

# THE EFFECT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH: CASE STUDY PALESTINE

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## Abstract

*Foreign direct investment (FDI) is often considered as a significant driver of economic growth in developing countries such as Palestine. This research paper aims to investigate the impact of foreign direct investment (FDI) on Palestinian's economic growth during the period 1995–2011. Least square method has been adopted to test the impact of FDI on GDP of Palestine. The results show that FDI has negative impact on Palestinian's economic growth.*

**Keywords:** FDI inflows, economic growth, Palestine

## 1. Introduction

FDI are considered to be a significant driver for advancing the economic development of emerging economies of developing countries as well as for developed economies. The inflow of FDI derived from the advances in host investment environment has significant effects on economic growth. The host country experts involved in this area try to adopt the investment infrastructure, related rules and regulations for facilitating foreign investment conditions exposed to industry and service organizations to attract FDI. The FDI inflows have been observed under numerous facets that relate to the impact of FDI on host countries, where the correlation between FDI and economic growth has several advantages. Many researchers shed the light of compound benefits of FDI on the host economy and at the same time profiting the multinational companies [Alfaro et al, 2004; Chowdhury and Mavrotas, 2006; Omran and Bolbol, 2003; Estrin and Meyer, 2004; Kostevc et al., 2007; Sadni-Jallab, 2008]. Several researchers through their studies confirmed the positive impact of FDI on economic growth [Neuhaus, 2006; Alfaro, 2003; Buckley et al, 2002; Carkovic and Levine, 2002; Adams, 2009]. FDI are regarded as a combination of capital inflows, technology transfers and knowledge. FDI advances economic growth by i) capital accumulation where more inputs being feeded into the production process and the availability of a broader range of intermediate goods ii) technology transfer and human capital improvement and the new technology is adopted in the host country [Buckley et al, 2002; Carkovic and Levine, 2002; Noorbakhsh et al, 2001; Sadik and Bolbol, 2001; Miyamoto, 2003].

FDI are as significant for developing economies as these economies need sufficient reserves as well as knowledge, technology and capital to fuel economic growth [Bevan and Estrin, 2000]. An important role of FDI is advancing the capital formation by savings and investment progression in addition to the role of multinational companies that supplement host countries with new technologies, skilful and knowledge-enabled human capital, improvement labour qualification and access to external markets. From the establishment of Palestinian Authority (PA) in 1993 as a subsequent of Oslo agreement, PA recognized the important need to prepare the needed environment for domestic and foreign investment as a necessity economical need for accumulation of foreign capital in order to overcome the lack of domestic reserves. Palestinian economy as a developing one suffers from many drawbacks such as low per capita income, low productivity, and large deficit of the balance of payments, high level of unemployment rate, unskilled employees, and limited market size and instability of social, political and economical situation driven by the consequences of Israeli occupation. So as to try to overcome these limitations PA recognized the importance of FDI in advancing economic growth by depressing unemployment rate, boosting knowledge of quality and productivity and inquiring new technologies for enhancing domestic labor power skills and increase productivity by moderately utilizing the economic resources.

In order to attract investment PNA legally confirmed has legislated the investment law in 1994 and modified it in 1998, the investment law contains regulations that attracts domestic and foreign investment such as easing the legal formation of businesses and surrendering tax convictions. Although there was a progress of the inflow of (FDI) to the Palestinian territories from 214 million US dollar in 1995 to 2685 million US dollar in 2013 concentrated in financial sector and supplying services, we need to investigate whether this progress has positive impact on Palestinian economic growth or not. This study comes from this implication to recognise this impact.

## 2. Literature Review

Two main theoretical viewpoints have been used to clarify the impact of FDI on host countries' economies. These are the modernization and dependency theories. Modernization theories are based on the neoclassical and endogenous growth theories, which suggest that FDI could promote economic growth in developing countries. The modernization viewpoint is based on a fundamental principle in economics that economic growth requires capital investment. From the perspective of the new growth theories, the transfer of technology through FDI in developing countries is especially important because most developing countries lack the necessary infrastructure in terms of an educated population, liberalized markets, economic and social stability that are needed for innovation to promote growth (Calvo and Sanchez-Robles, 2002). Kumar and Pradhan (2002) note that, apart from technology and capital, FDI usually flows as a bundle of resources, including organizational and managerial skills, marketing know-how, and market access through the marketing networks of multinational enterprises (MNEs). As a result, FDI plays a dual function by donating to capital accumulation and by growing total factor yield (Nath, 2005).

The modernization and reliance theories are two major theories that have emerged to clarify a superior understanding of the factors that drive the impact of FDI on host countries' economies. Modernization theories are derived from the endogenous growth and neoclassical theories, which illustrate that FDI could stimulate economic growth in developing countries. Modernization theories state that capital accumulation and investment promote economic growth and this causality is a fundamental principle in economics. In developing countries The spillover of technology from FDI is essential for economic growth as the developing countries lack the needed productive groundwork in terms of well-informed and skillful human capital, free markets, social and economic stability that drive innovation and creativity to increase productivity and advance growth [Benacek et al, 2000; Calvo and Sanchez-Robles, 2002]. In addition to influx of technology and capital, FDI stimulate flow of a set of resources containing knowledgeable skills in management, organization and marketing and enable accessing to marketing channels available to international enterprises [Holtbrügge and Kreppel, 2012; Lipsey, 2004].

In the other hand, dependency theories argument that foreign investment is anticipated to have a negative impact on economic growth and income delivery. The foreign investment generates a monopoly industrial structure that result in underutilization of prolific forces [Santos, 1970; Bornschier and Chase-Dunn, 1985]. The point here is that outsiders will control the local economy and would not lead to original progress as the multiplier effect that causes demand in one area to generate demand in another area of a country is weak and consequently slowing growth in the developing countries [Amin, 1974].

Various studies have emerged to clarify a superior understanding of the impact of FDI, imports, local investment and others on economic growth (Athukorala, 2003; Batten and Vo, 2009; Har et al, 2008). Many studies illustrated the positive impact of FDI on economic growth [Borensztein et al, 1998; Nair-Reichert and Weinhold, 2001]. Many investigators found that FDI-growth has encouraging impact on economic growth by advancing capital accumulation [Alguacil et al, 2008; Bosworth and Collins, 1999]. In the other hand several studies found that foreign inflows do not have a strong impact on economic growth [Akinlo, 2004; Herzer et al, 2008; Carkovic and Levine; 2005].

In their study, Anwara and nguyen (2010) categorize several factors that relate between FDI and economic growth. Some of these factors include human capital, macroeconomic stability, trade, level of financial development and public investment. Shahbaz and rehman (2010) determined several factors affecting economic growth such as foreign direct investment. They clarified that FDI, financial development, trade openness, public investment and inflation positively impact economic growth. Neuhause (2006), indicated that there are three ways that can be adopted to advance the impact of FDI on technology transformation, capital stocks improvement and consequently create economic growth: (a) direct transmission using Greenfield Investments, (b) indirect transmission by ownership Participation, and (c) second round transmission by Technology diffusion.

The study of MarouanAlaya (2004) aimed at the study of foreign direct investment on economic growth in Tunisia during the period 1973-2000, which concluded that the weakness associated with the used technology in FDI led to the deficiency of Tunisia benefit from foreign direct investment flows as well as their concentration in the traditional industrial sectors that do not require High technology, such as the textile sector. In their study Mishal and Abulaila (2007), investigated the impact of FDI and imports on the economic growth of Jordan as a dependent variable covering the period (1976-2003). The illustrated results found that there were a positive relationship between FDI and imports on economic growth.

Esther & Folorunso (2011) have tested the effect of FDI on economic growth in Nigeria. They found that there is a positive relationship between FDI and economic growth. They also found that the level of the positive relationship between FDI and economic growth is limited by human capital. The study of Falki (2009) used Ordinary Least Square method to investigate the impact of FDI, domestic capital, foreign capital and labor force on Pakistan GDP, covering the period from 1980–2006. The study found that FDI has a negative correlation with GDP.

In what follows, Section 3 discusses the method of the study. In section 4, we illustrate the study results and discuss them. Section 5 concludes our research.

### 3. Method

In this study we used the production function of "Cobb-Douglas" as a study model to measure is the impact of FDI on economic growth in Palestine during the period (1995-2011). The production function estimated using capital, lab orand imports as productionfactors, we distinguished between domestic and foreign investment as independent factors, where the latter is measured by foreign direct investment.

$$GDP = f(Iv, FDI, Imp, L, \varepsilon) \dots\dots\dots (1)$$

*GDP: total production which equals total domestic production plus imports.*

*Inv: local investment.*

*FDI: forigen direct investment.*

*L: labour measered by total number of employees.*

*Imp: imports of products and services.*

*ε: error.*

$$GDP = a_0 Iv^{a_1} FDI^{a_2} Imp^{a_3} L^{a_4} e^\varepsilon \dots\dots\dots (2)$$

Where  $b_1 + b_2 + b_3 + b_4 = 1$

By dividing the equation number 2 by L, we obtain:

$$GDP/L = b_0 Iv^{b_1} FDI^{b_2} Imp^{b_3} L^{b_4} L^{-1} e^\varepsilon \dots\dots\dots (3)$$

We can rewrite the equation number 3 as follows:

$$GDP/L = a_0 Iv^{b_1} FDI^{b_2} Imp^{b_3} L^{b_4} L^{-b_1-b_2-b_3} e^\varepsilon \dots\dots\dots (4)$$

We can rearrange the equation as follows:

$$GDP/L = b_0 \left(\frac{Iv}{L}\right)^{b_1} \left(\frac{FDI}{L}\right)^{b_2} \left(\frac{Imp}{L}\right)^{b_3} \mu \dots\dots\dots (5)$$

This model helps to avoid the problem of heterogeneity of variance, which means that the heterogeneity existence cause the change of variance as views change. Which leads to inefficient results that do not help in taking right decisions regarding hypotheses testing. This model also helps to avoid the problem of multiple linear correlation, where its presence means that there is a correlation between the used variables in interpretation of the dependent variable.

**4. Results and Discussion**

In this section we try to assess and test the model equations, and analyze the results to stand on the accepting or rejecting of the research hypothesis. We estimated the above described model using Minitab v.15 statistics program. The research results were estimated according to data program results as follows:

The basic model was transformed to the linear mode using logarithmic transformation (Table 1), where it was estimated using ordinary least squares method during the period from 1995 to 2011. The equation that represent the impact of FDI and imports on economic growth in Palestine was as follows:

$$\log\left(\frac{GDP}{L}\right) = 1.45 + 0.233 \log\left(\frac{Iv}{L}\right) - 0.0103 \log\left(\frac{FDI}{L}\right) + 0.526 \log\left(\frac{Imp}{L}\right) \dots\dots\dots (6)$$

$R - squared (R^2) = 87.6.7\%$                                $adjustedR^2 = 85.1\%$

It is clear from the estimated equation number (6) according to table (2) and in reference to t-test, the significance of constant coefficient was proven where it was greater than the tabular value of t-test =1.746 Also P-value was 0.002 for the constant which is less than significance level (5%). FDI coefficient is insignificant as the value of calculated t is less than tabular value and the P-value is 0.769 which is more than significance level of 5%.

The imports coefficient is significant as the value of calculated t = 6.71 more than the tabular value, and the P- value is 0.000 less than significance level of 5%. The local investment coefficient is significant where the calculated t-value =3.66 greater than tabular t-value and P-value equals 0.002 less than significance level of 5%.

Table 1 Total gross production, domestic investment, FDI, and imports in logarithmic format

Year	LOG(GDP/L)	LOG(LIV/L)	LOG(FDI/L)	LOG(IMP/L)
1995	4.298418	3.56027494	2.910458	3.8845468
1996	4.290559	3.55226252	2.9234968	3.9142433
1997	4.309566	3.59232483	3.0014452	3.898561
1998	4.377623	3.65626959	3.1569822	3.9981593
1999	4.347202	3.77614505	3.1686737	3.8843285
2000	4.260813	3.61178282	3.3321106	3.7780759
2001	4.177431	3.44763973	3.451127	3.6315836
2002	4.13022	3.34766553	3.4697831	3.6778454
2003	4.172501	3.40848517	3.324902	3.757295
2004	4.196222	3.36909692	3.18423	3.785638
2005	4.210229	3.44815424	2.9657512	3.786532
2006	4.230868	3.47912455	3.2941751	3.8661003
2007	4.234872	3.3810242	3.3756147	3.8705327
2008	4.257176	3.35433783	3.4571618	3.8852243
2009	4.253567	3.34575767	3.4902132	3.8874146
2010	4.263046	3.43505065	3.4910973	3.8731999
2011	4.141678	3.46797788	3.2356402	3.7400541

Source: collected from various PCBs bulletins

Table 2 Impact of FDI and other factors on GDP

Predictor	Coef	SE Coef	T	P
Constant	1.4480	0.3891	3.72	0.002

LOG (LINV/L)	0.23279	0.06354	3.66	0.002
LOG(FDI/L)	-0.01026	0.03438	-0.30	0.769
LOG(IMP/L)	0.52579	0.07837	6.71	0.000

Source: researchers using Minitab v.15

As shown in table 2, for the values of the estimated equation coefficients, the negative impact of foreign direct investment is evident, where the results show that the elasticity of FDI (-0.01026) is negative as a 1% increase in FDI results in 0.01026% decrease in total gross production.

The result of our study showed that FDI are negatively correlated with economic growth as the coefficient is not significant. The results are accommodated with the study findings for Carkovic and Levine’s (2002) who quarrel that after governing for country-specific factors, FDI does not positively impact economic growth. The absence of positive impact of FDI may be owed to the short level of the improvement of financial markets and FDI is not concentrated in productive investment. In addition to that, the absorptive capacity have not touched the threshold desirable to efficiently utilize the transferred technology, accumulate knowledge, and gain needed skills that are accompanying with FDI. Domestic investment, though, is positive and significantly correlated with economic growth.

The adjusted R square has reached the value of 86%, which means that the independent explanatory variables explain this percentage which has been occurred by the dependent variable (total production), the remaining 14% resulted from other factors, including the random error. The measurement results through the duration (1995-2011) as shown in table ... clarified the model significance as the assembled model coefficients are significance, where F-calculated was greater than tabular F (3.34) and P-value (0.000) less than significance level (5%).

Table 3 ANOVA variance analysis for impact of FDI and imports on total production

Source	DF	SS	MS	F	P
Regression	3	0.074167	0.024722	35.34	0.000
Residual Error	15	0.010493	0.000700		
Total	18	0.084660			

Source: researchers using Minitab v.15

In what follows we will quantify the impact of FDI on economic growth as a separate FDI factor using simple linear model. The projected equation for the period 1995-2011 is as follows:

$$\log\left(\frac{GDP}{L}\right) = 4.75 - 0.157 \log\left(\frac{FDI}{L}\right) \dots\dots\dots (6)$$

R-Squared = 23.8%

Table 4 Impact of FDI on GDP

Predictor	Coef	SE Coef	T	P
Constant	4.7515	0.2240	21.21	0.000
LOG (FDI/L)	-0.15693	0.06816	-2.30	0.034

Source: researchers using Minitab v.15

As resulted from the assessed equation number (6) according to table 4, and in reference to t-test the significance of constant and FDI factors is proved as the values of t for both of them are greater than tabular t value which is equal to 1.76 with degree of freedom 2-18. The P-value for both constant and FDI are less than significance level (5%). The importance for the model as a whole is clarified as the total as the calculated F is greater than the tabular one (F= 4.49). Also the value of R-square is 23.8% which means that FDI explains 23.8% of the changes that occur in the dependent variable (GDP), while the rest percent 76.2% denotes to the other variables including the random error.

In orientation to factors values, the negative impact FDI is obvious, where the results show that FDI elasticity is – 0.15693%, which means that any increase of FDI by 1% leads to decrease in GDP by 0.15693 where it is a negative and proportional impact and this is proved also from Pearson factor (0.51) which displays an existence of negative medium association between the two variables (FDI and GDP).

## 5. Conclusion

The investigation of the study results regarding the impact of foreign direct investment on economic growth, arose in the form of multi-regression model, where we have reached unexpected result that there is negative impact of foreign direct investment on economic growth. Also we studied the effect of FDI factor on economic growth separated from other factors, which came in the form of a simple regression model, and we have grasped the same preceding results.

As the impact of FDI on economic growth is negative, we must explore the factors that grounds this negative relation and try to billet these factors to positively benefit from FDI and accordingly increase the size of FDI through providing the needed infrastructure for investment and progress of financial markets and banking, aggregate the research and development overheads, advance the enlargement of creative aptitudes in numerous expanses, learning from the proficiencies of developing countries in fascinating FDI, ongoing working in political and security stability especially in our situation in Palestine as it faces tremendous challenges in these two issues.

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