DETERMINANTS OF FOREIGN DIRECT INVESTMENT (FDI) IN PAKISTAN’S AGRICULTURAL SECTOR

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Abstract

Pakistan is an agricultural based economy, therefore, agricultural sector is one of the most important sectors of Pakistan as it provides employment opportunities to millions of people, contributes significantly in GDP, fulfills local demand for food items, export variety of commodities to foreign countries, boosts foreign exchange reserves and eventually enhances economic growth rate of Pakistan’s economy. This study has investigated the determinants of FDI in agricultural sector of Pakistan. The results have shown that GDP and trade openness have positive and significant relationship with FDI inflows in Pakistan agricultural sector whereas government debt has negative and significant relationship. The results have further revealed that inflation has positive whereas exchange rate has insignificant relationship with FDI inflows in Pakistan’s agricultural sector but both of these variables have insignificant relationship with FDI.

Key words: agricultural sector, foreign direct investment (FDI), Pakistan.

INTRODUCTION

Within the last few years, lots of discussion has been made regarding the contribution and function of FDI in economic growth of developing countries since it offers investment capital, increases employment opportunities, provide managerial capabilities to local residents in addition to technological improvements. All of these activities results in economic expansion [1]. Because of significance of FDI in economic growth, the underdeveloped nations competed with each other to attract greater FDI inflows for expansion and growth of their industrial sectors. The procedures are developed, revised and improved for making it suitable for investors to invest in their markets. Some countries succeed and some failed in this process which directs to investigate the factors which influence the inflows of FDI. The inflows of FDI are extremely important for Pakistan’s economy also due to shortage of saving and investment capital and deficiency of capital for developmental projects. The foreign capital is decisive for Pakistan’s economy for growth of industries, reducing unemployment, technological upgradation which may eventually results in economic development and growth. The agricultural sector of Pakistan is one of the most important sectors as it provides employment opportunities to millions of people, contributes significantly in GDP, fulfills local demand for food items, export variety of commodities to foreign countries, boosts foreign exchange reserves and eventually enhances economic growth rate of Pakistan’s economy. The economy of Pakistan has extremely appealing environment for overseas investment especially in agricultural sector because government of Pakistan has allowed 100% equity investment within this sector. The economy of Pakistan has attracted inflows of FDI amounting to 5409.8 million
dollars in year 2007-08, which shows an increase of 5.27 percent in comparison to year 2006-07 and 53.64 percent greater in comparison to year 2005-06. In year 2007-08, the inflows of FDI in agricultural sector amounted to 903.5 million dollars, which represents only 16.70 percent of Pakistan’s aggregate inflows FDI, whereas, in year 2006-07, the inflows of FDI within agricultural sector were amounted to 33 percent of aggregate FDI inflows. Main purpose of this research paper is to examine the economic determinants of FDI in Commodity-Producing Sector of Pakistan. Therefore, the main objective of this study is to determine the relationship of GDP, inflation rate, trade openness, government debt and exchange rate with inflows of foreign direct investment in agricultural sector of Pakistan through OLS regression model for the period of 2000-2010. The rest of the study has been organized as follows: literature review has been presented in section 2; research methodology has been described in section 3; results have been described in section 4; whereas, conclusion has been discussed in last section.

Different researchers have investigated the factors which influence inflows of foreign direct investment. For example, [2] in his study analyzed the determinants and trends of inward FDI to South Africa for the period of 1975-2005. He pointed that exchange rates, openness and financial progress were key variables to determine FDI inflows in long run. Financial development and increased openness attracted FDI while depreciation of exchange rates deterred FDI inflows to South Africa. The market size variable appeared short run determining variable for FDI inflows though it was decreasing in magnitude. [3] identified variables which enhanced or impaired Greece’s FDI attractiveness via OLS technique for covering period 1976-2004. The variables assessed were size of market, relative interest rate, exchange rates, technical capability, human capital, intensity of capital, imports, exports, endowment of natural assets, economic activity, labor cost per unit and membership of Greece in EU. The crucial variables lowering FDI stock were public governance inefficiency, higher taxes, infrastructural inefficiency and general macroeconomic situations.

[4] probed locational determining variables of FDI in Switzerland by utilizing Cointegration along with ECM techniques over period of 1980-2001. The variables tested were home market size, openness of economy, infrastructure, domestic market attractiveness, external economic stability and internal economic stability. The authors described that external economic stability, internal economic stability, infrastructure and economy’s openness had positive correlation whereas home market size and domestic market attractiveness had negative correlation with FDI stock. [5] explored major determinants of FDI in MENA countries by employing random and fixed panel data methodologies for period ranging from 1975-2006. The findings revealed that host economy size, size of government, institutional factors and natural resources significantly influenced FDI inflows within MENA countries. [6] investigated effects of economic variables on FDI for Kyrgyz Republic, Armenia and Turkmenistan through least squares methodology for period from 1991 to 2009. The variables which were incorporated in model were market size, inflation and official development assistance. Findings indicated positive influences of market size, official development assistance and negative influence of inflation for FDI. Findings further indicated that official development assistance variable in Armenia and inflation in Kyrgyz Republic demonstrated insignificant association.

Researchers have also investigated determinants of FDI in Pakistan, e.g. [7] 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. [8] 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. [9] studied the economic determinants of FDI inflows in Pakistan for the period of 1971-2005 by using OLS technique. The factors which had been considered to explain the FDI patterns included market size, wholesale price index, custom duty on imports, average annual exchange rate and exports of goods. He found that GDP, volume of exports, tariffs on imports and wholesale price index were positively related while exchange rate was negative related to FDI inflows. [10] 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. [11] determined the relationship of market size along with corporate tax rate and exchange rate on inflows of FDI in Pakistan for the period ranging from 1984 to 2008. They used error correction model (ECM) and ARDL techniques to determine that relationship and found the market size as the most significant variable which positively affected FDI inflows, whereas, the exchange rate negatively and significantly affected FDI. The corporate tax rate did not have any influence of FDI inflows in Pakistan. [12] examined the association between macroeconomic variables and FDI inflows in Pakistan covering the period of 1972-2005. The relationship concerning size of host economy (measured by population), democracy, real exchange rate, manufacturing products, real exports, secondary level school enrollment and import duty was determined through OLS regression technique. The results demonstrated that size of host economy, secondary level school enrollment and democracy had significant positive influence on FDI inflows while real exchange rate, manufacturing products, import duty and real exports had significant negative impact on FDI in Pakistan.

It is obvious from the literature review that there are very few studies which have investigated the determinants of FDI in agricultural sector of Pakistan. Therefore, the main objective of this study is to determine the relationship of GDP, inflation rate, trade openness, government debt and exchange rate with inflows of foreign direct investment in agricultural sector of Pakistan through OLS regression model for the period of 2000-2010.

**MATERIALS AND METHODS**

In The data for the period of year 2000 to year 2010 has been collected form SBP reports, Pakistan’s Economic Surveys and United Nations Statistical Division Database. The OLS regression model has been applied in order to determine relationship 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:

\[
\ln FDI = \beta_0 + \beta_1 \ln GDP + \beta_2 \ln Inf + \beta_3 \ln Trade + \beta_4 \ln GovtDebt + \beta_5 \ln Exch + Ut
\]

Where:

- \(\ln FDI\) = FDI inflows in Pakistan’s agricultural sector in million rupees
- \(\ln GDP\) = GDP in million rupees
- \(\ln Inf\) = Annual inflation rate expressed as \%
- \(\ln Trade\) = Ratio of exports to imports
- \(\ln GovtDebt\) = Government Debt in million rupees
- \(\ln Exch\) = Growth rate in exchange rate of Rupee/$
- \(Ut\) = Representing error term

SPSS 16 software has been used for data analysis.
RESULTS AND DISCUSSIONS

The regression results have been estimated through OLS regression technique and the results have been presented in table 1, 2 and 3 as follows:

Table 1: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adj. R Square</th>
<th>Std. Error of Est.</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.97</td>
<td>0.94</td>
<td>0.88</td>
<td>0.311</td>
<td>2.266</td>
</tr>
</tbody>
</table>

\[a.\] Predictors: (Constant), LnGDP, Inf, Trade, GovtDebt, Exch.
\[b.\] Dependent Variable: LnFDI

Table 2: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regres</td>
<td>8.162</td>
<td>5</td>
<td>1.632</td>
<td>16.795</td>
<td>0.004 [a]</td>
</tr>
<tr>
<td>Resid</td>
<td>0.486</td>
<td>5</td>
<td>0.097</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8.648</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[a.\] Predictors: (Constant), LnGDP, Inf, Trade, GovtDebt, Exch.
\[b.\] Dependent Variable: LnFDI

Table 3: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandard. Coefficients</th>
<th>Stand. Coeff.</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Err</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>15.3</td>
<td>10.1</td>
<td>1.50</td>
<td>0.19</td>
</tr>
<tr>
<td>LnGDP</td>
<td>4.13</td>
<td>1.31</td>
<td>2.039</td>
<td>3.152</td>
</tr>
<tr>
<td>Inf</td>
<td>0.063</td>
<td>0.043</td>
<td>0.365</td>
<td>1.462</td>
</tr>
<tr>
<td>Trade</td>
<td>0.063</td>
<td>0.027</td>
<td>0.341</td>
<td>2.364</td>
</tr>
<tr>
<td>LnGovtDebt</td>
<td>-5.31</td>
<td>1.61</td>
<td>-1.851</td>
<td>-3.297</td>
</tr>
<tr>
<td>Exch</td>
<td>-0.011</td>
<td>0.022</td>
<td>-0.077</td>
<td>-0.516</td>
</tr>
</tbody>
</table>

\[a.\] Dependent Variable: LnFDI

The results of table 1 have shown that the value of adjusted R square is 0.888 which indicate that the independent variables which have been used in this model have explained around 88.8% of the variations occurring in FDI inflows of agricultural sector of Pakistan. The value of Durbin Watson statistics is 2.266, which indicate that there is no problem of multi-collinearity as the value is within acceptable range of 1.5-2.5. The results of table 2 show that P-Value is 0.004, which describes that the overall model is significant to explain FDI inflows in agricultural sector of Pakistan and the mathematical form of the model is correct. The results of Table 3 describes that the variable of GDP positively and significantly associated with FDI inflows in agricultural sector of Pakistan. It means that if GDP value will increase, it will also cause and increase in FDI Inflows. The variable of trade openness is also positively and significantly correlated with FDI inflows. It indicates that if the value of trade openness will increase, it will also results in increase of FDI inflows. The variable of government debt is negatively and significantly affecting FDI inflows in Pakistan’s agricultural sector. It means that if government debt will be decreased, it will results in increase of FDI inflows. Moreover, the variable of inflation is positively, whereas the variable of exchange rate is negatively related with FDI inflows in agricultural sector of Pakistan but both of these variables are insignificantly influencing FDI inflows.

CONCLUSIONS

Foreign direct investment plays a significant role in the development and growth of developing countries. The main purpose of this study is to investigate the impact of GDP, Inflation rate, trade openness, government debt and exchange rate on inflows of FDI in agricultural sector of Pakistan. The results have shown that the variables of GDP and trade openness are positively and significantly affecting FDI inflows, whereas, the variable of government debt is negatively and significantly influencing FDI inflows in agricultural sector of Pakistan. Furthermore, the variables of inflation rate and exchange rate have insignificant affect on FDI inflows in Pakistan’s agricultural sector. Based on the empirical findings, the following recommendations have been put forward: first of all, the growth rate of GDP should be increased in order to improve FDI inflows in agricultural sector of Pakistan. Secondly, the
level of trade openness should also be improved to strengthen FDI flows. Finally, the level of government debt should be reduced to improve FDI inflows.

REFERENCES
