



DETERMINANTS OF FORIEGN DIRECT INVESTMENT INFLOWS IN ETHIOPIA

BY

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DECLARATION

I, Tadesse Demissie, declare that, this paper prepared for the partial fulfillment of the requirements for MSC. Degree in Accounting and Finance entitled “Determinants of Foreign Direct Investment inflows in Ethiopia” is prepared with my own effort. I have made it independently with the close advice and guidance of my advisor. I also assert that this thesis has not been submitted earlier for the award of any other degree or diploma anywhere else.

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CERTIFICATION

This is to certify that the thesis prepared by Tadesse Demissie , entitled: Determinants of Foreign Direct Investment Inflows in Ethiopia and submitted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

The study was carried out to establish the possible factors that determine the inflow of Foreign Direct Investment into Ethiopia. In this study, I used secondary time series data sample from 1992 to 2014. The Ordinary Least Squares (OLS) estimation is used and the time series properties of the variables were examined in the process. It first tests for unit root using the Augmented Dickey Fuller (ADF) test. The ARDL technique was employed to derive the long-run relationship. The ARDL model, however, failed to support any long-term relationships between FDI and each explanatory variable. The result of short run dynamic model shows that financial development and market size significantly and negatively affects the inflow of FDI. Trade openness exert positive relationship with FDI and significant at 10% significant level. Both Inflation and external debit affect FDI negatively but insignificant, and infrastructure development positively affects but insignificant FDI. From a policy point of view, the results suggest that, to promote FDI, Ethiopia should develop and introduce policies that increase the level of trade openness.

Key Words: FDI in Ethiopia, OLS, Secondary time series data, Time Series properties, ADF Test, and ARDL Technique

List of acronyms

ADF	=	Augmented Dickey Fuller
ARDL	=	Auto Regressive Distrubtive Lag
DCr.	=	Domestic Credit
EIA	=	Ethiopian Investment Agency
EXDT	=	External Debit
EXR	=	Exchange Rate
FDI	=	Foreign Direct Investment
GCF	=	Gross Capital Formation
GDP	=	Gross Domestic Product
GDPG	=	Gross Domestic Product Growth Rate
IMF	=	International Monetary Fund
INF	=	Inflation
L	=	Log
MNCs	=	Multi National Companies
MNE	=	Multinational Enterprise
MOFED	=	Ministry of Finance and Economic Development
OECD	=	Organization for Economic Cooperation and Development
OLS	=	Ordinary Least Square
UN	=	United Nation
UNCTAD	=	United Nations Conference on Trade and Development

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CHAPTER ONE

1. INTRODUCTION

1.1. Background

Foreign direct investment has an important role in the development processes of developing countries (Gichamo 2012, UNCTAD 2002). The role of FDI is quite critical in Africa given the fact that poverty levels are generally high while domestic savings and income remain extremely low as income is mainly channeled to consumption expenditure. The gap between domestic savings and investment is widening in almost all African nations especially in Sub-Saharan Africa as the loans and official developmental assistance by multilateral agencies are gradually declining (Aseide 2003, Mottaleb and Kalirajan 2001, Mohapatra, 2014). Thus, foreign direct investment (FDI) is imperative for these countries to fill up the gap between savings and investment. FDI also contributes to economic development through: transferring advanced technology and organizational skills; generating technological spillover and creating linkage with local firms; generating employment and developing the skill of human capital and helping to create competitive business environment. (UNCTAD 2010, Agrawal and Khan 2011).

Realizing the roles of FDI, most African countries including Ethiopia have undertaken numerous policy measures to create hospitable investment climate for FDI. The major policy measures are: liberalizing controls on foreign exchange & price, liberalizing investment regulations & privatization of public enterprises and creating a stable macroeconomic environment (Getnet and Hirut, 2006, Solomon, 2008).

In 1991, Ethiopia's transition to a market oriented economy started. Since then, the government has made a broad range of policy reforms, including liberalizing the foreign trade regime, decentralizing of political and economic power, devaluation of the national currency and deregulation of domestic price (Solomon, 2008). The government of Ethiopia has also issued several investment incentives, including tax holidays, duty free importation of capital goods and export tax exemption to encourage foreign investment. Furthermore, Ethiopian Investment Authority (EIA) has been established to service

investors and streamline the investment procedures (Mohapatra, 2014). Despite those economic liberalization and other measures taken, Ethiopia's performance in attracting FDI is very poor compared to many Africa countries. For instance, the average annual FDI inflows to Ethiopia from 2011 to 2013 \$ 616.36 Million, which is only 1.16% of FDI flows to Africa, while representing close to 9% of the population of the continent. FDI as a percentage of GDP of Ethiopia was 0.81% in 2013, compared with 1.6% for African countries as a group.

In absolute terms, FDI flows to Ethiopia have increased from an annual average of \$ 321.1 million in 2000-2008 to \$ 473.58 million 2009-2013 although there are fluctuations. As we can seen from Figure 1.1 , during the Ethio –Eritrea war (1998-2000) the inflow of FDI had fallen in large extent .Besides ,during the year of the country's election crisis in 2005 and the global financial crisis in 2008 , the FDI inflows declined to \$221 million and 109 million respectively. Since then, it has again increasing and exceeded \$953.00 million in the year 2013.

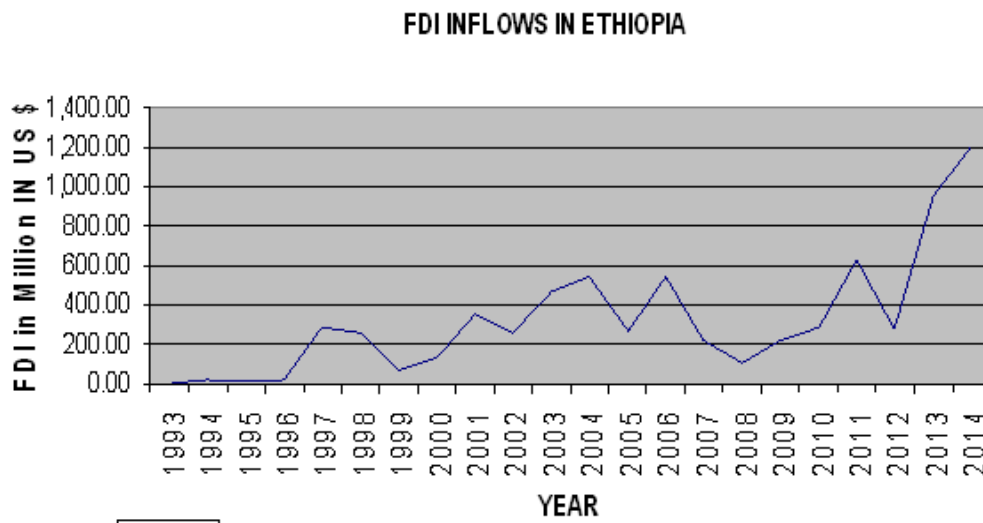


Figure 1.1 Trends in the FDI inflow to Ethiopia

Source: Country Data of Ethiopia, World Bank, 2014

1.2. Statement of the problem

Sustainable economic growth is greatly influenced by the rate of investment which in turn is mainly determined by the national savings level. Comparing to the developed world, the national savings level of nations in Africa is quite low. Now days, to close the gap between savings and the required investment level countries take Foreign Direct Investment (FDI) as an important alternative source of capital. Asia countries used FDI to fill the gap of saving and investment until they create saving culture, and the main strong point they transferred to the rest of developing countries is how to be a conveyor belt for technology transfer by using FDI (Atlaw et.al,2012) .

In Ethiopia, the gap between domestic investment and saving has remained wide due to the low level of income and domestic saving. According to the IMF country report of 2013, the average financing gap was about 9.4 percent of GDP in 1990-2000; it is widened about 17 percent in 2006-12. In sub Africa, this gap is much smaller, about 6 percent. This saving gap can be filled by loans and development assistance from multilateral agencies such as world bank or by private foreign investment .However the, the former sources of official finance have been declining (Getnet and Hirut 2006).Given this, FDI is the most important alternative source of foreign capital for Ethiopia. Based on this belief, Ethiopia has been striving to implement different policy initiatives and incentives to attract capital inflows which can fill the saving-investment gap in their economies However; the performance of the country in attracting FDI is not encouraging, Ethiopia accounts for less than 2% of FDI coming to Africa (Gichamo 2012) . Thus, identifying the determinants of FDI in Ethiopia is a key step to know the factors responsible for the poor performance of Ethiopia in attracting FDI. Few of researches, such as Getnet and Hirut (2006), Solomon (2008), Amanuel (2014), and others, have been done to explain this fact and to show the main determinants of FDI in Ethiopia using macro economic data.

However, to my best of knowledge, these studies have not included important variables like financial development (measured by domestic credit granted by the bank to and financial risk (measured by external debit to GDP) that may influence FDI flows into Ethiopia. These studies except Mitku(2013) and Getnet and Hirut(2005) have not also paid considerable attention towards testing the existing of long term relationship between

FDI and its determinant factors, particularly using a co-integration approach. Mitku(2013) found that the existence of long-term relationship between FDI and its determinants by using ARDL approach. On the contrary, Getnet and Hirut (2005) concluded that there is no long-run relationship between FDI and its determinants by using The Engel-Granger test Thus, these issues provide the motivational of this paper. The study aims to investigate the determinants of FDI in Ethiopia by employing ordinary least square method in the time series framework from 1992 to 2014, and to test the existence of long-term relationship between FDI and each explanatory variable. Therefore, the paper provides some new evidence on the determinants of FDI inflows and on the existence or not of long-run relationship between FDI and its determinants by including relatively new variables such as financial institution of development and external debit there by filling the gap in their research.

1.3. The Objectives of the Study

To analyze the problem statement as mentioned earlier, I develop the objective of my research. Generally, the study is intended to identify the different determinants of FDI flow into the Ethiopia. In particular, the study is carried out to:

- determine if FDI inflow is influenced by Financial development
- check if FDI inflow is influenced by financial risk
- verify if FDI inflow is influenced by market size
- examine if the inflow of FDI is influenced by each factors such as infrastructure development, inflation and host country's openness
- Identify whether there exists long-run relationships between the dependent variable (FDI inflow) and the explanatory variables such as financial development, financial risk, market size, infrastructure, inflation and openness.

1.4. Hypotheses Tested

To achieve the objectives stated above, the following hypotheses were tested.

- i. The level of financial sector development does not determine the FDI inflow to a country.
- ii. Financial risk (measured by external debt to GDP) does not determine the inflow of FDI in Ethiopia
- iii. Market size does not determine the inflow of FDI into a country.
- iv. The level of infrastructure does not impact the inflow of FDI into a host country.
- v. Macroeconomic instability has no impact on FDI inflow.
- vi. Host country's openness to the outside world in terms of trade relations does not determine the level of FDI inflow into a concerned country.
- vii. There is no long-term relationship between FDI and its determinants such as financial sector development, financial risk, market size, and level of infrastructure, inflation, and host country's openness.

1.5. Significant of the study

Even though, there have been previous studies done on the factors of FDI in Ethiopia, in this case, the researcher has added a relatively new variables such as domestic credit and external debit into the model in order to find out whether the amount of domestic credit and external debit affects the FDI inflow of Ethiopia. This study will contribute to policymakers like National Bank of Ethiopia and the Federal Government as it gives them a picture of what variables are significantly affecting FDI inflows in Ethiopia. This research will also add new information to literature by testing the existence of long term relationship between macroeconomic factors and FDI inflow using a new approach, Autoregressive and Distributed Lags (ARDL) approach. Besides, this study can prevent policymakers from focusing on the unnecessary areas wasting resources in an effort to attract more FDI

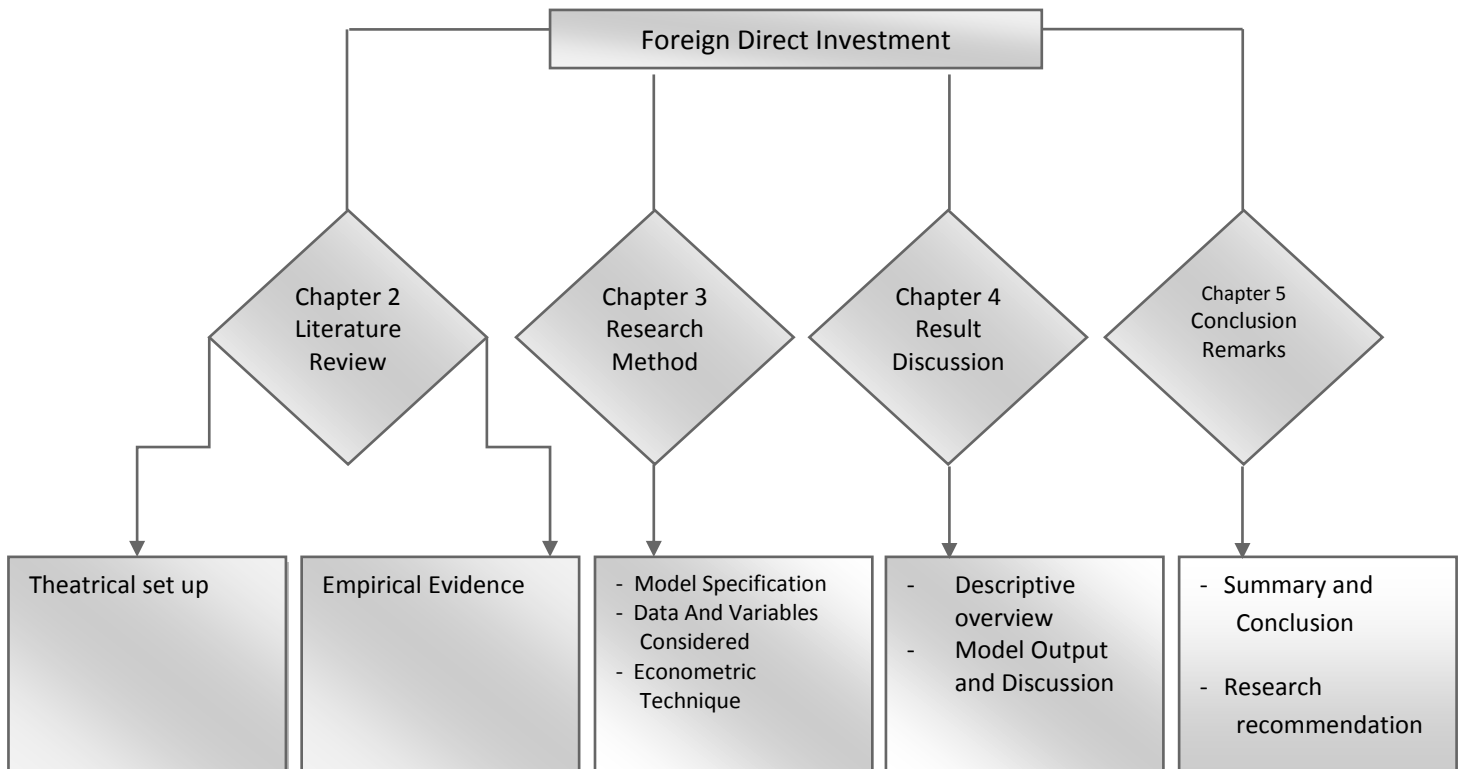
1.6. Limitation and scope of the Study

The very first limitation of the study is the sample size of the research which is too small with only 24 years. Annual data from year 1992 – 2014 was obtained to run the model, however, the data is considered insufficient as the minimum requirement is 30 observations. Even though the researcher tried to include at least 30 years data, it was not possible to get the intended data set. Although, it has the data set limitation this policy paper helps the researcher to dig deep and come up with future study plan.

The work on this paper is limited to macroeconomic factors that were believed to have the potential to influence FDI inflows to Ethiopia based on data availability. It does not account for other factors like international investment agreements such as bilateral ax treaty, institutional factors such as corruption, rule of law etc. In short ,it only looks at few macroeconomic variables. Therefore analysis may be expanded to areas not captured by this study for subsequent studies.

1.7. Organization of the Paper

The rest of the paper is organized as follows



CHAPTER TWO

2. LITERATURE REVIEW

This section presents both the theoretical framework and the empirical literature review. Each of the two is presented briefly below.

2.1 Main FDI Driving Factor: A Theoretical Framework

Nowadays, the issue of foreign direct investment has got more attention at global and national levels. Different theoretical literatures have been done to explain the issue of FDI and the motivation underlying FDI

According to Solomon (2012), theories of FDI can be split into two groups: micro-level determinants of FDI and macro-level determinants of FDI. The micro-level theories of determinants of FDI try to provide answer the questions why multinational companies prefer opening subsidiaries in foreign countries rather than exporting or licensing their products, how MNCs choose their investment locations and why they invest where they do. The macro-level determinants deal with the host countries situations that determine the inflow of FDI. In this paper, the paper will identify the macro level of FDI in Ethiopia

2.1.1 Micro-level Theories of FDI

There are four types micro-level theories of FDI that tried to explain why multinational companies prefer to operate in foreign countries .These are neoclassical, product life cycle, internalization and eclectic theories of FDI. (Solomon, 2012)

2.1.1.1 The Early Neoclassical and Portfolio Investment Approaches

After World War II the neoclassical theory of portfolio was developed in the work of Iverson, (1936) to explain the motives of FDI flows. According to this theory the main driving forces of MNCs to operate abroad is interest rate differential because low interest rate increase returns to capital and cause capital to move from low returns to higher return

countries. However this theory is based on two conditions which exposed it to many critics. These conditions are no barrier to capital movement and risk and uncertainty. This theory is criticized for its unrealistic assumption because in reality capital moves not only in one direction. (Cited in Solomon, 2005)

2.1.1.2 The Product Life Cycle Theory of FDI

According to Dunning (1993) the other theory of FDI, product life cycle, was developed by Vernon in 1966. This theory argues that FDI is one stage of product life cycle which comes after maturity stage. Firms first produce for home market then export their products after maturity they begin to operate abroad where cost of production is low. However there also cases where MNCs start their business in home and abroad at the same time.

2.1.1.3 Internalization Theory of FDI

From the works of Buckley and Casson (1976), Casson (1983), and Rugman (1982) another theory of FDI, internalization theory, was also emerged. According to this theory when firms need input or intermediate goods from other supplier for their production they internalize the supplier in order to reduce transaction cost. This forces multinational companies to open a subsidiary in a foreign country instead of buying the input from other suppliers. (Cited in Hosseini, 2005)

2.1.1.4 The Eclectic Theory of FDI

A popular conceptualization of, and theoretical framework for, FDI determinants is the “eclectic paradigm” attributed to Dunning (1977, 1993). It provides a framework that groups micro- and macro-level determinants in order to analyze why and where multinational companies (MNCs) invest abroad. The Ownership, Localization and Internalization model of Dunning (1980) is the first theory to provide a more comprehensive analysis of the determinants of foreign direct investment and because of this; it is the most referenced one by authors writing on FDI. The principal hypothesis of the paradigm of international production by Dunning (1988, p.25) is that “firms become MNE or engage in production in a foreign country if and when three interrelated

conditions are satisfied; ownership, localization and internalization advantages .Dunning (1988, pp.21-27) defines the three advantages as follows

2.1.1.4.1 The ownership-specific advantages (of property rights/patents, expertise and other intangible assets) allow a firm to compete with others in the markets it serves regardless of the disadvantages of being foreign because it is able to have access to, and exploit and export natural resources and resource-based products that are available to it. These advantages may arise from the firm's ability to coordinate complementary activities such as manufacturing and distribution, and the ability to exploit differences between countries.

2.1.1.4.2 Location advantage unlike ownership advantages, location advantages are country specific advantages. Transnational Companies (TNCs) in order to fully reap the benefit of firm specific advantages, they should consider the location advantage of the host country. This includes accessibility and low cost of natural resource, adequate infrastructure, political and macroeconomic stability. As a consequence, the location advantage of the host country is one essential factor that determines the investment decision of TNCs.

2.1.1.4.3 Internalization advantages: if a firm has the ownership advantages mentioned above, it will be more beneficial to use them itself than lease or sell them to foreign firms; and this it does through an extension of its existing value added chains or adding new ones in foreign markets. In other words, internalization of transactions works through protecting against undesirable market failure (by avoiding trade costs such as costs of enforcing property rights, quotas, tariffs and price controls) and exploit government incentives that encourage MNEs.

Different MNEs might have different kinds of investment incentives. The motives for firms to engage in foreign production activities can be classified into four groups: market seeking, resource seeking, efficiency seeking and strategic asset seeking (Dunning, 1993)

Market seeking FDI: are FDI aimed at supplying local and regional markets. The host countries' situations that can affect these types of FDI are market size, per capita income and growth of market.

Resource seeking FDI: are types of FDI aimed at acquiring location specific resources like mineral, raw material, labor and agricultural products. Their purpose is to benefit from cheaper inputs in a particular location.

Efficiency seeking FDI: are FDI type in which MNC move to a place where labor is cheap in order to increase their cost efficiency, and with the aim of taking advantage of production scale of economics and diversifying risks.

Strategic asset seeking FDI: are FDI aimed at developing firm specific advantage that helps them to expand. Their purpose is not extraction of resources rather acquiring strategic asset that may or may not be tangible.

2.1.2 Macro-level Determinants of FDI

The macro-level determinants of FDI dealt with the host country's situations that affects the inflow of FDI, like market size, growth rate of the economic, GDP, infrastructure, natural resource, the political situation, availability of low labor cost and skilled manpower, inflation, exchange rate variability, foreign debt, fiscal deficit, geographical proximity, legal and regulatory framework, privatization, regional integration (access to regional markets), investment promotion strategy and incentive structure contract law, the socio-economic image, accessibility of investment fund, governance, human resource development, degree of openness, urbanization, coherent and stable macro & sector policies etc

2.2 Empirical Literature Review

Different studies have been conducted to establish the potential factors that would determine the inflow of FDI into a host developing country both in Africa and elsewhere in the developing worlds of Asia and South America. The factors which were identified as determinants of FDI greatly varied from study to study and from country to country (UNCTAD, 1998). Batra et al (2003) argue that the determinants of FDI to Africa are different from the determinants to the other parts of the world. Asiedu (2004) agrees with this argument and states that the lessons from East Asia and Latin America countries do not apply to African countries.

Empirical literatures on the determinant of developing countries, especially in Ethiopia and other Africa countries are summarized as follows:-

The study by Khachoo and Khan (2012) identified the main determinants of FDI inflows to developing countries , 32 developing countries were sampled and the data covered the period over 1982- 2008. Panel regression methods were used. The dependent variables were gross domestic product (Market size), total reserves, electric power consumption, wage rate and openness (export plus import divided by GDP). The result shows that large market size, more reserves, good infrastructures and less labor cost have positive impact on FDI inflow to developing countries. The positive relationship between GDP and FDI inflow shows that country with large market size can attract more FDI. More reserves have also positive impact on FDI inflow to host country. In addition to these, good infrastructures are also the determinant of FDI inflow. Moreover, low labor cost can also motivate MNC"s to invest in a country where there is low wage rate. However, has shown that openness do not have impact on FDI inflow which is contrary to theories and to some empirical studies.

Ghafoor et al.(2013) also investigated the factors affecting FDI in the developing country of Pakistan. The study found that gross capital formation, exports, gross national income, have significantly and positively affect Pakistan FDI inflows. Other than that, external debt also significantly affects Pakistan FDI inflows but its relation with FDI is negative. Imports of Pakistan are the final goods & its relationship with the FDI inflow in Pakistan is negative. It is significant affect on FDI in Pakistan. Due to the war conditions in Pakistan the military expenditures increases sharply which shows the foreign investors disinterest in Pakistan from last few years and our results also shows a significant and negative relationship between military expenditures and FDI inflow in Pakistan.

Sichei & Kinyondo (2012) using a sample of 45 African countries for the period 1980 to 2009 did a study on „Determinants of Foreign Direct Investment in Africa: A Panel Data analysis“. The model contains a set of independent variables namely Real GDP growth, openness (ratio of exports to GDP), national international policy coded as 1 and 0, natural resources using dummy variable coded 1 and 0, political governance measured by the

years of current president in power, and regional trade agreement block variables. The results of the study indicate that agglomeration effects were highly significant on FDI, the real GDP growth, trade openness natural resources availability; all have positive significant effect on the FDI. Additionally, bilateral investment treaties, and double taxation treaties, have significant and positive effect on FDI inflow. However, political governance has no strong effect on the choice of location for FDI inflow including whether the president is a military officer or not.

Anyanwu (2012) carried out a study on „Why Does Foreign Direct Investment Go Where It Goes? New Evidence From African Countries“, employing annual panel data for 53 African countries, covering the period 1996 to 2008. The independent variables in the model consist of urban population as a percentage of total population, GDP per capita (in US\$), openness index –total trade (% of GDP), financial development (domestic credit to the private sector as % of GDP), annual inflation rate, annual average official exchange rate to US\$, infrastructure (in fixed and mobile subscribers per 1000 people), human capital (gross secondary school enrollment), foreign aid (% of GDP), real GDP growth, lag 1 of FDI, corruption (control of corruption percentile rank 0 – 100), regulatory quality (percentile rank 0 – 100), rule of law (percentile rank 0-100), and net oil exports. The results show that market size (urban population share of total population), openness, foreign aid, natural resource endowment, all have significant effects on FDI inflows to Africa, while the real GDP per capita does not have significant effect on FDI, and financial development has negative effects on FDI flows to African countries.

The paper by Nasser and Gomez (2009), examines the direct relationship between FDI and the development of the stock market and banking system using the pooled data of 15 Latin American countries from 1978 to 2003. The paper finds that FDI is positively correlated with trading volume (TV), an important variable that reflects the development of the stock market. FDI is significantly and positively correlated with the level of private credit (PC) offered by the banking sector and that the effect of TV and PC is incremental over control variables such as inflation, openness of the economy to foreign trade, technology gap and infrastructure level

Study by Ang (2008) includes a wider coverage of FDI determinants with data spanning from 1960 to 2005. Among the variables tested are financial development, wage rates, income, and economic growth, government spending on infrastructure, openness, exchange rate, inflation rate, corporate tax and financial crisis 1997-1998. The findings suggest that all the factors are important determinants of FDI. Economic growth rate has the smallest effect on FDI while exchange rate has the biggest role in attracting more FDI. The study concludes that higher corporate tax rate and ringgit appreciation have dampen effects on FDI inflows. Surprisingly, the study shows that macroeconomic uncertainty promotes greater FDI. The possible explanation given to this is investors perceived that during macroeconomic uncertainty there is a greater potential for investment return

Gichamo(2012) investigated the determinants of inward foreign direct investment in Sub-Saharan Africa using the panel data from the period 1986 to 2010. The models used for the study were pooled ordinary least square method, fixed effect method and random effect method. Fourteen Sub-Saharan Africa countries were sampled for the study. Trade openness, gross domestic product, gross domestic product growth, gross domestic product per capita, telephone line (per 100 people), gross fixed capital formation, inflation and the lag of FDI are explanatory variables while the stock of FDI inflow is dependent variable. The study finding shows that trade openness, gross domestic product, inflation, and lag of FDI are the most significant determinants of foreign direct investment inflows to sub-Saharan Africa

Asiedu (2002) carried out a study on the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? Using panel data approach for three sub periods: 1988 to 1990, 1991 to 1993, and 1994 to 1997. The independent variables in the study were return on investment in the host country, infrastructure development (telephones per 1,000 population as a proxy for infrastructure development), openness of the host country (ratio of imports + exports) to GDP, Political risk, the ratio of liquid liabilities to GDP as a measure of financial depth, the ratio of government consumption to GDP as a measure of the size of government, the inflation rate as a measure of the overall economic stability of the country and the growth rate of GDP as a measure of the attractiveness of the host country market. The results show that openness, infrastructure

development and the return on investment cause changes in FDI inflow. The results equally show that the ratio of FDI to GDP increases with the degree of openness to international trade, infrastructure development and the return on investment. However, all the other economic variables and political risk were insignificant.

In conducting a study on the „Foreign direct investment, does it matter? A case of Zimbabwe, Sikwila (2015) employed annual time series data for the period 1980 to 2012 by the means of OLS estimation method. The variables employed in the study were output (real GDP), trade openness (as a ratio of exports plus imports to GDP), political stability, domestic Investment measured in terms of fixed capital formation, inflation (a proxy for macroeconomic stability), property rights, and indigenization, using dummy variables (1980 to 2000 = 0 when the policies did not exist and 2001 to 2012 = 1 when the policies exist). The results indicated that output, trade openness, political stability, domestic investment and inflation were significant and as such were exerting influences on FDI flows into Zimbabwe while property rights and indigenization were insignificant.

Brima (2015) carried out a study on the „Macroeconomic Determinants of Foreign Direct Investment in Sierra Leone: An Empirical Analysis“ using OLS estimation method for time series data covering the period 1990 to 2013. The variables used for the study were market size (proxied by host country’s GDP), openness (the host country’s ratio of imports + exports to GDP), exchange rate, inflation, money supply, government expenditure, natural resource availability (measured as a share of minerals, natural gas, forest, and oil in total exports), and political stability expressed as a dummy variable to capture the period of war (1991 to 2001 = 1 and 0 otherwise). The results show that the market size, openness, exchange rate, natural resource availability exert positive effects on FDI while inflation and money supply have negative influences on the FDI in Sierra Leone.

Mohapatra, (2014) conducted a study on the title “Foreign Direct Investment Inflows to Ethiopia during 1992 to 2012: An Empirical Analysis” using an econometric model to determine these potential determinants of equity inflows. He found that among the selected variables Trade, Imports, Exports, Trade Openness, Official Exchange Rate, Gross Capital Formation, Gross National Expenditure and Transport Services found to be

significant determinants of FDI inflows to Ethiopia during the period 1992 to 2012. However, GDP Growth, Cost of Starting Business, Gross Savings, Inflation, External Debt and GDP Per Capita found to be non-significant determinants of FDI.

Henok (2014) examined the determining factors of FDI inflow and potential factors that hinder it in Ethiopia. The researcher collected information from sample of foreign firms based in the capital Addis Ababa and the nearby cities, and public servants of Ethiopian Investment Agency (EIA). The empirical results derived from the study shows that domestic and regional market seeking, political and social stability and investment incentives were found as the main determinants of FDI. Whereas, exchange rate volatility, corruption, and lack of clear policies and regulatory impediments were identified as the three main factors that have the potential to deter foreign investment in Ethiopia.

Getinet and Hirut (2006), investigated the determinants of FDI by using time series analysis for the years between 1974 and 2001. This study provides an extensive account of the theoretical explanation of FDI as well as reviews the policy regimes, FDI regulatory framework and institutional set up in the country over the study period. It also attempts empirical analysis to find the determining factors of FDI in Ethiopia. The study focused on market size (Real GDP per capita and real GDP growth rate are included as a measure of market attractiveness), export orientation (export as a percentage of GDP), macroeconomic stability (rate of inflation based on consumer price index), infrastructure (gross fixed capital formation and number of telephones), Human capital (rate of adult illiteracy) and trade liberalization. There are four regression models the output shows that export orientation, growth rate of real growth domestic product and trade liberalization have positive impact on FDI flow of Ethiopia. However, macro - economic instability and poor infrastructure have negative impact on FDI of Ethiopia.

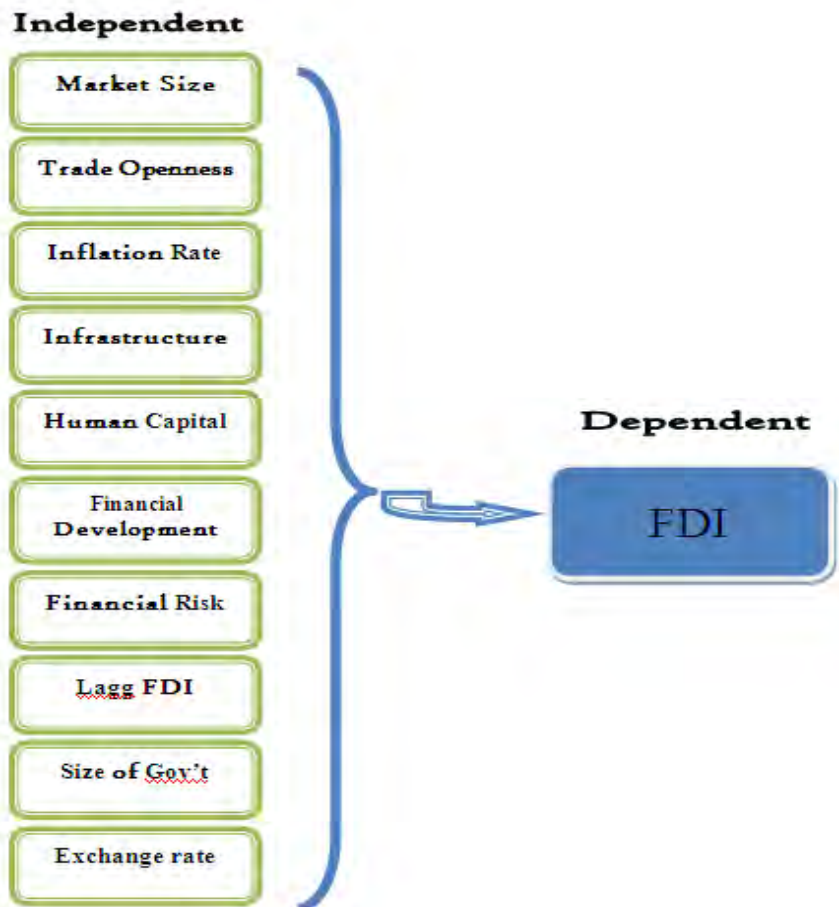
Applying multiple regression model, Amanuel (2014) empirically investigated the factors that affect FDI of Ethiopia during 1990-2011. The study found that trade openness and inflation rate is significant factors affecting Ethiopian FDI, while market size, infrastructure and human capital are found to be statistically insignificant factors for FDI of Ethiopia.

From empirical literature reviews, the researcher realize that the studies done in Ethiopia have not included financial institution level of development and financial risk as determinants of FDI even though these are important variables that may influence the inflow of FDI Ethiopia. Therefore, this paper provides some new evidence by including these relatively new variables there by filling the gap in the research.

2.3 Conceptual Framework

As a result of the literature and empirical reviewed above; the study has developed the following schematic representation of the conceptual framework.

Figure 2.3.1. Conceptual frame work of independent and dependent variables



Source: own construction (by taking the theoretical and empirical review)

CHAPTER-THREE

METHODOLOGIES OF THE STUDY

3.1 Research Strategies and Designs

Quantitative research strategy will be used for data collection and data analysis. The research design that the researcher will use for this research is Descriptive Survey Design which entails the collection of data on more than one case (usually quite a lot more than one) within the given study period.

3.2. Data Type and Sources

To investigate the determinant of foreign direct investments (FDI) inflows in Ethiopia, annual data over the period of 1991-2014, which is the period for which data are available, have been used. This study used quantitative data type and secondary data sources. These data compiled from various sources mainly from World Bank (WB), African development indicators (ADI), United Nations Conference on Trade and development (UNCTAD), IMF, National Bank of Ethiopia, and MoFED.

3.3 The Model

In this study, Ordinary Least Squares (OLS) estimation method was employed. Based on the empirical and theoretical frameworks, the most relevant factors of FDI inflows in Ethiopia are incorporated in this model. This study used the latest E-views version 9.1 statistical package software.

The FDI model that will be used is given as below:

$$FDI = f(DCr., EXDt, GCF, GDP, EXPO, INF,)..... (1)$$

Where,

FDI = the net FDI inflows as % of GDP,

DCr. = domestic credit to the private sector (percentage of GDP) (measure of financial development)

EXDt. = External debit (as percentage of GDP) (measure of financial risk)

EXPO = Ratio of export to GDP (measure of openness)

GCF = Gross capital formation (percentage of GDP) (measure of infrastructure)

GDP= Real GDP growth rate (measure of market size)

INF = Annual rate of inflation based on consumer price index (measure of inflation)

The relation between the dependent and explanatory variable in equation (1) can be rewritten explicitly in the following log (L) linear form to reduce the skewness in data distribution and allowing the coefficient estimates to be interpreted as elasticity

$$L FDI_t = \beta_0 + \beta_1 LDCr_t + \beta_2 LEXPO_t + \beta_3 EXDt_t + \beta_4 LGCF_t + \beta_5 LGDP_t + \beta_6 LINF_t \quad (2)$$

The coefficients $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are the parameters of the econometric model, and they describe the directions and strengths of the relationship between FDI and the factors used to determine in the model (called Explanatory Variables) and β_0 is error term.

3.4 Description of Variables

Though many variables have been proposed by literatures as determinants of FDI it is not possible to include all of them. Due to this fact I chose few of them depending on previous studies specific to a country, the strength of the variable, availability of data and fitness to a specific model.

For instance, since exchange rate is highly correlated with the remaining independent variables, I exclude this variable from here onwards to avoid the multicollinearity problem. Also, in the analysis below, among the two proxies for market size, GDP and GDP growth rate, I use only GDP growth rate to measure the dependent variable, market size.

Generally, the following variables are selected and included in the model which may influence the inflow of FDI in Ethiopia.

3.4 .1 Dependant Variable

FDI: The World Bank World Development Indicators (2012) defined Foreign Direct Investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. In line with the approach used in the FDI literature, the dependent variable used in this study FDI is measured as the net foreign direct investment inflows as a percentage of GDP.

3.4.2 Independent Variables

3.4.2.1 Market Growth rate: GDP Growth Rate

Market size is a fundamental determinant of FDI. The wealth and development of a country can be used as proxy to measure the size of the domestic market. It is believed to be one of the significance determinants that have been used in empirical studies to explicate the inflow of FDI to a host country. Because if the host countries have large market size it will have investment opportunities that will in turn to generate high profit for the foreign firms. Many studies have used real Gross Domestic Product (GDP) growth rate as an indicator of the “size” of an economy. This study follows them and uses this variable as an indicator for market size, and expects to have a positive impact on inward FDI

3.4.2.2 Trade Openness:

Trade openness, meaning the degree of liberalization of trade regime of the host country, is regarded as a very important factor that promotes FDI. Open economies mean greater market opportunities. From the perspective of financial development, trade openness means the ability of an economy to obtain funds from other economies, and willingness to invest its surplus fund to other countries. Trade openness is considered to be a significant FDI determinant in many literatures. Much FDI is export oriented Trade openness promotes FDI and it is measured as the ratio of export to GDP. FDI is expected to has positive relationship

3.4.2.3 Inflation rate:

As it is defined in world development indicator (World Bank, 2014) the calculation of inflation is measured by the consumer price index which indicates the annual percentage change of the average consumer cost in acquiring a basket of goods and services over the interval time. Inflation rate is one of the variables which measures the given countries macro-economic stability. According to Solomon (2008), through its effect on the cost of inputs and the price of outputs, inflation reduces the real return on investment and firms' competitiveness. Hence, countries that pursue policies that reduce inflation rate have better chance in attracting FDI. Low and predictable inflation rate is central for the long-term investment of both domestic and foreign companies. Therefore, higher and unpredictable inflation will decrease the inflow of FDI (Solomon, 2008). Low inflation rates are expected to have a positive impact on FDI.

3.4.2.4 Infrastructure

Infrastructure covers many dimensions ranging from roads, ports, railways and telecommunication systems to the level of institutional development (Getinet and Hirut 2006). The availability of well-developed infrastructure will reduce the cost of doing business for foreign investors and enable them to maximize the rate of return on investment (Morriset, 2001). Therefore countries with good infrastructures are expected to

attract more FDI. Gross fixed capital formation (percent of GDP) has been included to proxy infrastructure development. FDI is expected to have positive relationship with infrastructure of the host countries.

3.4.2.5 Financial Institutions' Level of Development:-

The ratio of domestic credit provided by the banking sector to GDP (DCr.) is a measure of the development and growth of the banking system because it reflects the extent to which savings are financial (Nasser and Gomez (2009) note (as cited in Anyanwu, 2011). It includes all credit to various sectors on a gross basis, with the exception of credit to the central government, which is net. Because the banking system represents the financial intermediaries, the growth of the banking system, reflects the level of development of financial intermediaries, and is an indicator of financial depth.

Financial development is used to measure financial depth of a country. A more developed financial system allows an economy to exploit the benefits of foreign direct investment more efficiently (Ang, 2009). Therefore, advancement in financial market system will attract more foreign investments. On the other hand, some studies also emphasize on the importance of large market size for efficient utilization of resources and exploitation of economies of scale. Therefore, the study expects Dcr. to have positive impact on inward FDI to Ethiopia.

3.4.2.6 Financial risk

A country's financial risk refers to the ability of an economy to generate enough foreign exchange to meet payments of interest and principal on its foreign debt. The variables most frequently used by international financial institutions and financial analysts in assessing cross-border financial risk include those variables that give information on a country's foreign debt and interest payments. The ratio of external debt as a percentage of GDP can be interpreted as of an economy's financial risk.

Table 3.1 Summary of Expected sign of Variables used in regression

Variables	Abbreviation	Descriptions	Expected signs
Foreign Direct investment	FDI	Inward foreign direct investment stock (% of GDP)	
Market size	GDP	Real GDP growth rate	+
Trade openness	EXPO	Ratio of export to GDP	+
Inflation rate	INF	Average annual inflation rate	-
Infrastructure	GCF	Gross capital formation to GDP	+
Financial institution development	DCr.	Domestic credit to the private sector as a percentage of GDP	+ /-
Country's financial risk	EXDT	External debit as a percentage to GDP	-/+

3.5 Estimation Techniques

To examine the relationship between different economic variables and FDI inflow, the present study has employed ADF technique to check the stationary level of the variables. To find out long run co-integration between dependent and independent variables, Autoregressive Distributive Lag (ARDL) approach to co-integration has been used.

3.5.1 Unit Root Test

When dealing with time series data, it is necessary to assess whether the series is stationary or not. The reason behind is that regression of a non-stationary series on another non-stationary series lead to what is known as spurious regression. Furthermore, statistical tests of the parameters resulting from such regression may be biased and inconsistent. The standard approach to investigate the stationary of a time series is through unit root tests.

Several tests are available but the most commonly used are the Augmented Dickey-Fuller (ADF) and Philip and Peron (PP) tests.

Time series data for most developing countries such as the Ethiopia are non-stationary. Estimation within such an environment not only violates most classical econometric assumptions, but also renders policy making from such econometric results less accurate. Therefore, before making any econometric estimation, it is necessary to conduct a unit root test to check the stationary of variables in the model.

To examine the relationship between different economic variables and FDI inflow, the present study has employed ADF technique developed by Dickey and Fuller (1979) to check the stationary level of the variables

3.5.2. Long Run Relationship: Co integration

When variables are found to be non-stationary at level, one option in order to get the short run dynamic is to estimate by differencing variables if their differences are stationary. However, this method will result in a considerable loss of long run properties of the data. Alternatively, economic variables may be combined together in levels provided that they are co-integrated. The issue of co integration applies when two series are $I(1)$, but a linear combination of them is $I(0)$; in this case, the regression of one on the other is not spurious, but instead tells us something about the long-run relationship between them (Wooldridge 2004). Non-stationary economic series are said to be co integrated if they can be transformed into a single series that exhibit stationary (Engle and Granger 1987)

Over the past few decades, considerable attentions have been paid in empirical economics towards testing the existence of long run relationship among economic variables, particularly using co-integration techniques. A number of methods to test for co integration have been analyzed in the econometric literature among which is the Engle-Granger test ,maximum likelihood based Johansen(1988,1991) and Jahansen Juselius (1990) test are the most widely used methods to investigate the cointegration (long run equilibrium relationship) among the variables.

All of these approaches of testing long run relationships, however, are not free from drawbacks. For instance, the Engle-Granger test, maximum likelihood based Johansen (1988,1991) and Johansen Juselius (1990) test require all the variables included in the model must be stationary at first difference (I(1)) or at second difference (I(2)) as well as the model containing the small samples are estimated with implausible results. In this paper, the researcher has used an autoregressive distributed lag (ARDL) bound testing approach attributed to Pesaran (2001) in order to test the existence of long run relationship between the dependent variable, FDI and the set of regressors,. This approach is chosen because it has got some superior advantages over the previously mentioned methods. Firstly, as the name suggests, this approach allows both the dependent and independent variables to enter the model with lags, thereby allowing the past values of variables to determine its present values. This flexibility in terms of the structure of lags of the regressors is particularly plausible because reactions to a change in each variable may be different depending on various factors and in some cases they may respond to the changes in underlying factors with a lag; thus there is usually no reason to assume that all regressors should have the same lags as suggested by the co-integration VAR models, where different lags for different variables are not permitted (Pesaran et al., 2001).

Secondly, this method is applicable irrespective of whether the regressor are I(1), I(0) or mutually co-integrated, which implies that there is no need to have prior testing of the order of integration of the variables, unlike the other approaches. Besides, endogeneity and serial correlation problems, that exists in many empirical studies, and inability to test hypothesis on the estimated coefficients in the long run associated with Engle and Granger (1987) method is avoided (Pesaran and Shin, 1999). Apart from this, the long run and short run parameters of the model under consideration are determined simultaneously.

ARDL approach has also additional advantage of yielding consistent and unbiased estimates of the long run coefficients that are asymptotically normal irrespective of whether the underlying regressors are I (1) or I (0) (Pesaran and Shin, 1999; Pesaran et al., 2001). In line with this, A RDL based estimators of the long run coefficients are super consistent and valid inferences can be made using standard normal asymptotic theory (Pesaran and Shin, 1999). This method is also relatively more efficient in the case of small

and finite sample size. Another advantage of ARDL model is that it can distinguish between dependent and independent variables and thus allows testing for the existence of the long run relationship between the variables.

Considering above advantage of ARDL approaches to co integration, the ARDL representation of the equation (1) was formulated in such general form as follows to test the long run cointegration between FDI and selected variables. :

$$\begin{aligned} \Delta LFDI_t = & \beta_0 + \sum_{i=1}^j \rho_1 \Delta LFDI_{t-1} + \sum_{i=1}^j \rho_2 \Delta LDCr_{t-1} + \sum_{i=1}^j \rho_3 \Delta LEXPO_{t-1} + \\ & \sum_{i=1}^j \rho_4 \Delta LEXDT_{t-1} + \sum_{i=1}^j \rho_5 \Delta LGCF_{t-1} + \sum_{i=1}^j \rho_6 \Delta LGDP_{t-1} + \\ & \sum_{i=1}^j \rho_7 \Delta LINF_{t-1} + \beta_1 LFDI_{t-1} + \beta_2 LDCr_{t-1} + \beta_3 LEXPO_{t-1} + \beta_4 LEXDT_{t-1} + \\ & \beta_5 LGCF_{t-1} + \beta_6 LGDP_{t-1} + \beta_7 LINF_{t-1} \quad (3) \end{aligned}$$

Where $\rho_1, \rho_2, \rho_3, \rho_4, \rho_5, \rho_6$ and ρ_7 characterizes the coefficients of the short run dynamics of the model whereas $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ and β_7 coefficients show the long run relationship. To test the significance of lagged levels of the variables in this study, the appropriate test statistics is the familiar F or Wald test under the generalized Dickey-Fuller types of regressions in an unrestricted error correction regression.

The null hypothesis for test of long run co integration is stated as follows:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0 \text{ against}$$

$$H_1: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 \neq 0$$

The null hypothesis indicates to non existence of long-run relationship while the alternative indicates to existence of long-run relationship. The calculated F-statistics value is compared with two sets of critical values given by Narayan (2004) or Pesaran et al (2001) for the given level of significance, for small samples size from 30-80. One set assumes that all the variables are I(0) referred to as lower bound and other set assumes that they are all I(1) referred to as upper bound. If the calculated F-statistics exceeds the upper critical value, then null hypothesis of no co-integration would be rejected irrespectively of whether the variable is I (0) or I (1) which implies that there exists the co-integration. If

the F-statistic lies below the lower critical bounds values, then null hypothesis of no co-integration cannot be rejected irrespectively of whether the variable is I(0) or I(1), it means no co-integration. If the F-statistic falls into the critical bounds, the test becomes inconclusive. At this stage of estimation process, the researchers may have to carry out the unit root tests on variables entered into the model (Pesaran and Pesaran 1993).

To check the performance as well as the true dynamics of the estimated model, I used Akaike Information Criteria (AIC) because of its advantage for small sample size for an optimal lag length of variables

CHAPTER FOUR

4. RESULTS AND DISCUSS

4.1 Unit root test

Before finding the co-integration between the variables, first I sure all variables are integrated at I (0) and I (1) and no variable is integrated at I (2) level. ARDL co-integration approach is based on the assumption that no variable is integrated at I(2) level. Therefore, to avoid spurious results it is necessary to check that all variables are integrated at I(0) and I(1). The results of ADF in table 1 indicate that LFDI, LDCr, LEDT, LEXPO and LGCF and LINf are integrated at I (1) and LGDP and LINf is integrated at I(0). Result shows that all variables are integrated at I (o) and I (1) and no variable is integrated at I (2). As a result, Autoregressive Distributed Lag approach to Cointegration is the right technique to apply in this scenario.

Table 4.1 ADF Unit root test

Variables	ADF test		
	With intercept but no trend Prob. (At level)	with intercept but no trend Prob.(At 1st difference)	Order of integrati on
LFDI	0.8783	0.0025*	I(1)
LDCr.	0.1022	0.0076 *	I(1)
LEDT	0.8173	0.0032 *	I(1)
LEXPO	0.0559	0.0083 *	I(1)
LGCF	0.9621	0.0000 *	I(1)
LGDP	0.0068 *	0.0000 *	I(0)
LINF	0.0414 **	0.0001 *	I(0)

Source: E-views 9.1 output

*, ** & *** statistically significant at the 1%, 5% & 10% of level significance respectively.

4.2 Co-integration test

Given the unit-root properties of the variables, I proceed to estimate whether there is a long-run cointegration relationship between FDI and the selected variables by using Autoregressive Distributed Lag Approach (ARDL) approach to cointegration.

In the ARDL approach to Cointegration, the first step is to test the presence of cointegration or long run relationship among the variables. This test for the long run relationship is done using the F-statistic. The maximum order of lags in the ARDL model is $n=1$ due to the annual time series data and small number of observations utilized in the study. The calculated F-statistics for cointegration test is shown in Table 4.2 for equation (1) that includes all the variables. The F-test has a non-standard distribution. The critical value bounds for F-test are computed by Pesaran et al (1997).

Table 4. 2 ARDL Bounds Test

Included observations: 22

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	0.514356	6
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

As it can be seen clearly in the co-integration test result table 4.2, the calculated F statistics (0.514356) is lower than the Pesaran's lower bound in all (1%, 2.5%, 5% and 10) significant level. This implies that the null hypothesis of no cointegration cannot be rejected and therefore it suggests that there is no evidence of cointegration among the variables in equation (1). This is not surprising as Ang (2008) also faced the similar problem when some of the variables turn out to be insignificant when in a model that

includes all the variables. Shafiun Nahin Shimul (2009) applying ARDL approach also concluded no cointegration between foreign direct investment and economic growth in Bangladesh during 1973 to 2007. In Ethiopia, Getnet and Hirut (2006) also found that no cointegration between FDI and its determinants such as economic growth, export orientation, inflation, and gross capital formation.

Since there is no cointegration between FDI and selected explanatory variables, the second step in the ARDL approach which is the estimation of long run relationship and its third step (i.e. estimation of an error correction model) are not required.

The stationary and co-integration tests I have conducted suggest that model (2) should be estimated using the differenced of non-stationary variables which help to avoid or minimize inflated R2 due to autocorrelation arising from non-stationary series. The final short run model estimated therefore has the following form.

$$\Delta L FDI_t = \beta_0 + \beta_1 \Delta LDCr_t + \beta_2 \Delta LEXPO_t + \beta_3 \Delta EXDT_t + \beta_4 \Delta LGCF_t + \beta_5 GDP_t + \beta_6 INF_t \quad (4)$$

4.3 Descriptive Analysis

Descriptive analysis is the first step in this research. It helped to describe relevant aspects of phenomena of foreign direct investment and provide detailed information about each relevant variable. E-Views software has been used for analysis of the different variables in this study. Descriptive statistics shows the mean and standard deviation of the different variables used in the study. It also presents the minimum and maximum values of the variables, which help in getting a picture about the maximum and minimum values of a variable.

A national data is collected on the targeted dependent and independent variables that covered for the period of 1992-2014. The descriptive summary of these variables" which includes the mean, std. dev., min/max values of these variables for that period is shown as follows..

	FDI	DCR	EXDT	EXPO	GCF	GDP	INF
Mean	3.01814	18.2127	63.97708	11.77043	25.5383	7.09687	10.06648
Median	1.997	19.35	66.77	12.12	26.53	8.84	7.7
Maximum	13.9	38.8	148.3	17	40	13.363	36.4
Minimum	0.002	2.71828	6.094101	3.25	11.76	-8.907	-10.6
Std. Dev.	3.70413	8.83975	46.13612	3.133145	7.50907	5.879747	11.39969
Skewness	1.95567	0.1369	0.311685	-1.0321	0.05999	-1.223283	0.66744
Kurtosis	6.18401	3.10098	1.799699	3.994053	2.15515	3.795204	3.295292
Jarque-Bera	24.3766	0.08161	1.753091	5.030372	0.69783	6.342285	1.791221
Probability	5E-06	0.96002	0.416218	0.080848	0.70545	0.041956	0.408358
Sum	69.4173	418.893	1471.473	270.72	587.38	163.228	231.529
Sum Sq. Dev.	301.853	1719.11	46827.92	215.9651	1240.5	760.5713	2858.967
Observations	23	23	23	23	23	23	23

Source: Author's Computation using EViews software (2009)

As shown in table 4.2.1 above, the study had 23 observations from 1992 to 2014 .One dependent variable FDI and five independent variables (Domestic credit, External Debt, Export to GDP, Gross capital formation, GDP Growth rate, and Inflation). The annual inflow of FDI (as a percentage of GDP) ranges between 0.002 and \$13.9 indicating the minimum and the maximum inflows, in 1992 and 2014 respectively. The average inflow of FDI (as a percentage) is 3.01814 and each observation is deviated from this average by the value of 3.70413. The Domestic credit to the private sector as a percentage of GDP ranges between 2.71828 and 38.8. The average domestic credit 18.2127 and each observation deviated from this average by the value of 8.83975. The External debit as a percentage to GDP ranges between 6.094101 and 148.3 The average external debit (as a percentage of GDP) is 63.97708 and each observation is deviated from this average by the value 46.13612 .Trade openness (proxy by export to GDP) ranges between 3.25 and 17. . The average trade openness (as a percentage of GDP) is 11.77043 and each observation is deviated from this average by the value 3.133145. The mean value Gross capital formation (GCF) as a percentage of GDP)) is 25.5383 and it has 11.76 a minimum and 40.00 maximum value. The standard deviation of this variable is 7.50907 which indicate each observation deviated from the average value by the value of 7.50907. The Real GDP

growth rate has a minimum value of -8.907 and a maximum value of 13.363. The mean value of GDP growth rate 7.09687 and each observation is deviated from this mean value by 5.879747. The annual inflation rate under the study period ranges between -10.6 and 36.4 indicating the minimum and the maximum inflows. The inflation rate has the mean value of 10.06648 and each observation is deviated from the average value by 11.39969.

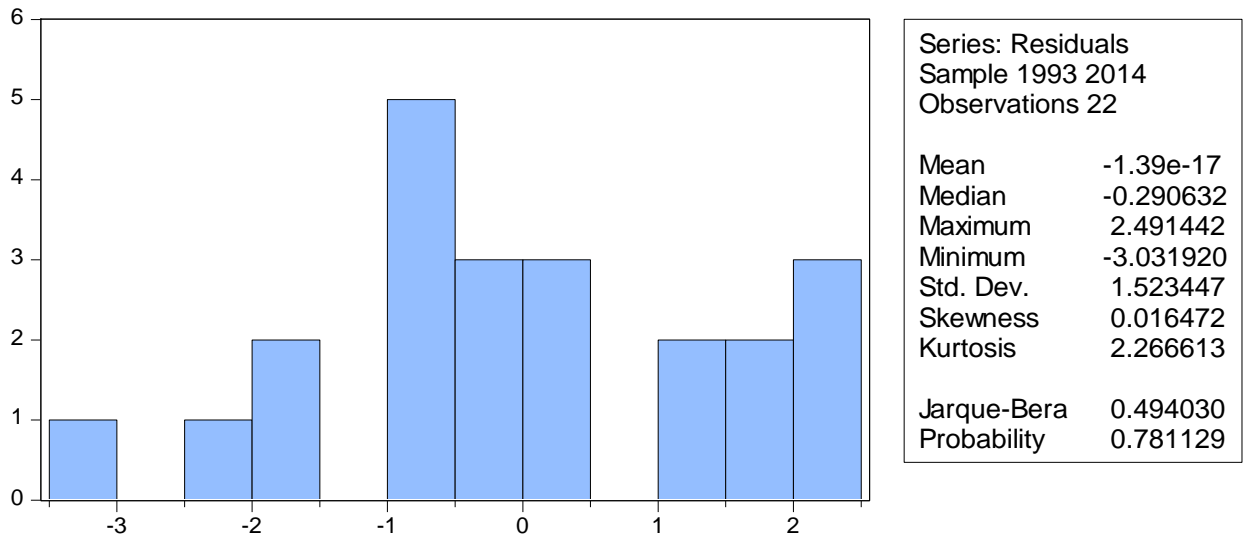
4.4 Diagnostics Test

To ascertain the goodness of fit of the estimated model, the diagnostic test was conducted. Diagnostic test suggests that the model passes the test of serial correlation, non-normality of the errors and heteroscedasticity associated with the model.

4.4.1 Test for Normality

In order to undertake OLS regression, the residuals must be identically (when the residuals have the same distribution) and independently (the value of the error associated with one observation provides no information about the value of the error of any other observation) distributed. Normality is not required in order to obtain unbiased estimates of the regression coefficients; rather to assured that the p-values for the t-tests and F-test will be valid so that a valid hypothesis testing will be conducted.

The test of normal distribution can be done either numerically with the help of Skewnes /Kurtosis tests for Normality or graphically with the help of histogram and dot plot tests. The decision rule behind the Skewnes/Kurtosis tests for Normality states that if the p-value of the error term is greater than at the chosen level of significances, i.e., 1%, or 5 %, or 10 % indicates that, the error terms are normally distributed. Graphically, the closer they cleave to straight diagonal line, the more normal the distribution is said to be. As shown below from the normality test output of regression, the result of Skewnes /Kurtosis tests for normality the residuals, the p-value (0.781129) is much greater than 0.05. As a result we conclude that the error terms of the specified models are found to be normally distributed.



TTABLE 2. Normality

4.4.2 Test for Multi Colinearity

The other assumption of the OLS is that there is no multicollinearity among the regressors included in the regression model. The term multicollinearity indicates that more than two variables are near perfect linear combinations of one another. The effect of multicollinearity is that in regressing model estimates of the coefficients of the regressors become unstable and the standard errors for the coefficients can get wildly inflated (Gujarati, 2004).

MULTICOLLINARITY TEST

	LDCR	LEXPO	LGCF	LDP	LINF
LDCR	1				
LEXPO	0.6332734	1			
LGCF	0.20341603	0.594396736	1		
LDP	0.09839324	0.341229143	0.513059791	1	
LINF	0.18143887	-0.08279536	0.334833951	0.14119427	1

To test the existence or not-existence of multicollinearity problem, The simplest multicollinearity test is conducted by testing the correlation coefficient between the independent variables. As a rule (rule of thumb), if the correlation coefficient is above 0.75, we should suspect of multicollinearity problems among independent variables (Gujarati, 2004). The result of multicollinearity test shows that, the maximal absolute correlation value among independent variables is 0. 0.6332734 Which exists between LEXPO and LCDR variable. Since the maximal absolute correlation value is below the rule of thumb (in this study, it is assumed to be 0.75), we may conclude that there is no multicollinearity among independent variables.

4.4.3 Test for Heteroscedasticity

The other important assumption for the OLS regression is the homogeneity of variance of the residuals. If the model is well-fitted, there should be no pattern to the residuals plotted against the fitted values. If the variance of the residuals is non-constant then the error variance is said to be heteroscedastic. It is possible to use the visual inspection through graphical method such as plotting the residuals versus fitted (predicted) values; and/or numeric computational methods such as Cameron & Trivedi's decomposition of IM-test and Breusch-Pagan / Cook-Weisberg test for detecting heteroscedasticity. This study carries out Breusch-Pagan test for heteroscedasticity. The decision rule for Breusch-Pagan/Cook-Weisberg test for heteroscedasticity states that, if the p-value of the Breusch-Pagan test is lower than any of the chosen significance levels, i.e., 1%, 5% and 10% it indicates possible problem of heteroscedasticity; whereas if the p-value of the Breusch-Pagan test is greater than any of the chosen significance levels, i.e., 1%, 5% and 10% indicate no possible problem of heteroscedasticity.)

TABLE 4- Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	2.359197	Prob. F(6,15)	0.0832
Obs*R-squared	10.68126	Prob. Chi-Square(6)	0.0987
Scaled explained SS	3.144659	Prob. Chi-Square(6)	0.7905

Taking the decision rules of Breush-Pagan/Cook-Weisberg test of IM-test for heteroscedasticity stated above in to consideration, all the p-values (i.e. the values under prob>chi2) tests are greater than the three critical values (1%, 5% and 10%). Taking this input the study concludes that the residual has no problem of heteroscedasticity.

4.4.4 Test for Auto-Correlation

In using the OLS model, the other most important assumption need to be tested is that, the residuals associated with one observation are not correlated with the residuals of any other observation (Ho: there is no serial correlation and H1: there is serial correlation). Autocorrelation test is conducted by applying Durbin-Watson Test (d-statistics) and Breusch-Godfrey Serial Correlation LM Test. DW 2.07 from regression output indicates that the absence autocorrelation.

4.5 Regression Result

The regression output of the model is shown in table 4.3. The result reveals that the growth of real GDP (a proxy of market size) has significant at 5% level of significance and negative relationship with FDI in Ethiopia unlike most empirical evidences. This suggests that raising the productivity of a country has a negative impact on FDI. The result reveals that a 1 percent increases in GDP causes the inflow of change in FDI to decrease 0.13 percent given other things constant. The finding of market size is inconsistent with the

existing many literature and different past studies finding. This might be also because of using only 23 years data for this study might not be sufficient. However, it is consistent with the of Mitku(2013) and Amanuel(2014)

A possible explanation behind negative elasticity of market size is that when the economy grows, domestic saving increases. This narrows the saving-investment gap hence less FDI inflows to the country, Ethiopia.

Infrastructure development has the expected sign. However, it has been insignificant possibly because it takes time for capital formation to take place and would cause the FDI not to flow into the Ethiopia in the short run. This result is consistent with the results of other studies by Aseidu (2001), Gichamo (2012), Mitku (2013), and Amanuel (2014). Ethiopia is being one of the developing countries lacks proper infrastructure. As the current study reveals, any slight improvement in the level of infrastructure acts as an attention-grabber for foreign investors.

Another finding from the estimation is that **inflation** rate of the host country is negatively related to FDI as expected .However; it has an insignificant effect on FDI in Ethiopia. .The result has been consistent with the findings established by Mitku (2013). Similarly, the result shows that external debt as a percentage of GDP has an insignificant effect on FDI in Ethiopia but it has the correct negative sign.

Openness has been found significant at 10 % level of significance and carries the correct sign. Given other things constant, a one percent increase change in trade openness of the host country causes change in FDI inflows to decrease approximately 0.53 percent. The significance of trade openness to FDI in the is consistent with studies conducted by Sichei & Kinyondo (2012), Anyanwu (2011), & Aseidu (2001), Gichamo (2012), Amanuel (2014), and Brima (2015).

The short run dynamic model regression result is given in table 4. 3 as follows.

Dependent Variable: D(LFDI)

Method: Least Squares

Date: 12/04/15 Time: 23:16

Sample (adjusted): 1993 2014

Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.138203	0.648439	-0.213131	0.8341
D(LDCR)	-0.272497	0.050424	-5.404080	0.0001
D(LEDY)	-0.025985	0.022385	-1.160835	0.2639
D(LEXPO)	0.529365	0.306280	1.758372	0.0904
D(LGCF)	0.165421	0.140293	1.179108	0.2567
LGDP	-0.133638	0.060760	-2.199456	0.0439
LINF	-0.028825	0.040691	-0.708386	0.4896
R-squared	0.672441	Mean dependent var		0.631727
Adjusted R-squared	0.541417	S.D. dependent var		2.661843
S.E. of regression	1.802567	Akaike info criterion		4.269672
Sum squared resid	48.73872	Schwarz criterion		4.616822
Log likelihood	-39.96639	Hannan-Quinn criter.		4.351450
F-statistic	5.132203	Durbin-Watson stat		2.073439
Prob(F-statistic)	0.004737			

Source: EView9.1 software

Financial sector development (FSD) as a percentage of GDP is statistically very significant with negative sign. This implies that financial development has negative role in encouraging foreign direct investment of the country. A one percent increase change in the level of financial sector development causes a 0.27 % decrease change in FDI inflows in Ethiopia assuming other variables are constant. This means the availability of financial facilities in the country may provide local investors with the required capital necessary for investment and may deter foreign investors from carrying out investment in the country.

This finding is consistent with the studies carried out by Anyanwu (2011, 2012), Anyanwu & Erhijakpor (2004) and Nasser & Gomez (2009). However, the result has been inconsistent with the results established by Sharhudin et al (2010).

The adjusted R- squared is 0. 541417, implying that 54% of the variation in the determinant of foreign direct investment is explained by the independent variables, which is an indication of a good fit. In comparison to the R square, the adjusted R square is better and more precise good fit measure because it allows degree of freedom to sum of squares therefore even after addition of new independent variable(s) the residual variance does not change. The Durbin Watson statistic indicates the absence of autocorrelation.

The overall equation is statistically significant as shown by the probability value of the F-statistic (0. 0.004737)

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RESEARCH RECOMENDATION

5.1 Summary and Conclusion

This study empirically investigates the possible factors that determine the inflow of Foreign Direct Investment in Ethiopia during 1991-2014 by using OLS Method. Based on review of previous researches, six variables have been identified that generally determine the FDI inflows. They are GDP growth, trade openness, domestic credit, infrastructure, inflation, and external debt. My empirical analysis reveals that domestic credit and GDP growth negatively influences FDI inflows in Ethiopia and these variables statically significant at 1% and 5% level respectively. Trade openness has also found positively influences FDI inflows in Ethiopia and significant at 10% level of significance. Since openness of the economy is significant, government should make further efforts to strengthen the implementation of it reform agenda which has the potential to attract more FDI into Ethiopia. This is true because, the inflow of FDI has been on the increase because of the increase in exportation since the introduction of certain reform measures by the government which have further encouraged and boost foreign investment in various sectors of the economy. The other variables such as infrastructure development, inflation, and external debit have insignificant effect of FDI inflow into Ethiopia .This demonstrates that these variables have not been that much important factors in attracting FDI in Ethiopia

The other objectives of this paper is to test the existence of long term relationship between the FDI and the six explanatory variable using an Autoregressive Distributed Lag Model (ARDLM) approach to co-integration on time series data of Ethiopia from 1992-2012. The result shows that there is no cointegration between FDI and the six selected variables. The finding is consistent with Getnet and Hirut (2006) but inconsistent with Mitku(2013).

Finally, it can be concluded that the results of this study can be a guideline and provide insight to policymakers such as government and national bank of Ethiopia in determining the ways to attract more foreign direct investment inflow to Ethiopia.

5.2 Recommendation

5.2.1. For the Government

The policy recommendation goes to the issue of trade liberalization and market size. As the finding and conclusion of the study indicates the effect of openness measured by the exports as a ratio of GDP is positive and significant. As such more than anything the government should develop and introduce policies that increase the level of trade openness since it has a power in attracting FDI. However, the effect of market size measured by real GDP growth rate found in the analysis indicates that it does have a negative effect in attracting FDI. As such the government should also look to the systems to reap the benefit of real GDP growth rate in attracting FDI as well.

5.2.2 .For the Researchers

For next researchers who are interested in further studying it is highly recommended that they should increase the sample size to more than 30 observations. Researchers may use monthly, quarterly or semiannual data instead of using annual data. This is because the bigger the sample size, the lower the probability of having multicollinearity, heteroscedasticity and autocorrelation problems. This will prevents the needs to split the model but run it as a whole instead. Hypotheses testing will provides researchers with better results in detecting these problems.

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