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The Impact of Foreign Direct Investment FDI on Economic Growth of Jordan

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Abstract

Foreign direct investment (FDI) has been one of the significant sources of economic growth in Jordan, and become an important channel for Jordan to enhance the economy and financial systems. The purpose of this paper is to identify the effect of FDI on economic growth of Jordan. The study covered the period from 1990 to 2012 using time series data from World Development Indicator and IMF International Financial Statistics tables, published by International Monetary Fund (IMF) to detect the correlation relationship between foreign direct investment FDI and the economic growth in Jordan. An empirical analysis and ordinary least square (OLS) regression are conducted. Our findings indicate that Jordan's economic performance is positively influenced by foreign investment and its gross domestic investment also has capitalized its economy. Additionally, the results shown that trade have a positive impact on the economic growth. While, the nation's debt, inflation have found to have a negative impact on its GDP. In addition the inflow of foreign investment will not leave a significant impact on the unemployment level.

Keywords: FDI, GDP, Domestic Investment, Trade.

1. Introduction

Most developing economies have decided to enhance the role of the private sector through the implantation of dynamic plans of privatization and adopting policies that encouraging the transfer of external resources and attracting foreign investments. The transfer of external resources is one of the most important instruments that give support to an economy which increase the investment level of the country, as well as implies adjustment in the structure of economy. In addition, an exceptional opportunity has globalizations offer particularly for developing countries which help its economies to achieve more rapidly growth throughout trade and investment.

Several researches have been focused on the relationship between economic growth and FDI for developed economies, both theoretically and empirically. After 1990's and after a substantial increase in FDI flow, the interest of the subject in developing countries also increase which led up to a wave of researches concerning on its determinants. And similarly in Jordan as foreign direct investment (FDI) is considering a significant factor that influences the growth of Jordan's economy.

In fact, there are various opinions by investigators regarding the contributions and influencing of FDI in enhancing the economic development. Some see that FDI play an important role in improving the performances of economy especially in developing countries, while other researchers observed that the influence of FDI is not as marked as most public believe. In general there has been no consensus opinion regarding the role of FDI and its impact on the growth of economies. It is vary from country to country.

This paper attempts to show the participation of foreign direct investment to economic growth of Jordan. To achieve this, a scholarly opinion and suggestions will be examined and empirical analysis will be accomplished. The empirical model that used depends in using such macroeconomic variables including domestic investment, debt, poverty level and inflation labor employment. The study attempts to answer the following questions; is

there a contribution of inflow FDI to the economic growth of Jordan? And if yes is the contribution is positive or negative, and is the contribution decreasing unemployment therefore reducing poverty level in the country? The paper concentrates on the period between 1990 and 2012; most Arab countries including Jordan managed heavily to attract foreign investments. On average, according to Global Development Finance, Arab countries attract 0.94 percent of the world FDI flows. In fact, foreign investors seeking markets does not have connection with advanced markets, which are not affected by increasing and decreasing them. In addition, foreign investors search for companies or sectors that have prospects of a future boom. Moreover, investors look for the markets which provide transparency, accurate and quick information in an appropriate time in order to control their investments. For these reasons, Jordan is working heavily to attract foreign investments by establishing some economic regions and promotional institutions such as the Aqaba Special Economic Zone (ASEZ) and the Jordan Investment Board (JIB). ASEZ was inaugurated in 2001 as a bold economic initiative by the government of Jordan. A liberalized, low tax duty-free and multi–sector development zone, the ASEZ offers multiple investment opportunities in a strategic location on the Red Sea covering an area of 375 km² and encompassing the total Jordanian coastline (27 km), the sea-ports of Jordan and an international airport. Secondly, JIB was established in 1995. The Jordan Investment Board is a government institution committed to working with the private sector to promote Jordan for its unique, friendly business environment, diverse investment opportunities and attract foreign investments. Jordan has done well in catching the attention of foreign investors as a consequence of numerous factors, such as internal and external political stability, supported investment legislations, privatization plans, advanced private sectors, joining and merging with a variety of unilateral, bilateral and multilateral trade agreements. On the other hand, an important point is necessary to be considered, the type of companies that are involved in FDI in Jordan since the investment by multinational companies MNC is considered as major part of FDI. Another important point should be noticed that despite the benefits that can be derived from FDI inflows, it should be noted that it can be a disadvantage and leave a negative impact on some economic indicators. For example MNCs can replace domestic firms that cannot cope with the competition from foreign firms, in this manner dropping the growth of local firms, or will not leave a favorable impact to reduce poverty level or reduce unemployment rates

This paper is structured as follows; section 2 discusses the theoretical literature and the empirical studies on the relationship between FDI and economic growth. Section 3 presents data measurement, model pattern and explanation of variables. Section 4 provides the observed results while section 5 concludes.

2. Literature Review

Major arguments and cross country findings suggest that FDI plays an important role in contributing to economic growth. On the other hand, most studies specify that the involvement of FDI on economic growth depends on further factors like the degree of complimentarily and exchange between domestic investment and FDI, also other particular characteristics for countries. Duasa (2007) examined the causality between FDI and output growth the case of Malaysia. He found that there is no burly evidence of causal relationship between FDI and economic growth. However, Buckley et. al, (2002) argue that the extent to which FDI contributes to growth depends on the economic and social conditions in the recipient country. They found that countries with high rate of savings, open trade system and high technical levels would more benefit from the increase of FDI to their economies. Also, a study by Zakia and Ziad (2007) had examined the relationship between FDI and the economic expansion of Jordan, their results had shown that there is a significant relationship between FDI and productivity along with imports and output as well. Abdul-razaq and Bataineh (2007) employ autoregressive integrated moving average (ARIMA) model, the model estimate the consequence of FDI inflows into Jordan over the period 2004- 2005. The paper presented that foreign direct investment witnessed an increasing trend over the period 2004-2005. It estimated a positive impact of FDI inflows on macroeconomic variables. Saqib, Masnoon and Rafique (2013) had examined the relationship between FDI and economic growth in Pakistan they find that the economic growth in Pakistan is negatively influenced by foreign investment as the domestic investment has benefitted its economy. Additionally, its nation's debt, trade and inflation have found to have negative effect on its GDP.

A study by Alfaro (2003) found that the influence of FDI consists on the sector where the FDI invests. He found also that FDI has a positive effect on the industrial sector at the same time it is not obvious in the service sector, plus the impact of FDI on economic growth relies heavily on the home condition of the host economy. A study by Chowdhury and Mavrotas(2003) concludes that the effect of FDI depends on factors such as human capital and openness in the economy. On the other hand, Ray (2005) argues that FDI does not have positive influence; hence MNCs can be thriving and growing in host country while the domestic companies are remaining not rising. Also Mwlima (2003) did not notice that FDI could be considered as important tool in enhancing GDP, instead it causes to economic obstacles in some countries.

3. Methodology

There have been many studies with different specification regarding the relationship between FDI and the growth of economic. In this paper, a simple model has tested to capture the relationship between FDI and the economic growth in Jordan. The model consists of other macroeconomic variables to explore the relationship and the impact of FDI on the economic growth. Economic growth as measured by gross domestic product (GDP) is the dependant variable while FDI inflow and many other macroeconomic variables are independent variables. The estimating equation used in this study is:

$$GDP_t = \beta_0 + ß_1 FDI_t + ß_2 CF_t + ß_3 INF_t + ß_4 Trade_t + ß_5 D_t \; ß_6 UNMP_t + \varepsilon_t \qquad (1)$$

Table 1: Determinants of economic performance, the panel data of Jotdan

Variables	Expected sign	Proxy	Data source
Dependant Variable: Economic growth	+	GDP per capita	World Development Indicators
Explanatory variables: Foreign Direct Investment	+	FDI percentage of GDP	World Development Indicators
Inflation	-	INF annual growth rate o GDP implicit deflator	World Development Indicators
Capital Formation	+	CF measured by gross domestic investment as a percentage of GDP	World Development Indicators
Trade	+	Trade as a percentage of GDP	World Development Indicators
Debt	-	The log of total debt services	World Development Indicators
Unemployment	-	UNMP labor force that is without work but available for & seeking employment.	World Development Indicators

Source: Author's Expectations

3.1. Gross Domestic Product (GDP)

GDP is the market value of all final goods and services produced within an economy in a given period of time. Several studies have shown that the importance of GDP in attracting FDI. For example, Asiedu points out that

the size of a country's market as measured by GDP is a key determinant of FDI inflows (2006, 73). Roubini and Martin (1992), King and Levine (1993) employ GDP per capita as a proxy to measure the economic growth.

Table 2: The GDP per capita in Jordan and the neighbors, $, 1970-2012

Year	Israel	Saudi Arabia	Iraq	Jordan	Egypt	Syria
1970	2134	927	234	358	224	275
1980	6344	16716	912	1760	448	1468
1990	12862	7196	973	1197	638	895
2000	20643	9354	710	1775	1447	1201
2010	29337	19327	3942	4094	2749	2808
2012	31537	25136	4557	4414	3155	2126

Source: World bank 2013

Table 3: The GDP of Jordan and leaders, bln. $, 1970-2012

Year	United States	China	Japan	Germany	France	Jordan
1970	1075.9	91	209.1	208.9	146.4	0.59
1980	2862.5	306.5	1087	919.7	690.3	4
1990	5979.6	404.5	3103.7	1714.4	1244.1	4
2000	10289.7	1192.8	4731.2	1886.4	1326.3	8.5
2010	14958.3	5949.8	5495.4	3304.4	2565	26.4
2012	16244.6	8358.4	5960.2	3426	2611.2	30.9

Source: world bank (2013)

3.2. Foreign Direct Investment (FDI)

Foreign direct investment (FDI) is the net inflows of investment to get a permanent management concentration which is 10 % or more of voting stock. It is measured as the total of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows of investment from the reporting economy to the rest of the world and is divided by GDP.

3.3. Inflation

The inflation rate means that the general level of price for goods and services is rising and subsequently purchasing power is falling. The Inflation rate is frequently used as an indicator of macroeconomic instability reflecting the presence of internal economic tension of the inability or unwillingness of government. However, Trevino et al investigate the impact on organizational decision-making regarding inward foreign direct investment (FDI). They concluded that the level of inflation in the host country is negatively associated with its level of inward FDI, and if the Inflation rate is high, then that could be translated into rising level of trouble for the economy. The literature has been recognized that a negative relationship between inflation and economic growth. And the proxy has been used is Inflation GDP deflator. The data for this variable is originated from World Development Indicators, and a negative relationship sign is expected in line with the literature.

3.4. Gross Capital Formation (Gross Domestic Investment).

Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways,

and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings.

3.5. Trade

Trade is considered one of the important variables that influencing the economic performance. Trade openness has been largely used with a proxy of trade to GDP ratio (Beck et al. 2000). The data has been collected from World Development Indicators and a positive correlation has expected.

3.6. Total Debt

Debt is considered as one of the key determinants of macroeconomic growth. In fact, external debt is serious problem for economies and affecting the development of the economy. The proxy used for measure debt is total debt and services (Amjad and Khan, 2004). Data has taken from world development indicators and a negative sign is expected to represent the effects and the relationship.

3.7. Unemployment

Unemployment refers to the share of the labor force that is without work but available for and seeking employment. The data has taken from World Development Indicators and a negative correlation has expected.

4. **Findings and discussion**

The above model was tested over the period 1990-2012. Data was detected from International Monetary Fund, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, and World Bank and OECD GDP estimates.

At the beginning I start with testing the stationary of the variables. Augmented Dickey Fuller (ADF) test had employed for each time series then as aggregate. Each series is tested at levels, all variables are detected to have a unit root except FDI and INF variables, and also the series are non-stationary at levels. FDI and INF are both stationary at I (0) at 1% and 5% significance level. Augmented Dickey Fuller (ADF) is tested once more employing at first difference for all variables including the dependant variable, and the results exhibit that all variables are stationary at first difference, at 1 and 5% level of significance. The results for unit root test that tests whether time series is stationary by using ADF test is presented in the table below;

Table 4: Unit Root Test

Null Hypothesis: Unit root (individual unit root process)		
Series: GDP, FDI, INF, CF, TRADE, DEBT, UNMP		
Date: 07/18/14 Time: 10:52		
Sample: 1990 2012		
Exogenous variables: Individual effects		
Automatic selection of maximum lags		
Automatic lag length selection based on t-statistic (p=0.1): 0 to 3		
Total number of observations: 139		
Cross-sections included: 7		
Method	Statistic	Prob.**
ADF - Fisher Chi-square	116.129	0.0000
ADF - Choi Z-stat	-8.05753	0.0000
** Probabilities for Fisher tests are computed using an asymptotic Chi		
-square distribution. All other tests assume asymptotic normality.		
Intermediate ADF test results D(UNTITLED)		

Series	Prob.	Lag	Max Lag	Obs
D(GDP)	0.3123	2	4	19
D(FDI)	0.0852	3	4	18
D(INF)	0.0000	0	4	21
D(CF)	0.0019	0	4	21
D(TRADE)	0.0090	0	4	21
D(D)	0.0001	3	4	18
D(UNMP)	0.0000	0	4	21

Source: Author's Estimations

The findings have shown a positive and significant relationship between our focus variable FDI and dependent variable GDP. This result comes along with the consensus among economists that FDI have vital and positive significant impact on the country's economic growth effort. GDP and inflation (INF) are both considered important indicators to measure the performance of economic. It is widely believed that there is a relationship between the two. Instead, the results shown that inflation INF exhibited a negative relationship. In addition, as increasing debt (D) burden will badly affects the investment climate of a country, the result consistent with this fact as debt exhibited a negative relationship with our dependant variable. Capital formation (CF) or the gross domestic investment also has an impact but the result does not exhibit a strong effect. However, Gross domestic investment would endorse the economy and dependence on foreign investment should stay restricted. Similarly, Trade has also exhibited a positive and significant influence on our dependant variable. But this should also lead to increase the effort to improve the investment climate in the country by creating more transparency in the trade policy and additional elastic labour markets and assigning an appropriate regulatory frame in addition to improve the structure of tariff and customs. Indeed Jordan government sits a likable investment rules due to the financial conditions, but even though still the responses from the investors are limited.

On the other hand, the results shown that there is no impact on labor and the level of unemployment rates(UNMP); this could be attributed to the fact the government tried to increase FDI by relying on privatizing major public and government owned companies, and facilitating partnership-based companies which unite domestic and foreign investors. So, these facts give a clarification that FDI has a week impact on labor and hence on reducing poverty level.

Table 5: Summary of estimation

Dependent Variable: GDP				
Method: Least Squares				
Date: 07/18/14 Time: 10:16				
Sample: 1990 2012				
Included observations: 23				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	0.413820	0.189039	2.189076	0.0438
INF	-0.43313	0.147242	-2.942004	0.0104
CF	0.474167	0.244414	1.940018	0.0702
TRADE	0.227703	0.103697	2.195837	0.0423
D	-0.391178	0.177474	-2.20414	0.0416
UNMP	-1.162262	0.748773	-1.552222	0.139
C	5.401726	11.94707	0.452138	0.6572
R-squared	0.562873	Mean dependent var		5.954545
Adjusted R-squared	0.46002	S.D. dependent var		6.415707
S.E. of regression	4.714476	Akaike info criterion		6.135869

Sum squared resid	377.8468	Schwarz criterion	6.383833
Log likelihood	-62.49456	Hannan-Quinn criter.	6.194282
F-statistic	5.472579	Durbin-Watson stat	1.35378
Prob(F-statistic)	0.005098		

Source: Author's Estimation.

5. Conclusion

Foreign direct investment has increased dramatically in Jordan since 1980s. Jordan has offered special programs and incentives to promote FDI and attract foreign capital. The effect and influence of FDI on economic growth is a controversial subject. In this paper, a positive and significant relationship between FDI and the economic growth which measures by log of GDP has been found. The study also has been found that debt and inflation negatively influence Jordan's economic performance. Moreover, the study shown that this progress will not affect the unemployment rate. Most FDI in Jordan relying on privatizing major public owned companies, and facilitating partnership-based companies which unite domestic and foreign investors. So, these facts give a clarification that FDI has a week impact on labor and hence on poverty level. Domestic investment in this regard would support the economy, and consequently dependency on overseas investment should stay restricted. FDI has been more productive in some countries than other. This is due to the differential in attracting foreign capital. In Jordan should be more focus on the quality of FDI, the type of FDI that will significantly boost domestic competitiveness, enhance skills and leading to both social and economic gains. Hence, the most important is to consider which type of FDI is to be attracted and into which sector need to be promoted.

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