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Employment generation in India: Role of GDP and FDI

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Abstract
This study is mainly undertaken to study the relationship between gross domestic product and employment and the relationship between foreign direct investment and employment in India during 2001 to 2012. For analysis the relationship between dependent and independent variable the ordinary least square regression method has used. It is found that the highest 25.58 percent compound annual growth rate recorded by FDI followed by GDP 12.59 percent and it was only 0.49 percent for employment in India during 2001 to 2012. It is observed that there is positive relationship between FDI and employment and between GDP and employment in India. The coefficient of correlation indicates that the one unit increase in FDI will raise employment by 0.857 units and one unit increase of GDP will raise employment by 0.875 units in India. The P value 0.0004 of FDI and P value 0.0002 of GDP indicates that the coefficient of FDI variable and GDP variable is highly significant with employment generation in India during the study period. The P values indicate that the GDP variable is more significant than the variable of FDI. This result express that the increase in GDP and increase in FDI increases the employment in India. Therefore it is suggested that the policy maker should stabilize monetary and fiscal policies in long run to increase GDP and FDI for employment generation in India.

Keywords: Foreign Direct Investment, Gross Domestic Product, Employment

Introduction

Despite global headwinds and a truant monsoon, India registered robust growth of 7.2 per cent in 2014-15 and 7.6 per cent in 2015-16, thus becoming the fastest growing major economy in the world. As per the estimates of the International Monetary Fund global growth averaged 3.1 per cent in 2015, declining from 3.4 per cent registered in 2014. While growth in advanced economies has improved modestly since 2013, the emerging economies have witnessed a consistently declining trend in growth rate since 2010.

India has made striking progress in its contribution to the global growth of Gross Domestic Product (GDP) in Purchasing Power Parity (PPP) terms. PPP represents the number of units of a country's currency required to purchase the same amount of goods and services in the domestic market as the US dollar would purchase in the United States, thus adjusting for purchasing power differentials between currencies in relevant markets. India's contribution to global growth in PPP terms increased from an average of 8.3 per cent during the period 2001 to 2007 to 14.4 per cent in 2014. During the 1990s, the US's contribution to the global GDP growth in PPP terms was, on an average, around 16 percentage points higher than India's. The picture changed dramatically in 2013 and 2014 when India's contribution was higher than that of the US by 2.2 and 2.7 percentage points respectively. During 1991-2014, low growth in Japan (0.9 per cent annually) resulted in its low contribution (1.5 per cent) to global growth. India and China constitute 42.5 per cent and 53.2 per cent respectively of the total PPP measure of the lower-middle income countries and upper-middle income countries; and hence those country groups largely reflect India's and China's patterns.

After the onset of the multiple crises in different parts of the world, India's contribution has become much more valuable to the global economy. India's share in world GDP has increased from an average of 4.8 per cent during 2001-07 to 6.1 per cent during 2008-13 and further to an average of 7.0 per cent during 2014 to 2015 in current PPP terms (IMF).

In India the labor force participation rate is 52.5 for all persons as per survey conducted by labor bureau during January 2014 to July2014. The labor force participation rate is significantly lower in case of women in both rural and urban areas. The female participation and employment rates are affected by various social, economic and cultural issues in India. Employment situation shows the large share of informal employment in total employment has remained above 90 percent during 2004-05 to 2011-12. In India the major source of livelihood is agriculture and allied activities near about 50 percent Indian population engaged in agricultural sector. As per national sample survey 2011-12 the share of agriculture in employment was 48.9 per cent while its share in GDP was 17.4 percent during 2014-15. Employment growth in India was increased by 2.0 percent in 2012 over 2011, as compare to 1.0 per cent in 2011 over 2010. The annual growth rate for the private sector employment was 4.5 per cent in 2012 against a growth of 5.6 per cent in 2011; whereas the public sector employment registered a marginal growth of 0.4 per cent in 2012 against a decline of 1.8 per cent in 2011. The share of women in organized sector employment was around 20 per cent over the three years.

The government has undertaken various reforms to attract larger foreign direct investment inflows and simplify the FDI policy for healthy business climate in the country. Indian government have been liberalized number of sectors like defense, broadcasting, trading, private sector banking, satellite establishment, construction, credit information companies, civil aviation and plantation. The FDI policy 2015-16 permitted 49 percent FDI in pension sector with 26 percent by automatic route and hundred percent FDI under automatic route in the sector of medical devices and white label ATM

operations. The various reforms adopted by Indian government leads to significant increase in foreign direct investment inflows in India. The FDI inflows were US$27.7 billion during April-November 2014 which goes up to US$34.8 billion During April-November 2015. FDI equity inflows also increased from US$18.9 billion to US$24.8 billion showing 31 per cent growth during April-November 2014 to during April-November 2015. Foreign direct investment is major driver of economic growth and is major source of employment generation. Foreign direct investment plays a major role in sustaining a high growth rate in the economy. The sound business environment and favorable police regime promotes to increase FDI inflows in the country.

Review of Literature

Shaojian Chen has examines the impact of FDI on 8 sectors employment in China. He found the negative correlation between foreign direct investment and employment in agricultural, animal husbandry and forestry while positive effect on employment in mining and real estate and in the industries of finance. The total foreign direct investment shows positive impact on employment in China.

Mohammed Nizamuddin has undertaken a study on employment in multy brand retail and foreign direct investment in India. He used the ordinary least square method for observing impact of FDI on employment and found the negative impact on employment generation in retail sector of India. The regression analysis result shows the 10 percent increase in FDI result in one percent decrease in employment.

Neeraj Aswal has examined the Role of Foreign Direct Investment in generating employment in agricultural sector of Indian economy. He stated that there is an opportunities to increase employment in agricultural sector in India through foreign direct investment. The levels of gross domestic product and foreign authorized shares have long term relationship. The permission of FDI in agricultural retailing will promote the welfare of rural part of the society like farmers and consumers.

Gaurav Agrawal analyzes the relationship between economic growth and foreign direct investment in BRICS countries. The study examines the long run relationship between share of economic growth and foreign direct investment. The Granger causality test proves the presence of bidirectional causality between FDI and economic growths. He found positive correlation between economic growth and foreign direct investment. He stated that it is unnecessary to adopt various policies for attracting FDI in the concern of economic growth. So that he suggested efforts should take to encourage the other potential sources of economic growth.

Netrja Mehra has find out the impact of FDI on employment and GDP in India. He observed that the FDI has maximum impact on GDP in India. The result estimates that the one percent increases in FDI the GDP should increase by 23.6 percent. But, the impact of FDI on employment is not satisfactory. This indicates the jobless growth of Indian economy. The regression analysis shows positive relationship between FDI and GDP but not between FDI and employment.

Andersen and Hainaut analyzed the effect of FDI on employment. They stated that the FDI outflows could not leads to losses the job opportunities and could not find enough evidence that leads to outflows decreases the jobs.

Jayaraman and Baljeet Singh right a working paper on FDI and Employment creation in pacific Isaland countries a case study of Fiji. They concluded that FDI and GDP have positive impact on job creations in Fiji. They recommend that Fiji should maintain appropriate environment including political stability for retaining the inflows.

Wang and Zhang have analyzed an Empirical Study on FDI and Employment in China. They found the direct positive relation between foreign direct investment and employment in China. They observe that one percent increase of FDI increases 0.008 percentage points in actual employment in China.

Zia and Rizvi have examines the Impact of Foreign Direct Investment on Employment Opportunities in India, China and Pakistan. The result stated that these three countries do not have employment opportunities from foreign direct investment. The result shows the low elasticity of employment in Pakistan, India and China and suggest to enhancing priorities for employment policies to generate employment.

Objectives

The main object of this study is to examine the role of foreign direct investment and gross domestic product in employment generation in India during 2001 to 2012. The specific objectives of this study are as under:

1. To explain the trends of GDP, FDI and Employment in India.
2. To examine the impact of GDP on employment generation in India.
3. To analysis the impact of FDI on employment generation in India.

Research Methodology

This study is mainly undertaken to study the role of foreign direct investment and gross domestic product in employment generation in India. The data for the study collected for the period 2001 to 2012. The required data of foreign direct investment and GDP was collected form world band data whereas the data of employment was collected form Economic survey of India and from the website of Ministry of Labor and Employment, Director General of Employment and training. For empirically analysis the multiple regression method and kalrs pearsons correlation has used. Two regression equations used like role of FDI in employment generation and role of GDP in employment generation.

Equation (1): EMT = f (FDI)

$EMT = \alpha 1 + \beta 1\ FDI$

EMT= Employment

FDI= Foreign Direct Investment

$\alpha 1$= intercept for equation One

$\beta 1$= The Coefficient of independent variable FDI

Equation (2): EMT=f (GDP)

$GDP = \alpha 2 + \beta 2\ GDP$

GDP = Gross Domestic Product

$\alpha 2$ = intercept for equation Two

$\beta 2$ = The Coefficient of independent variable GDP

Hypothesis

A null and an alternative hypothesis have been taken for above mentioned regression equations.

Equation: 1
Null Hypothesis: FDI do not have positive impact on Employment.

Alternate Hypothesis: FDI has positive impact on Employment.

Equation: 2
Null Hypothesis: GDP do not have positive impact on Employment.

Alternative Hypothesis: GDP has positive impact on Employment.

Trends in FDI, GDP and Employment in India
Table no. 1 shows the trends in foreign direct investment, gross domestic product and total employment in India during 2001 to 2012. The FDI inflows were Rs. 10733 crore in 2001 which increased by 25.58 percent compound annual growth rate and goes up to Rs. 64583 crore in 2012. The FDI shows mixed trends during the study period and increased by 15.39 times in absolute term in 2012 with compare to initial year 2001. The gross domestic product was Rs. 215468 crore in 2001 which increased by 41.49 times and stood at Rs. 8932892 crore in 2012. The compound annual growth rate was 12.54 percent during the study period. On an average the FDI were Rs. 64583 crore and GDP was Rs. 9551516 crore during the study period. The total employment in India was 277.9 lakhs persons in 2001 which normally increased and stood at Rs. 295.8 lakhs persons in 2012. On an average the employment was 276.7 lakhs persons and the compound annual growth rate was 0.49 percent during the study period. It is found that the highest 25.58 percent compound annual growth rate recorded by FDI followed by GDP 12.59 percent and it was only 0.49 percent for employment in India during 2001 to 2012. The above analysis suggests us that the employment in India does not increase as increase in FDI and GDP during the study period.

Correlation Analysis
Table no. 2 reveals the pearsons coefficient of correlation between foreign direct investment, gross domestic product and employment in India during 2001 to 2012. The pearsons coefficient correlation between gross domestic product and employment is found to be 0.8745 with significance level of 0.0002 or 0.02 percent. The coefficient of correlation 0.8745 shows the GDP has very strong correlation with employment in India during the study period. The low level of significance (0.0002) shows the coefficient GDP variable is highly significant. The coefficient of correlation between foreign direct investment and employment is also shows strong correlation i.e. 0.8567 or 85.67 percent during the study period. The significance level of 0.0004 (0.04 %) indicates the coefficient of FDI variable is also highly significant with dependent variable employment during 2001 to 2012. It is observed form the pearsons coefficient of correlation result that the significance level of GDP with employment (0.02%) is higher than the significance level of FDI 0.04 percent.

Table 1: FDI inflows, GDP and Employment in India

Year	FDI (Rs. In Crore)	GDP(Rs. In Crore)	Employment (in Lakh Persons)
2001	10733	2154680	277.9
2002	18654	2335777	272.0
2003	12871	2519637	270.0
2004	10064	2820795	264.5
2005	14653	3219835	264.6
2006	24584	3667253	270.0
2007	56390	4261472	272.7
2008	98642	4966578	275.5
2009	142829	5597140	281.8
2010	123120	6439827	287.1
2011	97320	7702308	288.0
2012	165146	8932892	295.8
Mean	64583	4551516	276.7
CAGR	25.58	12.59	0.49

Source:
1) Fact Sheet on Foreign Direct Investment (Fdi) Iiii, From April, 2000 To March, 2015, Federal Ministry of Commerce and Industry, Government of India.
2) Economic Survey of India, 2014-15.

Table 2: Correlation Results

variables		GDP	FDI	Employment
GDP	Correlation	1	0.9094	0.8745
	Sig.(2-tailed)	--	4.1312	0.0002
	N	12	12	12
FDI	Correlation	0.9094	1	0.8567
	Sig.(2-tailed)	4.1312	--	0.0004
	N	12	12	12
Employment	Correlation	0.8745	0.8567	1
	Sig.(2-tailed)	0.0002	0.0004	--
	N	12	12	12

Regression Analysis
Table no. 3 reveals with the regression result of foreign direct investment, and employment in India. The regression analysis has been used to show the accuracy between dependent and independent variables. If the R-square value is more than 50

percent the used model is significant and if the R-square is less than 50 percent the model is insignificant. The regression coefficient value is 0.8568 between foreign direct investment and employment. This coefficient value indicates that the 85.68 percent change in dependent variable employment due to change in independent variable foreign direct investment during the study period. The R value 0.8568 (85.68%) and R square value 0.7339 (73.39%) evidently higher than the level of 60 percent. It means the independent variable foreign direct investment influences strongly the dependent variable employment during the study period. While the R square value 0.7339 indicates the 73.39 percent data were accounted for this change.

Table 3: Regression Results (Linear Model)

Multiple R	R-square	Adjusted R Square	Std. Error if Estimates
0.8568	0.7339	0.7073	5.2924

Source: Computed form table no.1
Note: Predictors; FDI independent variable, Employment dependent variable

Table no. 4 reveals with the regression result of gross domestic product, and employment in India. It is found that the 0.8745 regression coefficient between gross domestic product and employment in India during 2001 to 2012. The 0.8745 coefficient value indicates that the 87.45 percent change in dependent variable employment due to change in independent variable gross domestic product during the study period. The R value 0.8745(87.45%) and R square value 0.7648 (76.48%) evidently higher than the level of 60 percent. It means the independent variable gross domestic product influences strongly the dependent variable employment during the study period. While the R square value 0.7648 indicates the 76.48 percent data were accounted for this change. It is clear from the above analysis that 85.68 percent change in dependent variable employment due to independent variable FDI and 87.45 percent change by independent variable GDP during the study period. It means gross domestic product generate more employment than foreign direct investment in India.

Table 4: Regression Results (Linear Model)

Multiple R	R-square	Adjusted R Square	Std. Error if Estimates
0.8745	0.7648	0.7413	4.9755

Source: Computed form table no.1
Note: Predictors; GDP independent variable, Employment dependent variable

The Analysis of Variance (ANOVA)

The table no. 5 shows the analysis of variance between foreign direct investment and employment in India during 2001 to 2012.The anova analysis also shows the relationship between dependent variable and independent variable. As per the analysis of variance table no. 4 the F value is 27.58 is larger than the p-value 0.0004 so the null hypothesis is rejected and the alternative hypothesis is accepted. It means there is positive correlation between foreign direct investment and employment in India.

Table 5: Results of Anova

	Sum of Square	Degree of Freedom	Mean Square	F-Test	P-Value
Regression	772.554	1	772.554	27.5819	0.0004
Residual	280.094	10	28.009		
Total	1052.648	11			

Source: Computed form table no.1
Note: Predictors; FDI independent variable, Employment dependent variable

The table no. 6 shows the analysis of variance between gross domestic product and employment in India during 2001 to 2012. As per the analysis of variance table no. 5 the F value is 32.52 is also larger than the p-value 0.0002 so the null hypothesis is rejected and the alternative hypothesis is accepted. It means there is positive correlation between gross domestic product and employment in India.

Table 6: Results of Anova

	Sum of Square	Degree of Freedom	Mean Square	F-Test	P-Value
Regression	805.094	1	805.094	32.522	0.0002
Residual	247.555	10	24.755		
Total	1052.649	11			

Source: Computed form table no.1
Note: Predictors; GDP independent variable, Employment dependent variable

Conclusion

In India the labor force participation rate is 52.5 for all persons as per survey conducted by labor bureau during January 2014 to July2014. India's contribution to global growth in PPP terms increased from an average of 8.3 per cent during the period 2001 to 2007 to 14.4 per cent in 2014. This study is mainly undertaken to study the relationship between gross domestic product and employment and the relationship between foreign direct investment and employment in India during 2001 to 2012. For analysis the relationship between dependent and independent variable the ordinary least square regression method has used. It is found that the highest 25.58 percent compound annual growth rate recorded by FDI followed by GDP 12.59 percent and it was only 0.49 percent for employment in India during 2001 to 2012. It is observed that there is positive relationship between FDI and employment and between GDP and employment in India. The coefficient of correlation indicates that the one unit increase in FDI will raise employment by 0.857 units and one unit increase of GDP will raise employment by 0.875 units in India. The P value 0.0004 of FDI and P value 0.0002 of GDP indicates that the coefficient of FDI variable and GDP variable is highly significant with employment in India during the study period. The P values indicate that the GDP variable is more significant than the variable of FDI. This result express that the increase in GDP and increase in FDI increases the employment in India. Therefore it is suggested that the policy maker should stabilize monetary and fiscal policies in long run to increase GDP and FDI for employment generation in India. It is also suggested that the policy makers should give priorities for employment policies to generate decent employment for educated youths entering in the labor market.

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