Nexus between Foreign Direct Investment (FDI) and Economic Growth in Afghanistan: An Econometric Analysis

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Abstract

This study analyzes the relationship between Foreign Direct Investment (FDI) and economic growth in Afghanistan. The objective of this paper is to examine the impact of major economic variables i.e. FDI, inflation rate, exchange rate and interest rate on economic growth of Afghanistan. The time series secondary data is used ranging from 2005-2016. GDP is considered as dependent variable, whereas FDI, inflation rate, exchange rate and interest rate are considered as independent variable. For this study multiple regression analysis has been used and the result shows that all variables show positive impact on economic growth except FDI and inflation rate which show negative impact. The study suggests that there is need of stabilization in inflation rate and considering the Foreign Direct Investment (FDI) the source of economic growth, there is a need of economic policy bound for attracting FDI.

Keywords: Afghanistan, Economic growth; Exchange Rate; Foreign Direct Investment, Inflation; Interest Rate.

JEL Classification: A10; E430; O19

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1. Introduction

Foreign Direct Investment and Economic growth are of vital importance for every economy. Enormous amount of research is conducted on this specific topic, as investing in foreign countries is one of the highlights for investors that could lead them to higher returns. The analysis of such research is fundamental for economic decision making that drives investment and capital. As International Business refers to those activities that include transfer of goods, services, people, ideas, resources and technologies across boundaries, studies based on international business, will affect above-mentioned activities both in domestic and foreign markets, apart from these different countries, government and companies endure these activities. Nowadays Individuals who tend to be successful in doing business and recognizing opportunities needs to understand the diversity of marketplace and intake risks, uncertainties so that they could make their own place in global market.

Foreign direct Investment defines to be an investment by an investor in a business from a host country into another country, having control over company acquired. According to the Organization of economic cooperation and development (OECD), companies which retain 10 per cent or more of business possess “control”. Those companies or a business that makes Foreign Direct Investment is called as Multinational Corporation (MNC’s) or multinational enterprise. Based on nature of owning a business they have divided MNC’s into different categories such as making new foreign enterprise by direct investment is known Greenfield investment, or

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acquiring foreign enterprise are known as acquisition or brownfield. An increase in the capacity of an economy to produce goods and services, compared from one period of time to another" said to be economic growth. More elaboration will be required for thesis topic as there are vast indicators to summarize a country economy and its performance globally.

2. Literature Review

Wani and Rehman (2017) have conducted their study on determinants of FDI in Afghanistan showing their capital inflow. There are investigations about the impact of FDI in Afghanistan economy in particular. Their research is supported by OLS method, for year (2005-2015) and the result of their study showed positive relation of FDI with determinants excluding inflation rate which showed negative impact. Muhammad et al. (2013) showed nexus between interest rate and investment from Pakistan prospective. These researchers have showed impact of interest rate for an investor, investing within country. They have used this method for year (1964-2012). The results of this study were that investment is one of the key determinants for GDP and it can cause an improved economy. They concluded that interest rate and investment are directly related to one another; hence fluctuation in interest rate would either cause loss in investment or saving for Pakistan economy. Ahmad (2013) focused on the economy of Pakistan showing that exchange rate is highly associated with growth rate. The result & analysis for this research study were that Pakistan occupies greater import balances than export balances, which lacks improvements in goods that are being exported. The research concluded that there is difference between balance of payments and trade balance and therefore the economy shows negative result and growth rate remains low. Zilinske (2010) conducted a study to show that foreign direct investments can have both the effects. There can be positive as well negative influence of FDI within a country. According to his research Greenfield FDI showed positive outcomes in a nation where as merger & acquisition showed negative impact on economic growth of host country. Mun et al (2008) specifically designed their study to know the relationship of FDI and economic growth in Malaysia. They have used year (1970-2005) using OLS method. The result and analysis are such that FDI is a good source of income for Malaysian economy, as it attracts more employment, technology and competitive goods. Lee and Tcha (2004) concluded from their research paper that FDI is a moderating engine for economic growth and has considered as the only source which can bring growth and modernization for the countries with weak and low economies. Buckley et al. (2002) and De Mello (1999) study is based on China. They have used data for year 1996, 1999, 2000, and 2001. Based on their researcher findings, it was concluded that FDI has both positive and negative impact. The results lead to debatable topic, because they concluded we cannot entirely say FDI has positive or negative on an economy. So they articulated it as conflicting findings. They say countries who possess that FDI has positive impact bring them capital inflow, job creation, increase in income level and many other aspects. Further they concluded that FDI is dependent on the social, economic, political, technology aspects or conditions of Host country whether they can support FDI or not. It entirely depends on capacity of host country to attract FDI. Malik and Chaodhry (2001) conducted their study for four Asian countries namely; India, Pakistan, Sri Lanka and Bangladesh. They wanted to examine the long run positive relationship with economies of these countries. This study used co-integration and error correction model. Hence according to their results they said that there exists relationship between GDP growth rate and Inflation rate among all these four countries showing that a moderate inflation rate could lead to positive impact on economy. Hanson (2001) examined outward foreign direct investment (OFDI) in Chinese economy perspective. His conclusions are that china has strong effects of rising exports due to OFDI. The recommendations suggested that china should focus more on dual effects of exporting and support platform for OFDI. Moreover, government should be supporting implementation of mixed inter-trade and strategies for investments, which could give opportunities for overseas investments. Borensztein et al (1998) analysed 69 developing countries from previous two decades by regression framework. They concluded that FDI is an important vehicle for transmission of technology which contributes more to economic growth than domestic investment. They also determined that if a host country possesses sufficient advance technological capabilities they can attract FDI from other countries. Balasubramanym et al (1996) examined the impact of FDI on developing economies. They have utilized OLS method and cross section method. Researcher also followed Durham (2004) whose study research conducted effects of FDI on economic growth of 80 developing countries, which suggested that FDI has and adverse effect dependent on the absorptive capacity of host country. According to their research countries whom possess outward oriented trade policy can attract more FDI and have positive impact rather than countries having inward trade policy. From all research study, it is said that FDI is vehicle of economic growth to host countries, but if they are able to take benefit from inflows and transfer new technological aspects to host country.

So, the effects of foreign direct investment on economy of the host countries are yet debatable. A massive number of studies possess to find out the results of FDI on the economy but there is no agreement. Few of studies came up alongside the findings that FDI possesses positive affect on the economy as others conclude negative impact. Some studies discovered that the influence of FDI depends on the absorptive capacity of the host country that includes governmental, economic and technology condition. Based on all above research we also conclude our bases and more specifically to know FDI relationship with variables as Inflation rate, exchange rate, interest rate and etc, in economic growth in Afghanistan.

3. FDI in Afghan Economy

Afghanistan Economy is one of the developing economies from eras of war and conflict. This economy has remained dependent over foreign aids and investments since 2001 (Taliban regime). A lot of challenges has been faced in post-2014 era regarding transitions into security, economic and political aspects. There has been decline in economy of Afghanistan due to extraction of international troops, assistance and grants. Economy of Afghanistan has struggled since start of 2016 with continuous uncertainty of provinces like Kunduz and Helmand which are key and northern provinces of Afghanistan, which showed progress of Taliban activities in those regions and became headlines hence investments declined and reason for such condition affected investors mind to investment their capitals in Afghanistan resulting extremely poor economy despite of fact that there have been improvements in life expectancy, income and literacy since 2001. Majority of Afghan population lacks housing shortage, clean water, electricity, medical care and unemployment. These factors cause Afghanistan living standard to be lowest in world among other countries. Resulting weak infrastructure, governance, insecurity, corruption, and government laws of country makes it hard and pose difficulties to future economic growth. Currently Afghanistan economy is dependent upon agriculture sector which covers an important portion of gross domestic product (GDP). And in year 2016 they had low harvests mainly of cereals. Due to instable security conditions weather has been aggravated causing diseases and constrained agriculture productions. The Warsaw and Brussels conferences were crucial to ensure a continued support until 2020. Afghanistan's development partners pledged security grants of $4.5 billion and development support of $3.8 billion annually.

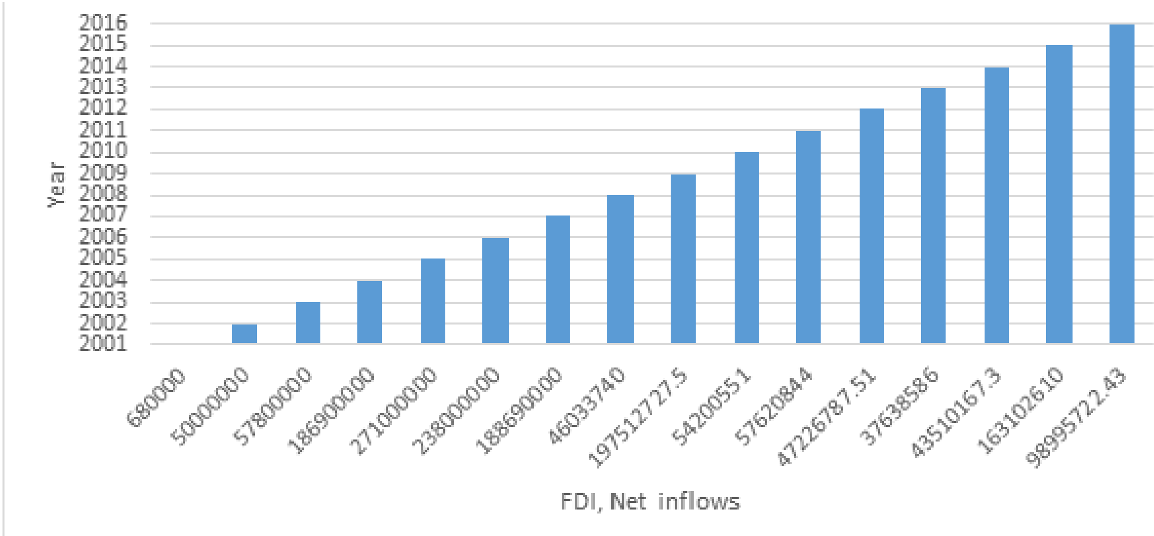
Afghanistan government encourages FDI focused on improving infrastructure, pursing engagement in bilateral and multilateral trade agreements and trade related reforms in construction, telecommunication, and transport and logistic. FDI investments decreased from 2005 to 2013 in Afghanistan due to lack of rule of law. Afghanistan ranks last globally and regionally on the strength of investor protection in World Bank doing business 2012 report.

The major sector attracting FDI in Afghanistan was the service sector 89 per cent while manufacturing attracted 10 per cent and agriculture 1 per cent, this information is taken by AISA. Afghanistan has perceived major accomplishments in terms of regional integration, economic cooperation, and infrastructure development when its concerned with FDI. Certain studies show that there was a decline in FDI in year 2011 till now, but the new strategies are projected to boost investors for investing that billions of dollars in foreign direct investment (FDI) and aid assistance, both foreigners and Afghan, to invest money into the economy. FDI in Afghan economy is covering 43 per cent of country GDP as there has been more than $83 million of foreign direct investment. Some of the FDI projects implemented in Afghanistan in year 2016 and 2017 are described below, briefly:

- In May 2016, Afghanistan, Iran, and India signed the Chabahar port agreement. The arrival of first freight train in Afghanistan's Hairatan port from China via Kazakhstan and Uzbekistan.
- In November 2017, inauguration of the Turkmen part of trilateral railway in Turkmenistan, which connected Afghanistan to an international railway network, were other significant steps in the right direction. In the same context, another important achievement was Afghanistan's formal admission to the World Trade Organization (WTO) in July.
- In another achievement, the Salma Dam, which was inaugurated in June by Indian and Afghan leaders, was an important breakthrough in energy infrastructure development in Afghanistan. This project can produce 42 megawatts of electricity and irrigate 80,000 hectares of farmland. There has been made 200$ million Investment in telecommunication sector more specifically Roshan wireless company by Agha khan foundation.
- Another investment is made for an amount of 150$ million in Afghan wireless company by US based telephone International company. Huge investment of Habib Gulzar company, whom invested in owning patents for bottling plant (Coca-cola) and PepsiCo is competing against Alokozay bottling plant. These

developments in Afghan economy will ensure consistency, cost-effective trade and transit opportunities in the region. Hopefully there will be expected gains of these projects will not be realized in short term.

Fig 1: Foreign Direct Investment, Net inflow (BOP, Us $)



Data Source: The World Bank

The above figure 1 illustrated in the graph shows that for year 2001-2016 that shows total FDI on GDP, here we see increase in year 2001-2004, whereas year 2005 in graph is showing on its highest peak.

4. Research Methodology

The sources of data for this paper are collected from various published sources and the data has been extracted from sources like World Bank, UNCOMTRADE and UNCTAD. The data employed in this paper ranges from 2008-2016, thus time series data is employed in order to achieve the desired results. Furthermore, the model specification and the result interpretation is discussed in the subsequent sections as follows.

4.1: Model Specification

For determination of relationship between dependent and independent variables, for this study multiple regression analysis is used for above-mentioned variables. The econometric model is presented as follows

$Y= \alpha+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\varepsilon$

We will illustrate this equation as;

Y= GDP (Gross domestic product) representing (Dependent Variable)

X1= FDI

X2= Inflation rate

X3= Exchange rate

X4= Interest rate

Whereas, β= coefficient of independent variables, α= constant and ε= error term

4.2 Multiple Regression Analysis

Results after running the data in SPSS (Version 24.0) software by using multiple regression analysis, the output is presented in Table 1 as given below.

Table 1: Model Results

Model summary				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	.995a	.89	.983	716724294.86
a. Predictors: (Constant), Interest, Exchange, Inflation, FDI				
b. Dependent Variable: GDP				

Source: Data output from SPSS

From the above Table 1, all above mentioned independent variables, inflation rate, exchange rate, FDI and interest rate indicates 89 per cent of variance in Economic growth in Afghanistan which is represented by R^2. We can also conclude that variables which were not included in this study contribute 1 per cent of variance on dependent variable.

Table 2: ANOVA Statistics

Model		Sum of squares	Degree of freedom (df)	Mean Square	F	Sig.
1	Regression	298333.000	4	7458340.000	145.190	0.000
Residual		308216.000	6	513693.000		
Total		301415.000				

Source: Data output from SPSS

From the above Table 2, in ANOVA table, the results show its significance level less than 0.05, indicating that model is statistically significant stating that all variables affect GDP in Afghanistan. The value of F calculated here shows higher level than F critical possessing that model is of significance.

Table 3: Coefficients

Model		Unstandardized coefficient		Standardized coefficient	t	Sig
B		Std. Error	Beta			
1	(Constant)	-2083.470	4727625.125		-4.406	.005
	FDI	-8.435	5.273	-.138	-1.600	.161
	Inflation	-7822.468	3260875.952	-.139	-2.399	.053
	Exchange	6055.297	6164561.258	.850	9.824	.000
	Interest	6892.370	1676044.425	.002	.041	.969

Source: Data output from SPSS

Hence here we will modify our model from above findings depicted in Table 3

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Giving it a review and putting above values of table in given equation, we get;

$$Y = -2083.470 - 8.435X_1 - 7822.468\, X_2 + 6055.297X_3 - 6892.370X_4 + e$$

The Equation shows Y as GDP (Dependent variable), X_1 is FDI, X_2 is Inflation Rate, X_3 is Exchange Rate and X_4 shows Interest Rate.

The equations show that by enduring all independent variables constant at zero, GDP will become 2083.470. Findings for both table and equations reveals that if there is a unit decrease in FDI for value of -8.435 then there is decline in GDP, a unit decrease in inflation rate will lead to -7822.468 thus will lead to decline in GDP, however a unit rise in exchange rate will rise 6055.297 in GDP, and one unit increase in interest rate will increase GDP by 6892.370. The model shows that two of variables, FDI and Inflation have showed negative impact on Economic growth in Afghanistan; there could be various reasons for such outcome as for this research study 11 years of data were available and valid and utilized.

5. Conclusions and Recommendations

This study concludes that role of government is extremely important here considering strategy conception and implementation for providing enthusiasm or effecting foreign investments and possessing long lasting contract. However, according to our results it showed negative relationship between FDI and economic growth in Afghanistan.

Following are the summarized implications based on the findings of research study.

Overall, macroeconomic variables are of great importance to increase economic stability within a country. Afghan or International economist should make strategies that could support these variables. More opportunities available for investors, investment in Afghanistan causing more job creation, infrastructure, income level, transmission of advanced technology.

- Afghan government should take initiative regarding judiciary activities because mostly countries wanted to aid or assist countries with stronger judiciary systems.
- Afghanistan legal system should be supported to shield investor's property rights and contract legislation.
- More over the problems that were faced were lack of data, Ministry of Finance should take responsibility for providing data on timely basis for research studies so that researchers could provide them with better strategy implementation, after conducting time consuming research.

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