

## **AN EMPIRICAL ASSESSMENT OF THE IMPACT OF FOREIGN DIRECT INVESTMENT ON EMPLOYMENT IN INDIAN PHARMACEUTICAL INDUSTRY**

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### **Abstract**

*Indian economy has witnessed a positive shift in the perception of the role played by Foreign Direct Investment (FDI) from an era of concern and suspicion to the most important source of external finance for developing countries. Associated with bringing positive externalities and greatly augmenting domestic capital, FDI is sought by many countries. In the present scenario, employment creation is regarded as one of the important potential contributions made by FDI to the host economy. Thus, the study makes an attempt to analyze the impact of Foreign Direct Investment on employment in Indian Pharmaceutical Industry using recent firm level panel data for the time frame of fifteen years (2001-2015). Our analysis broadly concludes that increased FDI flows have led to higher levels of employment. It is also observed that export intensity and size positively affect the employment while capital intensity has a negative impact. A significant policy direction that emerges from the study is that in order to improve the employment, exports in the labor intensive industries should be encouraged.*

**Keywords:** Foreign Direct Investment, Employment, Panel data, Labor-intensive.

### **1. Introduction**

India's investment regime coupled with a series of reforms has led to a positive change in the perception of the role played by Foreign Direct Investment (FDI) from an era of concern and suspicion to the most preferred source of external resource flows to a country. FDI has emerged to be the most attractive type of capital flow for emerging economies with the expectation to improve the production capabilities of the economy by

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bringing in latest technology. In the present scenario, employment creation is regarded as one of the important potential contributions made by FDI to the host economy<sup>1</sup>. The liberalized industrial policies have managed to create a friendly environment for foreign investors which in turn has led to a sharp increase in FDI inflow into Indian industries making it account for 5.5 percent of global FDI. The share of manufacturing in FDI in the year 2014 was approximately 46 percent with 37 percent rise in the FDI projects, 32 percent rise in investment and 39 percent additional jobs created making it the number one FDI destination in the world during the first half of 2015.<sup>2</sup> Foreign Direct Investment is defined as a category of international investment that reflects the objective of a resident in one economy (the direct investor) obtaining a lasting interest in an enterprise resident in another economy (the direct investment enterprise). The lasting interest implies the existence of a long-term relationship between the direct investor and the direct investment enterprise, and a significant degree of say of the investor in the management of the enterprise. A direct investment relationship is established when the direct investor has acquired 10 percent or more of the ordinary shares or voting power of an enterprise abroad. (IMF, 1993). The major advantages of FDI in case of India can be highlighted as bridging the gap between investment funds required and domestic sources of funds, job creation, knowledge diffusion led by technology transfer and spillover effects on domestic firms, transfer of advanced organizational and management practices through linkages between the foreign investing company and the host country firms. Foreign Direct Investment firms are a potential source of information about foreign markets, consumers and technology. They can have a direct or indirect impact on the domestic firms from their presence in the market. Even if the domestic firms do not participate in joint ventures with FDI firms, the information with them may leak out to the domestic firms. This is called "spillovers" from FDI. Spillovers can work through different channels. Horizontal spillovers occur when domestic firms are benefitted from the presence of FDI firms in the same industry through demonstration effect and competition effect. Vertical spillovers arise from the FDI firms operating in other industries through buyer- supplier linkages. Spillovers improve the productive efficiencies of domestic firms, making their products competitive in price and quality in the international market, thus improving their overall performance.

### **1.1 Overview of Indian Pharmaceutical Industry**

Being one of the highly organized and the fastest growing industrial sectors in India, the Indian Pharmaceutical industry is dominated by a multitude of international players. The industry has increasingly demonstrated growth and now ranks third globally in terms of volume sales, fourteenth in terms of value and accounts for over 10 percent of global

pharmaceutical production by volume and 1.5 percent by value. (Government of India [GOI], Department of Pharmaceuticals). The aggregate amount of FDI inflows into Drugs and Pharmaceutical industry from April 2000 to December 2015 was 13,446.82 US\$ million, accounting for 4.84 percent of the total inflows and making it one of the top ten industries attracting the highest amount of FDI inflows from last fifteen years (Department of Industrial Policy and Promotion, Fact Sheet on FDI). Before 2000, Foreign Direct Investment (FDI) was allowed up to 74 percent in the case of bulk drugs, their intermediaries and formulations under the approval route. It was in the year 2000 that government of India opened the pharmaceutical sector to 100 percent FDI, thereby making it one of the attractive destinations for foreign investments. The FDI policy was again revised in 2011 where it was decided that 100 percent FDI in pharmaceutical sector will be allowed through automatic route for greenfield investment and through government approval route for brownfield investment.

### **1.2 FDI impact on employment- An overview**

Referring to the existing literature, FDI might have a direct and indirect as well as quantitative and qualitative effects on employment which could either be negative and positive (Abor and Harvey, 2008). Quantitative effects of FDI refer to the new jobs created through the establishment of foreign subsidiaries or through expansion of existing industries. It also adds to the net capital of the industry. However the firms might crowd out the existing local firms that are labor intensive and the acquisitions might result in job losses. Employment can also be generated indirectly by creating jobs through forward and backward linkages which again has a negative effect in terms of reliance on imports or displacement of existing firms leading to reduction in employment.

In terms of qualitative effects of FDI on employment, the existing literature stipulates that foreign firms pay higher wages as compared to their domestic counterparts and are better able to offer job security, thus leading to higher productivity. In all this process, restructuring of strategies and other practices of hiring and promotion, training exercises might be considered undesirable by existing employees. The indirect effect could be in the form of spillovers to domestic firms. Technological spillovers is one of the spillovers generated by FDI where domestic firms through diffusion of new technology of foreign firms can improve their efficiency through imitation and hiring workers trained by foreign firms. However, this might again erode wage levels when domestic firms try to compete.

The findings from the previous literature have generated mixed results about the impact of FDI on employment. Lipsey et al., (2013) found that foreign firms showed higher

growth in employment as compared to domestic firms. Similar result was found in China by Karloson et al., (2009). Findings by Coniglio, Prota and Seric (2014) concluded that foreign firms in Sub-Saharan Africa did not generate a significantly higher demand for skilled workers while Abor and Harvey (2008) found that increased FDI led to an increased employment in Ghanaian manufacturing sector during the period 1992-2002. In Indian context, Pradhan et al., (2004) found that the labor had benefitted from foreign investment while Banga (2005) found that FDI did not lead to higher employment level. Bergman (2006) found that the presence of FDI generated spillovers effects in terms of human capital through labor turnover in Indian Pharmaceutical industry. Labor turnover led to circulation of labor which in turn enabled some knowledge between domestic and FDI firms. With the objective of making employees highly productive, FDI firms, in addition to providing better training to the domestic firms, provide them with an access to better ideas and advanced international practices. Thus, ambiguous results about the overall employment impact of FDI make it imperative to look into this issue.

### **1.3. Theoretical background and need of the study**

The theoretical understanding on why FDI firms have a different impact on employment vis-à-vis domestic firms can be deduced from the industrial organization theory of Foreign Direct Investment, proposed by Hymer (1960), one of the pioneers who developed a systematic approach towards the concept of Foreign Direct Investment (FDI). He proposed that FDI brings with it certain firm specific advantages in the form of highly sophisticated product differentiation, brand names, advanced technology, superior management and organizational skills. These advantages thereby place the FDI firms in a better position over the local firms, who though are in advantageous position in terms of culture, language, legal norms and local consumers' preferences. According to Hymer, the most important firm specific advantage is superior technology since it leads to improved production process and ultimately the introduction of new and better products. Now the implementation of more capital intensive and superior technology by foreign firms is expected to lead to lower employment in comparison to the domestic firms that still make use of labor intensive techniques of production. In order to prevent labor turnover, domestic firms are also expected to pay higher wages. Thus, where FDI allows a firm to exploit its advantages to the full, it also has a significant impact on the domestic firms. Given the role FDI plays in the employment growth of a country, there exists lack of research studies on this issue in India. Moreover the need for direct and indirect interaction between FDI firms and domestic firms has been largely recognized in a country like India, considering it crucial for the FDI to have a profound and long lasting effect on its economy and making it imperative to analyze the impact of FDI in recent

years.

Against this background, the present study makes an attempt to analyze the impact of foreign direct investment on employment in the Indian Pharmaceutical industry.

## **2. Review of literature**

The issue of impact of FDI on employment has remained underexplored in Indian context, though few attempts have been made which are discussed in this section. Pradhan et al. (2004) made an attempt to examine the impact of foreign ownership on labor and employment in Indian manufacturing sector for the year 2001-02 and found that the labor had benefitted from foreign investment. The foreign firms did not have any negative effect on the manufacturing employment in India. Banga (2005) examined the impact of three important components of liberalization i.e. Foreign Direct Investment (FDI), trade and technology on wages and employment in Indian manufacturing sector. The analysis revealed that though higher FDI had a positive impact on wage rate of the industry, yet it did not lead to a higher employment level. While higher exports positively affected employment levels, it had a marginal impact on wage rate. Technology acquisition had an unfavorable impact on employment and showed no impact on the wage rate of the industry. Kato and Mitra (2008) made an attempt to study the effect of import composition of capital (defined as the ratio of imported capital to domestic capital) on the value added (defined as the ratio of labor to output). Panel data estimation was made using the firm level data of eight industries in Indian manufacturing sector for the period 1991-92 to 2001-02. The results found the negative relationship between the two implying that as the ratio of foreign to domestic capital increased, the ratio of labor to value added decreased. Sahu (2010) analyzed the determinants of wage rate and employment of the foreign and the domestic firms in Indian manufacturing industry during the period 2001-02 to 2007-08 using the firm level panel data. The results revealed that the capital intensity came out to be the most important factor in determining the wage rate of an industry and high output per worker followed by foreign ownership were the important determinants of wage rate in foreign firms. In case of employment behavior of manufacturing, the capital intensity was found to be significantly negative for the entire manufacturing industry. Bhasker (2013) made an attempt to examine the impact of Foreign Direct Investment (FDI) in Indian Automobile sector on employment generation. The study found that FDI contributed to the growth in the Automobile sector in the same proportion from 2001-02 to 2011-12. Moreover, FDI in Automobile industry triggered investment in the industry, created employment opportunities and provided direct and indirect employment to over 17 million people in 2012. Ghosh and Roy (2015)

examined the impact of ownership, labor productivity and technology acquisition on firm level labor demand in Indian manufacturing industry post 2000. It was found that except for the food and beverages industry, the ownership did not have had any significant impact on employment in firms. Increase in the average wage had a negative impact on firm level labor demand, chemical industry being an exception.

### **3. Database and research methodology**

The main objective of the study is to analyze the impact of foreign direct investment on employment in Indian Pharmaceutical industry.

#### **3.1 Data source and sample**

The present study uses secondary data and the universe of the study is confined to the Indian Pharmaceutical sector. The data was collected from the PROWESS database of the Centre for Monitoring Indian Economy (C.M.I.E.)<sup>3</sup> and Annual Survey of Industries. The study covers a time frame of fifteen years from year 2001-02 to year 2014-15. The year 2000 was taken as a base year since beginning 2000; the Indian government allowed foreign investment through automatic route in all industries for FDI and this led to significant increase in FDI investments in India after 2000 (Rastogi and Sawhney, 2013). Filters were applied to the initial data to obtain the final sample. Firstly, those firms were included in the sample for which the data for all the variables used in the study was available for at least a period of 6 years. After this, the firms were further bifurcated into FDI firms and domestic firms on the basis of their foreign equity ownership as per the definition followed by Reserve Bank of India<sup>4</sup>. Firms which had foreign promoters share greater than or equal to 10 percent were classified as FDI firms and rest of the firms were classified as the domestic firms<sup>5</sup>. The filtering procedure finally yielded a sample of 85 companies out of which 29 were the FDI firms while rest were domestic firms.

#### **3.2 Variables Description**

Referring to the previous literature, the following variables were used as dependent, independent and control variables.

##### **3.2.1 Dependent variable**

The dependent variable used in the study is employment. Since Prowess provides information on wages and salaries of a firm and does not provide data on number of employees, an indirect approach is applied as used in previous literature (Ghosh and Roy, 2015). We make use of Annual Survey of Industry database to construct the employment

variable. Number of man days per firm is arrived at by dividing expenditure on salaries and wages of the firm to the average wage rate of industry to which the firm belongs. Average wage rate is calculated by dividing total emoluments to total persons engaged as provided in Annual Survey of Industry database.

### 3.2.2 Independent and Control variables

Foreign ownership is a dummy variable that takes the value 1 for the FDI firms and 0 for the domestic firms. The study of existing literature suggests that there are several other variables that may affect the employment in the firms and therefore, it becomes pertinent to control these variables. The following control variables have been used in the present study: export intensity, technology import intensity, capital intensity, R& D intensity, age, size and wage share. The description of variables used in the regression model has been illustrated through Table 1.

**Table 1: Description of Variables used in the Panel Regression Model**

Variable	Description	Notation
<b>Dependent</b> Employment	Total Salaries & wages/ Average wage rate	Emp
<b>Independent</b> Foreign Ownership	Dummy=1 if the firm is an FDI firm ( $\geq 10$ per cent foreign equity) and 0 if domestic firm ( $<10$ per cent foreign equity)	Fown
<b>Control</b> Export Intensity	Total Exports / Total Sales	Expint
Technology Import Intensity	(Import of capital goods+ Royalty + License fees)/ Total Sales	Techimpint
Capital Intensity	Net fixed assets/ Sales	Capint
R & D Intensity	Total R & D Expenditure/ Total Sales	Rdint
Age	Observation year (2001) - Year of incorporation	Age
Size	Natural log of total assets	Size
Wage share	Salaries and wages/ Total sales	Wageshare

Source: Authors' Compilation from various studies.

### 3.3 Hypotheses Development

On the basis of the theoretical framework and the review of literature, the following null hypotheses were developed:

**H<sub>1</sub>:** There is no significant impact of foreign ownership on employment.

**H<sub>2</sub>:** There is no significant impact of Export intensity on employment.

**H<sub>3</sub>:** There is no significant impact of Technology import intensity on employment.

**H<sub>4</sub>:** There is no significant impact of Capital intensity on employment.

**H<sub>5</sub>:** There is no significant impact of R&D intensity on employment.

**H<sub>6</sub>:** There is no significant impact of age on employment.

**H<sub>7</sub>:** There is no significant impact of size on employment.

**H<sub>8</sub>:** There is no significant impact of wage share on employment.

### 3.4 Econometric Model

In order to study the impact of foreign direct investment on employment, the panel data methodology is used since the panel data can incorporate datasets consisting of both the cross sectional and time series observations. A panel data model can be estimated through fixed effects or random effects. Since, we have a dummy variable (foreign ownership) in our dataset, we cannot apply the fixed effects model. Thus we rely on random effects model to estimate the results<sup>6</sup>. Random effect model is also known as ‘error component’ or ‘variance component’ model since it allows the omitted latent variable to vary in the error term. The general form of panel equation can be written as:

$$Y_{it} = a + \beta_{it} Fown_{it} + \beta_{it} X_{it} + \varepsilon_{it} \quad (1)$$

*Where*  $\varepsilon_{it} = u_i + v_{it}$

Where  $a$  refers to the constant term, subscript  $i$  refers to an individual firm; subscript  $t$  refers to year;  $Y_{it}$  is the dependent variable and is the observation of firm  $i$  in a particular year  $t$ ;  $Fown_{it}$  represents the foreign ownership dummy;  $X_{it}$  is a set of control variables and  $\varepsilon_{it}$  is the random disturbance term which is composed of two terms. The first term  $u_i$  corresponds to time invariant foreign ownership of firms (dummy variable) and the second term  $v_{it}$  captures the residual variation in output (Hasan, 2002). The Generalized



Least Square (GLS) technique is used to carry out the estimation in Random Effect model and the software used is STATA (version 11).

By extending equation (1) to reflect the variables, as described in Table 1, the model has been formulated as follows:

$$\ln Emp_{it} = a + \beta_1 Fown_{it} + \beta_2 \ln Exptint_{it} + \beta_3 \ln Techimpint_{it} + \beta_4 \ln Capint_{it} + \beta_5 \ln Rdint_{it} + \beta_6 \ln Age_{it} + \beta_7 \ln Size_{it} + \beta_8 \ln WageShare_{it} + \varepsilon_{it}$$

Here, Ln is the natural logarithm of the variables under study; and  $\beta_1 \beta_2 \dots$  are coefficients of the covariates. All the variables in the equation have been described in Table 1.

## 4. Findings and discussions

### 4.1 Descriptive Statistics

Table 2 represents the descriptive analysis of the entire sample under study. The table highlights the mean, maximum value, minimum value and standard deviation for all the variables.

**Table 2: Descriptive Statistics**

Variable	Observations	Min	Max	Mean	Std. Dev
i (Firm)	1275	1	85	43	24.54532
t (Year)	1275	2001	2015	2008	4.322189
Foreign Ownership	1275	0	1	.3411765	.4742905
Employment	1275	0	3703.021	285.7378	496.6063
Export intensity	1275	0	100	29.7219	26.50948
Techimp intensity	1275	0	.8888889	.0169642	.0611517
Capital intensity	1275	0	38.44687	.7256032	2.356231
R&D intensity	1275	0	4.111111	.0327419	.1279208
Age	1275	1	114	31.04706	19.54541
Size	1275	0	12.87333	7.892482	1.952723
Wage share	1275	0	1.847896	.0954598	.0992535

Source: STATA 11 Output

### 4.2 Correlation Matrix

With the purpose to understand the nature of relationships among several variables considered, the correlations among all the variables was obtained. Table 3 reports the coefficients of correlation among different variables. Majority of the variables show positive correlation with employment while technology import intensity, capital intensity and wage share showed a negative correlation with the employment.

**Table 3: Correlation Matrix**

	Emp	Fown	Expint	Techimport	Capint	Rdint	Age	Size	Wageshare
Emp	1.0000								
Fown	0.4334	1.0000							
Expint	0.1154	-0.0620	1.0000						
Techimport	-0.0187	0.0179	0.0529	1.0000					
Capint	-0.0357	-0.0192	0.0326	0.1061	1.0000				
Rdint	0.0338	0.1297	0.0634	0.4404	0.1715	1.0000			
Age	0.4100	0.2435	-0.1369	-0.0762	-0.0363	-0.0471	1.0000		
Size	0.8326	0.3503	0.1706	0.0077	0.0430	0.0815	0.2875	1.0000	
Wageshare	-0.0118	0.1447	-0.0933	0.1874	0.3427	0.2825	0.0854	-0.0461	1.0000

Source: STATA 11 Output

### 4.3 Diagnostic Tests

Diagnostic tests have been employed to test for the presence of stationarity,

heteroskedasticity, auto correlation and multicollinearity in the panel data models that would affect the efficiency of the estimators.

### 4.3.1 Stationarity Test

Levin Lin Chu unit root test was applied to test the stationarity of variables. It tests the null hypothesis of panels containing unit roots as against the alternate that panels are stationary. The results have been reported in table 4 that show all the variables are stationary since all the p values are less than 0.05.

**Table 4: Levin Lin Chu unit root test for Stationarity**

Variables	Statistics	p value
Emp	-13.0329	0.0000
Expint	-10.2476	0.0000
Techimpint	-6.4537	0.0000
Capint	-8.8817	0.0000
Rdint	-11.8897	0.0000
Age	-44.3975	0.0000
Size	-9.3631	0.0000
Wage share	-2.2126	0.0135

Source: STATA 11 Output

### 4.3.2 Heteroskedasticity and Autocorrelation

Breusch-Pagan test is applied to test for heteroskedasticity and Wooldridge Test is applied to test for Autocorrelation in Panel Data. Breusch-Pagan tests the null hypothesis of panels having constant variance as against the alternate that panels are heterogeneous and for Wooldridge Test, the null hypothesis being no first-order autocorrelation. Table 5 indicates a significant presence of panel level heteroskedasticity and autocorrelation in the regression model.

**Table 5: Tests for Heteroskedasticity and Autocorrelation**

Heteroskedasticity	
chi2(1)	p value
329.97	0.0000
Autocorrelation	
F( 1, 84)	p value
28.590	0.0000

Source: STATA 11 Output

**4.3.3. Multicollinearity**

The Variance Inflation Factor (VIF) and tolerance (1/VIF) are both widely used measures to test for multicollinearity in the model. The maximum acceptable value for the VIF is 10 and minimum value for tolerance is 0.10. Following this criterion, Table 6 shows that multicollinearity had not been a serious problem for regression models as the VIF and tolerance values fall within the acceptable limits of collinearity.

**Table 6: Multicollinearity Test**

Variable	VIF	1/VIF
Rdint	1.35	0.741843
Size	1.31	0.765095
Wage share	1.29	0.777957
Techimpint	1.26	0.796085
Fown	1.23	0.811913
Age	1.18	0.845737
Capint	1.16	0.858512
Expint	1.09	0.914881
Mean VIF	1.07	

Source: STATA 11 Output

**4.4 Empirical Results of the Panel Regression Model**

Generalized least square random effects model was used to estimate the results. The results of the panel data regression analysis have been reported in Table 7. To control for autocorrelation and heteroskedasticity, robust standard errors have been computed by clustering the data (Singh and Dhingra, 2013). The Wald Chi-squared value of the model comes out to be 330.79, which is highly significant at 1percent level of significance. Hence, the model is a good fit to estimate the regression results. The co-efficient of determination i.e. overall R-squared ( $R^2$ ) of the model comes out to be 0.719 which suggests that approximately 71.9 percent variation in the employment has been explained by the significant explanatory variables incorporated in the panel data regression model.

**Table 7: Panel Regression Analysis**

<b>Dependent Variable: Employment</b>		
<b>Regressors</b>	<b>Coefficient</b>	<b>Robust Std. Error</b>
Fown	0.810 <sup>***</sup> (4.31)	.1876968
Expint	0.0133 <sup>*</sup> (1.72)	.0077382
Techimpint	-0.115 (-0.43)	.2679972
Capint	-0.0156 <sup>**</sup> (-2.65)	.0058749
Rdint	-0.151 (-1.53)	.0982811
Age	0.208 (1.34)	.1561508
Size	0.461 <sup>***</sup> (8.87)	.0519685
Wage share	0.404 (1.13)	.3567089
Constant	-0.0401 (-0.10)	.4186184
Observations (N)	1275	
R <sup>2</sup> (overall)	0.719	
Wald chi2(8)	330.79 <sup>***</sup>	

*t* statistics in parentheses

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Source: STATA 11 Output

The empirical findings show that the foreign ownership coefficient is significant and positive indicating that increased FDI flows would lead to higher levels of employment. This implies that FDI firms tend to employ more staff than their domestic counterparts. This can be explained by the fact that FDI brings in large scale production which arises the need to increase the workforce in order to maintain the high production. Moreover FDI firms are expected to have more financial resources and thus can pay higher wages to the workers as compared to domestic firms. The findings of this study are in agreement with the findings of study of Lipsey et al., (2013). The positive impact of export intensity

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on employment highlights the fact that an increase in exports will lead to a significant increase in employment. This can be explained by the fact that in India, exports generally take place from labor intensive industries therefore higher exports are expected to lead to higher employment. These results are consistent with those of Banga, (2005). The capital intensity shows a significantly negative impact on employment. The outcome is justified as the pharmaceutical industry is a capital intensive industry and the employment is less in high capital-intensive firms. Size is found to have a significantly positive effect on employment indicating that as the size of the firm increases, the employment also increases and since large size firms have sufficient financial resources, they are likely to employ more workers. The findings were consistent with the previous literature results (Pradhan et al., 2004). The other variables, technology import intensity, R&D intensity, age and wage share were found to be insignificant in the study. Table 8 finally sums up the findings and the hypotheses testing of the study.

**Table 8: Findings of the Study**

Variable	Significance	Hypotheses
Fown	Significant	H <sub>1</sub> Rejected
Expint	Significant	H <sub>2</sub> Rejected
Techimpint	Insignificant	H <sub>3</sub> Accepted
Capint	Significant	H <sub>4</sub> Rejected
Rdint	Insignificant	H <sub>5</sub> Accepted
Age	Insignificant	H <sub>6</sub> Accepted
Size	Significant	H <sub>7</sub> Rejected
Wage share	Insignificant	H <sub>8</sub> Accepted

*Source:* Authors' Compilation

### 5. Conclusion and policy implications

Foreign Direct Investment (FDI) is sought by many countries since it is expected to bring with it positive externalities and greatly augments domestic capital. Employment creation has been identified as one of the potential contributions of FDI to the host economy. The present study was undertaken to examine the impact of FDI on employment in Indian Pharmaceutical industry using firm level panel data. The empirical findings showed that FDI had a significant positive effect on employment highlighting the fact that increased FDI flows would lead to higher levels of employment. FDI firms tend to employ more employees as compared to their domestic counterparts, which can be attributed to the fact that FDI brings in large scale production and thus there is a need to increase the

workforce. Another outcome of the study was that the export intensity and size had a positive impact on employment. This implies that exports lead to higher output and thus to higher employment and as the size of firm increases, the level of employment increases. The role of capital intensity was found to be negative indicating that the employment is less in high capital-intensive firms. Technology import intensity, R&D intensity, age and wage share were found to be insignificant in the study. To sum up, we can conclude that labor is benefitted from Foreign Direct Investment in Indian pharmaceutical industry. This has important implications for the governments of developing countries like India. The government should formulate investor friendly policies to attract FDI and should essentially encourage exports in labor intensive industries as our results show that employment is less in capital intensive industries. In order to improve the employment level in the industry, efforts are needed to attract FDI in the export-oriented industries by reducing the relative cost of production of foreign firms in this sector.

## End Notes

<sup>1</sup>Jenkins (2006) argued that in addition to supplement domestic investment, FDI involves the creation of new ‘greenfield’ plants which leads to increase in demand for labor and this increase will substantially be large if FDI is concentrated in labor intensive industries.

<sup>2</sup>As reported in EY’s attractiveness survey India 2015.

<sup>3</sup>Prowess database is an online database that provides information from audited financial statements, thereby makes use of company balance sheet and income statements as sources of information.

<sup>4</sup> “A direct investment enterprise is defined as an incorporated or unincorporated enterprise in which a direct investor, who is resident in another economy, owns 10 per cent or more of the ordinary shares or voting power (for an incorporated enterprise) or the equivalent (for an unincorporated enterprise)". As such, a company in which 10 per cent or more equity capital is held by a single non-resident investor is defined as a Foreign Direct Investment Company” (RBI Bulletin, 1999).

<sup>5</sup> Prowess provides data for foreign promoter equity holdings.

<sup>6</sup>Similar methodology was used in the study of Jai Singhani (2016).

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