DETERMINANTS OF FOREIGN DIRECT INVESTMENT: EMPIRICAL EVIDENCE FROM SOUTH ASIAN COUNTRIES

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Abstract

Foreign Direct Investment is an issue of national level and now-a-days every economy urges for appreciation in this particular account and policy makers are very anxious to know the unveiled facts about the said cause. Current study has been conducted to take into account all the anxiety of the policy makers and tried to find out the determinants of FDI particularly for the South Asian Countries. In current study GDP, Inflation, Labor cost and imports are regressed against FDI in order to see to what extent these factors determine the outcome variable. By applying pooled OLS regression and fixed effect model we found that GDP and imports have significant and positive impact on FDI while the other two have mixed impact with no clear significance. Results show that GDP and imports are the major contributors for the foreign direct investment in South Asian Countries, so the policy makers who are willing to enhance the FDI for their countries should incorporate the facts about these determinants.

Key Words: FDI, GDP, OLS regression, South Asia

1. Introduction

1.1Background of the Study

During the last few decades importance of foreign direct investment has increased due to liberalization and continuing process of integration of the world economy especially in South Asian region (Azam and Luckman, 2010). In a globalized economy and integrated markets, FDI is playing a significant role in modernizing the productive structure of emerging economies and in attaining rapid economic growth in developing countries (Khondoker and Mottaleb, 2007). It has been recognized that FDI has positive impact on economic growth, augment level of employment and qualification of the labor force. It has been ongoing contribution towards the improvement of productivity level and technological skills of the country (Khan, 1999). During the 1990-2012, the participation of FDI in developing countries were increased significantly, in 1999s about 75% of FDI flowed into developed countries. But at the

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end of 2012, in developing countries it has reached 35% of the total flow (UNCTAD, 2012).

During the period of 1986–2000, FDI has augmented on average by 20% or more in 94 countries. The EU15 countries are the most active region in the world and received lion's share of worldwide FDI. The South Asian countries were one of the most important drivers of foreign investment growth and attraction among developing countries. Among the South Asian countries, India and Pakistan are those that received major chunk of the world's foreign direct investment. In 2012, these two countries collectively received more than 52% (India 46% and Pakistan 6%) of the foreign direct investment flows for the region (UNCTAD, 2012). In contrast, the most developed countries that got pace in FDI in 1990s were declined, and investors shifted regime towards the developing economies in order to take advantages of factor of productions and market development. After 1990s the amount of FDI has risen up in emerging economies with more than 150 percent from 16.4 to 37.4 percent which is handsome increase in FDI; it speaks clearly about transfer of investor's intention about developing countries (Chunlai, 1998).

When the government of Pakistan established market-based economic policies in 1980s to motivate the foreign investors, government started regularly to liberalize its economy by providing relaxation in trade and investment rules by giving liberal trade and fiscal incentive through reduction of tax, credit facilities, and modest tariffs even the government provides eased foreign exchange controls (Khan, 1999). Since 1990s, the government is continuously liberating the policies and providing opportunities to international investors to invest in different sectors such as agriculture, insurance, telecommunication, and energy. But the level of FDI stayed low as compared to India and other rising countries due to political instability and discrepancy in the strategies (Aqeel and Nishat, 2005).

Macroeconomic factors such as proper GDP growth, low Inflation, appropriate Labor cost, constant exchange rate are helpful to attract the FDI in the host country. On 1st January 2014, Pakistan got membership at GSP Plus by the European Union and offer excellent opportunity to enhance its exports in the European countries. During the Financial year 2012-2013, Pakistan's more than 20% goods were

exported in the European countries. This export percentage significantly can be enhanced by attracting FDI in different sectors such as textile, steel, energy, manufacturing by providing relaxation in trade and investment rules, special tax incentives and low rate credit facilities.

1.2 Objectives of the Study

Current study is carried out to determine the various economic factors that affect the FDI inflow. General objective is to find out the FDI determinants in developing countries especially in South Asian countries over the period 1980-2013. However, current study specifically aimed to check the impact of GDP growth, Labor cost, imports, and inflation on FDI.

1.3 Practical Contribution of the Study

As mentioned above that core objective of the study is to check the impact of the macroeconomic factors on the Foreign Direct Investment of the South Asian countries. It will provide useful information to the monetary policy makers about what should be the optimum level where country's imports, consistency in exchange rates and GDP will attempt to maximize the level of FDI in a country. Such policies will be new step towards economic growth and useful solution to get rid of continuous budget deficits in these countries.

1.4 Organization of the Study

The remaining study is organized as follows: section two presents the literature review of several authors. Data, variables of the study and research methodology is explained in section three. Section four is related to the results and discussion. Conclusion of the study is presented in section five.

2. Literature Review

Rossell (1985) explained that FDI significantly affects a firm's performance because it is a big chance for the firm to invest in foreign countries and he also investigated the difference between the local and foreign production cost and reveals why firms give so much importance to FDI. Firms are also exposed to the exchange rate risk when it crosses the national border for investment while some firms also prefer to invest into foreign countries to get the benefit of cheap factors of production.

Nigh (1986) has examined the impact of political events on U.S manufacturing direct investment in Latin America. Through regression he defined the relationships of foreign direct investment and political

events. He found that foreign investor and host nation assess the political environment through systemic way and invest via specific methods to get maximum benefits but the study does not consider the specific indicators of political events to assess the political environment.

Axarloglou and Pournarakis (2004) investigated the facts of the business and state exact labor, output and states expenditure on education of the labor by using data over the period 1974-1991. In results, they found that the quality of the labor is very attractive factor of FDI inflows. Janicki and Wannava (2004) studied mutual two-sided investment between European Union, Eastern and Central European Countries in order to give them a chance to be a part of the European Union. They studied significant determinants involved in foreign direct investment which can be very helpful for rising economies to be more attractive for foreign investment by focusing on these key determinants.

Aqeel and Nishat (2004) discussed the importance of investment for both developed and developing countries. Developing countries are making good use of foreign investment as they need more capital to build infrastructure and other developing process. Pakistan showed remarkable progress in this aspect since 1980 by giving attractive incentives like tax concessions, credit facilities, and tariff reduction to attract more investors but inconsistent political scenario is a big drawback for Pakistan.

Sahoo (2006) focused on potential of South Asian countries regarding foreign direct investment because of improvement in economic growth. South Asian region is one of the fastest growing economies in the world which can attract many foreign donors if they have proper infrastructure and good governance. India and Pakistan are showing big improvement in this regard, apart from these two countries, FDI inflow is negligible. FDI is one of the components involved for the growth of South Asian region.

Kabir (2007) studied about the importance of FDI in Bangladesh which contributed directly to growth activities like industry, manufacturing, and energy which leads to increase employment rate with good pace which is impossible for third nation countries with limited capital. For this reason Bangladesh government is trying hard to facilitate the investors in order to get more investment in the country which in result can contribute for sustainable economic growth. Axarloglou and Pournarakis (2007) worked on the effect of FDI inflows on resident economy of US and according to these investigations FDI inflows in industrial sector have weak effects on local employment and wages. Moreover, previous investigations show positive effect of FDI inflows. In publishing, carriage equipment and instruments have positive effect on local employment and wages. While they found that characteristics of any industry is important to attract the FDI and put positive impact on local economy.

Yousaf, Hussain and Ahmad (2008) studied the impact of FDI on financial growth of Pakistan. They said that Pakistan is facing budget deficit FDI can play a big role to fill this gap. Foreign investment in 2007 was \$ 6.0 billion out of which contribution of FDI was \$ 4.16 billion. About 70 % investment is coming in the form of FDI which itself speaks about its significance in growth of Pakistan. Khan (1997) narrowed down his focus on the influence of aid and debt on financial growth. He found that aid and debt have inverse impact on direct foreign investment and economic growth.

Mottaleb and Kalirajan (2010) investigated the determinants of foreign direct investment in developing economies. By conducting comparative study of 68 countries, they have found that some countries are rich in appealing FDI and some are not. By applying panel data of 68 low income countries they found that countries with higher level of GDP or GDP growth rate are more likely to have higher FDI inflows.

FDI accrues multiple advantages to the economy due to its long lasting benefits. Many firms take the benefit of cheap factors of productions via internationalization and manifold incentives to the host country. By establishing new joint ventures, mergers, and subsidiaries a firm can also swallow a big portion of market in host economy. FDI brings maturity in firms to avail benefits including market growth, decline in managerial cost, betterment of quality and new innovation (Dunning, 1990).

Ang (2008) demonstrated that growth in financial system gives promotion to FDI which makes technological improvements in economy. He also mentioned that the size of domestic market and GDP growth put a significant positive impact on FDI and effectiveness, in both determinants enhance chances of capital inflow in host country.

3. Data and Research Methodlogy

3.1 Data

In order to check the determinants of the FDI in the context of the South Asian countries, we have gathered data of seven countries from the South Asian region (i.e. Pakistan, Bhutan, Bangladesh, India, Maldives, Nepal and Sri Lanka). Time series data set is collected from different sources which comprise official websites of World Bank and United Nations Conference on Trade and Development, for the period of 1980-2013. The model used in our study is based on the model used by (Janicki and Wunnava, 2004) in their study.

3.2 Explanation of Variables

Variables incorporated in current study are explained below:

3.2.1 Dependent Variable: FDI

Foreign Direct Investment is a component of a country's national financial accounts and plays a vital role in economy. It can be defined as the investment of foreign assets into domestic structures, equipment, and organizations. FDI is different from the portfolio investment because FDI provides influence or control over the businesses in foreign countries. Current study includes FDI as a dependent variable, for which the determinants are identified more likely to the studies of (Chunlai, 1997; Ang, 2008; Rivera & Castro, 2011) who also incorporated determinants of FDI. Most of the South Asian countries are not donors of FDI in international markets so only inward FDI's data is included.

3.2.2 Independent Variables

All the independent variables used in current study are discussed below:

Market Size

Market size can be defined as the number of buyers and sellers which contribute to the GDP of a country. GDP is a fair reflection of the market size of a country so its data is taken for the variable named "Market size" because the higher the GDP, the higher will be the attractions for FDI (Janicki and Wunnava, 2004). Domestic market size of developing economies put positive impact on FDI (Ang, 2008) due to multiple attracting factors. Ang (2008) found that FDI will increase 0.95 percent when market size (as real GDP) increases 1 percent in any economy. Markets of South Asian region have potential to offer growth opportunities in bulk which is being availed well through capital inflow that is why South Asian regions is getting major chunk of FDI worldwide.

Openness to Trade

Mostly investments are associated with the trade-able regions so degree of trade openness in a particular economy have vital importance for FDI. Role of trade openness depends upon the context of amount invested if investment is looking for market development then trade openness has positive impact on FDI (Jordaan, 2004). The trading actions include import and export, FDI, deriving and lending, and return of funds abroad. The Imports level of the host country indicates the openness to trade for any country. Trade openness have significant positive impact on the FDI found by (Kravis and Lipsey, 1982; Culem, 1988; Edwards 1990; Demirhan and Masca, 2008). Political instability, terrorism, rapidly changing policies of government, volatile exchange rates affect trade openness drastically. Data of imports for each country has been taken as an indicator of openness to trade for all South Asian countries. Liargovas and Skandalis (2011) demonstrated that in long run trade openness influences the foreign direct investment positively.

Labor Cost

Wages is an important indicator of labor cost in any economy and there is no doubt it is an attracting element towards FDI. Low wages bring more capital inflow and higher wage rate discourage FDI documented by (Glodsbrough, 1979; Saunder, 1982 and Culem, 1988). Rationale investors cross the boarders with intention of low labor cost because cost minimization is principle of profit maximization that is why it plays dominant role in capital inflows. Labor cost has positive correlation with FDI found by (Janicki and Wunnava, 2004). In determination of labor cost qualification of labor and effect of labor union are the most important factors to be considered i.e. countries with strong unions and high rates may move to others less costly labor economies.

Inflation Rate

Due to the domino effect of hyperinflation it remains the key focus of all investors that either inflation rate is favorable for investment or not. Inflation significantly effect FDI because inflation and exchange rates have strong relation and variation in exchange rate can affect the level of imports or exports. Due to its association with imports and exports variable has been incorporated in current study in order to uncover that either it has any role in capital inflow or not.

3.3 Research Methodology

This study is based on pooled data set of 7 different countries from South Asian region for the period of 1980-2013. In order to go inside the determinants of foreign direct investment, we regressed all the independent variables on dependent FDI. In addition, descriptive statistics and correlation analysis are also conducted to check the relationship among independent and dependent variables.

This study uses the panel data technique because this contains thirty years data of seven countries as a sample. There are many techniques available to deal the panel data but the fixed and random effect models are very useful and reliable. We used Hausman (1978) specification test to see which technique, either fixed or random effect, best clarifies our valuation.

Research Model of the Study

The statistical model given below is used in current study.

 $LogFDI=a + b (log GDP) + c (log IMP) + d (LC) + e (INF) + \epsilon \dots (1)$

- FDI: Foreign Direct investment (dependent variable)
- GDP: Gross domestic product
- IMP: Imports
- LC: Labor Cost
- INF: Inflation
- a: constant
- b, c, d & e: coefficients of variables
- ϵ : error term

The model of study explains that FDI is a function of GDP, Imports, and labor cost and inflation rate of the country.

4. Results and Discussion

4.1. Descriptive Statistics

Mean value for GDP is 23.0208 which indicates the average value for the whole data set. Its median is 23.6188 while the standard deviation value we found in results is 2.7351 which shows the deviation of mean value toward positivity or negativity. Maximum and minimum values of GDP are 28.2623 and 17.5641 respectively. Descriptive statistics of GDP shows the negative skewness and kurtosis value is platykurtic because it

Table 4.1 Descriptive Statistics					
	GDP	FDI	LC	INF	IMP
Mean	23.02084	18.2428	4363.257	8.558452	36.94643
Median	23.61887	18.48911	3251.000	8.321580	24.44530
Maximum	28.26234	24.32054	8055920	26.14541	209.0151
Minimum	17.56416	10.81978	237.4400	1.481180	6.859931
Std. Dev.	2.735100	2.925809	8213.477	4.112873	32.43761
Skewness	-0.090725	-0.144117	8.346755	0.945707	2.699453
Kurtosis	1.913023	2.159019	77.97610	4.811085	12.86236
Observations	198	188	97	203	197

is less than three. It also shows the total number of observations which are 198.

Other variables are FDI, labor cost, inflation and imports and their mean values are 18.24428, 4363.257, 8.558452 and 36.94643 respectively. Moreover, the median values are 18.48911, 3251.000, 8.321580 and 24.44530. Ranges and standard deviation values of the variables are also given in the descriptive statistics table. FDI and GDP are negatively skewed while the other variables labor cost, inflation and imports are positively skewed.

4.2 Correlation Analysis

Table 4.2 displays the results of coefficient of association among the FDI, GDP, Labor cost, inflation and imports. The result indicates that FDI has a positive relationship with GDP i.e. 0.6619, which is quite high correlation coefficient value. Labor cost and inflation has also shown good positive correlation with the dependent variable under discussion. The coefficient of correlation calculated for labor cost and inflation are 0.56 and 0.099 respectively.

	GDP	FDI	LC	INF	IMP
GDP	1				
FDI	0.66194	1			
LC	0.87000	0.56223	1		
INF	0.05126	0.09912	0.354389	1	
IMP	-0.55859	0.33279	0.533158	0.12544	1

	Table	4.2	Correlation	Matri
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Imports show similar results with a coefficient value of 0.33 with respect to FDI which is quite significant. The results are a bit contrary to those of (Antwi, 2000) i.e. there is long run negative relationship between GDP and FDI and this negative relation also exists between the GNI and FDI. GDP and FDI have causal relation between them and this is shown by the granger causality test. These contrary results are due to the uniqueness of the sample and population under discussion.

4.3 Pool Regression Results

In order to apply regression for data set, we have applied (Hausman, 1978) test to check which type of technique will be applied in accordance with the type of data. The results for (Hausman, 1978) test are shown in table 4.3.

Table 4.5 Hausman Test					
Test summary	Chi sq. statistic	Chi-sq. d.f.	Probability		
Cross-section	28.4806	4	0.0000		
random					

Table 12 Hausen Tast

According to the results shown in table, the fixed effect model is appropriate for the data set as the probability value of the test is 0.00.

The table 4.4 shows our regression analysis of FDI determinants. Constant' coefficient value is -19.77331 and probability is 100% because its probability value is 0.00000. The results for GDP and imports are quite significant at 5% with coefficient values 1.4844 and 0.047 respectively. The labor cost also appeared to be significant but with a very low coefficient value of 0.00044 which shows a very little contribution in our dependent variable.

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Table 4.4 Regression Analysis of FDI					
Variable	Coefficient	t-Statistic	Prob.		
С	-19.77331	-4.508653	0.0000		
GDP	1.484469	8.789919	0.0000		
IMP	0.047101	2.727221	0.0082		
LC	0.000444	4.015947	0.0002		
INF	-0.084593	-1.655919	0.1025		
R-squared	0.738769				
Adjusted R-squared	0.722936				
F-statistic	46.66240				

FDI is not significantly influenced by inflation rate as per results of table 4.4. The coefficient value (-0.084593) for inflation rate is merely

significant at 10% with a probability value of 0.1025. R-square, adjusted R-square and F-statistics have values 0.738769, 0.722936 and 46.66240 respectively. The difference between R-square and Adjusted R-square values is an evidence of the appropriate contribution of the variables which can be termed as determinants of FDI for South Asian countries. R-square value (0.7387) shows a high contribution of the variables (GDP, imports, labor cost and inflation) in determining the FDI for the countries of South Asian region.

4.4 Fixed Effect Model

This study prefer the fixed effects model because the probability value for (Hausman, 1978) test is 0.00 which is less than 0.05 that reject the null hypothesis and accept alternative that fixed effect model is appropriate. Table 4.5 shows the values of fixed effects model for the independent variables.

Table 4.5 Regression Results (FDI is Dependent Variable)						
Variable	Coefficient	t-Statistic	Prob.			
С	-37.19693	19.35634	0.0592			
GDP	2.132358	0.794991	0.0094			
IMP	0.152221	0.048609	0.0027			
LCD	4.96E-05	0.000167	0.7678			
INF	-0.067174	0.046750	0.1558			
R-squared	0.820997					
Adjusted R-squared	0.797899					
F-statistic	35.54528					

As per results shown in the above table, GDP is significant contributor at 5% confidence level with a coefficient value of 2.132 and second is the imports but with a coefficient value of 0.1522. Labor cost and inflation has shown insignificant results in contrary to the table 4.4. R-square value is 0.82 and F-statistic value is 35.5452 which shows the contribution and fitness of the model applied.

5. Conclusion and Policy Implications

Foreign direct investment have vital role in the economic growth of a country as well as positive sign for exchange rates. Multi-national firms are key factor to develop the economy and make the country globally successful. South Asian countries as developing countries are successful in attracting FDI inflow. To justify this trend we obtained the data of South Asian countries over the period 1980 to 2013 and applied pooled

OLS regression and fixed effect model. Our study attempts to find out the variables which are more effective to attract the FDI in developing countries because of the eminent benefits of FDI. The country must adjust its economic and political policies to give comfort to the investors on continuous basis. This study is beneficial for developing countries, host as well as investing countries.

5.1 Policy Implications

Results of the study provide some suitable policy implication to the policy makers. The policy makers of South Asian countries should concentrate on exports and GDP because the augmentation in both will attract the more FDI in the country. To enhance more FDI into Pakistan, India and other South Asian countries, the policy makers require to economic political stability, encourage ensure and domestic investment and equal significance may be specified to suitable monetary and fiscal policy. The negative relationship between inflation and FDI is also core idea for the Pakistani policy makers to make those policies to reduce the inflation which supports FDI to efficiently and effectively utilize the resources of the country to generate the profits that enhance the FDI level in Pakistan. The results recommend that the international investors should pay special attention to the developing countries especially in South Asian region because the region has a lot of natural resources that provide the opportunity to get benefits for both the investors and the host country. In Pakistan, Gwadar port will provide healthy investment opportunities to foreign investors.

5.2 Future Directions

The idea of this study can be further enhanced with incorporation of European and other countries. Furthermore, the research can be rescheduled with enhancement of more variables like internationalization advantages, location advantages, Vertical DFI, Horizontal DFI, political instability, terrorism activities and law and order.

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ABBREVIATIONS

- ER = Exchange Rate
- FDI = Foreign Direct Investment
- GDP = Gross Domestic Product
- GNI = Gross National Income
- LCD = Labor Cost Distribution
- GSP = Generalized Scheme of Preferences
- EU = European Union
- IMP = Imports