

Review

FDI and Employment in D8 Countries

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Abstract

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Employment is one of the most important factors affecting the economy. Furthermore, in economic research, analysis of macroeconomic variables on the labor market is of particular importance. Any country seeking to increase their labor force to increase employment generation and economic growth, Because of increased production and economic growth rate of revenue increases and increasing labor productivity and increased investment which it will increase social welfare. In other words employment and workforce are important tool for progress and development countries. Employment, such as the social and economic variables, which can be affected by many factors such as FDI, production level and Inflation. This paper investigates the relationship between FDI and employment in 6 countries of D8 group in the period 2002-2010 by using panel data. The results show that FDI has a significant positive effect on employment. Also the gross capital formation and inflation respectively have positive and negative impact on employment in studied countries.

Keywords: FDI, employment, panel data, D8 countries.
JEL Classification: C23, E24, F10.

INTRODUCTION

One of the most important and sensitive areas for developing countries is foreign direct investment (FDI). It is now defined as not only a simple transfer of money, but as a mixture of financial and intangible assets such as technologies, managerial capabilities, marketing skills and other assets. There is a major debate in the literature regarding the impact of FDI on economic growth. The traditional argument states that an inflow of FDI improves economic growth and thereby enhances employment opportunities. Most studies (Hill and Athukorala 1998) have shown that FDI's social and distributional impact on the host country has been generally favorable in developing countries of various regions. Apart from bringing in a package of highly productive resources into the host economy there have been a visible positive impact on the creation of jobs not only in those sectors attracting FDI inflows but also in the supportive domestic industries (Abbas and Nishat, 2009).

Foreign direct investment is a process by which a country (country of origin), ownership of assets in another

country (host country) to control the production, distribution, and obtains other activities. FDI as an investment involving a long-term relationship reflecting an economic entity in the host country's control. Long term represents the differentiation of other investments such as FDI is portfolio investment, so that investment portfolio, reflecting the maintenance of securities such as foreign stocks, bonds and financial assets that it will not make any the holder of the securities, the issuer of securities firms have management control. Short-term investments portfolio it represents a significant investment and many times the portfolio to be achieved (Taghavi and Rezaee, 2010).

In addition to being the main source of external capital, the inflow of foreign investment also helps in filling the resource gap between the targeted investment and locally mobilized savings as well as the gap between targeted foreign exchange requirements and those generated by net export earnings. Foreign direct investment also helps to develop managerial and specia-

Lized technological skills, innovations in the techniques of production, by means of training programmers and the process of learning by doing in the host country (Aminu, 2005 and Acharyya, 2009). Furthermore, FDI inflows also encourage the local enterprises to increase invest in the development projects and provides employment opportunities for both skilled and unskilled labor in the recipient country. Therefore, this study is trying to examine effects of FDI on employment in D8 countries.

Theoretical background

Foreign direct investment (FDI) has dominated economic literature, especially the development areas of economics, over the last thirty years, due to the potential effects it has on the economy of a host country; these effects range from influencing the production, employment, income, prices, exports, imports, to affecting the economic growth, balance of payments, and general welfare of the host country. The importance of FDI also increased in the 1990s with the globalization of the international economy; many economists consider FDI one of the leading factors in the changing economic environment (Massoud, 2008).

Job creation is one of the main challenges for developing countries. Many people believe that FDI can generate many benefits to help solve the capital shortage problem in developing countries, such as D8 countries. But in terms of job creation, the effects seem more complicated. It has direct and indirect effect on employment. The effect of the FDI on employment is one the most direct expressions of FDI. The following are four different effects of FDI on Job creation:

- 1- Employment Creation: It means the FDI brings new production capacity and new jobs. Meanwhile it can improve the development of relevant industries.
- 2- Employment Crowding-out: It means the inflow of the FDI makes the competition more intensive. So some domestic enterprises have had to reduce employment to improve their competitiveness.
- 3- Employment Shift: It means the cooperation between foreign and domestic companies will create joint ventures. That will make workers transfer to new enterprises.
- 4- Employment Loss: It means the foreign-invested enterprise have their own management methods. Those who have not efficiency or are not suitable for this corporate environment will lose their jobs.
- 5- Countries have different FDI situations and economic structures.

It is not a wise way to copy others to deal with FDI (Chen, 2012). According to trade theory FDI inflows to improve resource allocation and thereby increase labor productivity and employment lead host countries. This theory states that labor productivity effects of FDI can occur in two ways. The first method is directly employed

by foreign companies operating in host countries will be affected. But the second channel to improve allocation of FDI on employment generation and indirectly affect host countries. In the process of the activities of foreign firms in host countries and overflows of technology and investment companies domestic firms in the host country the main factors determining the effects of FDI on employment in these countries (Mahdavi and Aziz, 2004). Direct effect of FDI on employment is due to the activity of foreign companies are chosen, because these companies investments are active in areas that could benefit from the comparative advantage of local labor host countries. Thereby increasing the demand for labor and employment situation improves. But when FDI is associated with the integration of production units, for optimizing the operation of the development activities of manufacturing firms may reduce employment (William, 1999).The same will happen when the FDI flows to countries exporting companies to improve the lead investor. This has reduced the market share of domestic firms and thus leads to a decrease in employment in these companies. Despite these indirect effects, FDI and capital accumulation that leads to a focus that includes better technology and management systems are more advanced. Also FDI can also benefit from the knowledge and skills required to host countries. The result of such a process to improve labor productivity and optimal allocation of resources through the transfer of resources from inefficient sectors of activities and efficient operations and ultimately improve host country employment (Mahdavi and Aziz, 2004).

The absorptive capacity means the host country's ability to absorb FDI, and hence benefit from its potential externalities. The empirical literature has shown that the effect of FDI on growth depends on the absorptive capacity of the host country which is determined mainly by four factors: The human capital quality of the host country; the level of technology used in domestic production in the host country; the level of financial sector development, and the degree of openness of the host countries trade regime. The level of education in the host country, or the human capital quality is important because if the domestic work force lacks sufficient schooling, the transfer of skills from TNCs to their employees may be hindered. The effect of the technology gap on the country's ability to benefit from spillovers is subject to different views; it is argued by many economists that if the technology gap between host and home country is too big, the externalities will not spread to the local companies, i.e., the gap will be too wide to bridge. However, some empirical research has found that externalities have a larger magnitude when there is a large technology gap. The level of financial sector development is also of crucial importance for a country to benefit from FDI externalities as a lack of financial development can prevent domestic and foreign firms from accessing the financial resources that are

needed for the desired technological upgrading that may be triggered by the externalities of TNCs presence in the host country's local market. The presence of sound efficient financial markets allows an efficient allocation of investments for technology enhancement (Massoud, 2008). Finally, the existence of an open trade regime would also determine the effect of FDI on growth as it is argued that the openness of trade regime involves the transfer of technology. (See Krogstrup and Matar 2005, Haskel et al 2002, and Thuy 2007).

For many developing countries, attracting (FDI) has been a key aspect of their outward oriented development strategy, as investment is considered a crucial element for output growth and employment generation. New trends have reinforced the importance of private investment. As a result of the move towards neo-liberal policies, the State's role shifted from an active economic player with productive activities to a provider of an environment of doing business and of social risk insurance. Private investment, both domestic and foreign, is viewed as the driving force of the economy. FDI is seen to complement scarce domestic financial resources. It is also expected to help modernize production by transferring know-how and technology, while increasing domestic productivity and competition and improving international competitiveness. FDI should also facilitate integration into the world market, domestic participation in globalized production patterns, and the creation of forward and backward linkages with the domestic economy. In so doing, it will have a multiplier effect on the whole economy and could thus be a key element in spurring growth. With financial and trade liberalization, it is expected that there will be a reorientation towards the tradable sector and in particular those activities that are based on the comparative advantage for developing or emerging countries, presumably the abundance of low-skilled labour. As a result, the role of private enterprises as investors and contributors to employment has grown in importance. On the negative side, skeptics argue that FDI can adversely affect domestic investment and lead to an increasing dependence on foreign interests, which are difficult to control. In addition, it can lead to uncontrolled competition between countries and even between regions within the same country in terms of offering fiscal incentives to attract investment (Ernst, 2005).

Previous Empirical Literature

Mohammadvand and Ketabforoush (2013) in a study to assess the effects of trade and FDI on the employment of the 13 selected improving countries in the period 2002-2010 by using panel data. The results indicated that trade and FDI have positive and significant effect on employment, so that by increasing 1% in their values, the employment will be improved and increased to 0.03% and 0.06%, respectively. Also the produced added-value

has positive effect and inflation has negative effect on employment.

Vijay (2013) attempts to understand the inventory of policy responses of the government especially related to FDI in automobile sector in India in the period 2001 to 2011. Results showed relation between FDI, turnover and number of production workers employed.

Ayumu(2012) to examine the impact of FDI on domestic employment and workforce composition in Japan during 2003-2005. Results reveal that, in all three sectors, employment growth was higher among firms that initiated FDI than those that remained exclusively domestic. Moreover, manufacturing firms experienced higher growth in the share of non-regular workers.

Deshmukh (2012) investigates effect of FDI on employment in India in period 2000-2010. Results showed that FDI have positive and significant effect on employment in different sectors.

Chen (2012) studied the relationship between employment and FDI in China by using GMM method in period 1991-2010. He knows that there is a positive relationship between current and past data of employment and FDI.

Atif et al (2012) studied the effects of FDI on employment in the period 1980-2010 in Pakistan. The findings showed that FDI has significant and positive effect on employment in Pakistan.

Lee et al(2011) tries to analyze and empirically estimate the effect of FDI on employment in Malaysia by using ARDL method in period 1970 to 2007. The results show that there is no co-integration relationship between employment and the FDI in the long-run. However, there is a causal relation between employment and FDI running from FDI to the employment. They found FDI is the significant factor contributing to the employment growth in Malaysia, but not the other way round.

Derek (2010) examined the impact of inward FDI on skills development and job creation in South Africa. The results demonstrate that inward FDI has a positive impact on skills development and job creation in South Africa and therefore significantly impacts economic growth.

Massoud (2008) Assessing the employment effect of FDI inflows th Egypt in period 1974-2005 for 24 sectors of agriculture, manufacturing and services sectors. The results of the effect of FDI on the demand for labour where aggregate FDI had an insignificant effect on the demand for labour, except when it interacted with the size of the technology gap, then aggregate FDI had a negative effect impact on the demand for labour.

Ndikumana and Verick (2008) investigated a key channel of the impact of FDI on development is through its effects on domestic factor markets, especially domestic investment and employment. In this context, they analyzed the two-way linkages between FDI and domestic investment in Sub-Saharan Africa. Their results suggested that firstly, FDI crowds in domestic investment, and secondly, countries will gain much from measures

aimed at improving the domestic investment climate. Moreover, they identified alternatives to resource endowments as a means of attracting foreign investment to non-resource rich countries.

Ajaga and Nunnenkamp (2008) investigated the long-run relationships between inward FDI and economic outcomes in terms of value added and employment at the level of US states. Johansen's (1988) co-integration technique and Toda and Yamamoto's (1995) Granger causality tests were applied to data for the period of 1977 to 2001. They found co-integration as well as two-directional causality between FDI and outcome variables. This holds for both measures of FDI (stocks and employment in foreign affiliates) and independently of whether they considered the states' overall economy or their manufacturing sector alone.

Federico and Alfredo (2007) assessed the impact of Italy's outward FDI on local (domestic) employment growth between 1996 and 2001 for 12 manufacturing industries and 103 administrative provinces. Their main result was that, controlling for the local industrial structure and area fixed effects, FDI is associated with faster local employment growth, relatively to the national industry average. They also found that employment in small plants was not negatively influenced by higher levels of FDI. Their findings didn't support the idea that FDI was detrimental to local employment growth in the home country.

Research Method and introduction to the model and variables

Panel Data

Panel data is data from a (usually small) number of observations over time on a (usually large) number of cross-sectional units like individuals, households, firms, or governments. In other words panel data analysis is a method of studying a particular subject within multiple sites, periodically observed over a defined time frame. With repeated observations of enough cross-sections, panel analysis permits the researcher to study the dynamics of change with short time series. The combination of time series with cross-sections can enhance the quality and quantity of data in ways that would be impossible using only one of these two dimensions (Gujarati, 2003). Some more advantages of panel data as given in 'Basic Econometrics' by Gujarati are:

- Since panel data relate to individuals, firms, states, countries, etc over time, there is bound to be heterogeneity in these units. The techniques of panel data estimation can take such heterogeneity explicitly into account by allowing for individual-specific variables.

- By studying the repeated cross section of observations, panel data are better suited to study the dynamics of change.
- Panel data can better detect and measure effects that simply cannot be observed in pure cross-section or pure time series data.
- By making data available for several thousand units, panel data can minimize the bias that might result if we aggregate individuals or firms into broad aggregates.

Panel data regression

Panel data analysis endows regression analysis with both a spatial and temporal dimension. The spatial dimension pertains to a set of cross-sectional units of observation. These could be countries, states, counties, firms, commodities, groups of people, or even individuals. The temporal dimension pertains to periodic observations of a set of variables characterizing these cross-sectional units over a particular time span. There are several types of panel data analytic models. There are constant coefficients models, fixed effects models, and random effects models etc.

The Constant Coefficients Model has constant coefficients, referring to both intercepts and

slopes. In the event that there is neither significant country nor significant temporal effects, we could pool all of the data and run an ordinary least squares regression model. This model is also called the pooled regression model.

The Fixed Effects Model would have constant slopes but intercepts that differ according to the cross-sectional (group) unit—for example, the country. Although there are no significant temporal effects, there are significant differences among countries in this type of model. While the intercept is cross-section (group) specific and in this case differs from country to country, it may or may not differ over time.

The Random Effects Model assumes a regression with a random constant term (Greene, 2003). One way to handle the ignorance or error is to assume that the intercept is a random outcome variable. The random outcome is a function of a mean value plus a random error. But this cross-sectional specific error term which indicates the deviation from the constant of the cross-sectional unit must be uncorrelated with the errors of the variables.

Data and Variables

The study population consisted of D8 selected members, Bangladesh, Egypt, Indonesia, Malaysia, Pakistan and Turkey. Time series data from these countries have been collected from WDI 2012. The model presented in this research paper inspired by Onaran (2009) is as follows:

Table 1. Results of the effect FDI on employment in D8 selected countries

Variables	Coefficients	T-statistics	Prob
C	3.0283	7.6514	0.0000
LFDI	0.0198	3.6018	0.0007
LGCF	0.0378	2.2936	0.0266
LINF	-0.0139	-2.3007	0.0262
F test statistics	$R^2=0.9805$	$R^{-2}=0.9788$	D.W=1.672
Hausman test statistics		742.7020(0.0000)	
		24.8597(0.0000)	

Sources: Research findings

$LEMP_i =$

$$\beta_0 + \beta_1 L(FDI_i) + \beta_2 L(GCF_i) + \beta_3 L(INF_i) + e_i \quad (1)$$

$LEMP_i$: Logarithm of Employment of country i in terms of the ratio of working population to total population over 15 years

$LFDI_i$: Logarithm of foreign direct investment in dollars for country i

$LGCF_i$: Logarithm of the gross capital formation (constant 2000 US\$) for country i

$LINF_i$: Logarithm of inflation for country i

The estimation results

Firstly, based on dynamic panel data models 6 country of the D8 group during the period 2002-2010 and fixed and random effects estimators will be estimated. Before estimating the model, fixed effects and random effects tests of the F-test and Hausman test were used. Based on the results of the F-test and Hausman test, fixed effects model to estimate the model was approved. Based on the F test, different intercepts is approved for studied countries. In other words, using panel data instead of aggregating least squares method was confirmed. According to the test result of Hausman test, null hypothesis assuming no correlation between error components was not reached and estimators were rejected with 99 percent confidence level. This means the results of the model estimated with this method are bias. So to estimate the model, the fixed effects approach was confirmed and the results of the estimation using panel data models with fixed effects and F-test and Hausman test statistics are presented in Table 1.

As is clear from the results of the model estimation, all coefficients have signs consistent with theoretical foundations. In other word, the results show that all the coefficients of the variables using a fixed effects model was statistically significant and have the theoretically expected signs. FDI and gross capital formation have

positive effect and inflation has a negative effect on employment during the period under study. As you can see, with a 1% increase in FDI, employment 0/01 % increase. Effects of FDI on employment and growth in the studied countries depend on appropriate degree of development and the ready substrates in these countries and the share of FDI in financing needed for the countries. Therefore we can say that the more developed a country the size of substrates and conditions for foreign investment and technology transfer requirements that may be provided, FDI can have more power to affect the employment of its workforce. The estimated elasticity for gross capital formation equal to 0/03. It shows that 1% increase in gross capital formation, employment 0/03% increase. Since inflation primarily reduce employment in economies and change it to a less important service will cause economic instability and reduces the investment, Thus, as expected, inflation rate has a significant negative impact on employment in the selected countries. R^2 estimated by the model is equal to 0/98. In their model the correlation is not observed, because Durbin Watson 1/67 to clarify this issue.

CONCLUSIONS

Developing countries compete to attract foreign direct investment in hopes of bridging the technology gap with advanced nations and spurring economic growth and improving employment level. FDI can be an important source for employment and productivity growth and transformation process in developing countries. In this paper, we examined the effect of FDI on employment. In this study, the effect of FDI on employment for 6 countries of the D8 group using a panel data for the period 2002-2010 were studied. The results showed that the effect of FDI has a positive and significant on employment. The results indicate that gross capital formation has a direct and positive effect on employment in the countries studied. However, inflation has a negative effect on employment, so that when the inflation rate increases, employment declined.

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