Impact of Foreign Direct Investment on Employment Level In Pakistan: A Time Series Analysis

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Abstract

The early 19th century and 20th century is marked by a salient feature of close association between the economic progress and political freedom. This close association led to the phenomenon of globalization. Poor countries seek help from the rich countries and they too help them because, they also get benefit. Foreign direct investment play a key role in economic progress and this has a direct impact on employment level in any economy. This study focuses the impact of foreign direct investment on employment level in Pakistan. Data time span is 1970-2011. The variables in the study are employment level, foreign direct investment, exchange rate and GDP per capita. The study uses Johanson Co-integration approach to analyze the long run relationship between the dependent and independent variables. The result shows the existence of long run relationship.

Keywords: Employment, Investment, Multinational firms, Time Series

1.   Introduction:

Foreign Direct Investment plays a significant role in an economy. It not only provides job facilities to the country but also help in economic stability and economy's growth and development. In developing countries where domestic financial markets are not yet fully developed, foreign capital inflows play crucial role in the economy. Foreign Direct Investment serves as mean of expansion of business opportunities and it also provides employment opportunities and raises income of people. In Case of developing countries, foreign direct investment plays a vital role in development and economic growth of that country. In the past few decades it can be seen that trade liberalization led to significant increase in foreign direct investment and hence had a positive impact on the economic growth of developing countries, however history suggests that trade liberalization is not always beneficial for the country. This is how a country utilizes its resources that determines the fate of its development.

Employment can be defines as "state of being employed". There exist negative relationship between employment and poverty because they both move in opposite directions. This phenomenon of unemployment has got peace in last two or three decades. Developing countries are facing this severe problem and formulating policies to overcome the problem of unemployment. In recent years not only developing but developed countries have been trapped in vicious circle of unemployment.

Exchange Rate also plays an important role in an economy's growth. Exchange Rate can be defined as value of one currency in terms of other currency. It can also be defined as "the ratio between a unit of one currency and the amount of another currency for which that unit can be

exchanged at a particular time."[124]Stable exchange rate is always desired by all economies of the world because it not only reduces their payment on imports but also help in economic growth. Political factors like government's decision regarding money supply, inflation etc and economic factors like interest rate, hedging activities, trade imbalances etc   also influence the exchange rate determination. Exchange rate can be either fixed or floating.

Current situation of foreign direct investment   in Pakistan is not satisfactory. Reports of state bank of Pakistan shows downfall in foreign direct investment in almost all sectors . This downfall has massive impact on economic growth and development of Pakistan's economy. "The situation is moving from bad to worse with each passing year, as the FDI during the last fiscal year 2008-09 remained almost half as compared with the financial year 2007-08."[125] The foreign investors are reluctant to come to Pakistan mainly due to worse law and order situation and more important, lack of political stability. On going global recession further worsened the situation. Moreover, some domestic   issues like shortage of electricity, petroleum, gas , poor infrastructure and low saving ratio are creating impediments to attract foreign investment. Unfair business environment is also contributing to this downfall in foreign direct investment, this involves not only foreign but domestic investors as well because due to lack of favorable business environment, local investors also investing aboard to earn profits. This flight of capital on part of both domestic and foreign investors is really alarming situation. In the absence of capital, economic growth is not possible and this would increase the reliance upon foreign borrowing thus starting a vicious circle of   borrowing in fact this has led to phenomenon of debt trap.

1.1. Objectives:

- To examine relationship between Foreign Direct Investment and employment.

- To investigate impact of Employment level on GDP per capita.

- To analyze the impact of exchange rate on employment level.

1.2. Hypotheses:

1. H_0= Foreign Direct Investment has negative impact on employment level in
   Pakistan

   H_1= Foreign Direct Investment has positive impact on employment level in
   Pakistan

2. H_0= There is a no relationship between GDP per capita and Employment level
   H_1=There is direct relationship between GDP per capita and Employment
   level.

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[124] http://findarticles.com/p/articles/mi_qa3674/is_199810/ai_n8815603/pg_2/?tag=content;col1

[125] http://www.nation.com.pk/pakistan-news-newspaper-daily-english-online/Business/20-Oct-2009/FDI-down-by-29

pc-in-three-months

3. **H_0 =** There is a negative relationship between Exchange rate and Employment

   level

   H_1 = There is a positive relationship between Exchange rate and Employment

   level.

2. Literature Review

Drabek and Payne (1999) analyzed that non-transparency leads to reduction in foreign direct investment inflows. Bribery, corruption, and unstable economic policies leads to non-transparency. The study takes foreign direct investment, transparency, inflation, exchange rate, interest rate open of trade regime and economic growth as variables. This study uses both ordinary least square method (OLS) and two Stage Least Square Method. The study concludes that a nation should increase its transparency level in order to attract higher level of foreign direct investment and this increased level of foreign direct investment would add to welfare and prosperity.

Yabuuchi (1999) in his study focused on impact of foreign direct investment on welfare and unemployment in urban sector**.** The analysis has used a hybrid of the Ricardo-Viner and Heckscher-Ohlin Models. The study has examined the welfare implications of the establishment or expansion of export processing zones through foreign direct investment. The study concludes that foreign investment is helpful in increasing employment levels if foreign capital is also used in domestic manufacturing sector and emerging economies need to focus on duty free zones to attract more foreign investment.

Agarwal (2000) in his research analyzed the impact of foreign direct investment inflows on GDP growth. The study had time series cross section analysis of panel data from five South Asian countries, which included India, Pakistan, Bangladesh, Sri Lanka and Nepal. The results indicated that foreign direct investment in these countries are linked with national investors and existence of complimentarity between the two was also confirmed. The results also indicated negative impact of foreign direct investment inflows on GDP growth rate before 1980 then the study indicated positive impact after 1980. The study suggested, since foreign direct investment contributed more to GDP growth then foreign borrowing in South Asia so foreign direct investment should be preferred over foreign borrowing.

Mullick (2004) in his study emphasized upon GDP growth of Pakistan using economic and socio-economic indicators after the terrorist attacks of September 11, 2001. The sample consists of time series data from the years 1980 to 2003. The dependent variable is the percentage change in real GDP and the independent variables include economic aid from the US (US-FAID), total investment, foreign reserves, unemployment rate, stock exchange index etc. Log-Log Ordinary Least Squares analysis of the sample suggests that the dependent variable is positively affected by economic factors.

Ghatak and Halicioglu (2006) emphasized on foreign direct investment and economic growth across the world for the period of 1991-2001. This article produces fresh empirical evidence on the relation between foreign direct investment and economic growth obtained from single-equation and simultaneous equation estimates for 140 countries using macro economic variables. The results indicate that a positive and statistically significant estimate of coefficient of FDI is obtained from single equation ordinary least squares method for real per-capita GDP regressions in all but one case. There exists a positive and statistically significant relation between the real per-capita GDP and FDI in the case of many countries but correlation coefficient between exports-GDP ratio and percentage FDI is found to be insignificant.

Falki (2009) analyzed the impact of foreign direct investment on economic growth in Pakistan (1980-2006). The methodology used in this study is production function based on endogenous growth . The results indicated negative and insignificant relation between GDP and foreign direct investment inflows in Pakistan. Recommendations includes development of infrastructure, human resource and stable investment environment.

Miankhel, Thangavelu and Kalirajan (2009) examines the versatile relationship between GDP, foreign direct investment, export for six countries which include India, Chile, Pakistan, Mexico, Malaysia and Thailand. The data consist of 36 years (1970-2005. The estimations of result indicate that in South Asia, there exist an evidence of an export led growth. However, in the long run, the study identify GDP growth as the common factor that influence growth in   exports in the case of Pakistan and FDI in the case of India but Mexico and Chile show a different relationship in the short run but in the long run, exports affect the growth of FDI and output. The study also indicate bi-directional long run relationship among exports, FDI and GDP in Malaysia, while there is a long run uni-directional relationship from GDP to export in case of Thailand.

Salman and Feng (2009) focused on the impact of Foreign Direct Investment (FDI) on the sectoral (agriculture, industry and service) growth pattern in Pakistan's economy over the 10 years, 2000-2009. The dynamic economic and investment policies executed by the Government of Pakistan in the these years have increased the FDI inflows significantly.

Firebaugh (2010) has shown that foreign investment effect poor nations negatively. While focusing the coefficient of foreign capital stock, controlling for new investment, it has been inferred that a negative coefficient for stock reflects "dependency effects" that has hindered economic growth. Since capital stock is the denominator for investment rate, the greater the stock, the lower the investment rate, for a given level of new investment. The analysis of the data used in dependency studies shown that the negative coefficient for capital stock indicates a beneficial investment effect, not a harmful effect.

Rehman, Jaffri and Ahmad (2010) analyzed the impact of foreign exchange inflows in Pakistan in the form of Foreign Direct Investment and workers remittances on equilibrium real exchange rate of Pakistan. The study used secondary data. Behavioral equilibrium real exchange rate (BEER) approach is used to investigate the impact of foreign exchange inflows on equilibrium real exchange rate of Pakistan for the period 1993 M7 to 2009 M3. The study concluded that massive foreign direct investment inflows and workers remittances have significantly appreciated equilibrium real exchange rate of Pakistan.

3.An Overview of Pakistan's Economy(Decade Wise)

Table 1 gives an overview of Pakistan's economy decade wise

Insert Table 1 Here

4. Schematic Framework:
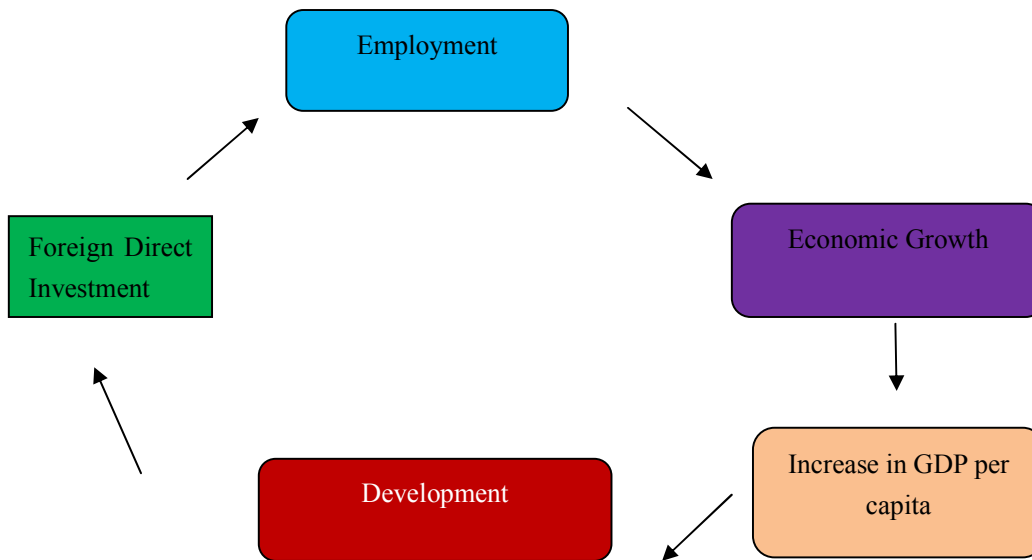
The above flow chart shows the impact of foreign direct investment on overall economy through various measures. The flow chart shows that in the beginning due to foreign direct investment employment opportunities increase, hence employment level increase which has direct influence on economic growth which further has impact on GDP per capita, which means the welfare exist as the living standard people increases. This process of welfare and economic growth leads to economic development. This economic development leads to industrialization in the economy and this development induce foreign direct investment and this cycle moves on.

5. Methodology:

The purpose of the study is to analyze the impact of Foreign Direct Investment on the Employment level in Pakistan. This study includes four variables to analyze the impact and in order to examine the long run relationship. Given the nature and characteristics of the variable the "JOHANSEN COINTEGRATION APPORACH" is used, Johansen (1988) developed the methodology, which mainly deals to check the long run relationship of variables in the model when there are more than two variables to be in cooperated in the model, with different integration order.

5.1. The general model of Johansen approach: In order to present this approach, and to extend a single equation model in to a multivariate one let it be assume to have three variables (Y_t, X_t, W_t) and the matrix representation can be made as;

$$Z_t = [Y_t, X_t, W_t]$$

$$Z_t = A_1 Z_{t-1} + A_2 Z_{t-2} + \ldots + A_k Z_{t-k} + u_t \tag{1}$$

Which is a dynamic model for two variables Y_t and X_t. the above model can be transformed in to a vector error correction model (VECM) as follows:

$$\Delta Z_t = \Gamma_1 Z_{t-1} + \Gamma_2 Z_{t-2} + \ldots + \Gamma_k Z_{t-k} + \Pi Z_{t-1} + u_t$$

Where $\Gamma_t = (I - A_1 - A_2 - \ldots - A_k)$

and $\Pi = -(I - A_1 - A_2 - \ldots A_k)$

The matrix Π contains information regarding the long run relationship. In fact $\Pi = \alpha \beta'$

where α contains the speed of adjustment to the equilibrium coefficients and β' will be the long run matrix of coefficients. The error correction part of the model for the first equation (i.e. ΔY_t) is as;

$$\Pi_1 Z_{t-1} = a_{11}(\beta_{11}Y_{t-1} + \beta_{21}X_{t-1} + \beta_{31}W_{t-1}) + a_{12}(\beta_{32}Y_{t-1} + \beta_{12}X_{t-1} + \beta_{22}W_{t-1})$$

5.2. The Granger Causality Model: Clive Granger gave the concept of Granger Causality. The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another. A time series X is said to Granger-cause Y if it can be shown, usually through a series of t-tests and F-tests on lagged values of X (and with lagged values of Y also included), that those X values provide statistically significant information about future values of Y.

5.3. Model:

$$Y = \alpha(FDI) + \beta(GDP) + Y(EXR) + \mu$$

Here,

Y= Employment Level

FDI= Foreign Direct Investment

GDP= Gross Domestic Product per capita

EXR= Exchange Rate

5.3.1. Employment level: Here Y is the employment level which is the dependent variable. Employment can be defined as state of being employed. Data source for employment is International Labor Organization (ILO).

5.3.2. Exchange Rate: The exchange rate ,which is an independent variable in this study, is the arte at which its central bank is prepared to transact exchanges of its local currency for another currencies in approved foreign exchange market. Data source for exchange rate is World Development Indicators.

5.3.3. Foreign Direct Investment: Foreign Direct investment which is an independent variable in this ,is defined as direct investment in productive assets by a company incorporated in a foreign country, as opposed to investments in shares of local companies by foreign entities. Data for foreign direct investment is collected from World Development Indicators.

5.3.4. GDP Per Capita: GDP represents GDP Per Capita in the study, it is an independent variable in this study. It can be defined as an approximation of the value of goods produced per person in the country, equal to the country's GDP divided by the total number of people in the country. Data source for GDP Per Capita is world Development Indicators.

6. Estimation Results:

Insert Table 2 here

The above results shows that all the trace statistics are significant at 5% level, except second co-integrating factor. which confirms the presence of two co-integrating factors.   These co-integrating factors depict the long run relationship among the above three variables.

The estimated relationship among variables is through normalized equation is:

$$EMP = 66143.98(FDI) + 10.44293(GDP) - 5669.459(EXR)$$

From the above normalized equation, it can be concluded that Foreign Direct Investment is positively related to Employment, which shows that it 1 unit increase in Foreign Direct Investment leads to 66143.98 units increase in employment level. So this result helps to reject first null hypothesis and leads to the acceptance of alternative. GDP per Capita is also positively related to employment level, this implies that 1 unit increase in GDP Per Capita leads to 10.44293 units of employment. It also confirms second alternative hypothesis. While there exist negative relationship between Exchange rate and Employment, which implies that 1 unit increase in Exchange rate leads to 5669.459 units reduction in employment level leading to acceptance of third null hypothesis.

6.2. The Granger Causality Interpretation: The Granger Causality test's results states that there exist relationship between the exchange rate and GDP per capita. This implies that exchange rate affects the GDP per capita of Pakistan. Since exchange rate has influence on foreign direct investment in the country , that's the reason that through this cycle (exchange rate affects the foreign direct investment which further affects GDP per capita through employment creation) exchange rate has impact on GDP per capita of Pakistan.

7. Conclusion: This study has tried to see the impact of foreign direct investment on employment level in Pakistan. The study includes four variables, foreign direct investment ,employment level, exchange rate and GDP per capita . All these variables are taken with reference to Pakistan. Johanson Cointegration approach has been used in order to establish long run relationship between above mentioned variables. Empirical analysis reveals that there is long run relationship among variables. In order to measure the nature of the relationship, the normalized output depicts that Foreign Direct Investment   is positively related to Employment Level, the reason being due to inflow of foreign direct investment more employment opportunities are available. Moreover GDP per Capita is also positively related to employment level, While there exists negative relationship between Exchange rate and Employment level. The Granger Causality test also confirms such nature of relationships among variables and rule out the chance of the existence of relationship in other way round.

8. Recommendations:

On the basis of the results few suggestions are there:

- The monetary authorities should emphasize on stable exchange rate so that higher levels of foreign direct investment can be attracted.

- Effective measures should be undertaken to develop SOC (Social-overhead

  Capital).

- Effective measures should be taken to reduce brain drain phenomenon.

- Measures should be taken to provide skills to the labor force, so that they can be absorbed in foreign modern technologically advanced environment.

- Effective measures should be taken for the development of SMEs. This would directly affect the GDP per capita of the country.

- Policies with focus on domestic resource mobilization should be adopted so that waste of available resources including labor force can be minimized.

References:

- Agarwal, P. (2000). Economic Impact of Foreign Direct Investment In South Asia.

- Anwar, T. (2002). Impact of Globalization, Liberalisation on Growth, Employment nad Poverty. *(2002/17)* . World Institute for Economics Research.

- Aqeel, A., & Nishat, M. (n.d.). The Determinents of Foreign Direct Investment in Pakistan.

- Baldwin, R. R. (1994). The Effects of Trade and Foreign Direct Investment on Employmentand realative Wges. OECD Economic Studies No. 23.

- Brown, W. B., & Hogendorn, J. S. (1994). *International Economics*. New York: Addison-Wesley Publishing Company.

- Drabek, Z., & Payne, W. (1999). Impact of transparency on Foreign Direct Investment. *World Trade Organaization EconomicvResearch nad Analysis Division* .

- Enders, W. (2004). *Applied Econometric Time SERIES*. U.P., India: John Wiley& Sons.

- Falki, N. (2009). Impact of Foreign Direct Investment onEConomic Growth in Pakistan.

- Firebaugh, G. (2010). Growth Effects of Foreign and Domestic Investment. *The American Journal of Sociology , 98* (no.1).

- Miankhel, A. K., Thangavelu, S. M., & Kalirajan, K. (2009). Foreign Direct Investment, Exports, and Economic Growth in Selected Emerging Countries: Multivariate VAR Analysis. *Munich Personal RePEc Archive* .

- Mullick, H. (2004). US Foreign Aid and Economic Growth: A Post 9/11 Case Study of Pakistan as a Key Ally in the War Against Terrorism. *Proceedings to the Pennsylvania Economic Association Conference.*

- Rehman, H., Jaffri, A. A., & Ahmad, I. (2010). Impact of Foreign Direct Invetsment Inflows on Equilibrium Real Exchange Rate of Pakistan. *Journal Of South Asian Studies , 25* (no.1).

- Rizvi, Z. A., & Nishat, M. (2009). The Impact of Foreign Direct Investment on Employment Opportunities: Panel Data analysis.

- Sachdev, J. (1978). Foreign Investment Policies of Developing nations and miultinationals: Interactions and Accomodations. *18* (no. 2).

- Salman, A., & Feng, H. X. (2009). Foreign Direct Investment: Impact on Sectoral Growth in Pakistan.

- Yabuuchi, S. (1999). Foreign Direct Investment, Urban unemployment and Welfare. *The Journal of International Trade & Economic Development* .

Table1: Decadal Overview of the economy

Sources: Islamabad: Statistics Division, Government of Pakistan; Economic Advisers Wing.2002. Economic Surveys. Islamabad: Finance Division, Government of Pakistan. www.tradingeconomics.com/Economics/GDP-Growth.aspx?Symbol=PKR

Decade	GDP Growth	High	Low	NO. of Years when GDP> 5%	Median	Volatility
1950s	3.4%	10.2%	1.8%	2	3.0%	3.2%
1960s	5.9%	9.4%	0.9%	7	6.6%	2.4%
1970s	5.1%	9.8%	1.2%	5	4.7%	2.8%
1980s	6.4%	8.7%	4.0%	8	6.4%	1.4%
1990s	4.6%	7.7%	1.9%	4	4.6%	2.0%
2000	3.7%	8.6%	2%	5	4.74%	2.23%

Table 2: The Estimation of Johanson Cointegration Approach:

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.535781	58.96848	47.85613	0.0032
At most 1 *	0.419831	32.87694	29.79707	0.0214
At most 2	0.233827	14.36611	15.49471	0.0734
At most 3 *	0.144599	5.310285	3.841466	0.0212

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

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