



## The Nexus Between Foreign Aid and FDI Inflows: Evidence From Selected South Asian Economies

Nadia Hidayat<sup>[a]</sup>; Assad Ullah<sup>[b],\*</sup>; Ghazala<sup>[c]</sup>

<sup>[a]</sup>Shaheed Benazir Bhutto Women University Peshawar KPK, Pakistan.

<sup>[b]</sup>Huazhong University of Science and Technology to Mohammad Ali Jinnah University Islamabad Pakistan.

<sup>[c]</sup>University of Malakand Chakdara Dir (L), Pakistan.

\*Corresponding author.

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### Abstract

This research work examines the nexus between foreign aid and FDI inflows in selected South Asian economies (Pakistan, India, Bangladesh and Srilanka). The study employed econometric technique of random effect. A significant positive relationship between foreign aid and FDI inflows was observed for the period 2000-2013. Moreover, the study also confirmed the previous literature by establishing positive and significant relationship among GDP growth, law & order and FDI Inflows. The study concludes that foreign aid plays a crucial role in the determination of FDI inflows towards South Asian region. In this regard, the higher authorities need to build strong ties with the developed world.

**Key words:** Foreign aid; FDI inflows; South Asian economies

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### INTRODUCTION

Foreign direct investment (FDI) is “an investment made to acquire long lasting interest in enterprises operating outside of the economy of the investor”<sup>1</sup>. Krugman (1999)

<sup>1</sup> Foreign Direct Investment, United Nations Conference on Trade and Development.

views that “foreign direct investment as international capital flow from a firm in one country, which creates a subsidiary of the parent company in the other country or which allows the firm to obtain a controlling interest in a foreign firm. FDI is distinguished from other forms of international capital flows in that it goes beyond a transfer of resources; also it involves the acquisition of control of assets in other country”. The minimum criteria set by IMF for an investor to be termed as foreign direct investor is that he either must hold ownership of 10% in equity or voting rights in an enterprise.

New growth theories explain the international surge in FDI by anticipating the scale and scope of multi-national enterprises through the differences in comparative benefits across countries and companies that should encourage the extension of corporate control beyond borders. According to new growth theories quality technology, better management capability, product design, fidelity of consumer and greater interdependence in production are the elements that allow a domestic enterprise to exercise effective control over foreign assets. These theories also help us to understand the behavior of firms, as they got fully entrenched in foreign markets. Bhagwati (1978) state that liberalization of trade has induced FDI which, in turn, promoted growth as foreign companies were allowed to operate in barrier-free environment.

Severe competition is witnessed recently among countries for the attraction of FDI. Countries are continually trying to open their economies and they are specially targeting those sectors which are not still open to FDI and the South Asian economies are no exception. Despite the adaptation of liberal policies, the South Asian economies have not attained their full growth potential. One reason could be that the foreign investment companies still deem the South Asian region to be overly regulated thereby, are hesitant to invest here freely. The South Asian region needs to further remove the regulatory barriers so that they can attract

more foreign investment. The second reason is that of terrorism. Since 9/11 the South Asian region is severely facing the issue of terrorism due to which investors are not only interested to invest in this region but they are trying to withdraw investment from the region as they no longer enjoy a high expected return. They also need to bear extra security measure costs which, in turn lower their returns. In order to stabilize the South Asian economies and also to let them cope with the evil terrorism, foreign aid assistance has been directed from the developed countries towards the South Asian region. Modernization theories emphasize that in third world countries of development can take place either through foreign investment or assistance. In this regard, it is pertinent to inquire about the effect of foreign aid assistance on FDI inflows. This research work will attempt to explore the relationship between foreign aid and FDI in South Asian region.

## 1. THEORETICAL BACKGROUND

A handful number of theories have been evolved over the years regarding FDI. In 1977, John Dunning combined all the theories of FDI and developed Dunning Eclectic paradigm theory, which is also called OLI paradigm. OLI stands for ownership, locational and internalization advantages. OLI paradigm theory has got special importance in FDI literature as it has summarized all the previous theories regarding FDI into three main categories. OLI paradigm theory Dunning states that the investment of multinational enterprises is stipulated with three conditions. The first condition is ownership advantage. This type of advantage is related to internal dynamics of the company. It is because of these internal dynamics i.e. better technologies, better marketing tactics; economies of scale, etc.. Companies opt for investing abroad. The second condition is locational advantages, i.e. firms scan the locational factors of home and host country. In the locational factors of the home country it is assessed whether the investment in the host country will be feasible or not. Geographic distance plays a very vital role in this regard. On the other hand, before making direct investment, firms scan different locational advantages like country infrastructure, availability of natural resource, condition of political and economic environment of the host country. The last condition which is crucial for multinational enterprises is internalization advantage. A foreign company tries to protect its core competencies at the internalization stage. If the above three conditions are satisfied, then companies opt for direct investment whereas, if the first and third condition is fulfilled, then companies mostly go for exports. Lastly, companies adopt other types of investment such as licensing and franchising if the first condition fulfills Zorska (2005).

## 2. REVIEW OF LITERATURE

In the context of developing countries, Sekkat and Varoudakis (2007) analyzed variables that attract FDI. They found beside quality infrastructure, steady economic and political conditions, the most vital determinant of FDI is trade openness. Onyeiwu and Shrestha (2004) studied factors determining FDI. By utilizing both Fixed and Random Effect Models in 29 African economies during 1975-1999, they concluded that economic growth, openness, inflation and natural resources are the crucial factors that determine FDI inflows to South African countries.

Cevis and Kamardan (2007) examined elements that determine FDI inflows towards developing countries. Using panel data for seventeen countries for the period 1989-2004 and applying fixed effect model, they ascertained a direct relationship among GDP growth, openness in the economy, interest rate and FDI, whereas the relationship between wage rate and FDI has found to be an inverse one.

Ito, Jongwanich and Terada-Hagiwara (2009) studied both external and internal elements that influence capital inflows in developing Asia. Gravity model was used for the FDI factors whereas, Tobit model was utilized for factors influencing portfolio investment. They found that endogenous factors such as cost of the labor, financial liberalization, per capita income and openness in trade lure FDI. For attraction of portfolio investment and other types of bank loans, significant role has been played by economic growth in the context of developing Asia.

Aqeel et al. (2004) canvassed FDI inflows drivers in Pakistan during 1961-2001. The econometrics technique adopted by them was co-integration and error correction mechanism. They verified that per-capita GDP; credit to private sector and general share price index are positively affecting the FDI inflows while, the association of exchange rate, tariff rate, corporate tax rate with FDI inflows is negative.

Mottaleb and Kalirajan (2010) investigated factors determining FDI towards 68 developing economies. They concluded that countries having relatively larger GDPs, GDP growth rates, business-friendly environment, and a higher proportion of international trade successfully drive more FDI inflows. Their study further concluded that beside market size and GDP growth developing economies can pull in FDI through adopting more trade liberal policies.

Wei and Chang (2011) explored the FDI, FPI and ratio of foreign borrowing to foreign liabilities using the econometrics techniques of OLS and 2SLS. The author concluded that minimal amount of FDI inflows are related to financial development. The institutional quality plays a significant role in the attraction of various kinds of capital inflows. Furthermore, trade openness has a significant positive association with both the inflows of FDI and FPI,

but in case of other type of investment this relationship does not hold.

In ASEAN economies, Ismail et al. (2009) investigated factors that influence FDI inflows. By using semi Gravity model technique he obtained that beside conventional variables that is size of the market, inflation, exchange rate and infrastructure, the most potent factors that attract FDI towards ASEAN region are, language commonality, border and trade policies.

Ali and Guo (2005) examined factors that attract FDI towards China. The authors found that alongside higher rate of return & low wage rate, the market size of China is crucial factor that entice FDI inflows. Their research work also explored global integration to be an influencing factor that encourages foreign firms to invest in China.

Wafure and Nurudeen (2010) studied factors that affect FDI in Nigeria. cointegration and error correction was adopted for this purpose. They revealed that the host country market size, currency depreciation, deregulation, and political instability have positive association with FDI inflows. This study was found to be in conformity with the previous empirical studies except from that of political instability factor. Previous studies viewed that political instability deters FDI whereas, this study established that political instability attracts FDI inflows.

Salman (2010) empirically analyzed foreign private investment in the context of Pakistan. According to the findings of the study, negative relationship has been found between foreign private investment and balance of trade. The author gave a rationale for this result, i.e. this may be because of multiple deficits in the balance of trade. Furthermore, no relationship has been observed between FPI and economic growth.

online database of World Bank has been used for obtaining the data of GDP growth. Lastly, the data for political risk and law & order were obtained from International country risk guide (ICRG).

The technique adopted in this study is panel regression. The data of this study has been analyzed through three main types of panel data models that is, pooled OLS model, fixed effect and random effect model. The pooled OLS model has been found to be quite restrictive as all the entities in this model do not change. In the fixed effect, different constants are allowed. In random effect model constants are random and therefore not fixed. Under fixed effect setting, the intercept for each country changes while, under the random effect of setting not only the intercepts changes but the error terms also exhibit change. The time series and cross sectional behavior can be observed under the random effect technique. While taking decision between Pooled OLS and the random effect we applied the test (Bruesh-Pagan Lagrange Multiplier). The *P*-Value of the test comes out to be (0.001) which is less than (0.05) hence, it has been concluded that the suitable choice will be random effect model. As the limited with effect is within in the range of (0.0314) and also the time span of the study is short, therefore we did not apply the fixed effect model and opted for the random effect model. In the literature Huang and Wang (2011) also followed the same procedure. Moreover, to cope with other data problems such as, heteroskdasticity and autocorrelation, we used the clustered robust standard errors so that biasness should be avoided in the model. In the literature, similar technique was also adopted by Luke Hurst (2011).

### 3. MODEL

$$FDI_{it} = f(FAID_{it}, GGDP_{it}, PRSK_{it}, LAW_{it})$$

The equation can be written in general form as:

$$FDI_{it} = \beta_0 + \beta_1 \text{LogFAID}_{it} + \beta_2 \text{GGDP}_{it} + \beta_3 \text{Log PRSK}_{it} + \beta_4 \text{LogLAW}_{it} \quad (1)$$

$FDI_{it}$  is the explained variable. Subscript “*i*” represents country while subscript “*t*” represents time period.

Where:

FDI = FDI Inflows in (US Million Dollars)

FAID = Foreign Aid (Current US \$)

GGDP = GDP Growth (Annual percentage)

PRSK = Political Risk (Index)

LAW = Law and order (Index)

### 4. DATA AND ESTIMATION TECHNIQUE

The data of FDI in (US Million \$) for Pakistan, India, Bangladesh and Srilanka has been obtained from the annual reports of their central banks respectively. The

**Table 1**  
**Variables, Definitions and Their Expected Signs**

Variable	Definition	Expected sign
FAID	Foreign official aid assistance (current US \$)	Positive
GGDP	Annual percentage	Positive
PLRSK	Political risk (index)	Negative
LAW	Law and order (index)	Positive

### 5. RESULTS AND INTERPRETATION

Table 2 shows the descriptive analysis of the variables. Most of the variables showed a high tendency toward its maximum. The foreign aid mean value is very much inclined towards its maximum value, hence giving an indication that it is a vital variable of determination for FDI inflows. Likewise result was also exhibited by law & order variable. The description for the rest of variables is also reasonable.

**Table 2**  
**Descriptive Analysis**

Variable	Mean	Std. Dev.	Min	Max	Obs
FDI inflows	3.14	0.599	2.24	4.43	52
Foreign aid	9.11	0.259	8.53	9.54	52
GDP growth rate	0.733	0.193	0.082	0.987	52
Political risk	1.599	2.469	0.726	10.66	52
Law and order	1.72	0.02	1.64	1.76	52

Correlation analysis of all the variables has been given in Table 3. The coefficients of all variables are correct that is, apart from political risk which is exhibiting negative association with FDI inflows, Foreign aid, GDP growth and law & order have positive relation with FDI inflows.

**Table 3**  
**Correlation Analysis**

	FDI	FAID	GGDP	PRSK	LAW
<b>FDI</b>	1.000				
<b>FAID</b>	0.037*	1.000			
<b>GGDP</b>	0.232	-0.257	1.000		
<b>PLRSK</b>	-0.495*	-0.513*	0.368*	1.000	
<b>LAW</b>	0.166	-0.297	0.311*	0.126	1.000

The issue of multicollinearity has not been observed while estimating the model as the mean VIF value presented in Table 4, comes out to be 1.04 which is less than 5.

**Table 5**  
**Foreign Aid and FDI Inflows in South Asian economies**

Dependent variable: FDI						
Foreign aid	GDP growth	Political risk	Law	Constant	R-square	Adjusted R-square
1.3568*** (0.1946)	0.6632** (0.2635)	-0.2897 (0.2056)	2.4567*** (0.3952)	-10.8094*** (1.8031)	0.6765	0.6490

Note. \*\*  $p < .05$ ; \*\*\*  $p < .001$  (standard errors are in parentheses).

## CONCLUSION AND POLICY IMPLICATIONS

This research work was conducted for the purpose to explore the nexus between foreign aid and FDI inflows in South Asian region. By utilizing the technique of panel data with random effect settings, the study came to the conclusion that foreign aid plays a very important role in the determination of FDI inflows towards the South Asian region. The other conventional variable used in the study also confirmed the previous literature that is, both GDP growth and law and order showed a significant positive relationship with FDI inflows. Furthermore, the political risk is negatively associated with FDI inflows.

In the context of developing countries, foreign aid proves to be a significant contributor that is, such kind of funds improve the investment climate. These funds can be utilized for the infrastructure development and for

**Table 4**  
**Variance Inflation Factor (VIF) Test**

Variable	VIF	1/VIF
Foreign aid	1.03	0.97
GDP growth	1.05	0.95
Political risk	1.05	0.95
Law and order	1.05	0.95
Mean VIF	1.04	-

Regression results of the final model have been given in Table 5. According to the results, foreign aid variable is significant level of 1%. Hence it has been explored that foreign aid plays a very vital role while attracting FDI towards South Asian region. In the literature, McGillivray (2009) and Mottaleb and Kalirajan (2010) also concluded that foreign aid enhances FDI inflows. The coefficient of GDP growth is showing a significant positive association with FDI inflows i.e. significant level of 5%. Therefore, larger market size of the economy will attract more FDI inflows (Ghura & Goodwin, 2000; Mhlanga et al., 2010; Vijayakumar et al., 2010). Although insignificant relationship was obtained for political risk and FDI, but the coefficient of political risk maintains its correct sign. The variable of law and order has been noticed to be significant level of 1%. Hence it has been established that law and order situation is also a robust determinant of FDI inflows.

speeding up the regional integration and liberalization. Furthermore, foreign aid funds also give an indication of the country's relation with the rest of the world. Unfortunately in South Asian region, these funds are not utilized for its intended purpose rather than they are used for personal purposes. The institutional quality in South Asian region is very low and the corruption is on the boom. If there is a low level of corruption in a country then foreign investors will be more inclined towards that country (Benassy Quere et al., 2007). Proper measures should be taken in this regard so that foreign funds can be used in order to combat terrorism as well as for development purpose. In this way foreign investors can be enticed to invest in the region.

Market size and law and order are also vital determinants of FDI inflows in the region. The size of the market of South Asian economies is slim if we compare



it to other regions. This is mainly because of economic instability. Political imbalance is also another major issue in the region due to which the governments change suddenly and the newly appointed government often does not continue the policies of the previous government. Such kind of situation hinders the inflows of foreign investment in the region. Proper policies should be designed by the concerned authorities. The authorities need to remove fluctuations in the market size growth. Furthermore, they require maintaining proper law and order in the region so that foreign investors feel secure while investing in the region.

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