Determinants of FDI in Afghanistan: An Empirical Analysis

Mr. Nassir Ul Haq Wani and Mr. Noor Rehman

Kardan University, Kabul, Afghanistan, Bakhtar University, Kabul, Afghanistan

10 April 2017

Online at https://mpra.ub.uni-muenchen.de/81975/
MPRA Paper No. 81975, posted 16 October 2017 20:39 UTC
Determinants of FDI in Afghanistan: An Empirical Analysis

Dr. Nassir Ul Haq Wani
Professor Kardan University, Kabul Afghanistan
+930788968302, +919501080836
nassirtoiba786@gmail.com

Mr. Noor Rahman Tahiri
MBA Student
Bakhtar University, Kabul Afghanistan
Determinants of Foreign Direct Investment in Afghanistan: An Empirical Analysis

Abstract

Purpose: The purpose of this study is to describe the major FDI determinants that show capital flow in Afghanistan and to investigate impact of FDI determinants on economy of Afghanistan in particular. Design/methodology/approach: This Research look into whether FDI determinants influence FDI based in Afghanistan by taking time series data using OLS, over the period of 2005-2015. Findings: The relation of FDI with a few FDI determinants including total debt service, total external debt, gross domestic production and gross fixed capital formation contain a strong positive result on economic growth in Afghanistan; at the same time as the relation of FDI with Inflation contain a negative effect. Research limitations/implications: The restrictions of the study are basically the enlargement of data which cannot be found continuous for 2015 completely for all variables. Originality/value: The objective of this research is to define the main FDI determinants that show capital flow in Afghanistan and to explore impact of FDI determinants on economy of Afghanistan in particular. Secondary objective is the quantify FDI determinants to suggest some policies through which FDI can improve in Afghanistan.

Keywords: Host country growth, Capital formation, Inflation, FDI

JEL Classification Codes: C35, F21, O11
1. Introduction

Trade is a simple economic conception involving the purchasing and retailing of goods and services, with recompense paid by a buyer to a seller, or the conversation of goods or services between parties. In other words, International trade is the exchange of goods and services across international borders or territories (Ben-Porath, 1980).

The determinants of FDI according to the empirical studies are categorized into two sides; demand side and supply side. The demand side contains variables linked to the Afghanistan (country-specific). The source side comprises variables connected to the investing corporation itself (company-specific). Country exact variables maybe will comprise market scope, economic development, equilibrium of expenditures, inflation rates, tax levels, political constancy, and government policies re foreign investments. Afghanistan can possess location exact benefits, such as his national markets, natural properties, and labor power that assist to invite investments by external investors. This study will usually highpoint the second category (i.e., the country exacts variables). Thus, the data and discussions will completely be emphasized on this type of determinants of FDI. This study, thus, aims to examine the dynamics that affect foreign direct investment (FDI) in Afghanistan.

Empirical analyses of the factors determining foreign direct investment (FDI) in Afghanistan have employed a variety of econometric specifications. Many previous studies of Afghanistan FDI activity have used a gravity equation, which controls mainly for the economic size of Afghanistan. Foreign direct investment (FDI) is a straight investment into manufacture or commercial in a country by a separate or corporation of a different country, also by purchasing a corporation in the board country or by increasing processes of a current business in that country. Foreign direct investment is in difference to collection investment which is a submissive investment in the safeties of additional country such as stocks and bonds. (Kunle, 2014). Foreign direct investment is supposed to make significant assistances to growth and economic improvement of host (recipient) countries. Foreign direct investment feeds receiver countries through the capital inflows, technical involvement, human capital improvement and managerial proficiency compulsory for supportable economic development. According to Abdoulaye et. al. (2015), Foreign direct investment concerned with fundamental factors such as stable macroeconomic and political situation as well as credibility of policy reforms. A stable
and maintainable macroeconomic situation improves the sureness of private investors. Decrease in debt load is also dangerous not only for behind both external and financial equilibrium but also for producing confidence to inspire private subdivision investment (Dunning, 1993).

The financial limit, mostly cruel for the intensely grateful countries, rapidly explained into a quick discount in investment and development rates in these severely obligated economies. Such weakening in investment and growth rate occasioned in the increasing significance of foreign direct investment as a moderately dependable foundation of capital As there are mainly two types of FDI horizontal and vertical that serve a different purpose to the investor. If a multinational enterprise wants to expand their business horizontally, they may duplicate the home production of goods or services and allocate it in multiple countries (host country). This type of FDI is called horizontal FDI. Vertical FDI on the other hand, serves to allocate fragments of the different production stages of a multinational firm, with the aim of lowering costs. (Aizenman & Marion, 2003; Braconier, Norbäck & Dieter, 2004).

FDI is to utilize raw materials in the host country, or to establish a closer contact to the consumers via distribution outlets (Moosa, 2002). FDI is defined according to residency the investors purpose being an effective voice in the management of earning either long term capital or short term capital as shown in the nations balance of payments account statement (Macaulay, 2012). Broadly, foreign direct investment includes mergers and acquisitions, building new facilities, reinvesting profits earned from overseas operations and intra company loans. In a narrow sense, foreign direct investment refers just to building new facilities. He believed that FDI encourages the inflow of technology and skills and fills the gap between domestically available supplies of savings, foreign exchange and government revenue. It also encourages the inflow of technology and skills. (Onu, 2012). Engman, M. (2005) mentioned in his research paper Foreign direct investment (FDI) has long been known as an important source of financing for development in host (recipient) countries. UNCTAD (2012b) finds that FDI positively contributes to host economies, including through higher employment and wages, tax revenue increase, export generation and capital formation. Identifying factors that make a host country more attractive to FDI therefore remains an important policy issue.

Foreign direct investment encourages the multitude of country in frequent ways by
increasing domestic investment, transmission of technology and human capital founding. But the funding and credits has a negative impress on country balance of compensation. So, the FDI is preferred for accelerating capital formation that it enforces no financial responsibility on host country at all. Foreign direct investment has a great number of profits that are generation of more profession, increase transmission, enhance managerial and technical skills, refining equilibrium of compensation and normal of current (Falki, 2010). A lot of structures made Pakistan a more attractive location for foreign investments that are the behind: Economy of Pakistan demonstrated approachability and potential capability, Huge Pakistan residents and has an incomparable bodily arrangement (Yousaf, Hussain, & Ahmad, 2008).

Foreign Direct Investment is a component of a country's national financial accounts. Foreign direct investment is investment of foreign assets into domestic structures, equipment, and organizations. FDI occurs with the purchase of the “physical assets or a significant amount of ownership (stock) of a company in another country in order to gain a measure of management control. Afghanistan today is the land of countless business opportune (Rosen et al 2009). Afghanistan's economy is recovering from decades of conflict. The economy has improved significantly since the fall of the Taliban regime in 2001 largely because of the infusion of international assistance, the recovery of the agricultural sector, and service sector growth (Mafhoum, 2016). In 2001, after 23 years of war and domestic war, Afghanistan was unsuccessful state, the manufacturing production was closed to zero and the country was one of the poorest and most underdeveloped in the world. By no means, the new Government of Afghanistan was starting at point zero. It was a astonishment for most of the western consultants how deep the recently connected government was entrenched in old arrangements. But as new ideas, new methodologies for the regulatory charter and also new characters (in government and business) are toward the inside of the scene, different arrangements and realities are overlapping (Fas, 2016).

In a post-conflict environment, it is a top priority for the central government commences mobilizing revenue so it can quickly provide essential services from its own resources. Revenues in Afghanistan are from two principal sources customs from the international movement of goods, and domestic taxation. This plan is concerned with the second of these sources. It provides an
outline of the key activities over the next 12 months to mobilize domestic taxation in Afghanistan. Doing business in Afghanistan can be very rewarding. Even smaller investments may generate high profits in a short period of time. And yet, at least for the time being Afghanistan remains a challenging environment even to the most experienced professionals. Access to local know-how and to informal networks is decisive. Careful analysis of market potentials and best strategies for business development are strongly recommended before setting up operations, and sufficient time should be spent on networking to understand local business practices and to find the right partners.

Afghanistan has a total area of 652864 Km², about 12 per cent of the country total land is arable, 3 per cent is under forest cover, 46 per cent is under permanent pastures, and the remaining 39 per cent are mountains and estimated population of about 30 million including nomadic and returnees. The annual growth rate of population is about 2.03 per cent while the GDP is estimated about US$10 billion and per capita income about US$ 415. Currently there is change in the structure of national domestic products; about 37 per cent was the share of services in GDP while the share of agriculture was about 36 per cent and the segment of manufacturing was around 24 per cent. Due to the lack of skills, the national product is taken by the merchants to Pakistan. As compare to the pre transitional government, fiscal, monetary, external sector and real sector are improved despite potential growth of the economy is challenged by security, corruption, and other obstacles. Afghanistan has great potential for further growth similar to the most developed nation of the world as it has the vast number of resources with high volume. To give a hint on the available opportunities, there is need to discuss some sample (Afgair, 2016).

Afghanistan is a fast growing emerging market of strategic importance close to some of the largest and fastest-growing markets in the world. Afghanistan is strategically located between the energy-rich republics of Central Asia and the major seaports in South Asia providing a key transit route for central Asian oil and gas to markets in South Asia as well as overseas. Also Afghanistan has natural access to markets of neighboring countries including important fast-growing markets such as China, India and Pakistan. Afghanistan offers a pro-business minded environment with legislation Favorable to private investments. The principles of a free market economy are incorporated in the new Constitution just as the growth of the private sector is a cornerstone of the National Development Strategy. Consequently, the President as well as the Government has focused intensely on removing obstacles to
private sector development.

Afghanistan is rich in natural resources. Afghanistan is remarkably rich in mineral resources. There are currently more than 1,400 identified mineral deposits. These include energy minerals such as oil, gas and coal as well as iron and copper deposits of world quality. Furthermore, known precious and semiprecious stones in Afghanistan include emerald, jade, amethyst, alabaster, beryl, lapis lazuli, tourmaline, ruby, quartz, and sapphire. Finally, great opportunities for investments exist within the hydrocarbons industry. The Government of the Islamic Republic of Afghanistan (GIRoA) recognizes that the development of a vibrant private sector is crucial to the reconstruction of an economy ravaged by decades of conflict and mismanagement. As such, it has taken significant steps toward fostering a business-friendly environment for both foreign and domestic investment. Security threats sometimes limit investors' opportunities to develop businesses in some regions, and certain sectors (such as mining and hydrocarbons) still lack a regulatory environment that fully supports investment. In the face of these challenges, Afghanistan's investment climate has shown surprising levels of dynamism in recent years. The government wants to achieve a (legal) GDP/capital of 500 USD/year by 2015. This leads to an envisaged annual growth rate of app. 90 per cent. The growth rate in the last years was about 20 per cent but this will slow down as a first “peace dividend” is paid, the agricultural growth will slow down and donor’s contributions will stay at the best at current levels. Therefore, the government and the international community have put in their joint strategic paper securing Afghanistan’s Future broad based economic growth at the center of the policy. The secretive sector is in all papers called “the locomotive of growth”. The objective of this research is to describe the main Foreign direct investment determinants that show capital flow in Afghanistan, to explore impact of Foreign direct investment determinants on economy of Afghanistan and suggest some policies through which Foreign direct investment can be improved in Afghanistan.

2. Data Variables & Methodology

One of the important and key reasons of motivation for the study was to determinants of foreign direct investment on GDP in Afghanistan. As FDI is attracted properly, it direct or indirect affects GDP. It permits us to Empirically Analyze the determents of FDI in Afghanistan.
The data of FDI and GDP is taken from the World Data Bank WDB website. This study empirically analyzes the determinants of FDI of Afghanistan. Data is used on annual basis of time series secondary data and covered the period of (2005-2015).

We have used two methods for analyze of the data first simple regression analyze through OLS model that is ordinary least square or least square errors regression or just least squares is one of the most basic and most commonly used prediction techniques among people and researchers in statistics, finance, medicine, economics, and psychology. It measures the accuracy which differentiates it from other forms of regression. It was developed by the world’s well known mathematician in 1795 and rediscovered by Adrien Marie Legendre in 1805. It is easy to implement and apply to problems. It can be easily analyzed mathematically and interpreted. When the distributions of random variables have same variance and zero mean then the least squares method is the best unbiased linear estimator of the model coefficients (Gauss-Markov Theorem).

This study applied log to normalize the data and analyzes the impact of Foreign Direct Investment (FDI) on Gross Domestic Product (GDP) in Afghanistan this study has applied simple regression through OLS model for the equation to determine the impact of Foreign Direct Investment (FDI) on Gross Domestic Product (GDP) in Afghanistan. The literature supports the selection of ordinary least square model. For the purpose of empirical analysis through OLS methodology the following equation is estimated;

**Equation:**

$$ LOG(GDP_t) = \beta_0 + \beta_1 \log(FDI_t) + e $$

Second, in multiple regression those variables have been selected in study, based on previous FDI theories and literature.

$$ GDFI = \beta_0 + LOGEBG\beta_1 + LOGEXDEBT\beta_2 + TDSGDP\beta_3 - INFLATION\beta_4 + GFCF\beta_5 $$

Where:

GDFI indicates Gross Foreign Direct Investment: Foreign direct investment is described as investment so as to is prepared to obtain a lasting management interest (usually of 10 percent
of voting stock) in a venture working in a country other than that of the investor (Host). Source: World Bank (WDI, 2011).

Then the determinants of Foreign direct investment is measured by behind variables: External balance on goods and services (percentage of GDP) is indicated as LOGEBGS this variable can be measured by production, and data is taken from World Bank, (WDI, 2011). Total external debt, total (DOD, current US$) is indicated as LOGEXDEBT and define at world bank website as Total external debt is debt allocated to nonresidents repayable in foreign currency, goods, or services. Source: World Bank, (WDI, 2011). Total debt service (per cent of Gross domestic products) is specified as TDSGDP and explained on WD as Total debt service is the addition of principal repayments and interest in fact compensated in foreign currency, goods, or services on long period debt, interest paid on short period debt and repayments to the IMF. Source: World Bank (WDI, 2011). Expected sign of determinants is positive except inflation. Gross domestic products deflator (annual percent) is indicated as INFLATION and it is calculated by the annual growth rate of the Gross domestic products implicit deflator demonstrates the rate of price alter in the economy as an entire. Source: World Bank (WDI, 2011). Domestic gross fixed capital formation (as a percentage of Gross domestic products) is used in paper as GFCF Indicates capital stock in the host country and the availability of infrastructure. Source: World Bank (WDI, 2011).

3. Results and Discussion

The results are outcomes of variable and applied simple regression through OLS model. Simple regression is used to check relationship the impact of Foreign Direct Investment (FDI) on Gross Domestic Product (GDP) in Afghanistan. This section explains the tests which are necessary for the reliability of the data. For this purpose, T-test is used to check the significance of a variable and P-value is used to show acceptance of hypothesis on economic theory. F-test is used to check the overall significance of the model. The result is shown in the following table.

The P value is 0.006 which is less than 5 per cent level. So, variable is significant. T-test is 11.88 which is more than 2 theoretical value so variable is significant. F-test is 0.024 which is less than 5 per cent level. So, overall model is significant at 5 per cent level.
Regression analysis represents a statistic method examining relations of dependencies among dependent and independent variables with the aim to determine the impact of independent variable changes on dependent variable. In general, it can be in the form of time series, cross-sectional or panel data analysis. It occurs very often that the data necessary for modeling are not sufficient, as in the different time (time series) and also in the different space (cross-sectional data). In this case, appropriate solution seems to be the utilization of panel data which represent data set including time series for each space unit. Although statistical significance and the direction of impact between the dependent variable and independent variable are important with a similar analysis, the variables were transformed into log form because to avoid outlier/fluctuation in data.

Table.1: Regression Results

<table>
<thead>
<tr>
<th>R Square</th>
<th>Adjusted R square</th>
<th>Coefficients</th>
<th>T-test</th>
<th>P-value</th>
<th>F-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>59.22 per cent</td>
<td>54.7 per cent</td>
<td>5.520904098</td>
<td>11.88</td>
<td>0.006</td>
<td>0.024</td>
</tr>
</tbody>
</table>

The model summary R square ($R^2$) is 0.5922 It means that 59.22 per cent variation is explained by independent variable (foreign direct investment) in the dependent variable (gross domestic product), which shows weak relationship between the variables. The Co-efficient is 5.52 which mean 1 per cent increase in FDI and GDP is increased by 5.52 units, F-test value is 0.024 which is less than 5 per cent. So, the overall model is significant. T-test value is 11.88 which is more than 2 theoretical value so variable is significant.

As the methodology discussed above we applied that on variables OLS model to get the results. The result got from the methodology is supported by our literature review in which various researchers also supporting these results. By applying multiple regressions, we get the following equation:

$$GDFI= -8.021745+0.00168\beta + (-4.33)\beta + 0.024 \beta + 0.00128 \beta + 0.0000\beta - 6.38 \beta$$

As this multiple regression can be interpreted as if there is one-unit increase in LOGEBGS then GDFI is increases by 0.00168 and so on. As the Empirical results are shown
that all variables are showing positive coefficient with GDFI except INFLATION as shown in Table A.

R-squared is an explanatory power of the model that how our points are matching to the original points of data. Our r-squared from the empirical results is 0.5922 which is above .50 means R-squared is good and results are perfectly predicted. HSK is errors are randomly distributed with constant variance. HSK’s value 0.537 the value is more than 0.1 so there is no HSK present in data. So, errors are not randomly distributed with constant variance. Multi collinearity is the pair or more independent variables are co related. VIF value in the results is 2.1584 which is less than 10 so there is no Multi collinearity in data exists. Then to check Auto correlation which is correlation with in errors, if dw-stat is range of between 1.50-2.50 according to liberal researchers and 1.75-2.25 according conservative researcher there is no auto correlation. Our results value is 1.284157 which is even less than liberal researchers value so there is positive auto correlation exists in data so we have to solve it. We solve it through the following command:

Table.2: Multiple Regression results

| GDFI                              | Coef. | Std.Err. | t  | P>|t|  | [95 per cent Conf.interval] |
|-----------------------------------|-------|----------|----|------|-----------------------------|
| External balance on goods and services (per cent of GDP) | 0.00168 | 37.36 | -10.85 | 2.56  | (-43.87, -35.25) |
| External debt stocks, total (DOD, current US$) | -4.33 | 1.71E+18 | 11.84 | -2.42 | (1930480461, 2668188739) |
| GDP per capita (current US$)      | 0.0000 | 11022 | 13.07 | -2.35 | (397.6, 607.1) |
| Gross capital formation (per cent of GDP) | -6.38 | 1.764 | 15.84 | 2.01  | (17.506, 20.319) |
| Gross capital formation (current US$) | 0.024 | 5.00E+17 | 6.38 | 2.17  | (2076243428, 3254352988) |
| Inflation, GDP deflator (annual per cent) | 0.00128 | 46.17 | 0.51 | -1.24 | (2.60, 11.51) |
| Manufacturing, value added (per cent of GDP) | -8.021745 | 5.37 | 2.29 | 2.21  | (12.874, 16.182) |
4. Conclusion & Recommendations

The purpose of this research is to describe the main FDI determinants that show capital flow in Afghanistan and to discover impact of FDI determinants on economy of Afghanistan in specific. In this we see significance on gross domestic foreign investment by the, Total external debt total (DOD, current US$), Total debt service (per cent of GDP), Inflation GDP deflator (annual percent), Domestic gross fixed capital formation (as a percentage of GDP). OLS has applied to data collected from WDI. It is concluded, Total external debt, Total debt service and Domestic gross fixed capital formation have positive impact on Gross domestic foreign investment. Inflation has negative impact on Gross domestic foreign investment. We have conducted this study for the reason that after 2005 no study has been conducted by conducting this research we fill this gap.

In the paper we recognized the major determinants of FDI .by seeing at the major determinants of FDI countries can also able to generate FDI policies according to their own economic arrangement. The function of FDI in country enlargement can be stated by the consequences of every of the determinants or by the consequences of every one determinants jointly. In this mode, the function of FDI at the country enlargement can be utilizes efficiently.

Model summary R square ($R^2$) is 0.5922 It means that 59.22 per cent variation is explained by independent variable (foreign direct investment) in the dependent variable (gross domestic product), which shows weak relationship between the variables. Co-efficient is 5.52 which mean 1per cent increase in FDI and GDP is increase 5.52 units, F-test value is 0.024 which is less than 5 per cent. So, the overall model is significant. T-test value is 11.88 which is more than 2 theoretical value so variable is significant.

Afghanistan had very small amount $ 120 of the per capita income in 2005, it has been gradually increased with coming of the new government through direct support of the international community and throwing billions of dollar in forms of aid, in addition of that foreign direct investment (FDI) further support the overall economic situation of the country, which resulted with further increase of per capita income. The FDI has been increased gradually since 2005 from $ 0.68 million and it reach to the maximum amount of $271 million in 2007 and the big investment was in the telecom sector. Afterward it has been gradually decreased, while the per capita income increased and reached to the maximum amount of $ 691 in 2012 and
afterward it has been decreased due to the withdrawal of NATO/ISAF and very lengthy election process with the transition of the political power to the new administration.

Role of government is very significant regarding policy formation and implementation for giving motivation or making a place to influence the foreign investor and make for having long life contract. And that role will prepare business approachable environment to fulfill the investment, FDI in making capital to develop their services, bring new technology, bring money and used for technological improvement. Foreign Direct investment is a cash movement of funds from one country to another. This technique plays a very significant role to improve a development in the country, positively put impact on the GDP and improve the capitals throughout the country which can totally develop the natural resources as well as human capitals (Rahman Z, 2014). Based on the literature review the results indicated that there is positive significance relationship between foreign direct investment and gross domestic product of Afghanistan.

Based on the observations and conclusions made during this study, it is recommended that policy makers should focus on the improvement of knowledge and capacity of the human capital. From my point of view, countries with low level of human capital will have low level of FDI effect relatively to countries with high level of human capacity, although it might be inconsequential in some instances. The reason behind the improvement of the level of human capital is that, countries with improved human capital will be in better position to utilize the hi-tech spillover of FDI. Policy makers would allocate 20 per cent of the national budget for improvement in the human capacity development in Afghanistan. Most multinational investors are attracted to countries that foster the protection of property and investment. In my view, lack of adequate contract and property rights enforcement can limit the interaction between foreign and local firms who will invest in an economy. Following such development, it is recommended that the Afghanistan legal system should be strengthened to protect investors so as create room for economic growth. Other branches of Government interference with the judiciary operations undermine the fair ruling and at such, individual investors, institutional investors and other multinational investors would prefer countries with high judiciary credibility for investment.

5. **Limitations**

Prior empirical studies results are unclear that try recognize the impact of individual policies
factors on FDI. Labor cost, trade policies and tax rules are not significant in many cases. There are a
enormous quantity of empirical studies conducted in which lack of agreement over the conclusions
and no descriptive variable that can be extensively accepted. Additionally, not any of these studies
significantly manage all the variables examined by early researchers as potential candidate of
enlightening FDI. the relation among FDI and numerous controversial variables are extremely
responsive to little modifications in information. These studies are based on cross country analysis and
our study is based on time series analysis. By using Extreme bond analysis to some extent this
problem vague consent over FDI can be resolved but in this research paper this problem is not
addressed directly.

The study used secondary data sourced from the World Bank data bank for period
(2005-2015). This study was limited to the degree of accuracy though the data was sourced
from reliable sources. There was lack of uniformity in how the various organizations capture
and maintain their data hence the research could not analyze all the variables in details.
There was lack of sufficient data on some foreign direct investment. Therefore, the researcher
was unable to accurately analyze all the foreign direct investment. There are so many other
factors that affect GDP growth rate some which are quantifiable and others not. This study only
focused on one variable (foreign direct investment on services) which had been identified for
analysis. This research has focused empirically on determinants of foreign direct investment of
Afghanistan and gross domestic production of Afghanistan from 2005 to 2015. Therefore, further
researcher can take the period from the beginning of the foreign direct investment in
Afghanistan up to the current period for the analysis which study can bring the final findings
on the topic of the research as well as researcher may consider other economic indicators of the
country for the improvement of the country.

As much interest researcher in the field of foreign direct investment and economy of the
country, there are very few research studies in the field of foreign direct investment in
Afghanistan which related study much needed for the country especially for under developed
country due to that the further researcher can do their study in the field of foreign direct
investment to contribute to the country. The future researches they may consider the same research
topic with similar country as comparative study. The future researches can do the research in the
same heading in other countries to improve the knowledge in the field.
References


Chandrachud, S., & Gajalakshmi, N. (2013). The Economic Impact of FDI in India. *International Journal of Humanities and Social Science Invention*, ISSN (online), 2319-7722.


