Foreign direct investment and balance of payments

In the fast, dynamic and continuously changing world, almost every country whether developed or developing, large or small, needs the foreign direct investment so as to facilitate and expedite its socio-economic development. In this regard, the FDI can lead and influence the country's growth, industrial structure, employment and the trade pattern more successfully than any other capital flows. Hence, the FDI can affect and improve significantly and considerably the level of output and the trade of a country and can also accelerate and speed up its growth and development. Further, it plays a vital and paramount role in achieving the country's social and economic desired objectives and targets (Zhang, 2001). A capital lacking and deficient country like Pakistan can improve the economic growth through its contribution in human resources, physical capital, transfer of technology, promoting and enhancing its trade with the rest of the world. The FDI with its significant, conspicuous and substantial impact on the volume of trade also renders assistance to integrate the domestic economy with the global economy.

Foreign Direct Investment (FDI) " FDI is defined as, An investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate)" (World Investment Report, 2006).

Balance of Payments (BOP) The balance of payment of a country is a one year systematic record of all its economic transactions with the rest of world. The balance of payment account of a country is worked out on the principle of double entry book keeping. Each transaction is entered on the credit and

debit side of the balance sheet. Every credit in the balance of payments is matched by a debit somewhere to confirm to the principle of double entry book keeping.

A country's Balance of Payments (BOP) consists of current account, capital account and official settlement account. The Foreign Direct Investment (FDI) inflows are reported under the capital account of BOP. The early effect of an inflow of FDI on BOP is invariably positive. The FDI inflows also affect the BOP statement indirectly through the current account of BOP because FDI inflows have significant impact on the volume of import and export of a country. Thus the FDI inflow has an important role to determine the BOP account of a country.

The vital and paramount impact of FDI on the balance of payments is in-determined. It depends upon the two opposite tendencies or factors. The FDI inflow tends to increase the imports of host country because the FDI companies import capital and intermediate goods and services that are not readily available in the host country. The increase in GDP due to the inflow of FDI may also be followed by the increase in imports. All these factors cause negative impact on the BOP. This study aims to know the Impact of FDI on the BOP of Pakistan.

Literature Review

A brief review of some of the studies related to the foreign direct investment and the balance of payment is given here under. There is a group of literature showing the impact of FDI on exports and imports in different

countries; however, in this study, net effect of FDI on BOP has been analyzed.

Till the mid of 1960s, most of the developing countries were stressing on the inward looking industrialization policy causing their BOP being inversely affected but during the late 1970s, this movement was inverted in the East Asian economies. Thus increasing role of FDI in the manufacturing exports of the developing country which was confirmed by Helleiner (1973) who stated that " the beginning of an inevitable and important trend in the evolution of international trade and investment".

Stoneman (1975, as cited in Obwona, 1998) analyzed the relationship of FDI and the economic growth for DCs (Developing Countries). He concluded that with the higher stock of capital, the foreign direct investment promotes the productivity and at the same time, brings improvement in the Balance of Payment.

Bhagwati (1978) indicated that the quantity of FDI is the most important in exports oriented host countries and it is even more resourceful in such countries. He shows that any policy which leads to equalization of average exchange rate on exports to average exchange rate on imports is export-led policy and converse is the case if it leads to disequilibrium of the two exchange rates. He discussed that the countries which follow export-led growth plan can acquire greater profit from the inflow of FDI.

Dunning (1981) studied an eclectic theory of foreign investment based on the theories of industrial organization and location of the firm. TNC developed ownership specific advantages in foreign countries by

internalizing rather than externalizing them. The most significant benefit of internalization is that it provides access to the whole range of TNC's technological skill assets including its tacit knowledge. He included 67 countries and divided into three groups by cluster analysis. The fact suggests that per capita income in the host country has the leading influence. It is found even if the FDI crowds out some of the local industries, it might facilitate the host economy to expand its production, by using a wide range technologies.

Schneider and Frey (1985) analyzed the effects of FDI in eighty less developing countries and concluded that the countries having higher per capita GDP had more FDI inflows and as a result, they had an encouraging impact on their BOP (balance of payments). William More (1986) found foreign firms more export-oriented than the local Brazilian firms. Similarly, Chen (1983) found no difference in the export direction in foreign firms and Malaysian firms.

Shabbir and Mehmood (1992) while using simultaneous equilibrium model explained the impact of FDI on macroeconomic stability in Pakistan. They concluded that the FDI is directly related with the variables like GDP growth but harmfully related with the savings.

Khan, Hassan and Malik (1992) analyzed that in most of the LDC's (Less Developed Countries) encountering a debt crisis for lack of capital, creates disequilibrium in the balance of payment, debt servicing, and macroeconomic instability and growth deficiencies. The study used the data for four years (1989-1993) and the case of thirty one developing countries.

Dunning (1993) indicates two purposes of FDI, i. e. market-seeking FDI and efficiency-seeking FDI. The former one may accelerate imports while the later may lead to increase in exports. BOP effect of FDI is uncertain and indefinite depending on the purpose of FDI. Colman and Nixon (1994) observed that in 1970 MNCs accounted for 15 percent of total LDCs(Less Developed Countries) manufacturing exports.

Balasubramanyan, Salisu and Sapsford (1996) showed that the FDI growth of a country through triggering its exports as explained by the endogenous growth theory. Fry (1989) studied the impact of FDI inflow on six Asian economies (Korea, Malaysia, Philippines, Indonesia, Singapore, and Thailand). He pinpointed the five ways in which the FDI affects the BOP of a country i. e. saving, investment, imports, exports and growth. He found that the FDI is absolutely and totally linked with the saving, exports, imports and investment with the lagged response for exports.

Malik (1996) associated deficit in the Balance of Payment with the debt crisis which mostly emerge, the lack of capital. This study aimed at finding whether the FDI affects economy for a short time period or has the long lasting impact on the macroeconomic stability of a country. It resulted into a positive link between FDI and economic growth.

Aitken, et. al., (1997) stated that operation of MNCs reduces the cost of exports for domestic firms in Mexico. He indicates the factors linked with host countries which manipulate the volume and nature of the transactions of the foreign affiliates these include the phase of development, size, resources, technological capabilities, etc. These effects of FDI on a BOP of

countries have been examined for the first half of 1990s by the UN (1997) these countries include Singapore, Malaysia, China and Thailand. The impacts were found positive for China, mixed in Malaysia, negative in Thailand and it was inconclusive due to data problem for Singapore.

Two important questions crop up regarding FDI and its impact on the BOP of a country. The first relates to the terms of trade effect of the FDI and consequently, its effect on the current account of Balance of Payment. Although initially, it is smaller because of the capital move to the host country, it might aggravate in due course of time when the return of profits and dividend starts to the investing country.

The second effect relates to the inflationary impact of the FDI because of the increased employment, expenditures and incomes. It becomes very critical to analyze the BOP account as a whole especially when we are observing the effects of FDI, because every inflow of capital into the country has a different effect on the components of the BOP account and an ultimate impact on the BOP balance, (Bartlett and Sumantra, 1998). This might be even more deteriorating and declining when the total amount of investment is fixed in a country and the FDI has to substitute the domestic investment.

Khan and Kim (1999) observe that the FDI inflow increases imports and exports of Pakistan with a lag of one year. The elasticity of import with respect to the FDI is positive. The coefficient of FDI is important and indicates that a ten percent increase in FDI is followed by 1. 8 percent increase in imports. They also indicate positive correlation between FDI and volume of export. The elasticity of export with regard to FDI is not only

encouraging and stimulating but also significant. The coefficient indicates that 10 percent increase in FDI leads to 0. 6 percent increase in export.

A wide-ranging and extensive study by Bosworth and Collins (1999) provides evidence regarding the effect of capital inflows on the domestic investment in respect of fifty-eight developing countries during 1978-95. The authors differentiate among three types of inflows, (a) Foreign Direct Investment, (a) Portfolio Investment and (c) Other Financial Flows (Primarily Bank Loans).

Bosworth and Collins (1999) observe that an increase of a dollar in capital inflows is linked with an increase in domestic investment of about fifty percent. (Both capital inflows and domestic investment are expressed as percentages of gross domestic product (GDP). This result, however, makes important and significant differences among different types of inflows. The foreign direct investment appears to bring about close to a one-for-one increase in the domestic investment; there is practically no visible relationship between portfolio inflows and investment (little or no impact), and the impact of loans falls between those of the other two.

Zhang (2001) believed that as the FDI can serve as an engine or gear of economic development through its diversified impacts on the economy of the host country. These impacts include:

Capital formation and employment generation because of the inflow of FDI.

The FDI is likely to encourage manufacturing export, thus, developing the positive link with the current account of the BOP.

The FDI transfers resources from the home country to the host country through shift of managerial skills, providing opportunity for the skilled labor to learn about new production techniques.

The FDI generates spillover effect and is a source of transfer of technology.

Suliman (2005) has endeavored to demonstrate the effect of FDI on the manufacturing exports in MENA countries. He found that there is a positive link between, the FDI and the manufacturing exports of the MENA (Middle East and North American) countries. He, therefore, suggested that these countries should focus close and specials attention on the improved volume of FDI as MNCs are more efficient in imports than the local firms and owing to the economies of scale and lower costs trigger manufacture exports.

Hermes and Lensink (2003) believed that a well-known and renowned financial system is a pre-requisite for a country so as to accrue benefit from the positive spillovers of the FDI. The established financial system of a country broadens the absorption capacity of the FDI inflows. In this connection, factors such as capacity to absorb FDI, openness to trade and well developed institutions, contribute a lot.

Majeed and Ahmad (2007) analyzed the relationship between the FDI and Exports as well their common determinants in developing countries by using a panel of 49 countries for the period 1970-2004. The analysis that depicts both, the exports and FDI definitely affect each other, though the effect of exports on FDI is not very significant. Thus, there is no proof of a substitution relationship between the FDI and exports. The analysis indicates that GDP, economic growth, domestic incorporation, and exports positively affect FDI, a

result consistent with the market-seeking behavior of multinational corporations. On the other hand, external debt and BOP deficit have negative impacts on the FDI. The effect of domestic investment in explaining the FDI flow is negative. The study also shows that the lack of fiscal incentives and impetus is a hurdle and impediments for FDI. It is also observed that depreciation of real exchange and industrialization and development of communication facilities significantly the encourage exports.

Hossein (2008) found relationship between the FDI and the balance of payment of Bangladesh. He found that the FDI is positively related with both imports and exports. However, its final impact on the balance of payment of Bangladesh depends upon the magnitude of the effect on any of the two variables. The FDI can potentially generate employment, transfers the technology and skills, enhances productivity and promotes exports, thus, contributing towards the economic growth for the developing countries (UNCTAD, 2006).

Yousaf et. al, (2008) conducted a study to the relationship between the FDI and imports and exports. He concluded that the FDI and imports are positively related to the FDI in the short run as well as in the long run but the exports were found negatively linked with the FDI in the short run but this relation was positive in the long run for Pakistan.

Taking the above mentioned literature of FDI and trade, it can be assorted that the FDI positively affect the BOP. Nonetheless, it is imperative to know that how the FDI affects the imports and exports factors as the main component of BOP. Certainly, Pakistan is an import oriented country with a

few exports. Therefore, it is difficult for Pakistan to correct its BOP, long-term and effective policies and their implementations, in this regard, can correct the BOP of Pakistan's economy. This fact cannot be derived that the FDI plays a vital role in boosting up, the export side, of the Current Account of BOP.

Methodology

Data Sources and Variables, to find out the effects of foreign direct investment inflow on the level of import and export and finally on the balance of payment of Pakistan, time series data for the period of 1975-2007 is used. The data are taken from Handbook of Statistics on Pakistan Economy (2005) of State Bank of Pakistan (SBP), Planning and Development Division of Federal Bureau of Statistics and Economic Survey of Pakistan (Various Issues). GDP is the real GDP. Import and Export are taken as percentage of GDP. Relative price of import and export are taken as the unit value of import and export divided by the GDP deflator. FDI is also considered as percentage of GDP. Exchange rate for import and export are calculated as unit value of import and export multiplied by average exchange rate whole divided by GDP deflator respectively. In this research the data are taken on the basis of 1999-2000 as a base year.

Empirical Model

The functional equations specified to this research are based on Khan and Kim (1999) model which is followed by Yousaf et. al. (2008). The linear formulation of import and export are given as under.

Real Demand for Import Model

$$lnM = b0 + b1lnGDP + b2lnPM + b3lnERM + b4lnFDI + €$$

Real Demand for Export Model

$$lnX = b0 + b1lnGDP + b2lnPX + b3lnERX + b4\ lnFDI + €$$

Where

M = Real import

X = Real export

GDP = Gross domestic product

PM = Relative price of import

ERM = Exchange rate for import

FDI = Foreign direct investment

PX = Relative price of export

ERX = Exchange rate for export

€ = Error term

ln = Natural log

bi = Percentage change in the dependent variable owing to the percentage

change in

the independent variable i = 1, 2, 3 and 4 in the respective equations

Exchange rate is an independent variable in the import and export model that is not used in Yousaf at. el. (2008) research. But in this research it is included as an independent variable because of its important impact on the real demand for import and export and finally on the BOP (Balance of Payment). When we consider Marshal Lerner condition, the exchange rate changes have great impact to determine the balance of payment relation. When dealing with time series data, it often shows the property of non-stationary in level. It is necessary to assess whether the series is stationary or not. The aggression on the basis of non-stationary series usually provides spurious results. We can investigate stationary of a time series through unit root tests. In this regard the Augmented Dickey Fuller (ADF) test and the Phillips Perron (PP) test are used.

Empirical Findings

To find out the effects of foreign direct investment inflow on the level of import and export and finally on the balance of payment of Pakistan, time series data for the period of 1975-2007 is used. Using VAR based Johnson co-integration techniques and vector error correction model that explains the long run relationship and short run dynamics of FDI and its effects on BOP. After testing the stationarity of the variable by using ADF and PP test, Johansen co-integration test is was used for further analysis.

Selection of the Most Appropriate Lag for Import Model

Schwarz Bayesian criterion and Akaike information criterion are described in the following table to select the most appropriate lag and to estimate the co integration test followed by VECM for import model. In this model lag (K) = 3 is selected as the order of VAR on the basis of SBC, to avoid over

parameterization of time series. Among all the possible lags, lag (K) = 3 is the most appropriate lag because within this lag the value of SBC is minimum. The variables which is included in unrestricted VAR import model are lnM, lnPM, lnGDP, ln ERM, ln FDI

VAR Order for the Import Model

exogenous variables (Constant)

Order

AIC*

SBC**

3

-2. 0533

-1. 2305

2

-1. 5488

-1. 0610

1

-1. 5194

-1. 2755

0

2. 6511

2. 7355

*AIC = Akaike Information Criterion **SBC = Schwarz Bayesian Criteria

Selection of the Most Appropriate Lag for Export Model

Schwarz Baysian criterion and Akaike information criterion are also described in the following table to select the most suitable lag and to estimate the co integration test followed by VECM for export equation here lag (K) = 1 is selected as the order of VAR on the basis of SBC. List of variables included in the unrestricted VAR export model lnX, lnPX, lnGDP, lnERX, lnFDI

To avoid over parameterization of time series. Among all the possible lags, lag (K) = 1 is the most appropriate lag because within this lag the value of SBC is minimum.

Table 6. 6 – VAR Order for the Export Model exogenous variables (Constant)

Order

AIC*

SBC**

3

-1. 7201

-0. 9893

2

-1. 6216

-1. 1218

1

-1. 6032

-1. 3238*

0

2. 8190

2. 9435

*AIC = Akaike Information Criterion **SBC = Schwarz Bayesian Criterion

Johansen Co integration Test Results for Import

On the basis of Trace statistics and eigenvalue statistics we describe the Johansen co integration tests results. The following table 5 shows the trace statistics. Trace tests indicate two co integrating equations at the 0. 05 level of significance.

Table – Trace Statistics Test for Imports: 1975-2007

H0

H1

Trace Statistics

Critical Value at 5%

$\hat{\gamma} = 0$

λ = 1

104. 981 > 68. 818

λ = 1

λ = 2

50. 934 > 46. 856

λ = 2

λ = 3

24. 826 > 28. 687

Now we test the null hypothesis of λ = 1 against the alternative hypothesis of λ = 2 means there may be two co integrating vectors. According to trace statistics the null hypothesis can be rejected as the trace statistics value is 50. 934 and it is greater than the critical value at 0. 05 level of significance since the critical value is 46. 856.

Table – Eigenvalue Statistics Test for Imports: 1975-2007

H0

H1

Eigenvalue

Critical Value at 5%

λ = 0

λ = 1

53. 037 > 32. 876

$\hat{r} = 1$

$\hat{r} = 2$

25. 117 < 26. 583

$\hat{r} = 2$

$\hat{r} = 3$

16. 592 < 20. 130

According to Eigenvalue statistics test as the maximum Eigenvalue is smaller than the critical value at 0. 05 level of significance (25. 117 < 26. 583 respectively) so the null hypothesis of $\hat{r} = 1$ cannot be rejected using the maximum Eigenvalue statistics.

The next step is to test the null hypothesis of $\hat{r} = 2$ against the alternative hypothesis of $\hat{r} = 3$, meaning there might be three co integrating vectors. Here the null hypothesis cannot be rejected using either the trace statistics or the maximum Eigen value statistics as in case of trace statistics the trace statistics value is smaller than the critical value at 0. 05 level of significance (24. 826 < 28. 687 respectively) and the null hypothesis cannot be rejected. In case of Eigen value statistics the maximum Eigen value is smaller than the critical value (16. 592 < 20. 130 respectively) at 0. 05 level of significance and again the null hypothesis cannot be rejected.

In the light of above analysis, it is concluded that according to trace statistics test two co integrating equations are possible at 0. 05 level of significance and maximum Eigen value statistics indicates one co integrating equation at 0. 05 level of significance.

Johnson Co integration Results for Export

In the following table 5. 6 we describe the Johansson co integration tests results on the basis of trace statistics and maximum Eigen value statistics to find out the long run or equilibrium relationship among the time series.

Table 6. 9 – Trace Statistics for Export 1975-2007

H0

H1

Trace Statistics

Critical Value at 5%

$\hat{\lambda} = 0$

$\hat{\lambda} = 1$

103. 547 > 68. 718

$\hat{\lambda} = 1$

$\hat{\lambda} = 2$

63. 080 > 45. 856

$\hat{\lambda} = 2$

$\hat{r} = 3$

29. 407 > 28. 786

$\hat{r} = 3$

$\hat{r} = 4$

8. 646 < 14. 484

The null hypothesis of $\hat{r} = 1$, against the alternative hypothesis of $\hat{r} = 2$, means there might be 2 co integrating vectors. According to trace statistics the null hypothesis is rejected as the trace statistics value is greater than the critical value, since the trace statistics value is calculated as 63. 080 and critical value is 45. 856 at 0. 05 level of significance.

In the next step we are going to test the null hypothesis of $\hat{r} = 2$, against the alternative hypothesis of $\hat{r} = 3$, meaning there might be 3 co integrating vectors. According to trace statistics the null hypothesis can be rejected as the trace statistics value is 29. 407 and it is greater than the critical value, calculated as 28. 786. In case of trace statistics test the trace statistics value is not greater than the corresponding critical value (8. 646 < 14. 484 respectively) at 0. 05 level of significance.

Eigen value Statistics for Export 1975-2007

H0

H1

Eigen Value

Critical Value at 5%

Î³ = 0

Î³ = 1

39. 556 > 32. 866

Î³ = 1

Î³ = 2

32. 672 > 26. 564

Î³ = 2

Î³ = 3

19. 750 <20. 130

Î³ = 3

Î³ = 4

8. 445 <13. 263

According to maximum Eigen value statistics, as the maximum Eigen value is

than the critical value at 0. 05 level of significance and the null hypothesis is

rejected, since the maximum Eigen value is calculated as 32. 672 and critical value is 26. 564 at 0. 05 level of significance.

The null hypothesis cannot be rejected as the maximum Eigen value statistics is not greater than the corresponding critical value at 0. 05 level of significance, since the maximum Eigen value statistics is calculated as 19. 750 and the critical value is 20. 130.

The next step is to test the null hypothesis of $r = 3$ against the alternative hypothesis of $r = 4$, meaning there might be 4 co integrating vectors. Here the null hypothesis cannot be rejected using either the trace statistics or maximum Eigen value statistics. In case of maximum Eigen value statistics the maximum Eigen value is smaller than the corresponding critical value (8. 445 < 13. 26 respectively) at 0. 05 level of significance. Hence the null hypothesis cannot be rejected according to either trace statistics or maximum Eigen value statistics.

The above table shows the trace and Eigen value statistics trace statistics- test indicates three co integrating equations at 0. 05 level of significance. Maximum Eigen value statistics indicates two co integrating equation at 0. 05 level of significance.

The null hypothesis of $r = 0$, means there is no co integrating vector, is tested against the alternative hypothesis of $r = 1$, According to trace statistics, the null hypothesis can be rejected as the trace statistics value is greater than the critical value (103. 547 > 68. 718 respectively) at 0. 05 level of significance. According to maximum Eigen value statistics, the null hypothesis can be rejected as the maximum Eigen value statistics is greater

than critical value (39. 566 > 32. 866 respectively) at 0. 05 level of significance.

ECM for Real Demand for Import (Long Run Analysis):

In the following equation, the Johnson normalized estimates for the real demand for import is calculated. The coefficients, in this equations show the estimates of long run elasticity of real demand for import with respect to relative price of import, real GDP, exchange rate for import and foreign direct investment.

Real Demand for Import Equation

LnM = 36. 076 + 7. 420 LnPM – 2. 527 LnGDP – 2. 20 LnERM + 0. 513 LnFDI

(-6. 137) (2. 303) (3. 151) (-2. 892)

As it is described in the import equation that the long run coefficients of all the independent variables are significant. The long run elasticity of import with respect to FDI is significant and also has the expected positive sign the magnitude of the coefficient of FDI is 0. 513, meaning one percent increase in FDI leads to 0. 513 percent increase in imports. These results are comparable with Khan and Kim (1999) where they found the long run elasticity of imports for FDI was 0. 18. The coefficients of FDI in both researches have the same positive sign but the magnitudes of the coefficients are different. This difference in magnitudes might be due to difference duration of date periods.

In this research the long run elasticity of import with respect of FDI is 0. 513. this results is also consistent with Yousaf et al. (2006) where they found that

the coefficient of FDI in the long run was 0. 522 meaning one percent increase in FDI was followed by 0. 52 percent increase in imports. The coefficient of FDI has the same positive sign with that of Yousaf et al. (2007) but the magnitude of the coefficients is different due to some different independent variables.

Short Run Analysis:

The following table shows the ECM estimates for the real demand for import.

Table – ECM Estimates for Imports

The ECM estimates for real demand for imports

Repressors

Short run

Long run

Count Equation 1

-0. 140 (-1. 247)

M âˆ†lnM (-1)

0. 112 (. 572)

1. 000

PM âˆ†lnPM (-1)

-0. 385 (-0. 354)

7. 420 (-6. 137)

GDP âˆ†lnGDP (-1)

0. 612 (0. 734)

-2. 527 (2. 303)*

ERM âˆ†lnERM (-1)

0. 146 (0. 152)

-2. 20 (3. 151)*

FDI âˆ†lnFDI (-1)

-0. 133 (-2. 022)*

. 514 (-2. 892)*

C

. 192 (2. 057)*

36. 076

*Indicates Significant at 5% level of significance D Indicates difference of the variable used

Table (a) – ECM Estimates for Imports

Repressors

Short run

Long run

âˆ†lnM (-2)

-0. 240 (-1. 312)*

1. 000

âˆ†lnM (-3)

-0. 067 (-0. 316)

âˆ†lnPM (-2)

1. 328 (0. 658)

7. 420 (-6. 137)

âˆ†lnPM (-3)

-1. 223 (-0. 767)

âˆ†lnGDP (-2)

-1. 338 (-1. 019)

-2. 527 (2. 303)*

âˆ†lnGDP (-3)

1. 102 (0. 746)

âˆ†lnERM (-2)

-1. 458 (-1. 121)

-2. 20 (3. 151)*

âˆ†lnERM (-3)

1. 014 (0. 703)

âˆ†lnFDI (-2)

-0. 068 (-1. 137)

. 513 (-2. 892)*

âˆ†lnFDI (-3)

-0. 011 (-0. 274)

*Indicates Significant at 5% level of significance D Indicates difference of the variable used

The results described in the table show that real demand for import depends upon relative price of import, real GDP, exchange rate for import and foreign direct investment.

The short run elasticity of import with respect to relative price of import (PM), real GDP, exchange rate for import is insignificant in all the lags. It is described in the table that the short run elasticity of import for FDI is

significant in the first lag at 5 percent level of significance and it is also significant in the long run at the some level of significance (. 05). The long run coefficient of FDI is calculated as 0. 514 (-2. 892).

The coefficient of the error correlation term (EC) shows negative sign and this negative sign means that there is a tendency from short term fluctuations to equilibrium in the long run. The coefficient of ECM 0. 150 indicate the deviation of real demand for import from the long run equilibrium is corrected by 0. 15 percent in the current period.

The following table 6. 12 shows the estimation of the ECM which have five equations. The adjustment coefficient associated with each variable is different from zero.

Table 6. 12 – ECM Coefficients for Imports

D(LnM)

D(LnPM)

D(LnGDP)

D(LnERM)

D(LnFDI)

-0. 150

0. 304

0. 031

0. 258

-0. 060

(-1. 347)

(4. 047)