How does Inward FDI contribute to GDP of Pakistan?

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Abstract
The purpose of this paper is to examine an empirical relation between inward foreign direct investments and (GDP) of Pakistan. The magnitude and relationship of Inward FDI on GDP is determined by using a time series data of three decades from 1976 to 2005. We found that Inward FDI has significant and positive effect on economic performance (GDP) of Pakistan in different perspectives like technological improvements, better methods of production, employment opportunities and capital accumulations. All kind of investment made by certain parties to control the resources in other countries may be referred as the FDI. The foremost purpose of this study is to explore the most important macroeconomic variable foreign direct investment, its fluctuations during the three decades, and its impact on economic performance (GDP) of Pakistan. The current study intends to find out the position of FDI in Pakistan and to determine the role of inward FDI in the overall growth of Pakistan. This study is conducted on time series data of three decades (1976 to 2005) which is taken from a reliable resource WDI (World Development Indicators 2007). We applied the linear regression model to determine the whether there is a significant relation between inward foreign direct investment and Gross Domestic Production of Pakistan. The relation of dependent and independent variable is measured using the software E-Views.

KEYWORDS: Foreign Direct Investment (FDI), Gross Domestic Production (GDP)

INTRODUCTION
“Foreign direct investment (FDI) is the process whereby residents of one country (the source country) acquire ownership of assets for the purpose of controlling the production, distribution and other activities of a firm in another country (the host country)” (Moosa, 2002). This definition clears that all kind of investments made by certain parties to control the resources in other countries may be referred as the FDI. The foreign direct investment is considered to be very important as it has number of effects on the host country which accelerate the income, production, prices, employment, economic growth and employment opportunities. It is one of most significant factor which strengthens economic progress of host and home country (UNCTAD, 2006). The unprecedented change was happened during the phase of globalization when the emerging economies (USA, UK, China, Germany and France) divert to FDI to strengthen their economic performance. Many researcher revealed that inward FDI has positive relation with GDP of a country, and same findings was concluded by Borensztein et al.(1998) that FDI is function of long term economic growth of a country. United Nations (1992) report anticipated that many industrialised and developing are more concentrated and liberlized. Lucas (1990) concluded that FDI mostly focused in industrialised countries. But many developing countries like Asia-Pacific ragion showed conspicuous change in their absorption of world FDI flows (United Nation, 1992,1995). Therefore FDI flows has become major source of foreign capital for many developing countries in Asia. Whereas, Hanson(2001) concluded that FDI spillover for host country is weak. The amount of foreign direct investment increased significantly for developing economies during 1985 to 2000. The share of developing countries in world FDI inflows and outflows has risen from 17.4% in 1985-90 to 26.1% during 1995-2000. For Pakistan the amount of FDI inflows increased from $ 0.24 billion in 1990 to $ 55 billion

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in 2007 (WDI indicators 2008).

These countries are continuously changing their macro-economic policy to attract FDI inflows. The current study intends to find out the position of inward FDI in Pakistan and to determine its role in the overall growth of Pakistan. This study will help the policy makers to look at the issue in a different perspective and likely to suggest some important recommendations regarding the FDI management and solutions for Pakistan economy.

LITERATURE REVIEW

The empirical literature reveals the relation of foreign direct investment and gross domestic production. A study was conducted which revealed that foreign direct investment contributes to growth of economy which depends upon social and environmental conditions of beneficiary country (Buckley, et al. 2002). Findlay (1978) concluded that foreign direct investment increases the technical progress in beneficiary country. Same findings were given by De Gregorio (1992), he analyzed 35 years data of 12 Latin American countries and found that FDI positively effects economic growth of a country. Fry (1992) concluded that foreign direct investment strengthen the economic growth, he analyzed the time series data of 22 years of 16 developing countries and five Pacific basin countries. He further concluded that FDI has significant negative relation with domestic investment. De Mello (1997) anticipated that impact of foreign direct investment on economic growth is diverse (multi-dimensional).

De Mello, (1999) reviewed and analyzed the time series data of two decades of 15 developed and 17 developing countries and he found significant relation of foreign direct investment with productivity growth. The study was conducted by a time series data of 1959-60 to 1987-88 and they concluded that foreign private investment, disbursements of grants and external loans has significant positive effect on economic growth (Shabbir, T., & Mahmood, A., 1992) and same relation is found between foreign direct investment and domestic output of country (Ahmed et al. 2003). Markusen, (1995) found that foreign direct investment is source to improve the technology know how which ultimately strengthen the economy growth. The Study of Ying and Riming (2008) revealed that marginally changed in FDI has positive relation with Gross Domestic Production of China. They reviewed china as an emerging economy and showed that the FDI is significantly related with the gross domestic production. He analyzed the panel data over the period 1994 to 2005. Sun (2001), Branstetter and Feenstra (1999) and Wang et al. (2002) found that there was a positive association between FDI and GDP. According to world Investment Report (United Nations 2000) and De Mello (1999) found that foreign direct investment enhanced economic growth through its positive effects on domestic investment.

Jensen, C., (2006) measured the relationship between foreign direct investment and economic growth of transition countries. His study was conducted in two phases, in first phase he discussed the country policy efforts which stimulate the foreign direct investment and in second phase he concluded that foreign direct investment has significant effect on growth rate of transition countries. Barrell and Holland (2000) introduced multiple benefits of FDI from structural technological change to inflow of capital. However, Ellingstad (1997) concluded that many structural technological effect of foreign direct investment depends upon the initial conditions of beneficiary country.

However, all the developing countries could not grab the developed countries because these countries are required to introduce more economic reforms to attract FDI for economic development (Islam, 1995; Sala-i-Martin, 1996). Gregory Chow (2005) exposed the following conditions to increase the FDI for economic growth like education and accumulation of human capital, use of new technology liberalization of institutions and market. Many researchers revealed that constructive economic reforms attract foreign direct investment to boom the economic growth (Balasubramanyam & Mahambare, 2003; Fischer, 2002). Another study conducted for sector analysis of FDI and economic growth and revealed that foreign direct investment was post economic reforms phenomena which increased the economic growth of India (Chandana and Peter 2008). Although they found temporary effect of FDI on service sector growth.
Whereas Lipsey (2002) concluded that foreign direct investment not always long-term growth in developing countries because these countries most dependent on foreign capital but least focused on indigenous efforts. But foremost problem for developing countries like Pakistan is unable to introduce more effective economic and political reforms to attract FDI and same findings were concluded by Dunning (1992) that restructuring of economic reforms to attract FDI would ultimately boost the economic growth.

Another study was conducted to extensively measure the significant relation of FDI with economic growth based on two hypotheses. In first proposition relation of production efficiency is measured to increase the state production capacity and in second hypotheses a relation of FDI and advanced technologies is measured, both of these hypotheses showed significant positive relation with FDI which ultimately increase the economic growth of host country (Yao and Wei 2007).

Barro and Sala (1995) concluded that economic growth depends upon human capital accumulation and technological improvements. Romer (1986, 1987) study also revealed that mover of foreign direct investment in host country to strengthen the economic growth mostly depend upon lower capital/Labor ratio as compared to rich countries, because law of diminishing returns to capital is being used. Therefore most MNCs transport their investment in South Asia for job creation to reduce the gap of per capital income in developing countries.

There are empirical literatures presented that inward FDI has positive effect on economic growth and the same findings were supported by many researchers that inward foreign direct investment has fundamental effect on economic growth (Balasubramanyam et al., 1996; Borensztein et al., 1998; Campos and Kinoshita, 2002; de Mello, 1999). Many researchers believed that inward foreign direct investment was an export push strategy to encourage economic growth and same argument revealed by Buckley and Chen (2005) that inward foreign direct investment was an export push strategy and same findings were given by (Sun, 1996; Zhang and Song, 2000). Most of MNC’s has to export large proportions of their products to international markets which ultimately strengthen the economic growth.

One of main advantage of inward FDI is the introduction of new technology in host country. It brought huge capital inflow and technological transfer in beneficiary country (Balasubramanyam et al., 1996). The empirical evidence revealed that China has achieved remarkable economic growth after economic reforms in 1979. Therefore China attracted the inward foreign direct investment. The same findings were revealed by Chen, Chang and Zhang (1995) study that FDI contributed to economic growth of China after economic reforms in 1979. However, study conducted by David and Jung (2003) concluded that inward foreign direct investment has transitory effect on economic growth by taking a panel data of 15 years in Korea. The purpose of this was to identify Impact of Inward FDI on Economic growth and domestic investment. They argued that when inward FDI increased it shrink a country domestic investment.

Dierk (2008) analyzed the panel data of fourteen industrialized countries over the period 1971-2005 and concluded that outward foreign direct investment has also positive effect on economic growth of these countries and same findings were revealed that outward FDI being used to reduce cost of production to increase the competitiveness of products both domestically and internationally to encourage the economic growth (Desai et al., 2005).

Hypothesis

H1: There is a significant relation between FDI-Inward and GDP

METHODOLOGY

The study was conducted on time series data of three decades (1976 to 2005) of inward FDI and GDP, which is taken from a reliable resource WDI (World Development Indicators 2007). World Development Indicators is a database which is published by World Bank Group. World
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Development Indicators provide statistical feature of macro-economic indicators for decision making. This data base is very useful for statisticians and economists how to accelerate the investment, GDP, FDI and other macro-economic indicators for economic progress of a country. We applied the linear regression model to determine the whether there is a significant relation between foreign direct investment and Gross Domestic Production of Pakistan. The relation of dependent and independent variable is measured using the software E-Views.

ANALYSIS AND INTERPRETATIONS

Table 1 shows the data regarding FDI (Inward) and GDP (in Billion $) from the year 1976 to 2005. In 1976 the inward foreign direct investment was (0.822 bn. $). There was a consistent fluctuation in FDI (inward) from 1976 to 1983 but after 1983 a gradual increasing trend was found in FDI (inward) till the year 1996 and after 1996 a mixed trend has been experienced up to year 2003. In 2004-05 there was an increasing trend FDI (inward). The GDP (Bn. $) was continuously increasing from 1976 to 2005 because lot of others macro-economic variables (so called determinants of GDP) were also contributing to Gross Domestic Production of Pakistan.

INSERT TABLE-1 HERE

The situation of FDI (inward) in Pakistan is shown in the figure-1 that indicates persistent fluctuations from year 1976 till the year 1986 and then experienced a low rate continuously increasing trend up to year 1998. After 1998 the trend shows continuously fluctuations till the year 2003 and finally an increasing trend after the year 2003 has been observed in FDI (inwards).

INSERT FIGURE-1 HERE

The data about the GDP is shown in figure-2 that indicates an increasing trend, either slow or fast, throughout the period of 30 years from year 1976 till 2005. The increasing trend showed a rapid growth after the year 2002-03.

INSERT FIGURE-2 HERE

Table 4.2 shows regression results of independent variables (FDI-Inward) dependent variable (GDP). Findings show that there is positive and significant relationship between inward of foreign direct investment (Inward) and gross domestic product of Pakistan ($p=0.000<0.01$). Regression coefficient shows that (0.975287%) change in gross domestic product can be attributed to inflow of foreign direct investment. The following regression model is assumed to test the effect of FDI (inward) on the GDP of Pakistan.

\[
\text{GDP} = \alpha + \beta \ (\text{FDI-Inflow})
\]

CONCLUSIONS AND RECOMMENDATIONS

The empirical significant and positive relation has been articulated between FDI (Inward) on Gross Domestic Production of Pakistan. When inward FDI increases it brings technological improvements, capital accumulation, better and efficient productions methods and employment opportunities which contribute to GDP of host country. Inward FDI can be further attracted if the country has better economic reforms. China had introduced the economic reforms in 1979 to attract the inward FDI. However multinational corporations normally move towards those developing countries where factor of production specially the labor is cheap. Therefore, a significant and positive effect of FDI (Inward) has been observed on Gross Domestic Production of Pakistan.

REFERENCES


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Table 4.1: FDI (inward) and GDP (US $) of Pakistan

<table>
<thead>
<tr>
<th>Year</th>
<th>FDI (inwards) $ (in Billions)</th>
<th>GDP $ (in Billions)</th>
<th>Year</th>
<th>FDI (inwards) $ (in Billions)</th>
<th>GDP $ (in Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>0.822</td>
<td>11.3</td>
<td>1991</td>
<td>0.258</td>
<td>45.5</td>
</tr>
<tr>
<td>1977</td>
<td>0.152</td>
<td>13.3</td>
<td>1992</td>
<td>0.336</td>
<td>48.6</td>
</tr>
<tr>
<td>1978</td>
<td>0.323</td>
<td>15.1</td>
<td>1993</td>
<td>0.349</td>
<td>51.5</td>
</tr>
<tr>
<td>1979</td>
<td>0.583</td>
<td>17.8</td>
<td>1994</td>
<td>0.421</td>
<td>51.9</td>
</tr>
<tr>
<td>1980</td>
<td>0.636</td>
<td>17.7</td>
<td>1995</td>
<td>0.723</td>
<td>60.6</td>
</tr>
<tr>
<td>1981</td>
<td>0.108</td>
<td>23.7</td>
<td>1996</td>
<td>0.922</td>
<td>63.3</td>
</tr>
<tr>
<td>1982</td>
<td>0.638</td>
<td>30.7</td>
<td>1997</td>
<td>0.716</td>
<td>62.4</td>
</tr>
<tr>
<td>1983</td>
<td>0.295</td>
<td>28.7</td>
<td>1998</td>
<td>0.506</td>
<td>62.2</td>
</tr>
<tr>
<td>1984</td>
<td>0.555</td>
<td>31.2</td>
<td>1999</td>
<td>0.532</td>
<td>63</td>
</tr>
<tr>
<td>1985</td>
<td>0.131</td>
<td>31.1</td>
<td>2000</td>
<td>0.308</td>
<td>73.3</td>
</tr>
<tr>
<td>1986</td>
<td>0.106</td>
<td>31.9</td>
<td>2001</td>
<td>0.383</td>
<td>71.5</td>
</tr>
<tr>
<td>1987</td>
<td>0.129</td>
<td>33.4</td>
<td>2002</td>
<td>0.823</td>
<td>71.5</td>
</tr>
<tr>
<td>1988</td>
<td>0.186</td>
<td>38.5</td>
<td>2003</td>
<td>0.534</td>
<td>82.4</td>
</tr>
<tr>
<td>1989</td>
<td>0.211</td>
<td>40.2</td>
<td>2004</td>
<td>1.12</td>
<td>96.1</td>
</tr>
<tr>
<td>1990</td>
<td>0.245</td>
<td>40</td>
<td>2005</td>
<td>2.18</td>
<td>110.73</td>
</tr>
</tbody>
</table>

Table 4.2

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>t</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFLOW</td>
<td>12.75310</td>
<td>2.828794</td>
<td>4.508317</td>
<td>0.0004*</td>
</tr>
<tr>
<td>C</td>
<td>7.953542</td>
<td>16.07697</td>
<td>0.494716</td>
<td>0.6275</td>
</tr>
</tbody>
</table>

R-squared     | 0.975287    | Mean dependent var. | 59.92650   |
Adjusted R-squared | 0.970654   | S.D. dependent var. | 20.62212   |
S.E. of regression | 3.532734   | Akaike info criterion | 5.538878   |
Sum squared resid | 199.6834 | Schwarz criterion | 5.738024   |
Log likelihood | -51.38878   | Hannan-Quinn criter. | 5.577753   |
F-statistic    | 210.4794    | Durbin-Watson stat | 2.165938   |
Prob.(F-statistic) | 0.000000 |                      |           |

*significant at 1% level
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FIGURE 1

![Graph showing FDI (inwards) over years from 1976 to 2004.](image)

FIGURE 2

![Graph showing GDP over years from 1976 to 2004.](image)