IMPACT OF TERRORISM, GAS SHORTAGE AND POLITICAL INSTABILITY ON FDI INFLOWS IN PAKISTAN

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ABSTRACT: *The inflows of Foreign Direct Investment (FDI) has been verified as a crucial investment source in developing nations because it assists to decrease unemployment, bridging gap in savings and investment, transferring updated technology and eventually enhancing host countries' level of economic growth. The objective of this study is to empirically investigate the FDI determinants in Pakistan from the year of 1980 to 2010 through utilizing annual time series dataset. This is the first study to test the impact of terrorism, gas shortage and political instability (together with control variables which include inflation, GDP, trade openness, exchange rate and investors' incentives) on inflows of FDI in Pakistan through utilizing ARMA research model and OLS regression technique. As anticipated, the findings confirmed that political instability and terrorism have negative influence whereas gas generation has positive affect on Pakistan's FDI inflows. The control variables of GDP, incentives offered to investors and trade oppeness have positively affected FDI inflows whereas exchange rate and inflation rate have negative association with FDI inflows.*

Key words: *Pakistan, FDI, gas shortage, terrorism, political instability.*

1. INTRODUCTION

Within the last two decades, a lot has been talked about and written regarding the decisive role of FDI owing to its contribution in developing countries' growth. It supplies capital to developing nations for making much needed investment; it also improves managerial skills, transfer updated technology and creates more job opportunities which eventually results in economic development and growth [1]. The developing economies face a challenge to attract overseas investment for fostering and regulating their industrial sectors. The procedures are being formulated, revised, and implemented to facilitate the overseas investors in making investment within these markets. Luckily or unluckily, some of the countries succeed to attract overseas investment whereas others failed in that process. It results in exploring the causes and also to evaluate the nature of policies and strategies being formulated by different economies for attracting and benefitting from FDI inflows. The developing economies encounter gap in their savings and investments and they need FDI to cover this gap, to foster economic growth, transfer of advanced technology, rising productivity, creating more employment opportunities and to also increase competition. The FDI is being considered as the most crucial element for developing economies to support their national markets. Consequently, majority of the developing economies want to magnetize greater FDI inflows.

The FDI inflows are essential for Pakistan's economic growth also because it also encounters gap in its savings and investments. Pakistan's economy is not able to generate sufficient internal sources for maintaining the pace of its economic actions; therefore, FDI inflows are extremely vital in complementing domestic investment for achieving economic goals. FDI inflows are critical for Pakistan's economy to facilitate the financing of developmental projects, growth of industrial sectors, to reduce level of unemployment, obtaining updated technology, improving local managerial skills, escalating output and productivity, to improve BOP, improving foreign reserves, improvement of infrastructural facilities and human resources and eventually achieving higher economic growth.

Pakistan's economy is under serious economic pressures due to War against Terrorism, which continues to expand during the last five years in Afghanistan. Since the year of 2006, this War has widen extremely in Pakistan and it has cost lives of 35,000 people, around 3,500 security personnel, destruction of infrastructure, internal migration of citizens, worsening investment opportunities, massive decrease in production, intensifying unemployment level and particularly slowing down economic activities [2]. The economy of Pakistan didn't face such a vicious social and economic depression ever. The Pakistan's economy is continually bearing intensive costs both in economic and security terms and most of the resources are consumed on this war ever since year 2000. The economy of Pakistan is carrying substantial direct & indirect costs which have increased from \$2.669 billion in year 2001-2002 to \$13.6 billion in year 2009-2010 (Economic Survey, 2010-2011). Within the previous 10 years, these costs are amounted to \$67.926 billion [2]. The Investments-GDP ratio has declined from 22.5% in year 2006-2007 to 13.4% in year 2010-2011 and it is also severely affecting level of employment in Pakistan [2]. Present security situation is the critical determinant of current and future inflows of FDI. On the basis of above mentioned facts, it is anticipated that cost of war against terrorism is considerably affecting inflows of FDI in Pakistan.

Multinationals choose politically stable location for making investment [3]. Therefore, politically stable atmosphere within an economy is a key variable for multinationals while deciding on their investment location. Pakistan is continuously dealing with political instability which deters FDI inflows in Pakistan. [4] has described that instable political environment has been a frequent phenomenon within Pakistan and it is influencing nearly every economic sector and worsening confidence of investors on investment climate of Pakistan. Local and overseas investors are hesitant to make investments in Pakistan due to its instable political environment. The investors are doubtful regarding their future ROI because of unstable political circumstances and as a result, they are reluctant to carry out investment within Pakistan. Therefore, it is expected that politically instable environment is also unfavorably influencing inflows of FDI in Pakistan.

Pakistan is also facing the problem of gas shortfall which results in load shedding of gas. Load shedding of gas in Pakistan has increased significantly and it is sternly influencing all economic areas including inflows of FDI. Even though, the Pakistani government promised to lessen load shedding of gas but it has raised significantly in year 2011. The Pakistani government has failed to fulfill their promises and consequently, the investors are reluctant in making investment in Pakistan. Gas load shedding is one of critical issues in Pakistan and it is expected that it will also influence inflows of FDI because local and overseas investors are closing their business units because it is extremely difficult to carry on without availability of gas.

Almost the whole world has seen an incredible expansion in inflows of FDI in previous two decades. The cumulative FDI inflows were only 6.6% of world GDP during the year of 1980, while it has mounted to about 23% in the year of 2003 [5]. The inflows of world FDI in year 2010 achieved an estimated sum of $1,244 billion [5], which represents a minor increase in 2009 position of $1,185 billion. The growth of FDI in developing nations has extended from $2.4 billion during 1962 to around $17 billion during 1980. The inflows of FDI in developing nations expanded 40 % ($233 billion) in the year of 2004. Conversely to developed world where inflows of FDI declined in 2010, the inflows of FDI increased with 12% (i.e. $574 billion) within developing nations in 2010.

Pakistan has been able to attract comparatively higher inflows of FDI within the last couple of decades owing to investment enabling atmosphere and market oriented investment policies. Inflows of FDI were inadequate up to 1991 due to restrictive investment policies, although it steadily increased in post liberalization period [6]. The inflows of FDI increased from $23 million in 1970 to $ 64 million in 1980 [5]. The inflows of FDI also increased in late 1980s when the government removed limitations on capital flows, transferring remittances and ownerships. The period subsequent to the year of 1988 is related with processes of liberalization and privatization which assisted in increasing the inflows of FDI from $110 million in year of 1987 to $711 million in year of 1997 [7]. The FDI inflows have increased significantly since the year of 2004 and it have reached to $5.4 billion in 2008, showing an increase of 443% as compared to 2004; but it is only 0.26% larger in comparison to 2007. The inflows of FDI are decreasing continuously since 2007. Thus, the inflows of FDI amounted to $3.21 billion in 2009 which presents a decline of 51.1 % in comparison to decrease of 35.3 % in last year. On the whole, Pakistan has the capability to attract FDI inflows. Although, the increasing trend in FDI inflows for various divisions shows success of policies; still, the inflows of FDI drastically decreased owing to institutional weaknesses, exacerbating security circumstances, instable international political relations, instable political conditions, corruption and weak regulatory structures. Consequently, a strong association is being anticipated between inflows of FDI and political instability, terrorism, gas shortage and economic factors. The objective of this study is to explore the relationship of political instability, terrorism, gas shortage, inflation, GDP, trade openness, exchange rate and incentives offered to overseas investors with FDI inflows in Pakistan from 1980 to 2010.

The rest of the paper has been organized as follows: literature review has been presented in section two while the section three includes research methodology, section four explains results and findings, whereas conclusion and recommendations have been discussed in last section.

2. Literature Review

Numerous views and concepts have been established for explaining the level and trend of inflows of FDI since the year of 1950. Both theoretical and empirical research on FDI motivation and MNEs' formation has pointed various factors which affected FDI inflows. As various models have been used to elucidate FDI inflows, numerous factors have been examined for ascertaining impact of these variables on FDI inflows. For instance, [8] examined the locational factors of FDI inflows in Kenya by applying Johansen co-integration and OLS techniques. The study found that openness of economy and human capital had positive effect on inflows of FDI in the shorter time period. But real exchange rate and inflation had negative relationship with FDI inflows in the long-run and short-run respectively. [9] examined determinants and problems which decelerated FDI stock in Bangladesh for period ranging from 1986 to 2008. They discovered inferior infrastructure, urban violent activities, political disturbances, inconsistency in economic policies and govt. bureaucracy as crucial deterrents. [10] explored FDI determinants in Malaysia for period 1970-2008 through using ARDL framework. The study established that GDP growth rate and money supply had positive and significant correlation with FDI inflows. [11] observed imperative variables to determine FDI level for 71 developing countries by utilizing dynamic panel data technique for period covering 2001-2006. They found that GDP, human resources, economy's openness and governance system quality had significant positive association whereas individualism, hierarchal distance and corruption control had negative association with FDI inflows. Inflation and political stability variables were insignificant.

The Researchers had also examined several variables which influence FDI inflows within Pakistan's context. For example, [12] explored the economic determinants of FDI in Pakistan for the period of 1971-2003 by applying Error Correction Model (ECM). They found that inflation, market size and trade balance were significantly and positively correlated, whereas unit labor cost was significantly and negatively correlated with FDI flows in Pakistan. The service sector variable had positive but insignificant relationship with FDI. [13] assessed relative importance of variables that attract FDI in telecommunication sector of Pakistan by utilizing regression analysis for the period of 2000-2006. The variables which were tested included the market size, competition, literacy rate, foreign trade and per capita income. The results depicted that all the factors had significant and positive impact on FDI inflows in telecommunication sector of Pakistan. [14] evaluated the influence of political instability and human capital on FDI stock in Pakistan for the period ranging from 1971-2005 by utilizing least square method. This paper found a positive and significant link between human capital and FDI stock, while the correlation between political instability and FDI was positive but statistically insignificant. [15] studied the economic determinants of FDI inflows in Pakistan for the period of 1971-2005 by using OLS technique. He found that GDP, volume of exports, tariffs on imports and whole sale price index were positively related while exchange rate was negative related to FDI inflows. [16] observed the impact of infrastructure on FDI flows in Pakistan along with market size and exchange rate covering the period of 1975-2008 through utilizing ARDL and ECM econometric techniques. The results depicted that infrastructure and market size significantly and positively affected inflows of FDI in Pakistan both in short term and long term periods, whereas, exchange rate significantly and negatively affected FDI both in short term and long term periods. [17] observed effects of economic policy and institutional factors on FDI flows in seven South Asian countries including Pakistan for the period ranging from 1996-2007. The authors demonstrated that GDP per capita, labor force, communication facility (proxied by internet users), institutional quality, exerted significant and positive influence on FDI inflows while macro economic policy had significantly negative relationship with FDI inflows.

Presently, Pakistan is confronting serious troubles of political instability, terrorism and gas shortfall and these variables are anticipated to influence FDI because the confidence of overseas investors on political and economic conditions of Pakistan is deteriorating. Based on relevant literature, it can be pointed out that there are very few studies which have examined the relationship of FDI and these factors generally and particularly in case of Pakistan. Consequently, this research is the first one to test the association of political instability, terrorism, gas shortage, inflation, GDP, trade openness, exchange rate and incentives offered to overseas investors with FDI inflows in Pakistan from 1980 to 2010.

3. Materials and Methods

The required data from 1980 to 2010 has been gathered from State Bank of Pakistan's reports, Economic Surveys of Pakistan, World Bank Development Indicators, IMF and United Nations Statistical Division Database. At first level, stationarity of dataset has been examined by means of ADF Unit Root Test because of the time series character of the dataset. At second level, the Least Squares regression model has been employed for determining association of inflows of FDI with political instability, terrorism, gas shortage and economic factors. The objective of this study is to explore the relationship of political instability, terrorism, gas shortage, inflation, GDP, trade openness, exchange rate and incentives offered to overseas investors with inflows of FDI in Pakistan.

The regression model which has been estimated is as follows:

$$LnFDI = \beta_0 + \beta_1 Pol + \beta_2 LnTerror + \beta_3 LnGas + \beta_4 Inf + \beta_5 GDP + \beta_6 Trade + \beta_7 Exch + \beta_8 Incen + U_t$$

Where:

LnFDI = FDI inflows in million rupees
Pol = Value of 1 for military and 0 for civilian rule
LnTerror= Cost of war against terrorism in million rupees
LnGas = Gas production in million cubic feet
Inf = Annual inflation rate expressed as %
GDP = GDP deflator
Trade = Ratio of exports to imports
Exch = Growth rate in exchange rate of Rupee / $
Incen = 1 for the period of 1989 to 2010, 0 otherwise
Ut = Representing error term

The E-View 7 software has been utilized for analyzing the data.

4. Results

ADF unit root test has been applied for checking stationarity of independent and dependent variables before measuring Least Squares regression model. Results for ADF unit root test have been decpicted in table 1:

The results of OLS regression model reveal that Adjusted R-square value is 0.98 which suggests that explanatory variables included in the regression model have explained 98% variations happening in FDI inflows in Pakistan. Durbin Watson value is 1.97, indicating that mathematical form of regression model is accurate and there is no problem of autocorrelation among explanatory variables utilized in this regression model. The regression results also describes that the value of AIC is 0.38, showing that this model has considerable support for relative goodness of fit and it is proficient in making inferences.

The finding depicts that terrorism variable has a significant and negative relationship with inflows of FDI in Pakistan as expected which corresponds with findings of [18]. It verifies that terrorism is one of the main obstructions to attract foreign investors and inflows of FDI within Pakistan because overseas investors are confronting with security problems and also unsure regarding ROI.

The findings of the study also describe that the variable of political instability has been affecting FDI inflows negatively and significantly. This finding is parallel with findings of [14]. Investors are willing to invest only in the countries which are safer for their principal amount and return on the principal amount. Unfortunately the economy of Pakistan continually faces political instablity; hence, overseas investors are not willing to invest in Pakistan.

*** Significant at 10 Percent.

The variable of gas generation has been significantly and positively influencing Pakistan's FDI inflows. Higher coefficient of Gas generation specifies the size and influence of gas generation to attract inflows of FDI. The Pakistan's government is continually incapable of generating adequate quantity of gas for fulfilling gas demand for industrial and home consumers. Gas shortfall results in gas load shedding which cause several problems for industrial units and Pakistan's residents. The smaller businesses and industrial units are unable to carry on and many of them are closing their manufacturing units which results in FDI outflows in Pakistan.

Table 1: ADF Stationarity Unit Root Test for Variables

Var.	T-ADF Stat.	Critical Values	Decision
LnFDI	-4.843 (0.003)	1%level= -4.35 5%level= -3.595 10%level=-3.233	Stat. at level
LnTerror	-5.444 (0.000)	1%level=-3.679 5% level=-2.967 10%level=-2.622	Stat. at 1st difference
LnGas	-4.488 (0.001)	1%level=-3.670 5%level=-2.963 10%level=-2.621	Stat. at level
GDP	-4.032 (0.004)	1%level=-3.670 5%level=-2.963 10%level=-2.621	Stat. at level
Trade	-5.423 (0.000)	1%level=-3.679 5%level=-2.967 10%level=-2.622	Stat. at 1st difference
Exch	-4.113 (0.003)	1%level=-3.670 5%level=-2.963 10%level=-2.621	Stat. at level
Inf	-3.753 (0.009)	1%level=-3.711 5%level=-2.981 10%level=-2.629	Stat. at level

The stationarity results describes that variables for FDI, gas generation, GDP, inflation rate and exchange rate are stationary at level, while variables for terrorism and trade openness are stationary at first difference.

Then OLS regression technique has been applied and the results have been shown in table 2.

Table 2: OLS Regression Estimates

Dependent Variable: LNFDI
Method: Least Squares

Variable	Co-efficient	Std. Error	t-Stat.	Prob.
POL	-0.771	0.263	2.927	0.007*
LNTERROR	-0.037	0.026	1.419	0.06***
LNGAS	5.741	0.575	9.983	0.000*
INF	-0.011	0.021	-0.544	0.591
GDP	0.017	0.005	-3.031	0.006*
TRADE	0.039	0.023	1.701	0.09***
EXCH	0.010	0.009	1.205	0.24
INCEN	0.877	0.341	2.568	0.01**
C	-68.08	7.386	-9.218	0.00

* Significant at 1 Percent.
** Significant at 5 Percent.

The variable of market size has been also positively and significantly impacting FDI inflows in Pakistan which is similar with results of [19], [15] and [20]. The results also disclose that variable of trade openness has been influencing FDI inflows in positive and significant way which is consistent with results of [15], [20] and [21]. Furthermore, findings also reveal that variable of exchange rate has insignificant and positive influence on FDI inflows which corresponds with results of [21] and [22].

The results of regression equation also describes that incentives offered to investors by Pakistan's government are significantly and positively related with FDI inflows which align with results of [1] and [22]. Furthermore, inflation rate has been negatively associated with FDI inflows but that association is insignificant which is in line with results of [20]

5. Discussion and Conclusion

The objective of this paper is to investigate FDI determinants in Pakistan which include terrorism, gas generation, political instability, GDP, tradeopeness, exchange rate, incentives offered to investors and inflation rate by utilizing time series data for period ranging from 1980 to 2010. The findings of regression results describes that variables of gas generation, market size, political instability, trade opennes and incentives offered to investors have positive and significant association with FDI inflows whereas variables for terrorism, exchange rate and inflation rate have been insignificantly associated with FDI inflows.

The main contribution of this study is to investigate, for the first time, the relationship of cost of war against terrorism, political instability and electricity generation with FDI inflows in Pakistan since these variables have not yet been focused in the existing literature. The estimated results have shown that these variables are affecting, as expected, FDI inflows in Pakistan. Therefore, these variables need to be focused on in order to attract more FDI inflows.

Following suggestions have been presented based on the empirical results for attracting more FDI inflows in Pakistan: Firstly, the policy makers and regulatory authorities should adopt solid measures for reducing terrorist activities and improving security circumstances. To achieve this target, honest governmental efforts and policies are mandatory for bringing Pakistan out of this trouble and increasing FDI inflows. Secondly, Pakistan's government should implement democratic principles and reinforce political institutions to ensure political stability which may enhance inflows of FDI.

Thirdly, effective procedures should be implemented immediately by Pakistan for increasing gas generation to improve country's economic environment. There is urgent need of formulating policies and procedures to increase gas generation and also to implement policies successfully for restoring confidence of investors. Fourthly, GDP is also an extremely crucial variable to increase FDI inflows for Pakistan because rising growth rate of GDP designates improved market prospects for overseas investors for earning higher ROI. Thus, efforts should be made for increasing growth rate of GDP to attract foreign investors. Finally, more and more incentives should be provided to overseas investors to attract Pakistan's FDI inflows.

Though this study has provided very significant and interesting findings however, there are following limitations: The terrorism data in Pakistan has been accessible only from 2001-2010. Pakistan's Political stability has been measured through dummy variable due to unavailability of some other quantifiable proxy.

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