.152**	**.000**
Linear TermContrast	11127734650.801	1	11127734650.801	**39.911**	**.000**
Deviation	109455105.600	1	109455105.600	.393	.534
Within Groups	11710197447.600	42	278814224.943		
Total	22947387204.001	44			

The ANOVA table-3 shows that, F-test value along with degrees of freedom $(2, 42)$ =20.152, the significance value is 0.000 which is less than 0.05 $(p<0.05)$. Given that, $p<0.05$, we can reject the null hypothesis and accept the alternative hypothesis that, there is significant difference in per capita annual earnings of employees in manufacturing industries in India.It indicates that average per capita annual earnings of employees in manufacturing industries in India differ significantly across the years. Moreover, the Linear term also shows significance $(p<0.05)$. This means that, average per capita annual earnings of employees in manufacturing industries in India increases consistently across years.

Table 4: Multiple Comparisons. Dependent Variable: Industry-wise per capita annual earnings of employees in manufacturing industries

Tukey HSD

(I) Year	(J) Year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2009	2011	-15951.00000(*)	6097.14933	.032	-30763.9862	-1138.0138
	2013	-38518.80000(*)	6097.14933	.000	-53331.7862	-23705.8138
2011	2009	15951.00000(*)	6097.14933	.032	1138.0138	30763.9862
	2013	-22567.80000(*)	6097.14933	.002	-37380.7862	-7754.8138
2013	2009	38518.80000(*)	6097.14933	.000	23705.8138	53331.7862
	2011	22567.80000(*)	6097.14933	.002	7754.8138	37380.7862

* The mean difference is significant at the .05 level.

Table 5: Homogeneous Subsets. Industry-wise per capital annual earnings of employees in manufacturing industries

Tukey HSD

Year	N	Subset for alpha = .05		
		1	2	3
2009	15	64868.7333		
2011	15		80819.7333	
2013	15			103387.5333
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed. Uses Harmonic Mean Sample Size = 15.000.

Further using Tukey's HSD-test (Honestly Significant Difference) we can conclude that during the years 2009, 2011 and 2013 have a significant difference in the average per capita annual earnings of employees in manufacturing industries in India. This can be concluded from the table-4 and table-5.
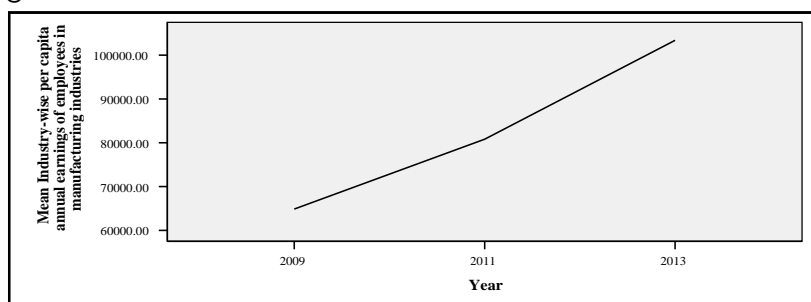
Graph 1: Trend in Industry-wise per capita annual earnings of employees in manufacturing industries in India

The graph-1 shows that there is an upward movement in Industry-wise per capita annual earnings of employees in manufacturing industries in India in three years.

Industry-Wise Annual Daily Employment in Manufacturing Industries in India

Table 6: Descriptives. Industry-wise Annual Daily Employment of employees in manufacturing industries (000')

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
2009	15	23.9333	15.93947	4.11555	15.1063	32.7603	1.00	49.00
2011	15	26.2000	26.86261	6.93590	11.3240	41.0760	1.00	99.00
2013	15	24.4667	23.52466	6.07404	11.4391	37.4942	3.00	80.00
Total	45	24.8667	22.07899	3.29134	18.2334	31.4999	1.00	99.00

The table-6 shows the industry-wise annual daily employment in manufacturing industries in India during 2009, 2011 and 2013. Each year 15 manufacturing industries have been selected (N=15). The average annual daily employment in manufacturing industries in India was 24000 (23.9333), 26000 (26.2000) and 24000 (24.4667) for the years 2009, 2011 and 2013 11.4391 and 37.4942respectively. It indicates that during 2011 the annual daily employment in manufacturing industries in India reached to 26000 (26.2000) but during 2013 it was again reduced to 24000 (24.4667). Between 2009 and 2013 the average annual daily employment in manufacturing industries in Indiawas 25000 (24.8667). The standard deviation of annual daily employment in manufacturing industries in India for 2011 was greater than in 2009 and 2013. This implies that there is a much greater spread of annual daily employment in manufacturing industries in India in 2011.

The result of our confidence interval indicate that we can be 95% confident that the level of annual daily employment in manufacturing industries in Indiais somewhere 15.1063 (15000) and 32.7603 (32000) during 2009.For 2011 and 2013 it lies between 11.3240 (11000) & 41.0760(41000) and 11.4391 (11000) 37.4942 (37000) respectively. The minimum annual daily employment in manufacturing industries in Indiafor the period 2009, 2011 and 2013 were 1,1 and 3respectively and during this period from 2009 to 2013 the minimum annual daily employment in manufacturing industries in India was 1. The maximum annual daily employment in manufacturing industries in Indiafor the period 2009, 2011 and 2013 were49, 99 and 80respectively and during this period from 2009 to 2013 the maximum annual daily employment in manufacturing industries in Indiawas99. It is very clear from the table that there was volatility in the annual daily employment in manufacturing industries in Indiabetween 2009 and 2013.

Table 7: Test of Homogeneity of Variances. Industry-wise Annual Daily Employment of employees in manufacturing industries (000')

Levene Statistic	df1	df2	Sig.
1.048	2	42	.360

From the table-7 we see that, Levene's test shows that homogeneity of variance (one of the assumptions of ANOVA) is not significant (p>0.05). The significance value is 0.360; this value is greater than the alpha value 0.05. We can conclude that, the population variances (annual daily employment in manufacturing industries in India) for each year are approximately equal. We can see the ANOVA results ahead.

Table 8: Analysis of Variance (ANOVA). Industry-wise Annual Daily Employment of employees in manufacturing industries (000')

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups(Combined)	42.133	2	21.067	**.041**	**.960**
Linear TermContrast	2.133	1	2.133	**.004**	**.949**
Deviation	40.000	1	40.000	.078	.781
Within Groups	21407.067	42	509.692		
Total	21449.200	44			

The ANOVA table-8 shows that, F-test value along with degrees of freedom (2, 42) =21.067, the significance value is 0.960 which is greater than 0.05 (p>0.05). Given that, p>0.05, we can accept the null hypothesis and reject the alternative hypothesis that, there is no significant difference in annual daily employment in manufacturing industries in India.It indicates that average per capita annual earnings of employees in manufacturing industries in India not differ significantly across the years. Moreover, the Linear term also shows significance (p>0.05). This means that, the annual daily employment in manufacturing industries in India decreasesconsistently across years.

Table 9: Multiple Comparisons. Dependent Variable: Industry-Wise Average Daily Employment in manufacturing industries in India

Tukey HSD

(I) Year	(J) Year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2009	2011	2.26667	7.19059	.947	-15.2028	19.7362
	2013	6.60000	7.19059	.632	-10.8695	24.0695
2011	2009	-2.26667	7.19059	.947	-19.7362	15.2028
	2013	4.33333	7.19059	.819	-13.1362	21.8028
2013	2009	-6.60000	7.19059	.632	-24.0695	10.8695
	2011	-4.33333	7.19059	.819	-21.8028	13.1362

**Table-10: Homogeneous Subsets. Industry-Wise Average Daily Employment in manufacturing industries in India**

Tukey HSD

Year	N	Subset for alpha = .05
		1
2013	15	19.6000
2011	15	23.9333
2009	15	26.2000
Sig.		**.632**

Means for groups in homogeneous subsets are displayed. Uses Harmonic Mean Sample Size = 15.000. Further using Tukey's HSD-test (Honestly Significant Difference) we can conclude that during the years 2009, 2011 and 2013 have no significant difference in the annual daily employment in manufacturing industries in India.

This can be concluded from the table-9 and table-10.
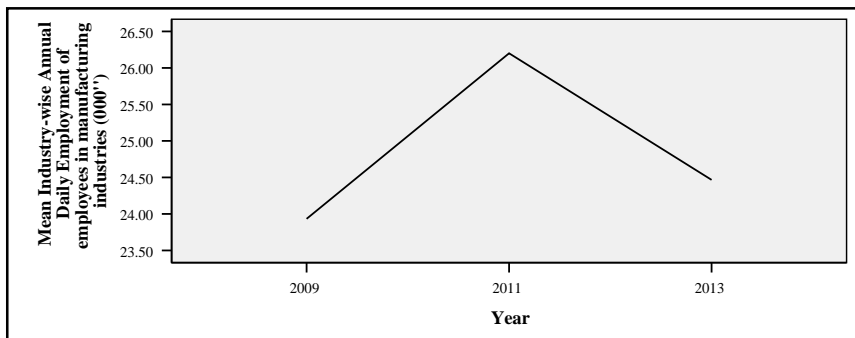
Graph 2: Trend in Industry-wise Annual Daily Employment of employees in manufacturing industries (000')in India.

The graph-2 shows that there is upward movement in the annual daily employment of in manufacturing industries in India from 2009 to 2011. But from 2011 to 2013 there was a gradual decrement in theannual daily employment of in manufacturing industries in India. It is very clear from the graph-2 that the annual daily employment has been fluctuating in this period.

Need of Labour Reformation in Manufacturing Industry in India

In order to bring changes in the manufacturing sector the two side policy reformation is essentially required. The government has to boost the manufacturing sector by offering various incentives through the long run perspective planning. On the other side policy frame work need to be introduced in protecting the interest of workers. It is strongly suggested that the government has to bring investors and labour friendly regulations in Indian labour market. It is very urgent to increase the productive employment opportunities in order to absorb the large quantity of labour force with fair wages. There is a need to strengthen the industry and labour force simultaneously but it is quite difficult in the present situation. Even though for the development of the economy labour market regulation is urgently implemented to protect the interest in both the sides. The new policy frame work should be included many protecting measures in relation to investors and labourers in many dimensions.

Conclusion

In the post reform period as the study observed there was an upward trend in industry-wise per capita annual earnings of employees in manufacturing industries in India. During the period 2009-2013 it is positive sign in terms of per capita annual earnings. But in the case of annual daily employment there was downward trend during 2011-2013. It is a negative sign and it shows that per capita annual earnings increased with declining employment in manufacturing industries. For the sustainable development manufacturing sector of the economy the desirable level of employment opportunities should be increased. In this regard policy measures should be initiated rapidly in India.

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