THE IMPACTS OF TAX INCENTIVES IN ATTRACTING FOREIGN DIRECT INVESTEMENT IN ETHIOPIA

BY
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ID. GSE/1472/05

A thesis submitted to:
The Department of Accounting and Finance
College of Business and Economics
Presented in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance

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School of Graduate Studies

This is to certify that the thesis prepared by Samuel kassahun, entitled: The impacts of tax incentives in attracting FDI 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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Chair of Department or Graduate Program Coordinator

Statement of Declaration

I, Samuel Kassahun Tadesse, have carried out independently a research work on "The impacts of Tax incentives in attracting FDI in Ethiopia" in partial fulfillment of the requirement of the M.Sc. program in Accounting and Finance with the guidance and support of the research advisor.

This study is my own work that has not been submitted for any degree or diploma program in this or any other institution.

Samuel Kassahun

June, 2015

Abstract

The impacts of tax incentives in attracting FDI in Ethiopia
Samuel Kassahun
Addis Ababa University, 2015

This study examines the impacts of tax incentives in attracting FDI in Ethiopia from 1992 to 2013. The purpose of this research is to examine the inconsistent empirical evidence on the use of tax incentives in attracting FDI. The study adopts a mixed methods research where primary data is collected using unstructured interview with ERCA and MoFED officials in addition to this secondary data is also collected from various sources such as ERCA, MoFED, EIA, World Bank, Freedom House. Based on the time series analysis, the study found that, corporate tax rate has a negative and significant impacts on FDI (in aggregate) in Ethiopia while from the control variable inflation has a negative and significant impact on FDI (in aggregate) but GDP growth rate, political stability and trade openness found to be insignificant in attracting FDI in Ethiopia. Based on the random effect model, the study found that, tax holiday has positive and significant impacts on FDI (at sector level) but customs duties founds to be insignificant. The control variables, FDI lag and exchange rate have also a significant and positive impact on FDI at sector level but transport service and reserve as a percentage of GDP founds to be insignificant factors in attracting FDI at sector level in Ethiopia. The trends of marginal effective tax rate of Ethiopia also shows that, the country is ranked 90^{th} from 90 selected countries in the word with METR of -3.5. Hence the study suggests reducing the corporate tax rate and giving tax holiday exemptions with no further incentives on customs duties. Considering non tax factors, the country should improve its macroeconomic stability using inflation rate and exchange rate. The researcher also recommends care should be taken when giving tax incentives since further reduction of tax rates and additional tax exemptions will erode the revenue base of the country. The country should start incorporating tax expenditure report in the budget preparation.

Key words: Tax incentives, FDI, METR, Corporate tax rate, Tax holiday, Custom duties, Revenue loss (forgone), Tax Expenditures.

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Acronyms

AACCSA	Addis Ababa Chamber of Commerce and Sectoral Associations
AAI	Action Aid International
AAU	Addis Ababa University
AEO	African Economic Outlook
ATPC	African Trade Policy Centre
BOT	Balance of Trade
CPI	Corruption Protection Index
COMESA	Common market for Southern and East Africa
DTTs:	Double Taxation Treaties
EFY	Ethiopian Fiscal year
EPZs:	Export Processing Zones
ERCA	Ethiopian Revenue and Customs Authority
EIA	Ethiopia Investment Agency
FDI	Foreign Direct Investment
ETB	Ethiopian Birr
FBE	Faculty of Business and Economics
FDRE	the Federal Democratic Republic of Ethiopia
GC	Gregorian calendar
GDP	Gross Domestic Product
GTP	Gross and Transformation Plan
IMF	International Monetary Fund
IPA's	Investment Promotion Agencies
KES	Kenyan Shilling
LDC's	Least Developed Countries
MoFED	Ministry of Finance and Economic Development
MENA region	Middle East and North Africa region
NBE	National Bank of Ethiopia
OECD	Organization for Economic Cooperation and Development
SDG's	Sustainable Development Goals
USD	United States Dollar
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nation Education Scientific and Cultural organization,
WDI	World Development Indicator
WGI	Worldwide Governance Indicators

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1. Chapter One: Introduction

1.1. Background of the Study

Global investment needs are in the order of $5 trillion to $7 trillion per year. Estimates for investment needs in developing countries alone range from $3.3 trillion to $4.5 trillion per year, mainly for basic infrastructure (roads, rail and ports; power stations; water and sanitation), food security (agriculture and rural development), climate change mitigation and adaptation, health, and education. The Sustainable Development Goals (SDGs) which are being formulated by the United Nations will require a step-change in the levels of both public and private investment in all countries. At current levels of investment in SDG relevant sectors, developing countries alone face an annual gap of $2.5 trillion. In developing countries, especially in LDCs and other vulnerable economies, public finances are central to investment in SDGs. However, they cannot meet all SDG-implied resource demands. The role of private sector investment will be indispensable (UNDP, 2014).

Ethiopia is among the developing countries that needs fast and sustainable investment growth. Even though the domestic saving rate was on the highest for the past several decades (The average domestic saving rate as a percentage of GDP was 17.70 in 2012/13), it doesn't fulfill the countries demand of investment fund (NBE, 2012/13).

In today's globalized economy, few countries can remain competitive without foreign direct investment. With the potential benefits including technology transfer, employment gains, skills upgrading, and growth, it is not surprising that many governments offer investment incentives. Despite this, many administrations feel that not offering incentives could put them at a disadvantage and continue to offer programs. If this is the case, it is important that any associated distortions and costs related to these tools are minimized (Tuomia, 2012).

According to UNCTAD's most recent survey of Investment Promotion Agencies (IPAs), the main objective of investment incentives is job creation, followed by technology transfer and export promotion, while the most important target industry is IT and business services, followed by agriculture and tourism (UNCTAD, 2012).

Both developed and developing countries are trying to attract foreign direct investment thorough various fiscal and non-fiscal incentives. Tax incentive is one of the fiscal incentives used by many countries to attract investors and increase investment in a country however less emphasis is given to the impact of tax incentive, especially their negative impact on the economy, due to the fact that, tax incentives doesn't involve a direct outlay of cash like other Government expenditures which in turn results in scarify of a country scarce resources (OECD, 2014). Many countries, developed and developing alike, offer various incentives in the hope of attracting investors and fostering economic growth (OECD, 2013).

Tax is the foundation of all civilization. Tax revenues are necessary for any states to meet the basic needs of its citizens. In Africa, tax revenues will be essential for establishing independent states of free citizens, less reliant on foreign aid and the vagaries of external capital. Powerful corporations have unashamedly lobbied impoverished governments for tax holidays and special tax treatments to exploit assets such as coltan, oil, gas, rutile, teas, coffee, cocoa, cotton and flowers (TJN-A, 2011).

Tax revenues are critical to sustainable development because they provide governments with independent revenue for investing in development, reducing poverty and delivering public services as well as increasing state capacity, accountability and responsiveness to their citizens. Yet, while OECD countries collect on average 34% of their gross domestic product as tax, developing countries achieve only half this rate (OECD, 2014).

Ethiopia is also giving different types of tax incentive to attract foreign direct investment after the government liberalized the economy with a shift from a state-controlled to a more market-oriented economy since 1991. In 2012, Ethiopia was the twelfth fastest growing economy in the world (AEO, 2014).

Ethiopian economy is one of the fastest growing non-oil producing economies in Africa. The Ethiopian economy has experienced impressive growth performance over the last decade with average GDP growth rate of 11 %, which is about double of the average growth for Sub Saharan Africa (UNDP, 2014). GDP and Ethiopia's economic growth in Real GDP during

the Fiscal Year (FY) 2012/2013 were 556.5 Billion Birr and 9.7% respectively (MoFED, 2012/13).

It is of course difficult to think of the present day economy without the use of tax incentive. Tax incentive is lubricant and a tool of convenience for the economic progress of a country.

While tax incentives can make investing in a particular country more attractive, they cannot compensate for deficiencies in the design of the tax system or inadequate physical, financial, legal or institutional infrastructure. The better approach is to bring the corporate tax regime closer to international practice rather than granting favorable tax treatment to specific investors. Similarly, tax incentives are a poor response to the economic or political problems that may exist in a country. If a country has inadequate protection of property rights, rigid employment laws, or a poorly functioning legal system, it is necessary to engage in the difficult and lengthy process of correcting these deficiencies rather than providing investors additional tax benefits. The effectiveness of tax incentives is directly related to the investment climate in a particular country. While two countries could provide identical tax incentives (for example, a 10-year holiday for corporate income taxes), the relative effectiveness of the incentive attractive foreign direct investment is substantially greater for the country with the better investment climate (Zolt, 2014).

A 2006 report focusing on East Africa by the International Monetary Fund (IMF) notes that," investment incentives- particularly tax incentives are not important factor in attracting foreign investment" More important factors are good quality infrastructure, low administrative costs of setting up and running business, political stability and predictable macroeconomic policy. Tax competition makes it harder for countries maintain higher tax rates leading to ever declining rates and (TJN-A & AAI, 2012).

The impact of taxation on growth and investment has been hotly debated both in academic and political circles. Proponents of tax cuts point to the effects that lower taxes have on incentives to work, to save, and to invest, and argue that reducing tax rates boosts economic growth. To the extent that higher tax rates discourage investment, economic growth will be

adversely affected. Furthermore, by providing preferential incentives to some sectors, taxes can distort capital allocation and reduce the productivity of overall investment (Blanco and Rogers, 2011).

Currently, majority of countries offering various type of tax incentives for foreign investors to attract investment, and to earn a foreign currency and also to open an employment opportunities for the citizens, this is one main tool of compete between the countries in the day to day competition.

There is no question that tax incentive is an important factor to attract foreign direct investment but there is a great debate on degree and types of tax incentives to be used, to what extent the country should loss the tax in the form of incentives by assuming the foreign investment will have a direct impact on the growth of the economy. In addition to this there is a need to verify the cost and benefits of tax incentives. Until today there is no any clear answer to the effectiveness of tax incentives in attracting FDI.

The study focuses on evaluating the impacts of Tax Incentives in attracting FDI both in aggregate and at sector level in Ethiopia. The research also tries to see the different determinants of FDI in Ethiopia. Trends of regional distribution, Sectoral distribution, Employment opportunities will be discussed. The research also checks the inclusion of tax expenditures in the budget speech of the country.

1.2. Overview of FDI and tax incentives in Ethiopia

1.2.1 Overview of FDI in Ethiopia

In the Pre 1974, during emperor Hailesilase period a liberal policy was followed to encourage the establishment of private industries and import substitution strategy was promoted. The liberal policies were able to attract few investments though the amount is not significant (Melese & Waldkirch). From 1974 - 1991, when Derg came to power the liberal policy of imperial era was replaced by command system of economic management that discouraged market economy and private property. During this time land, private, large and

medium scale enterprises were nationalized. Average GDP growth in period was about 2% and average per capita GDP was negative. The environment was not encouraging for private investment in general and FDI in particular. Political instability, insecurity, and the nationalization of major industries made the environment unattractive for private investment. As a result there were no foreign direct investment inflows during that time (Getinet and Hirut, 2005).

In post 1991 Ethiopian Peoples' Revolutionary Democratic Front (EPRDF) thrown the Derg regime and has governed Ethiopia ever since. EPRDF replaced the command system to free market system and undertaken many macroeconomic reforms. The government implemented a series of reform measures like deregulation, privatization, liberalization of foreign exchange market, elimination of export tax except for coffee, lowering of maximum import duties from 230% to 60% and Provision of adequate incentives in order to increase private sector participation in the economy which is believed to have an important role in the development process of the national economy (Getinet and Hirut, 2005).

The government has also adopted agriculture led industrialization program, rural development policy and strategy, industrial development strategy and other sectoral policies and strategies, with a focus on productivity growth on small farms and labour-intensive industrialization with the view that agriculture centered development will bring about a fast economic growth.

In recognition of the role of private sector in the economy, the government has revised the investment code seven times in the last twenty three year (1992-2014) to make the investment climate attractive. As a result of the implementation of the above mentioned reforms, policies and strategy, agricultural and industrial production, investment and export trade has improved.

Due to the investment friendly environment created through the introduction of investment guarantee schemes and incentives, the inflow of foreign direct investment has been increasing over the last twenty two years but it is still small relative to other African

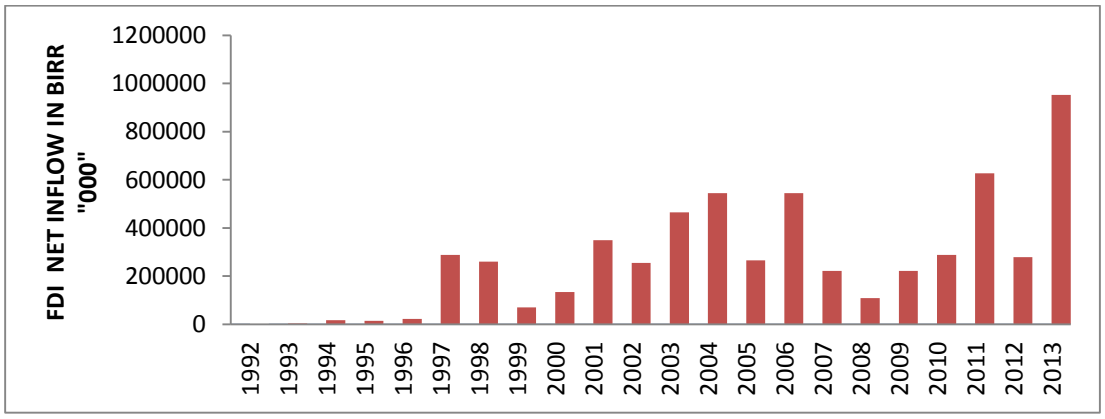
countries. As per Appendix -6, Ethiopia is ranked 18th from 54 countries in Africa with $952 FDI inflow in 2013 which is 1.66% of the total FDI inflow in to Africa (UNCTAD, 2014).

Since 1996, with the objective of promoting private investment and the inflow of foreign investment, a series of investment proclamations have been issued. The investment legislation has also attempted to provide a favorable investment climate by offering fiscal incentives and investment guarantees to foreign and domestic investors engaged in new enterprise development and expansion. As a result these incentives helped to raise the share of inward FDI in total investment form 5.8% in 1992 to 57% in 2013. According to Ethiopian Investment Agency (EIA) during the year 2013 a total of 764 projects has been processed, of which 62 projects have become operational while another 119 projects are under implementation and the rest 583 are approved but under the stage pre-implementation. Despite the improvements in the flow FDI to Ethiopia since 1992 in absolute term, FDI as a percentage of GDP remained low.

1.2.1.1 Trend of FDI in Ethiopia

According to the (Foreign Agricultural Investment Report, 2011) Ethiopia is among the fastest growing non oil dependent countries in Africa. Though, not consistent, foreign direct investment flows into Ethiopia have gradually increased in the last two decades (World Bank, World Development Indicators, 2012).

FIGURE 1-1 TRENDS OF FDI IN ETHIOPIA FROM 1992 TO 2013



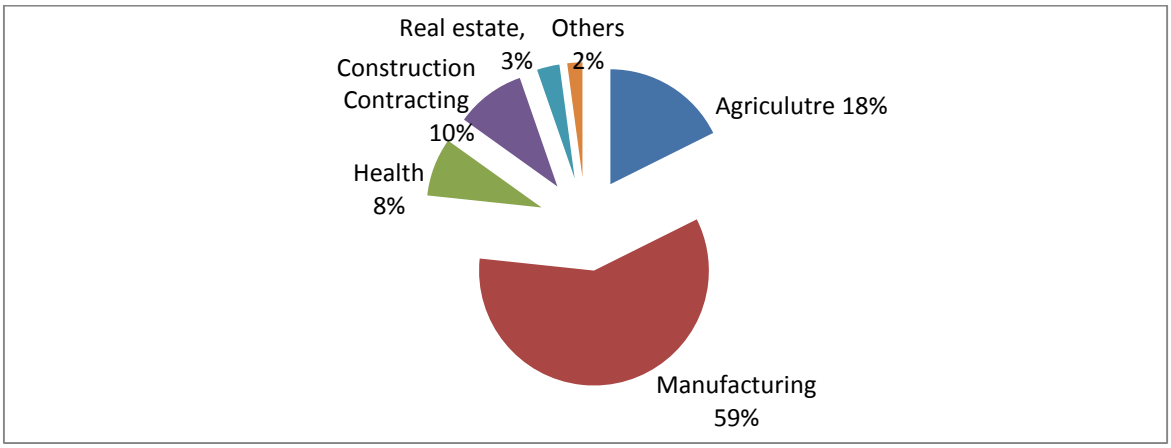
Source: World Bank

As shown in Figure 4-1, the inflow of FDI rose from$ $170 thousand in 1992 to $288 million in 1997. After decreasing to $69 million in 1999 (during the Ethio-Eritria war), it resumed its increase in the year 2000 and reached $550 million in the year 2006.The global financial crises caused its rapid plunge in the year 2007 and 2008 to $222 million and $108 million respectively, but since then it has again been increasing and exceeded $600 million in the year 2011. In the year 2012 it shows a dramatic decline and reaches to $288 million followed by a historical peak of $952 million in 2013. The Ethiopian Investment Agency (EIA), which was established in the year 1992, is responsible for facilitating investment both domestic and foreign. According to the EIA, the areas with the most promising potential for investment are agriculture, agro-processing, textiles and garment, leather and leather products, tourism, mining, and hydropower (EIA, 2012).

1.2.1.2 Sectoral Distribution of FDI

When we look at the distribution of FDI in the year 2013 among ten main economic sectors: Agriculture, Manufacturing, Mining, Education, Health, Hotel and Tourism, transport and communication, construction, Electricity and water supply and real estate The sectors, manufacturing and agriculture accounted for about 60% and 18% respectively.

FIGURE 1-2 DISTRIBUTION OF FDI BY SECTOR IN 2013



Source: EIA

1.2.1.3 Regional Distribution of FDI

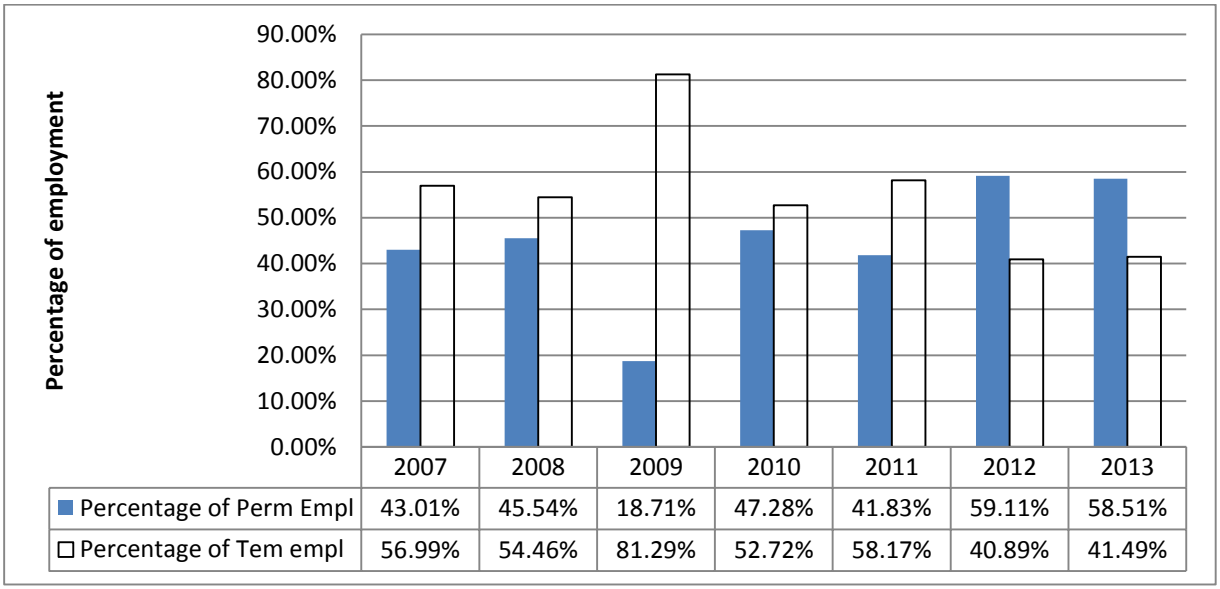
The regional distribution of FDI inflows have been quit uneven. Most of the share of FDI flows is taken by the capital city, Addis Ababa followed by Oromia region. Out of the total flows of FDI to the country Addis Ababa region take 51.44%, and Oromia 37.30%. Other regions like Amhara 3.53%, SNNPRG Tigray, 1.70%. The rest of the regions have less than 1% each. Dire dawa and Somali, and B.Gumz were able to attract few and insignificant amount where as Afar, Gambella, and Harrari attracted very few. From the distribution it can be seen that despite numerous incentives (fiscal and non-fiscal) have been offered to attract FDI to less developed regions, their performance remained very poor. The justification for this might be the low infrastructure development, less political stability and lack of market due to transportation problems in these regions. On the other hand Oromia region and Addis Ababa able to attract a significant amount of FDI due to improved infrastructure and availability of market. From this we can say that where other determinants of FDI like Market, infrastructure and political stability in place are not sufficient, provision of fiscal incentives cannot promote investment to these regions.

FIGURE 1-3 DISTRIBUTION OF FDI PROJECTS BY REGIONS IN 2013

Source: EIA

1.2.1.4 Employment opportunities created by FDI

FIGURE 1-4 PERCENTAGE DECOMPOSITION OF EMPLOYMENTOPPORTUNITIES CREATED BY FDI IN ETHIOPIA



	2007	2008	2009	2010	2011	2012	2013
Percentage of Perm Empl	43.01%	45.54%	18.71%	47.28%	41.83%	59.11%	58.51%
Percentage of Tem empl	56.99%	54.46%	81.29%	52.72%	58.17%	40.89%	41.49%

Source: EIA

As can be seen from the above graph, in the year 2013, 58.51% and 41.49% of permanent and temporary employment opportunities were created from FDI.

1.2.1.5 FDI Flows by Country of Origin

The major sources of FDI inflows to Ethiopia are Turkey, Saudi Arabia, China, and India. These countries accounted for more than half of the FDI flows to the country. Most of the sources are developing countries like Turkey, china, India and Saudi Arabia. This may indicate that most of the FDI flows to Ethiopia are resource and market seeking. Despite Ethiopian government offered many incentives FDI flows from developed country is very low. This raises a question of attractiveness of Ethiopian investment environment to efficiency seeking industries which has believed to have a significant role in promoting growth through its spillover effect.

TABLE 1-1 FDI INFLOW BY SOURCE OF ORIGIN SINCE AUGUST 22, 1992TO DECEMBER 30, 2014

Rank	Country of origin	Percentage of Investment
1	Turkey	22.81%
2	Saudi Arabia	16.66%
3	China	14.50%
4	India	7.42%
5	Saudi Arabia/Ethiopia	2.88%
6	Kenya/Ethiopia	2.41%
7	France	2.01%
8	China/Ethiopia	1.86%
9	Turkey/Ethiopia	1.51%
10	Gibraltar/Ethiopia	1.48%
11	USA	1.34%

Source: EIA

1.2.2 Overview of Tax incentives in Ethiopia

It is an undeniable fact that Ethiopia has made a considerable progress in economic and social development since 1992 as a result of the implementation of favorable policies and strategies that are instrumental in improving the national economy. The Rural Development Policy and Strategy, the Industrial Development Strategy, and other sectoral policies and strategies have initiated a new push towards creating frameworks conducive to economic and social development. The Government of Ethiopia, in recognition of the role of the private sector in the economy, has revised the investment law over nine times for the last twenty two years (1992-2012) to make it more transparent, attractive and competitive. Major positive changes regarding foreign investments have been introduced through Investment Proclamation No.280/2002 and Regulations No.84/2003. (Ethiopia Investment Guide, 2012)

Ethiopia has implemented Economic Reform Program (ERP) and has been modernizing tax and custom administration by overhauling the legislations and improving administration since 1992 with the aim of encouraging trade, investment and hence development. Given the important role of FDI in the development process of developing countries, Ethiopian tax policy is geared towards promoting investment, supporting industrial development and

broadening the tax base and decreasing the tax rate in the view of financing the need of government expenditure. With the view of creating investment friendly environment and attract foreign direct investment, Ethiopian government have been providing a wide range of fiscal incentives (Ethiopian Customs and Revenue Authority, 2011).

Transitional Government of Ethiopia (TGE) issued the first investment code (Proclamation No. 15/1992) on May, 25 1992 with the aim of encouraging private investment under this code areas eligible for investment incentives were limited to manufacturing and Agriculture sectors. The incentives provided were 100% exemption from custom duty on importation of capital goods and income tax exemption (tax holiday) ranging from 1-8 years depending on type and location of the investment. This proclamation had been in force for four years and replaced by Proclamation No. 37/1996 in June 1996.The revised Investment Code of 1996 extended areas eligible to incentives to Education, health, tourism and construction sectors. Capital entry requirements for joint ventures reduced from US$500,000 to US$300,000 and for technical consultancy services reduced to US$100,000. This code was opened the real estate sector and Electricity and water supply to foreign investors, extended the losses carried forward provision, and cut the capital gains tax from 40% to 10%.

Furthermore Proclamation No. 37/1996 improved and replaced by proclamation No.116/1998 in June 1998. The major changes introduced in this proclamation were Defense and telecommunication sectors allowed to private sectors to invest jointly with government which was reserved for government only in the earlier codes. The investment code was also amended in July 2002 (Proclamation No. 280/2002), in July 2002 (Proclamation No. 286/2002 and in September 2012 (Proclamation No. 769/2012) and further liberalized the investment regime and removed most of the remaining restrictions. In general all areas of investments are open for foreign investors except Banking, insurance and microcredit and saving services; forwarding and shipping agency services; broadcasting services; and air transport services using aircraft with a seating capacity of up to 20 passengers which are reserved for government, domestic investors and Ethiopian nationals.

The major change conducted in the establishment of Industrial Zone and Investment boards were made on August 13, 2014 and July 2014 respectively.

1.2.2.1 Overview of Corporate Tax Rate in Ethiopia

In the first Income Tax Proclamation No. 60/1944 and Proclamation No. 107/1949, there was no separate tax rate provided for companies. In these Proclamations, the business income tax rates for companies and individuals were the same subject to variation in rates on other factors such as traders, retailers and groups of activities. Decree No.19/1956 for the first time provided separate tax for incorporated body's at 15% flat rate. This trend continues until to-date, but the rates vary. Proclamation No.173/1961 provided 16% flat rate tax on bodies corporate; and Proclamation No.255/1967 20%. So when compared with these three laws, the tax rate on bodies corporate in the current Income Tax Proclamation is higher. Proclamation No. 155 of 1978 and Council of State Special Decree No.18/1990, on the other hand, provides 50% flat rate tax on the taxable income of "organizations". These rapid increases in the tax rate of bodies corporate resulted due to the ideological change in the political economy that took place during those years. Proclamation No.107/1994 reduced the tax rate in bodies corporate from 50% to 40%. Proclamation No.36/1996 again reduced the corporate tax rate on "organizations" from 40% to 35%. These reductions in the tax rates of bodies corporate again resulted from changes in ideology of political economy. Anyways, the current tax rate on bodies can be said a little bit less than the rates provided in tax laws enacted during the Socialist Regime but it is 200% high than the rates provided during the Imperial era (Berhane, 2010).

The currently operating laws with regard to income taxation in Ethiopia are the Income Tax Proclamation No. 286/2002 and the Income Tax Regulation No. 78/2002 (Yohannes & Sisay, 2009).

1.2.2.2 Overview of Marginal Effective Tax Rate in Ethiopia

The marginal effective tax rate measures the tax impact on capital investment as a portion of the cost of capital. In considering a new investment, the firm will, like any rational investor,

allocate capital to maximize profit. In a market with free entry, profit from every dollar invested will grow as long as the revenue from the last dollar invested (i.e., the marginal revenue) is gr eater than the cost of the last dollar invested (i.e., the marginal cost). Profit from the total capital investment is therefore maximized when the marginal revenue equals the marginal cost Tax policy affects both the marginal revenue and marginal cost of investment. Taxes themselves reduce marginal revenue, while tax allowances reduce marginal cost. At the profit maximizing point, the tax wedge between the pre-tax and post-tax rates of return to capital, expressed as a portion of the pre-tax rate of return to capital, is the marginal effective tax rate (METR). When all non-tax considerations are equal, an investor will invest in the sector or geographic location where the METR is lowest. It is to this extent that METR provides a gauge for business tax competitiveness among different tax jurisdictions (Chen and Mintz, 2013).

The assumption that firms are profit maximizers provides a starting point for calculating METR, which accounts for taxation of a marginal investment project when marginal revenue equals marginal cost. Since it is only the marginal cost, rather than marginal revenue, that is observable, METR is evaluated as the effective tax cost as a share of marginal cost net of economic depreciation, which is also the pre-tax rate of return on capital. For example, if the pre-tax net of risk rate of return on capital (i.e., the tax-inclusive cost of capital) is 20 per cent at the profit maximizing point, and the post-tax net-of-risk rate of return on capital (i.e., the tax-exclusive cost of capital) is 10 per cent, the METR is 50 per cent. Thus, the effective tax rate on income of the last dollar invested (that is, at the profit-maximizing point) would be 50 per cent (Chen and Mintz, 2013).

TABLE 1-2 MARGINAL EFFECTIVE TAX RATES OF SOME SELECTED COUNTRIES IN THE WORLD

Country	Marginal Effective tax rate (overall)	Manufacturing	Service	Sector gap	Rank
Argentina	43.30	47.9	41.6	6.3	1
Sirra Leone	22.00	16.3	22.4	-6.1	26
Tunisia	21.90	24.3	21.3	3	27
Newzeland	21.60	22.5	21.5	1	29
Tanzania	17.40	12.4	18.3	-5.9	44
Zambia	17.30	23.5	16.3	7.2	47
South Africa	13.80	15.4	13.4	1.9	60
Ghana	13.70	14	13.7	0.3	61
Morocco	13.10	17.4	12.2	5.2	62
Madagascar	12.50	16.7	11.5	5.2	64
Botswana	12.20	8.3	12.5	-4.2	65
Nigeria	11.30	20.1	10.4	9.7	67
Uganda	11.20	5.3	11.9	-6.6	68
Egypt	8.70	12.1	7.6	4.4	77
Kenya	8.60	-25.6	15.1	-40.7	79
Ethiopia	**(3.50)**	**20.1**	**-5.6**	**25.7**	**90**
Average	17.80	18.6	17.6	1	

Source: Annual Global tax competitiveness ranking 2013

As the above table 4-3, Ethiopia is ranked 90th from 90 countries in METR which is the least not only from developed countries but also from African countries. The country METR is -3.50 which is much less from Kenya which is 8.60. The lowest rate of METR affects tax revenue of the country.

1.3. Statement of the Problem

The tax incentive has a great impact on the amount of revenue to be collected from a given investment. A country tax incentive system plays an important role in the life of the society and development of country however the mere existence of tax incentives doesn't guarantee

the effective growth of an economy. Proper mobilization and use of this key input is indispensable (TJN-A, 2011)

Investment incentives mostly focus on economic performance objectives, less on sustainable development. Incentives are widely used by governments as a policy instrument for attracting investment, despite persistent criticism that they are economically inefficient and lead to misallocations of public funds. To address these concerns, investment incentives schemes could be more closely aligned with the SDGs (UNCTAD, 2014).

However, there are debates regarding the effectiveness of tax incentives in attracting FDI. Despite the aforementioned debate, developing countries, particularly Ethiopia has continued giving tax incentives to FDI. On the other hand even if FDI inflows to the country increased in absolute term since 1992, Ethiopia performed poor in relative term. This paper is aimed at contributing to existing literature/debate by analyzing the efficacy of these incentives in attracting FDI by taking Ethiopian case

A review of the trend in Ethiopia governments' revenue collection shows that there is an increase in duties and tax exemptions (revenue forgone) from 3.73 Billion Birr in 2005/06 to 39.16 Billion Birr on 2013/14. As a share of GDP, the amount of revenue forgone increased from 2.99% in 2005/06 to 5.52% in 2012/13 (ERCA, 2014).

The budget deficit of the country reaches 16.7 Billion Birr in 2012/13 (MoFED, 2012/13). The country is therefore being deprived of badly-needed resources to reduce poverty and improve the general welfare of the population.

However, despite the government's revenue mobilization efforts, the revenue-to-GDP ratio is projected to fall from 13.2 percent in 2012/13 to 12.9 percent in 2013/14. Reflecting the ongoing efforts to improve tax administration, the tax-to-GDP ratio is projected to rise but non tax revenue is slated to fall on account of lower dividends from state-owned enterprises. The authorities are relying on administrative improvements to increase revenue substantially. IMF Staff encouraged the authorities to consider the revenue potential of reducing tax

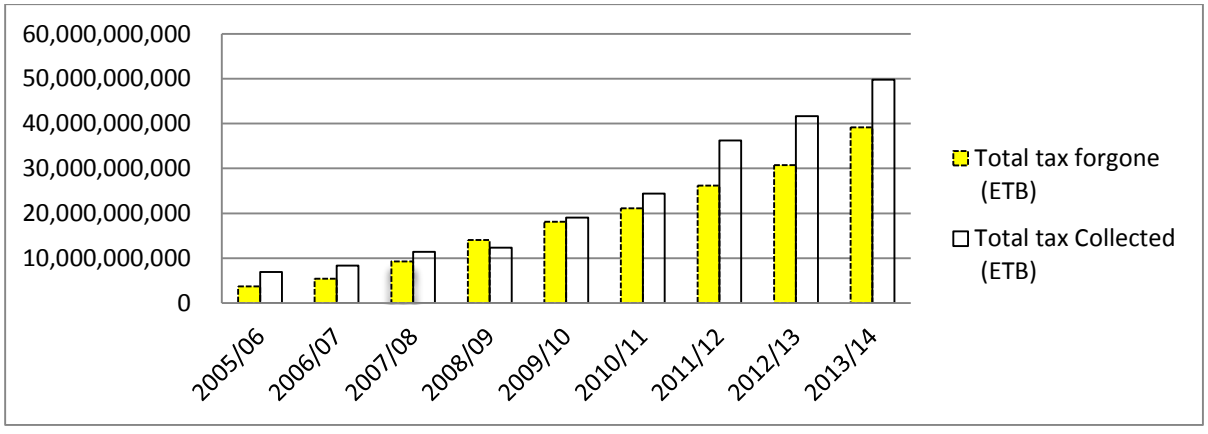
expenditure and tax incentives and improved tax collection, along the lines identified by IMF FAD technical assistance (IMF, 2013).

Even if one of the MDG's is to reach Tax to GDP ratio 20%, The country Tax to GDP ratio is 14.6% as of 2012/13 (MoFED, 2012/13) which requires more effort to reach at least to the minimum requirement hence the amount of revenue loss needs to be minimized. The government's objective is to become a middle-income country by 2025 (IMF, 2014).

The large amount of revenue loss (forgone) from tax incentives, contributes not to finance major Public expenditures such as Public services and Infrastructure that are a key factor for economic development and growth.

The above problem is partly due to the amount of the large amount of tax incentives or exemptions. In this context, it is important to identify the possible impacts of tax incentives in attracting FDI in Ethiopia and its consequence in revenue loss which in turn has an impact on the amount of revenue collection to finance government expenditures. A number of empirical studies have examined the effects of tax incentives on FDI. Most have focused on cross-country analysis, while a few researchers have investigated the issue using data from sub-national governments.

FIGURE 1-5COMPARISION OF REVENUE FORGONE AND COLLECTION IN ETHIOPIA FROM 2005/06 TO 2013/14



Source ERCA Data Center

1.4. Objectives of the Study

1.4.1 General Objectives

The general objective of this study is to see the impact of reducing corporate tax rate and giving tax incentives (Tax holiday and Custom duties) for attracting foreign direct investment in aggregate and at sector level respectively. The studies also try to see its effect on revenue forgone.

1.4.2 Specific Objectives

In achieving this, the study is specifically designed to:

- To ascertain if FDI in aggregate is influenced by the reduction of corporate tax rate in Ethiopia.
- To determine if FDI in each sector is influenced by Tax holiday
- To check if FDI in each sector is influenced by Customs duties in Ethiopia
- To verify if FDI is influenced by non tax factors in Ethiopia.

1.5. Hypothesis development

In order to see the impact of tax incentives in attracting Foreign Direct Investment in Ethiopia, researcher adopts mixed research approach. The rationale of using such a mixed approach is to gather data that could not be obtained by adopting a single method and for triangulation (Creswell, 2003).

Therefore, the study will develop the following hypotheses:

H_o1: There is no significant impact of corporate tax rate on FDI in Ethiopia

H_o2: There is no significant impact of tax holiday on FDI in each sector in Ethiopia

H_o3: There is no significant impact of custom duty on FDI in each sector in Ethiopia

H_o4: Non tax factors has no significant influence in attracting FDI in Ethiopia

1.6. Significance of the study

There have been few studies on impact of tax incentives on FDI in developing countries, even fewer studies that focus on Africa and sub-Sahara Africa countries. The situation is also the same in our country; hence this study will shed some light on the impacts of tax incentives in attracting FDI in Ethiopia. The impacts of tax incentive on FDI is seen both FDI at sector level and FDI in aggregate.

As to the knowledge of the researcher a study that shows the impacts of tax incentives on FDI in aggregate and at sector level is the first to be conducted in Ethiopia. This study also has its contribution in showing the amount of revenue forgone (loss) from tax incentives while attracting foreign direct investment in Ethiopia.

The research has a greater significance to ERCA in reviewing their tax administration; EIA in evaluating their investment policy and MoFED in determining their fiscal policy and incorporating the revenue loss from tax incentives as part of tax expenditure during country expenditure report.

This study creates the chance for further research in the field of taxation at Addis Ababa University particularly in Accounting and Finance Department.

1.7. Scope and Limitation of the Study

Even if there are different impacts of tax incentive in Ethiopia, in this study the impact of tax incentive is consider in respect to revenue forgone and its impact in attracting foreign direct investment.

One of the limitations of this study is cost benefit analysis of tax incentives in attracting FDI inflow in Ethiopia due to the difficulty in both data source and complicated calculation. However, the idea of cost analysis of tax incentives can be a subject of further research after knowing the relationship and impact of tax holiday on FDI inflow.

Even if the country starts to give tax incentive starting from the open door policy, there is no detailed and organized data kept for tax incentive until 2004/05 hence the study used corporate tax rate and tax exemptions (Tax holiday and Custom duties - as dummy variable) as independent variables.

1.8. Organization of the Study

The paper is organized in to five chapters. Chapter one is the introductory parts of the paper; it includes the background of study, problem statement, objectives of study, hypothesis formulated, significance of the study, limitation and scope of the study. Chapter two is review of related literature and it has three parts: theoretical literature, empirical literature and literature gap. Chapter three is about research methodology, Data collection, data description and measurement, model specification, data processing and model evaluation. Chapter four presents the empirical analysis; it is divided in to two sections; the first part the time series model for analyzing the impacts of corporate tax rate on FDI in aggregate and the second part is the Panel - Random effect model for analyzing the impacts of tax exemptions (Tax holiday and Custom duties) on FDI at sector level. Chapter five presents major findings, conclusions and gives possible recommendation.

2. Chapter Two Literature Review

With the potential benefits including technology transfer, employment gains, skills upgrading, and growth, it is not surprising that many governments offer investment incentives. FDI is promoted by governments to fill the savings gap and for the same reason they promote domestic investments plus the technological advantage usually discussed in relation overseas investment. Though the expected impact on the host country's economy is known, the motives of the investors are also different. Investors pursue their own profit; so governments who seek the inflow of the FDI are indirectly obliged to do things that they think would attract the foreign investors. Given this most developing countries have been using tax incentive widely to attract foreign direct investment. Several studies have been conducted to identify the major determinants of FDI and to assess the effectiveness of tax incentives in determining FDI. Therefore this chapter reviews theories and empirical literatures related to the topic.

2.1 Purposes of FDI

According to (Dunning, 2000) FDI has the following four broad purposes:

Market seeking or (horizontal FDI):

In this case the main aim of FDI is to provide goods and service to local and district market. The motive for horizontal FDI is market size and market growth. The investors who are seeking market size for investment need to have host countries which have a large market size, high potential of market growth and high per capital income.

Resource (asset seeking):

This type of FDI is carried out when the investing firm's aim is to get access to the resources in the host country which are not obtainable in home country. Examples of these resources are natural resources, raw materials or low cost labor.

Efficiency seeking

Under this type of foreign direct investment the investor will invest to get an advantage when there is a common governance of geographically dispersed activities, especially in the presence of economies of scope and scale and diversification of risk.

Strategic Asset Seeking

Provide new financial capital and complementary assets (Dunning. 2000)

2.2 Theories of FDI

There are different theories that have been put forward by the researcher to explain foreign direct investment. However, no single theory fits the different types of direct investment or the investment made by a particular multinational corporation or country in any region. The following throes are some of them that explain FDI.

(Imad, 2002), has briefly explained the theories of FDI into four different categories. The different theories on FDI construct a theoretical understanding of foreign direct investment. The main theories are:

1. Theories assuming perfect market,
2. Theories assuming imperfect market,
3. Other theories, and
4. Theories based on other variable

2.1.1. Theories Assuming Perfect Market (Perfect Competition)

There are three hypotheses under this theory: (1) the differential rate of return; (2) the diversification of hypothesis; (3) the output and market size hypothesis.

2.2.1.1 The Differential Rate of Return

The gist of differential rate of return hypothesis is that capital flows from the country with a lower rate of return to the country with a higher rate of return and eventually leads to equality of the real rate of return. In this hypothesis, business risk is assumed to be neutral regardless investing location, making real rate of return as an isolated variable in investment decision. Business risk neutrality means that an investor considers foreign market as perfect substitution of the domestic market (Fahmi, 2012).

2.2.1.2 Portfolio Hypothesis

In Portfolio Hypothesis, investors do not only consider rate of return, but also incorporate risk of business in investment decision. This hypothesis postulates investment as a positive function on rate of return and a negative function on risk of business. When risk of business is included, then investment diversification becomes relevant. Rather than selecting countries exclusively on higher rate of return, capital mobility now also flows by desire to minimize risk by diversification (Agarwal, 1980).

2.2.1.3 Output and Market Size Hypothesis

Output and market size hypotheses are considered as identical. Output hypothesis is attributable to micro level and assume a positive relationship between companies' FDI and its output or sales in the host country. On the other hand, market size hypothesis is perceived to be reliable at a macro level. In this hypothesis, FDI is considered as a function of market size in the host country and commonly proxied by GDP or GNP (Cleeve, 2004).

(Agarwal, 1980), pointed out that, the rationale behind these hypotheses is supported by the domestic experience that firms will increase their investment following up their increasing sales, as well as domestic investment in a country which rises with its increasing market size or GDP.

2.1.2. Theories Assuming Imperfect Market

Several hypotheses fall under this theory such as the industrial organization hypothesis, the internalization hypothesis, the location hypothesis, the eclectic theory, the product life cycle hypothesis and the oligopolistic reaction hypothesis. All of these hypotheses will be discussed consecutively.

2.2.2.1 The Industrial Organization Hypothesis

According to this hypothesis, when a multinational company establishes a subsidiary outside its home country, it will encounter many disadvantages when competing with domestic company. These disadvantages derive from various differences in culture, language, the legal system, and many inter country differences. For example, foreign companies more often have to pay higher wages for the same quality workers since working with them is associated with high risk and uncertainty. It happens to language differences as well, as foreign companies should bear extra cost to overcome the language barrier. Therefore, in order to deal with these disadvantages, foreign companies must possess some advantages. These comparative advantages should be innate advantages that can be easily transferred to foreign subsidiaries and large enough to surpass these disadvantages (Agarwal, 1980).

2.2.2.2 The Internalization Hypothesis

According to this theory, FDI emanates from company's action to substitute market transaction with internal transaction. This theory explains why companies prefer FDI than exporting or importing from abroad or licensing. For example if there is a problem in production process regarding short supply in raw material, a company may decide to establish a subsidiary company abroad in producing that raw material to ensure that raw material is available. Similar problems might arise from imperfection and failure of market for other intermediary goods or services such as labor, knowledge, marketing, and resource endowment (Demirhan and Masca, 2008).

2.2.2.3 The Location Hypothesis

Some of production factors such as labor and natural resources endowment are immobile. Therefore, this condition directs investors to search for locational advantage in minimizing production cost. Location advantage will eventually encourage FDI inflow. One form of location-related advantage in factor production cost is low wages locational advantage. In this case, difference in wages rate between host country and home country is regarded as a significant determinant factor of FDI inflow. That is why countries with lower level of wages attract labor - intensive FDI from countries with higher level of wages. In this case, the relation between FDI inflow and wages is negative which means the lower the wages, the more FDI flows into host countries. Textile and footwear industries are the most common example of this phenomenon (Kojima, 1975).

2.2.2.4 The Eclectic Theory

The eclectic paradigm is a simple, yet profound, construct. It avers that the extent, geography and industrial composition of foreign production undertaken by MNEs is determined by the interaction of three sets of interdependent variables which, themselves, comprise the components of three sub-paradigms. The first is the competitive advantages of the enterprises seeking to engage in FDI (or increase their existing FDI), which are specific to the ownership of the investing enterprises, i.e. their ownership (O) specific advantages. This sub-paradigm asserts that, ceteris paribus, the greater the competitive advantages of the investing firms, relative to those of other firms — and particularly those domiciled in the country in which they are seeking to make their investments — the more they are likely to be able to engage in, or increase, their foreign production. The second is the locational attractions (L) of alternative countries or regions, for undertaking the value adding activities of MNEs. This sub-paradigm avers that the more the immobile, natural or created endowments, which firms need to use jointly with their own competitive advantages, favor a presence in a foreign, rather than a domestic, location, the more firms will choose to augment or exploit their O specific advantages by engaging in FDI. The third sub-paradigm of the OLI tripod offers a framework for evaluating alternative ways in which firms may organize the creation and

exploitation of their core competencies, given the location attractions of different countries or regions. Such modalities range from buying and selling goods and services in the open market, through a variety of inter-firm non-equity agreements, to the integration of intermediate product markets, and an outright purchase of a foreign corporation. The eclectic paradigm, like its near relative, internalization (L) theory, vows that the greater the net benefits of internalizing cross-border intermediate product markets, the more likely a firm will prefer to engage in foreign production itself, rather than license the right to do so, e.g. by a technical service or franchise agreement, to a foreign firm (Dunning, 1987).

2.2.2.5 Production Cycle Theory of Vernon

Production cycle theory used to explain certain types of foreign direct investment made by U.S. companies in Western Europe after the Second World War in the manufacturing industry. Vernon believes that there are four stages of production cycle: innovation, growth, maturity and decline. According to Vernon, in the first stage the U.S. transnational companies create new innovative products for local consumption and export the surplus in order to serve also the foreign markets. According to the theory of the production cycle, after the Second World War in Europe has increased demand for manufactured products like those produced in USA. Thus, American firms began to export, having the advantage of technology on international competitors. If in the first stage of the production cycle, manufacturers have an advantage by possessing new technologies, as the product develops also the technology becomes known. Manufacturers will standardize the product, but there will be companies that you will copy it. Thereby, European firms have started imitating American products that U.S. firms were exporting to these countries. US companies were forced to perform production facilities on the local markets to maintain their market shares in those areas. This theory managed to explain certain types of investments in Europe Western made by U.S. companies between 1950 -1970. Although there are areas where Americans have not possessed the technological advantage and foreign direct investments were made during that period (Denisia, 2010).

2.2.2.6 The Oligopolistic Reactions Hypothesis

In oligopolistic reaction hypothesis, company by one another take action and reaction over others' activities as an attempt to maintain their existence in market shares. Securing company's existence in market share is the most salient motivation for FDI. One example in this hypothesis is a movement by one company to establish subsidiary abroad will be perceived by its rival as a threat on their market shares. Therefore, this action invites a counter action to slacken its effect and returned back to the status quo equilibrium (Stapper, 2010).

2.1.3. Other Theories of Foreign Direct Investment

There are four hypotheses will be presented in this section. Those are the internal financing hypothesis, the currency area hypothesis, the hypothesis of diversification, and finally Kojima hypothesis.

2.2.3.1 The Internal Financing Hypothesis

This hypothesis postulated exploitation of profit earned by subsidiary company abroad to finance the expansion of FDI where it is located. When investing abroad, multinational companies allocated a portion of their resources for initial investment. Next expansion of this investment will be financed by reinvesting profit earned from its operation in the host country. This implies that a relationship could exist between internal income and investment expenditure. This relationship is quite rational since internal financing offers lower cost than external financing (Van Parys and Klemm, 2011).

2.2.3.2 The Currency Areas Hypothesis and the Effect of the Exchange Rate

This hypothesis postulated that a company within a country sustained with a strong currency inclines to invest abroad. On the other hand, a company within a weak currency country has fewer tendencies to invest abroad. According to this hypothesis a

country with a strong currency acts as sources of FDI or home countries whereas a country with a weak currency will be the recipient countries or host countries (Mijiyawa, 2012).

2.2.3.3 The Hypothesis of Diversification with Barriers to International Capital Flows

There are two requirements that should be fulfilled when a company would like to carry out international diversification. First, the barriers or cost exist for direct investment flow should be smaller than those associated with portfolio flows. Second, investors should acknowledge that multinational companies provide diversification opportunities

2.2.3.4 The Kojima Hypothesis

According to (Kojima, 1975) FDI provides means for transferring capital, managerial skill and technology from home country to host country. This idea represents a "macroeconomic approach" or "factor endowment approach" in explaining FDI flow. Kojima's hypothesis lays on the idea of complementarities between trade and FDI. It emphasizes the need for comparing the costs between two of them. In this hypothesis, FDI is classified into two categories. First, FDI as a trade-oriented which means there will be an excess demand for export and excess demand for import in trade terminology. This category would promote trade and benefit industrial restructuring process in both countries. The second is FDI as an anti-trade-oriented as the opposite of the first category. This will generate an adverse effect on trade, and harm the industrial restructuring process in both countries (Nayak and Choudhury, 2012)

2.1.4. Theories Based on Other Factors

2.2.4.1 Political Risk and Country Risk

Political risk is a form of unexpected change in legal and fiscal condition in the recipient country which will change the economic result of an investment in an extreme way. Let

say, for example, the sudden decision to impose a restriction on capital or profit repatriation from host country to home country will jeopardize the cash flow of investing companies.

Sometimes country risk concept is applied instead of political risk. The example of country risk is economic factors which may pose economic risk due to adverse sign in economic indicators (such as high inflation rate and depreciated currency). It should be noted that negative economic indicators can affect cash flow adversely and finally discourage (Cleeve, 2008).

2.2.4.2 Tax Policies

Domestics and foreign tax policies affect the incentive to engage in FDI. According to (Imad, 2002) there are three approaches in which tax policies affect multinational company's decision making. First, tax on income earned from abroad operational will affect net return of foreign investment. Second, tax on income obtained in home country impacts the domestic net of return and eventually will affect fund allocation for foreign investment. Third, tax treatment affects the magnitude of cost of capital for both foreign investment and domestic investment.

Numerous studies have been carried out to analyze the relationship between international taxation and FD. However, many of them found difficulties in identifying the effects of taxes on FDI. (Imad, 2002), explained the reasons of these difficulties. First, cross-sectional variation in countries' tax rate and tax system may be correlated with a number of observable and unobservable factors that differ from one country to another. Second, time series variation in tax rate may not be adequate to identify tax effect, since tax rate is rarely change. Third, possibly, tax policy has no effect on (Fahmi, 2012).

2.3 Empirical evidence on the impacts of tax incentives and FDI

2.3.1 Empirical evidence in favor of corporate tax rate and tax incentives

The study conducted by (Cover, 2010) on the title "The Impact of Corporate Taxation on Foreign Direct Investment". The study was conducted in high-income OECD countries during the periods 1998-2006. OLS regressions were used to find the degree to which certain variables, specifically the corporate tax rate, have an impact of the dependent variable (i.e. aggregate inflows of FDI). The independent variables used were: GDP, skilled labour, labour costs, economic freedom as a proxy for trade openness and property rights, infrastructure, the corporate income tax rate, dummy variables to account for time effects and three dummy variables for continental location targeting whether geographical location is of relevance of not. The study concluded that the corporate income tax rate had a significant impact on FDI inflows in OECD members for the specified period. Additionally, economic freedom, GDP and geographical location were also found to be important variables that determine the inflows of FDI. Other variables were found insignificant in almost all regressions.

Among the studies that found significant impact of incentives are a broad cross country analysis in Latin American, Caribbean and African countries by (Van Parys and Klemm, 2011). On the title of "Empirical evidence on the effects of tax incentives", the study used a new dataset of tax incentives over 40 countries for the period 1985–2004. Using spatial econometrics techniques for panel data to answer; are incentives used as tools of tax competition? Using dynamic panel data econometrics to answer how effective are incentives in attracting investment? For the first question, they found evidence for strategic interaction in tax holidays, in addition to the well-known competition over the corporate income tax (CIT) rate. In addition to this they also found no robust evidence, however, for competition over investment allowances and tax credits. For the second questions, they found that lower CIT rates and longer tax holidays are effective in attracting FDI in Latin America and the Caribbean but not in Africa. They also concluded that, none of the tax incentives is effective in boosting gross private fixed capital formation.

A joint study by (Ali Abbas et. al, 2012) in the title "A Partial Race to the Bottom: Corporate Tax Developments in Emerging and Developing Economies" assembled a new dataset on corporate income tax regimes in 50 emerging and developing economies over 1996-2007 and analyzed their impact on corporate tax revenues and domestic and foreign investment. The paper found that there is evidence of a partial race to the bottom: countries had been under pressure to lower tax rates in order to lure and boost investment. In the case of standard tax systems the effective tax rate reductions had not been larger than those witnessed in advanced economies, and revenues have held up well over the sample period. However, a race to the bottom is evident among special regimes, most notably in the case of Africa, creating effectively a parallel tax system where rates have fallen to almost zero. Their analysis revealed that higher tax rates adversely affect domestic and foreign investment, but do raise revenues in the short-run.

A study conducted by (Demirhan and Masca, 2008) estimating a cross-sectional econometric model with a sample of cross-sectional data on 38 developing countries, the determining factors of foreign direct investment inflows in developing countries over the period of 2000 - 2004. They found that growth rate of per capita; telephone main lines and degree of openness have positive sign and are statistically significant. Inflation rate and tax rate present negative sign and are statistically significant. Labour cost has positive sign and risk has negative sign. However, both were found to be insignificant.

As per (Biggst, 2007) the evidence suggested that, designed wisely, fiscal incentives can indeed help meet objectives of investment promotion and diversification. However, the paper found that developing countries had often relied on inappropriate measures, such as tax holidays and accelerated depreciation that are less suited to their needs. Fiscal incentives often focus on preferential treatment of large enterprises and multinationals, rather than smaller domestic enterprises, which may be more responsive to tax incentives. Furthermore, fiscal incentives can have unintended side-effects in relation to their objectives.

A study conducted by (Shah, 2003) on the title "Fiscal Incentives, The cost of capital and Foreign Direct Investment in Pakistan: A Neo-Classical approach "the paper analyzed the

attractiveness of Foreign Direct Investment in Pakistan with special emphasis on the cost of capital element in effecting the rate of return and the internal cash flow for investment of the investing firms. Using the Jorgenson's Neo-classical Investment Model the cost of capital is computed after considering the taxation policy and the treatment of invested capital. The computed results showed consistent and influencing impact of the cost of capital on FDI inflows. The paper argued that fiscal incentives are more appropriate in attracting FDI as these have no direct drain over public resources and are increase the after tax return by availing the tax holidays and depreciation allowances.

As (Cleeve, 2008) conducted a study on the title "How effective are Fiscal incentives to attract FDI to Sub Saharan Africa?" The paper provided empirical evidence on the effectiveness of fiscal incentives to attract FDI to 16 SSA countries for the period 1990-2000. Pooled data analysis was performed. The results of the study showed that traditional factors such as large market size, good infrastructural development, high skills level, and relative wealth and labour costs were important determinants of FDI inflows. FDI policies are also found to be important determinants of FDI, e.g. openness of the economy. With regards to fiscal policy, their results showed that tax holidays are very important for attracting more FDI. When country effects are taken into consideration, profits repatriation becomes important, so does tax concessions, but with a negatively significant effect on FDI flows. The results also showed that the effect of institutional variables on FDI is important, especially a reduction in the level of corruption. Within the FDI policies (tax incentives) adopted by SSA governments, it was tax holidays that matter the most. For countries offering too many concessions, the results showed an adverse effect on FDI inflows.

The study conducted by (O. Effiok et.al., 2013) on the title "The Impact of Tax Policy and Incentives on Foreign Direct Investment and Economic Growth: Evident from Export Processing Zones (EPZs) in Nigeria". Data were collected through questionnaire and analyzed using ordinary least square techniques. The study revealed that tax rates have a significant relationship to FDI and economic growth.

The study carried out by (Babatunde and Adepeju, 2012) in the Nigeria on the title “The Impact of Tax Incentives on Foreign Direct Investment in the Oil and Gas Sector in Nigeria". Data from a sample size of twenty-one years was used. Karl Pearson coefficient of correlation ‘r’ statistical method of analysis was employed in analyzing the data collected. The study investigated the determinant factors of FDI and analyzed whether or not some selected factors such as tax incentives, availability of natural resources, macro-economic stability, market size, openness to trade, infrastructural development and political risk have an impact on in the oil and gas sector. The results of the analyses showed that there is significant impact of tax incentives, availability of natural resources and openness to trade on FDI in the oil and gas sector in Nigeria. Also, there is no significant impact of market size, macroeconomic stability, infrastructural development and political risk on FDI in the oil and gas sector in Nigeria.

In order to study the relationship between investment decision and taxation, (El Ha and Zenjari, 2012) conducted a research on the title “The Impacts of Taxation on Investment Decisions: The Case of Morocco”. Based on a survey, they found that, although taxation is not the most important determinant of investment, it has a major impact on its competitiveness and its net profitability.

A study by (Estian, 2013) on the title "The impact of tax incentives to stimulate investment in South Africa" found that superior impact of a general tax incentive such as a reduced corporate tax rate on output on tax incentives to manufacturing sector in South Africa.

2.3.2 Empirical evidence with Insignificant results of tax incentives

In contrary to the above studies, there are also researches that found insignificant relationship between tax incentives and FDI. (Fahmi, 2012) unlike other studies found that, Tax holiday as the main focused independent variable is proven to be not significant in attracting FDI inflow based on his research on the title "The impact of tax holiday on foreign direct investment in the case of Indonesia" for the period from 1981 to 2010 using Ordinary Least Square regression technique by employing foreign direct investment inflow as dependent

variable, along with tax holiday as independent variable and gross domestic product growth, gross fixed capital formation, inflation, openness, tax rate as controlled variables. The study also found that gross fixed capital formation, inflation, openness and tax rate had significant impact on FDI inflow. The study concluded that tax holiday will never be able to offset inadequate infrastructure, economic and political instability, and poor government policies.

As (Stapper, 2010) revealed that, on the study conducted in Sub Saharan African countries; Botswana, Zambia, Mozambique, Kenya, Tanzania, Uganda, Nigeria and Ghana from 1998-2010 using Pearson Correlation Coefficient. He found that, the height of the corporate tax rate does not affect foreign investor's investment decision.

A joint study by (Van Parys and James, 2010) on the title "The effectiveness of tax incentives in attracting investment: panel data evidence from the CFA Franc zone". They analyzed the policy changes in tax incentives and in the other investment climate variables for 12 CFA Franc Zone countries over the period 1994–2006. They investigated that to what extent tax incentives are effective in attracting investment in Sub-Saharan Africa based on the neo-classical investment theory prediction that tax incentives, by lowering the user cost of capital, raise investment. They found that no robust positive relationship between tax holidays and investment in the CFA Franc zone. However, increasing the number of legal guarantees for foreign investors and reducing the complexity of the tax system helps to attract investment.

2.3.3 Empirical evidence against tax incentives

A study conducted by (Mosioma, 2009) on the title "Tax Competition: The role of Tax incentives in encouraging harmful tax competition in the East African Flower industry" he agreed that using tax incentives to attract or retain mobile capital does not provide a sustainable basis for creating jobs or achieving any tangible economic development. The costs of such policies far outweigh the benefits with the major beneficiaries being the multinational companies. The incentives encourage unhealthy competition among states and at the same time create an imbalance between domestic enterprises and MNCs to the advantage of the latter.

A joint study conducted by (TJN-A & AAI, 2012) indicated that, the government of Kenya is providing a wide range of tax incentives to businesses to attract greater levels of Foreign Direct Investment into the country. The study showed that such tax incentives are leading to very large revenue losses and are anyway not needed to attract. Recent government estimates are that Kenya is losing over KShs 100 billion (US$ 1.1 billion) a year from all tax incentives and exemptions. Of these, trade-related tax incentives were at least KShs 12 billion (US$ 133 million) in 2007/08 and may have been as high as US$ 566.9 million. Thus the country is being deprived of badly-needed resources to reduce poverty and improve the general welfare of the population. In 2010/11, the government spent more than twice the amount on providing tax incentives (using the figure of KShs. 100 billion) than on the country's health budget – a serious situation when 46% of Kenya's 40 million people live in poverty (less than US$ 1.25 a day). In total Kenya, Uganda, Tanzania, and Rwanda are losing up to USD 2.8 billion a year from all tax incentives and exemptions (TJN-A & AAI, 2012).

A research conducted by (Action Aid, 2014) on the title "Investment incentives in Ghana: The Cost of Social Development". The research investigated that, Ghana is using tax incentives to attract Foreign Direct Investment and to increase export earnings in the country. The study believed that, overall lower tax rate increase Ghana's competitiveness in the region but undermine the harmonization of trade and investment regimes across the sub-region through initiatives such as the ECOWAS Common External Tariffs (CET). Ghana's trade and investment strategy has invariably contributed to the "race to the bottom" phenomenon that has bedeviled the sub-region in the last three decades. In respect of Ghana's location tax incentive regime, the study found that contrary to popular assertions, tax incentives on their own do not attract but other factors such as skills pool, availability of social and infrastructural facilities such as good schools, health facilities, road network, electricity etc. may also count as significant considerations in investment decisions. The study estimated that Ghana may be losing close to US$1.2 billion annually as a result of tax incentives. This is usually about half the entire annual Government of Ghana budget for education. While the study recognized some usefulness of tax incentives, it emphasized the need to gauge how much is given as tax incentives against the expected benefits. The study also investigated

that, parliamentary approval is required in the granting of tax incentives but evidence from this study showed that parliamentary approval is sometimes by-passed, resulting in excessive and unregulated granting of tax incentives.

A joint study by (TJN-A & AAI, 2012) on Tanzania showed that the government has for a long time provided a wide range of tax incentives with the aim of attracting and retaining greater levels of Foreign Direct Investments into the country. The presence of these tax incentives has enabled mining companies to effectively escape taxation altogether. This showed how such tax incentives are leading to very large revenue losses in the mining sector and how such incentives are not necessarily needed to attract. The government of Tanzania has confirmed to have lost Tanzanian Shilling of 1.7trn/- during the 2013/14 fiscal year owing to tax breaks which is an increase of 2bn/- compared to the 1.5trn/- exempted in the 2012/13 (The Guardian, 2014).

The study conducted by (Curtis, 2014) where current tax incentives are resulting in massive revenue losses for Sierra Leone. They estimated that the government lost revenues from customs duty and Goods and Services Tax exemptions alone worth Le (Sierra Leonean Leone) 966.6bn (US$224m) in 2012, amounting to an enormous 8.3 per cent of GDP. In 2011, losses were even higher – 13.7 per cent of GDP. The annual average loss over the three years 2010-12 was Le 840.1bn (US$199m). There had been a massive rise in revenue losses since 2009 the result of tax incentives granted to the mining sector in relation to the major investments that took place during 2010-2012. The study also estimated that, If tax expenditure continues in its present trend, it is likely that Sierra Leone will lose more than US$240m a year from tax incentives in the coming years. Tax expenditures could instead be spent on improving education and health services, investing in agriculture – the backbone of the economy – and in providing social protection to vulnerable groups.

According to The African Development Bank (AfDB, 2012) estimates that losses from tax incentives and exemptions are “at least 2%” of GDP in Uganda. This amounts to around UShs 690 billion (US$272 million) in 2009/10.

A joint study by (Blomström and Kokko, 2003) on the title "The Economics of Incentives" found that the use of investment incentives focusing exclusively on foreign firms is generally not an efficient way to raise national welfare. The potential spillover benefits are realized only if local firms have the ability and motivation to invest in absorbing foreign technologies and skills.

2.3.4 Studies that found mixed results on Tax incentives and FDI

A joint study by (Oniyewu and Shareshta, 2005) on the title "Tax Incentives and Foreign Direct Investment in the MENA Region" using Fixed and Random Effects regression from 10 MENA countries for the period from 1990-1999. The researchers found that despite the barrage of tax incentives offered by MENA countries to attract Foreign Direct Investment, the flow of FDI to the region continues to be abysmal and disappointing. Using fixed effects panel regressions, the paper explored the relationship between tax incentives and the flow of FDI to MENA countries. The results showed that taxes on international trade are significant, albeit marginally, for flows to MENA countries. Contrary to results for other regions, corporate income taxes are insignificant for flows to the MENA region. Macroeconomic and institutional variables such as economic growth, infrastructures, and government consumption are, however, important for flows to MENA countries

2.3.5 Studies with no clear cut relationship between tax incentives and FDI

According to (Panagiota, 2010) the existing theoretical studies about factors affecting inflows have not reached to a clear-cut theoretical framework, the results of existing empirical studies are also diverse, Empirical studies differ according to the methodologies that are applied, the explanatory - variables, the control-variables, the data-sources as well as the countries or regions that are chosen.

2.3.6 Studies that concluded that tax incentives alone are not sufficient to attract FDI

A joint study by (Tobin and Walsh, 2013), on the title "What Makes a Country a Tax Haven? An Assessment of International Standards Shows Why Ireland Is Not a Tax Haven" the study concluded that Ireland's low corporation tax rate alone is not sufficient to consider Ireland a tax haven. For policymakers, issues related to transparency, exchange of information and economic substance are of more importance. The authors also believed that, Ireland does not meet any of the OECD criteria for being a tax haven but because of its 12.5 per cent corporation tax rate and the open nature of the Irish economy, Ireland has on a few occasions been labeled a tax haven.

The study conducted by (Haiyambo, 2013) on the title "Tax Incentives and Foreign Direct Investment: The Namibian Experience" The study posed a general question of whether or not foreign direct investment inflows have come to Namibia because of the tax incentives offered to foreign investors; and thus whether or not offering such incentives has been beneficial to the country. The study reviewed the FDI inflows into Namibia assessed the benefits and costs through an investigation of related indicators and making inferences. The study used secondary data and a survey of foreign investors was also administered. The study investigated that the abundance of natural resources in Namibia might have been the key driver in attracting FDI. The tax incentives offered as well as other factors that usually determine the prevailing investment environment of a country might have played a complimentary role. Other factors include investors' trust in the country's economy, the functioning of government and availability of good infrastructure, which are important considerations for investors when selecting a location for their investment.

A study by (Massoud, 2005), on the title "Assessment of FDI Incentives in Egypt" since the open door policy in 1974 did not have a significant effect on the volume of FDI inflows attracted to Egypt and placed budgetary burdens on the Egyptian tax-payers. The paper quantitatively estimated the effect of the incentives offered by Egypt to foreign investors in Law 8/1997, on the incremental increase in FDI inflows to Egypt and on the cost born by the

budget to support these incentives. It was concluded that the policy on FDI in Egypt should have focused on deriving macroeconomic benefits from rather than on attracting the FDI.

A joint study by (Dharmapala and R. Hines, 2009) on the title "Which countries become tax havens?". They analyzed the factors influencing whether countries become tax havens. They found that, roughly 15% of countries are tax havens; as has been widely observed, these countries tend to be small and affluent. Controlling for other relevant factors, governance quality has a statistically significant and quantitatively large association with the probability of being a tax haven. For a typical country with a population under one million, the likelihood of a becoming a tax haven rises from 26% to 61% as governance quality improves from the level of Brazil to that of Portugal. Evidence from US firms suggested that low tax rates offer much more powerful inducements to foreign investment in well-governed countries than do low tax rates elsewhere. This may explain why poorly-governed countries do not generally attempt to become tax havens, and suggests that the range of sensible tax policy options is constrained by the quality of governance.

2.3.8 Studies conducted in Ethiopia on the effectiveness of Tax incentives in attracting FDI

A study conducted by (Simret, 2013) on the title "The effectiveness of tax incentives in attracting Foreign Direct Investment to Ethiopia" analyzed the effectiveness of tax incentive in attracting foreign direct investment to Ethiopia. Using panel data econometric model, the study analyzed the differential impacts tax incentive has on different sector by disaggregating in to ten sectors. Dummy variables are used to indicate the presence and absence of tax incentives, tax holiday and custom duty exemption. Panel data on 10 sectors over the period of 1992-2012 and an econometric model that include tax holiday, custom duty exemption and control variables (market size, political stability, and trade openness) were used in the analysis. The empirical result showed that of the tax incentives, only tax holiday was found significant while custom duty exemption is insignificant in the general model. Among the control variables, openness of the economy was significant. However when sectoral distribution of FDI is taken into account, tax holiday have significant impact only on the

manufacturing sector while custom duty exemption have a significant impact on construction and electricity and water supply sectors. On the other hand market size and openness of the economy were found important in attracting to the country.

2.4 Non Tax Factors determining FDI

Different researcher also carried out various studies in finding out the major factor determining FDI other than tax incentives. Such studies have a great importance in allocation country scarce resources to the most influential factors that contributes to the development of the country. Some of the researchers and their findings will be explained in the below section.

2.4.1 Determinants of FDI in the world

In the following section studies that focus on other factors determining FDI will be presented since my study will look for other determinants of FDI other than tax incentives.

(Moosa and Cardak, 2003) Conducted a study on the title "The Determinants of Foreign Direct Investment: An Extreme Bounds Analysis" applying extreme bounds analysis to a cross-sectional sample encompassing data on 140 countries over the period 1998-2000. Using dependent variable which is measured by the UNCTAD's inward FDI index and the independent variables used are, Real GDP per capita, Growth rate of GDP over the previous ten years, Exports as a percentage of GDP, Telephone lines per 1000 inhabitants, Commercial energy use per capita, R&D expenditure as a percentage of gross national income, Students in tertiary education as a percentage of total population, and Country risk. With GDP per capita serving as the free variable, they found that, exports as a percentage of GDP and telephone lines per 1000 of the population had a greater impact on FDI.

2.4.2 Determinants of FDI in developed countries

A study conducted by (Akpan et.al., 2014) on the title "Determinants of Foreign Direct Investment in Fast-Growing Economies: A Study of BRICS and MINT" using panel analysis

to examine the determinants of foreign direct investment in Brazil, Russia, India, China, and South Africa (BRICS) and Mexico, Indonesia, Nigeria, and Turkey (MINT) using data for eleven years i.e. 2001 – 2011. First, it used pooled time-series cross sectional analysis to estimate the model on determinants of FDI for three samples: BRICS only, MINT only, and BRICS and MINT combined; then, random effects model is also employed to estimate the model for BRICS and MINT combined. The study used net FDI inflow as an independent variable. GDP, Natural resource, Infrastructure number of mobile phones per 100 persons, Inflation, Trade openness, and Institutional index used as independent variables. They found that market size, infrastructure availability, and trade openness play the most significant roles in attracting FDI to BRICS and MINT while the roles of availability of natural resources and institutional quality are insignificant.

A research conducted by (Gentvilaitė, 2010) on the title "Determinants of FDI and its Motives in Central and Eastern European Countries" which analyzed FDI determinants in 10 Central and Eastern European countries. With panel regression analysis it aimed to explain the differences of FDI inflow levels to the countries. The researcher found that private sector; openness, R&D expenditures and infrastructure are significant determinants of FDI.

2.4.3 Determinants of FDI in MENA (Arab) Countries

A joint study made by (Hasen and Gianluigi, 2010) on the title "The determinants of FDI" which focused on the determinants of FDI inflows to Arab Maghreb Union (AMU) countries. The paper empirically evaluated the relative impact of the factors, as identified in the literature, that influence FDI flows into the Maghreb region between 1990-2006 using simultaneous-equation regressions for panel data. Market size, growth in market size, openness to trade, exchange rate, Inflation, Government Expenditure to GDP, and FDI Lag were used as an independent variables. They found that Maghreb countries are different from other developing countries with regard to the determinants of FDI flows. For instance trade openness and foreign market are not significant for FDI flows to Maghreb countries, while other determinants such as growth in market size and existing stock of are significant and carry the expected signs. The exchange rate has the opposite sign that the one predicted by

previous studies that indicate that investment in the local market is used as a substitute to exporting.

2.4.5 Empirical evidence in Developing Countries -Africa

A joint study conducted by (Adegbite et.al, 2012) which empirically examined the influence of foreign exchange rate on the inflow of foreign direct investment in Nigeria. Using time series data from 1970-2009 and applying generalized method of moments (GMM) technique, the study found that exchange rate has a significant and positive influence on in Nigeria.

As (Etim et.al., 2014) conducted a research in Nigeria on the title "The determinants of and their impacts on the Nigerian economy (1975 – 2010)" they examined the determinants of foreign direct investment and their impact in Nigeria from 1975 – 2010. Specifically, they determined how exchange rate, market size (GDP), investment in infrastructure, openness and political risks have impacted on the flow of in Nigeria from 1975 – 2010. In analyzing the data using Ordinary Least Square (OLS), and co-integration Error Correction Method (ECM) they found out that Market Size (GDP), openness, and exchange rate impact much on FDI inflow while political risk was unfavorable to it.

A study conducted by (Kudaisi, 2014) provided an evidence on the title "An empirical determination of FDI in West Africa Countries: A Panel data analysis:" which investigated the determinants of FDI in sixteen countries in West African by empirically. Panel data were used in cross-country regressions. They found that, West Africa is mainly affected by natural resources and labour availability, GDP per capita which is used as a proxy for capital-labour endowment, Market size of the countries proxy by GDP growth rate and official exchange rate.

A research conducted by (Khachoo and Khan, 2012) using a panel econometric model, the factor determining FDI inflows to developing countries over a long period. The study was based on a sample of 32 developing countries. Using data from 1982 to 2008, a panel data estimator suggested that the market size, total reserves, infrastructure and labour costs are the main determinants of FDI inflows to developing countries.

As (Mijiyawa, 2012) analyzed factors that drive Foreign Direct Investments in Africa. The paper used five-year panel data with the system-GMM technique, over the period 1970-2009 including 53 African countries. The study found that (a) larger countries attract more FDI. (b) However, regardless of their size, more open countries, politically stable countries and countries offering higher return to investment also attract FDI. (c) FDI inflows are persistent in Africa.

(Ibrahim et.al, 2012) investigated the key determinants of net FDI inflows in Africa using a recent panel data of 31 countries for 26 years (1984-2009 by adopting both baseline static and dynamic panel data models, they provide evidence that market size, past levels of inward FDI, corruption, domestic credit, share of oil in exports and religious tension risk are significant drivers of inward FDI in Africa. Their work revealed that FDI to Africa is market-seeking and follows oil economies. They also argued that significance of the lagged dependent variable is an evidence of another concentration pattern (i.e. agglomeration effects). FDI to the continent seems to be concentrated in places where there is already prior inward FDI. Most of the political and institutional risk indicators are found to be insignificant. Domestic bank credit is instrumental to FDI inflows, but only in the presence of quality bureaucracy.

A research conducted by (Anyanwu, 2012) using cross-country regressions for the period 1996-2008 indicated that: (i) there is a positive relationship between market size and FDI in flows; (ii) openness to trade has a positive impact on FDI flows; (iii) higher Financial development has negative effect on in flows; (iv) the prevalence of the rule of law increases in FDI flows; (v) higher FDI goes where foreign aid also goes; (vi) agglomeration has a strong positive impact on in flows; (vi) natural resource endowment and exploitation (such as oil) attracts huge FDI ; (vii) East and Southern African sub-regions appear positively disposed to obtain higher levels of inward .

A study conducted by (Berthault, 2009) found that FDI in African countries is largely driven by their natural resources or aimed at the local market. (Hussain and Kabibi, 2012) On the title “Determinants of Foreign Direct Investment Flows to Developing Countries” using

foreign direct investment to developing countries based on macro panel data of 57 low and lower middle income countries for last ten years (2000-2009) to empirically address this question. The study found that market size is the most important determinant of foreign direct investment to developing countries. Further, stable macroeconomic environment, global integration, availability of skilled labor force and developed financial sector also promote foreign direct investment in developing countries.

(Abdul and Kalirajanb, 2010) conducted a study on the title "Determinants of Foreign Direct Investment in Developing Countries: A Comparative Analysis" Using panel data from 68 low-income and lower-middle income developing countries, they found that countries with larger GDP and high GDP growth rate, higher proportion of international trade and with more business friendly environment are more successful in attracting FDI .

A similar study by (Naude´ and Krugell, 2007) on a cross-country econometric approach to identify the determinants for foreign direct investment in Africa using a dynamic one-step generalized method of moments (GMM) estimator. They concluded that geography does not seem to have a direct influence on FDI flows to Africa. Neither market-seeking nor re-exporting motives of seem to dominate, with different policy instruments being significant in the different specifications. This does not discount the importance of good policies, but probably indicates the importance of good policies made by good institutions. Institutions, in the form of political stability showed up as a significant determinant of FDI.

A joint study by (Cevis and Burak, 2007) employing a panel data set of 17 developing countries and transition economies for the period of 1989:01-2006:04. In their model there are seven explanatory economic variables. They found out that the previous period which is directly related to the host countries' economic resources is important as an economic determinant. Besides, it is also understood that the main determinants of FDI inflows are the inflation rate, the interest rate, the growth rate, and the trade (openness) rate and FDI inflows give power to the economies of host countries.

2.4.6 Determinants of FDI in (Sub Saharan) and Africa Countries

As per (Dupasquier and Osakwe, 2005) the factors such as political and macroeconomic instability, low growth, weak infrastructure, poor governance, in hospitable regulatory environments, and ill-conceived investment promotion strategies, are identified as responsible for the poor record of the region. The paper stressed the need for more trade and investment relations between Africa and Asia.

According to (Sichei and Godbertha, 2012) that examined determinants of foreign direct investment based on panel data evidence on a sample of 45 African countries over the period 1980 to 2009. Using dynamic panel data estimation techniques, they found that FDI inflows to Africa depend on agglomeration economies, existence of natural resources, real GDP growth, domestic and international policy, among others.

A research conducted by (Tesfanesh, 2012) on the title "Determinants of Foreign Direct Investment Inflows to Sub-Saharan Africa: a panel data analysis" on identifying the determinants of foreign direct investment inflow in Sub-Saharan Africa. The study employed panel data analysis: pooled ordinary least square method, fixed effects and Random Effect methods. Fourteen Sub-Saharan Africa countries were sampled for the study. The analyzed data covered for the period 1986-2010. She found 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.

2.4.7 Determinants of FDI in East Africa and Ethiopia

(Otieno et.al, 2014), they investigated the effect of regional integration on Foreign Direct Investment in East Africa Community countries. They applied Generalized Least Squares to examine this relationship. Regional integration did not have any effect on Foreign Direct Investment flows into the region. The degree of political risk and financial stability were positive and significant.

A study conducted by (Henok, 2014) on the title" Determinants and Impediments of FDI in flows in Ethiopia - A Firm Level Investigation" based on data collected both through qualitative and quantitative techniques, a questionnaire to samples of 50 foreign firms found in Addis Ababa from the total 270 firm of foreign firms based in the capital Addis Ababa and the nearby cities, and public servants of EIA were taken to collect information. He found that domestic and regional market opportunity seeking, political and social stability and favorable climate are the three main drivers of FDI to Ethiopia. While 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.

A study conducted by (Mohapatra, 2014) on the title "Foreign Direct Investment Inflows to Ethiopia during 1992 to 2012: An Empirical Analysis" during the period 1992 to 2012. Using an econometric model used by UNCTAD 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.

A joint study by (Getinet and Hirut, 2005) also conducted a research on the title "Determinants of Foreign Direct Investment in Ethiopia: A time-series Analysis" The paper attempted to study the nature and determinants of foreign direct investment in Ethiopia over the period 1974-2001. They found that growth rate of real GDP, export orientation, and liberalization, among others, have positive impact on FDI. On the other hand, macroeconomic instability and poor infrastructure have negative impact on FDI. These findings imply that liberalization of the trade and regulatory regimes, stable macroeconomic and political environment, and major improvements in infrastructure are essential to attract FDI to Ethiopia.

A study by (Amanuel, 2014) FDI on the title Factors affecting FDI Flow in Ethiopia: An Empirical Investigation". The study utilized five variables including market size, level of trade openness; inflation rate, infrastructure, and human capital were used. Time-series data covering a 21-year period (1990-2011) were obtained from the World Bank and analyzed using multivariate ordinary least square regression. He found that level of trade openness and inflation rate of Ethiopia have had a significant impact on the flow of foreign direct investments to Ethiopia. No clear relationship was obtained for market size, infrastructure, and human capital.

2.5 Arguments in favor and against tax incentives

2.5.1 Arguments in Favor of Investment Tax Incentives

Arguments in favor of investment tax incentives are widely known. According to proponents, tax incentives clearly enhance returns on investment; they may be justified by positive externalities stemming from investments; they are relatively easy to target and fine tune; they signal openness to private investment; they are useful in a world of capital mobility; they are necessary for responding to tax competition from other jurisdictions; and they compensate for other deficiencies in the investment climate. Another common argument is that incentives can actually enhance revenue by stimulating investments that generate other taxable income via employment and linkage effects. Tax incentives also offer political advantages over direct expenditure programs to stimulate investment. Finally, proponents point out that tax incentives have been successfully used in well known cases like Malaysia, Ireland, and Mauritius (Bolnick, 2004).

2.5.2 Arguments against Investment Tax Incentives

Arguments in against investment tax incentives are Revenue Loss; Indirect revenue costs which occurs if the tax-favored activities undercut the profitability of other producers who do pay taxes; Revenue Leakage through Avoidance and Evasion since Tax incentives often create opportunities for businesses and individuals to engage in "aggressive tax planning"—a polite term for tax avoidance; Impact on Tax Administration due to the fact that Incentive programs encumber tax administration in several ways. First, selective incentives require

applying different rules to different taxpayers, which inherently complicates the system. Second, preventing and controlling the abuse of loopholes absorbs highly skilled administrative resources. Third, senior tax administrators should be and generally do participate in designing tax incentives, screening applicants, and monitoring performance; Economic Cost of Fiscal Adjustment, To the extent of these revenue losses, other fiscal adjustments are needed to cover the concomitant budget gap. These are not well understood by most stakeholders, yet they can be decisive in determining whether investment tax incentives foster growth and development.

Tax incentives reduce efficiency and productivity in two main ways: Fostering low productivity. Tax incentive programs tend systematically to foster investments with a low or marginal rate of return; Equity, Selective tax incentives that are badly designed or carelessly implemented may create inequities by giving tax-preferred producers an unfair advantage in competing with companies that pay full tax. When this occurs, the unfairness undoubtedly affects tax compliance, as well; Lack of Transparency. The fiscal cost of a tax break is much less visible than the cost of alternative investment promotion policies that involve actual budget outlays. In addition, the actual economic costs associated with tax incentives are indirect and difficult to monitor; Political Dynamics, Tax incentives are a form of subsidy. They have a direct cash value to recipients, often involving large amounts of money. Consequently, companies and business groups have strong motivation to lobby for tax incentives and to exaggerate the prospective economic benefits. If incentives are provided to selected industries or regions, businesses and politicians representing other industries and regions use these precedents as arguments for pressuring government to broaden the programs and to interpret the eligibility rules liberally (Bolnick, 2004).

Using tax incentives to compensate for deficiencies in other aspects of the investment climate is attractive on the surface. The tax system is not a major determinant of viability for most projects.

Experience Shows That Tax Incentives Usually Don’t Work! Success in using tax incentives to spur efficient investment and rapid development is the exception rather than the rule. Most

developing countries have tried for many years to promote investment through tax incentives with disappointing results. Even the introduction of export processing zones (EPZs) has failed more often than succeeded (Bolnick, 2004).

2.6 Summaries of Literature gap

The review of the literature reveals the existence of many gaps of knowledge in respect of the effectiveness of tax incentives in attracting FDI. A research conducted by (Cleeve, 2008) was using a cross country data and focuses on the aggregate hence it doesn't show the impacts of tax incentives at sector level.

(Haiyambo, 2013); (Stapper, 2010); (Babatunde and Adepeju, 2012), relied on descriptive statistics (Karl Pearson coefficient of correlation 'r') in analyzing the relationship between tax incentives and without attempting to see the strength of the relationship between and the determining factors and to control the effects of the interdependence that might exist among the factors. In addition to this, a survey of foreign investors yielded a very low response rate. Finally the study suggested using assessments such as those by the World Doing Business and World Competitiveness Reports of the World Bank which is not the results of the study.

Most of the studies conducted on the impacts of Tax incentives on are cross country. Not only the cross country studies but also studies that are conducted on the Sub Saharan Africa countries exclude Ethiopia from the research.

As to the knowledge of the researcher, there is only one study conducted in Ethiopia on the effectiveness of Tax incentives in attracting FDI by (Simret, 2013). Her study focused on the impacts of tax incentive on FDI at sector level but ignores impacts of tax incentive on aggregate FDI. In my research both FDI in aggregate and at sector level will be considered.

The determinant factors of FDI are conducted in most cases excluding tax incentives hence in this study tax incentives will be considered as one of the determinant factors of FDI. Few papers on tax incentives in Ethiopia that already exist suggest that the topic is worth pursuing

further. This calls for further research to be carried out especially in developing countries in order to come up with a conclusive answer.

As to the knowledge of the researcher, this study is one of the first to investigate the impact of tax incentives on foreign direct investment in Ethiopia using both FDI in aggregate and FDI at sector level.

2.7 Conceptual framework of Tax incentives and FDI

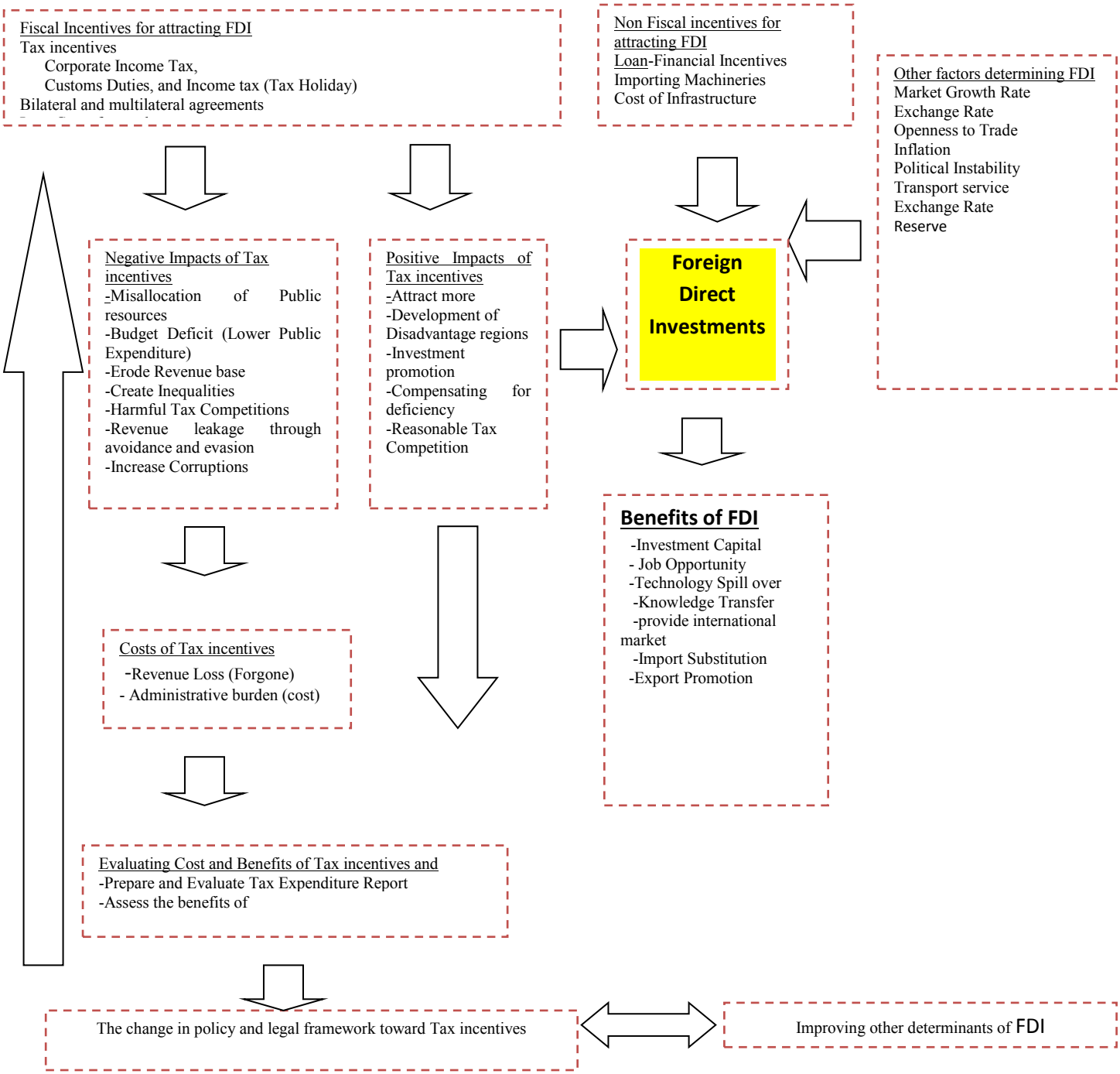


FIGURE 2-1 CONCEPTUAL FRAMEWORK FOR TAX INCENTIVES AND FDI
Source: Develop d by Author, 2014

As clearly depicted in the above Figure 2-1, there are different alternatives to attract these are Fiscal incentives, Non Fiscal incentives and other factors determining FDI. Tax incentives are one of the Fiscal incentives that are vital in attracting FDI. Tax incentives can be in the form of Customs Duties, Tax Holiday, Corporate Income Tax rate, and others. There are also Non Tax incentives such as financial incentives which include Loan granted to foreign investors, covering cost of infrastructure by the government, able to import machineries, etc. In addition to Fiscal and Non Fiscal incentives, other factors also affect the attraction of FDI in a given country. Some of the other factors affecting FDI include but not limited to, Market Size, Market Growth Rate, Exchange Rate Stability, Openness to Trade, Infrastructure, Political stability, and others.

Tax incentives have both positive and negative impacts on a given country. The major negative impact of tax incentives are Misallocation of Public resources, Budget Deficit (Lower Public Expenditure), Erode Revenue base, Create Inequalities, Harmful Tax Competitions, Revenue leakage through avoidance and evasion, Increase Corruptions and others.

The positive impacts of Tax incentives includes but not limited to attract more FDI, Development of Disadvantage regions, investment promotion, Compensating for deficiency, Reasonable Tax Competition. The major costs of tax incentives is revenue loss while it greatest importance is attracting FDI to the country.

FDI has a great importance to the host country in such a way that it increases Investment Capital, creates Job Opportunity, enable Technology Spill over and Knowledge Transfer, provide international market, supports Import Substitution, increase Export Promotion, etc.

The benefits and costs of tax incentives needs to be evaluated based on various mechanisms. Tax expenditure is the main instrument in reporting the tax exemptions to the public which in turn results amendment of policies related to tax incentives based on the net effect in the economy.

3. Chapter Three Research Design and Methodology

3.1. Introduction

This section comprises the procedures and activities involved in drawing logical conclusions on the research study. It deals with research design, the study period, data collection and statistical tools used in the study.

3.1 Research design

In order to see the impact of tax incentives in attracting Foreign Direct Investment in aggregate and at sector level in Ethiopia, the researcher adopts mixed research approach. The rationale of using such a mixed approach is to gather data that could not be obtained by adopting a single method (Creswell, 2003).

Hence this study, in light of the research questions, the quantitative method is predominantly used. However, to have a better insight and gain a richer understanding about the research problem, the qualitative method is supplemented by the qualitative method of inquiry.

3.2 Study Period

The period of this study covers Ethiopia over the period of market economy adoption which is from 1992 onwards. Data covering twenty two years, which is from 1992 to 2013, is obtained from various sources.

3.3 Data and data collection Methods

This paper is primarily based on secondary data by summarizing relevant research documents, annual reports of National Bank of Ethiopia, Ethiopian Revenue and Customs Authority, Ethiopia Investment Agency, Ministry of Finance and Economic Development Office, Tax Justice Network Africa, The World Bank Group, International Monetary Fund, Freedom House Annual Report, UNCTAD, Worldwide Governance Indicators, Investment

proclamation, Tax proclamations and other web. The study also uses published and unpublished statistical data held by ERCA.

In addition to secondary data, primary data will be used to obtain information that are not available in the secondary source. Unstructured interview will be conducted with selected office experts from ERCA and MoFED.

3.4 Sources and Types of data to be collected

EIA: Foreign Direct Investment in each sector; Job Creation from FDI; Regional and Sectoral distribution of FDI; Origin of FDI.

Investment Proclamations: Tax exemptions (Tax holiday and Custom duties) in each sector

Tax Proclamation: CIT rates

ERCA; Amount and Types of Tax exemptions (revenue forgone) such as Customs duty, VAT, Excise, Sur, Withholding, Tax Holidays, Total revenue collection

NBE: Exchange rate

MoFED: GDP, Real GDP growth rate, Budget Deficit, Government Expenditures, Inflation rate (Consumer Price Index)

Word Bank data base: FDI in USD, GDPGR, INF, TOP, TR, XR, RESERVPGDP

Freedom House: Political and Civil Right index

3.5 Methods of Data analysis

In order to analyze the data obtained from the reviewed economic and financial reports comprehensively, both descriptive and inferential statistics will be applied. Understanding and analyzing the overall effect of tax incentives in attracting FDI in Ethiopia is critical to this study, therefore, the validating procedures will be based on statistical analysis.

3.6 Statistical method

In the descriptive analysis, the simple ratio, percentages, Tables, Charts and Graph will be employed to analyze the data. Inferential statistics will be used and the study utilizes Time series data analysis technique involving multiple regressions for analyzing the impacts of Corporate tax rate on FDI (in aggregate) and Panel data - random effect model is also used to see the impacts of tax exemptions (Tax holiday and Custom duties) on FDI at sector level. Hence collected data will be analyzed by using eviews software 6.

3.7 Definitions of Variables for Time series Model

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 we 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. The main variables in the analysis for which data collected are:

Dependent variable - Foreign Direct Investments (FDI)

FDI 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 (World Bank, World Development Indicators, 2012). In line with the approach used in the Literature, the dependent variable used in this study is measured as the log of net foreign direct investment net inflows.

Independent variables:

Corporate Tax Rate

In this study, statutory income tax rate based on income tax act in Ethiopia will be utilized. There are several reasons for selecting statutory income tax rate than the others. First, statutory tax rate is the easiest way to measure tax burden level compared to other methods. Second, statutory tax rate plays an important role in country selection by multinational

companies because companies are more likely to choose a country with low tax rates. As such, this study hypothesizes that tax rate has a negative impact on FDI.

Foreign investors consider the nature of tax laws of host countries. (Oniyewu and Shareshta, 2005), argue that high levels of taxation would discourage FDI whilst low levels of taxes would encourage foreign investors; hence there is a negative relationship with FDI. Host countries then provide a lower tax environment in an effort to attract foreign investment. However, (Dunning, 2000) suggest that tax rates may not be the deciding factor in MNCs investment decisions, and that other location specific advantages may have a much greater effect.

Control variables:

Market Growth rate: GDP Growth Rate

One out of several key factors as determinant of FDI is host country's market growth rate. They can be measured by GDP growth rate. Investors, especially foreign investors, will be more captivated in countries with larger market growth rate, as indicated by GDP growth rate which reflects the level of potential growth in demand. Definition of GDP growth as (World Bank, World Development Indicators, 2012) clarified is the annual percentage growth rate of GDP at market prices based on constant local currency where the aggregates are based on constant 2000 U.S. dollars. The terminology of GDP itself is defined as the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Various studies indicate that GDP and GDP growth are an important sign to indicate market attractiveness. The proposed research hypotheses related to this variable are both GDP and GDP Growth have positive effect on FDI inflow (World Bank, 2014).

Openness to trade

Trade openness refers to a degree of which countries or economies permit or have international trade with others. Trade activities include import and export, inter countries investment, borrowing and lending, and repatriation of funds abroad. 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. Many of FDI take form as a substitution or complementary of export and import in an economy. Therefore, in this case, trade openness is expected to have a positive and significant effect on. The formulation of trade openness used in this study is a percentage of (Export + Import) / GDP. Data used are in current U.S. dollars (World Bank, 2014).

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. In this context, high or volatile inflation rate signifies an explicit evidence of country's instability and presents a barricade for FDI inflow. High inflation acts as deterrent of FDI inflow. Rate of return on investment get reduced because of inflation (World Bank, 2014).

Political instability

It is a dimension of governance which measures country risk with the expectation that it might have negative impact on inflows of FDI. Data for these indices are drawn from freedom house database. These indices take a value ranges between 1 and 7, with 1 representing good political environment and 7, weak political environment (Freedom house, 2014). Average index of political freedom and civil liberty is used to proxy this variable.

A stable political environment attracts more FDI than an unstable one. In less democratic countries there could be little respect for property rights and the rule of law. When governments change, foreign investors would want to be certain that such changes may not affect their investments and businesses in general (Oniyewu and Shareshta, 2005).

3.8 Definitions of Variables for Panel data Model

FDI in each sector

FDI flow to each sector in Ethiopia is used as a dependent variable. The sectors included in the analysis are Agriculture, Manufacturing, Mining, Education, Health, Hotel and Restaurants, transport and communication, construction, Electricity and water supply and real estate.

Tax Holiday (Dummy Variable)

Tax holiday has been implemented by many developing countries and transition economies in attracting FDI inflow. This incentive is intended toward new established firm rather than currently existing companies. New companies are exempted from the burden of income tax over a specified period of time and usually this period can be extended for a subsequent period at a lower tax rate. This study exploits tax holiday in each sector as a dummy variable, representing the presence or absence of tax holiday over the period of 1992 to 2013. Among these sectors tax holiday is given only for agriculture and manufacturing sectors. It has been given since 1992 (EIA, 2013).

Custom duties exemptions (Dummy Variable)

Customs duties which is duty free importation of goods is used as a dummy variable Except Mining, transport and communication and real estate all other sectors are exempted from custom duty on importation of capital goods and exporting their product (EIA, 2013). we expect a positive relationship between FDI and Custom duties.

Transport Service

Transport covers all transport services (sea, air, land, internal waterway, pipeline, space and electricity transmission) performed by residents of one economy for those of another and involving the carriage of passengers, the movement of goods (freight), rental of carriers with crew, and related support and auxiliary services. It also includes postal and courier services. Excluded are freight insurance (included in insurance services); goods procured in ports by nonresident carriers (included in goods); maintenance and repairs on transport equipment (included in maintenance and repair services); and repairs of railway facilities, harbors, and airfield facilities (World Bank, 2014). We expect a positive relationship between FDI and Tax holiday.

High infrastructure quality usually entails a developed network of roads, airports, sea ports, supply of water and electricity as well as internet networks and telephones (Oniyewu and Shareshta, 2005) Countries with these characteristics would usually attract flows therefore we would expect a positive relationship between infrastructure quality and inflow.

Exchange rate

(World Bank, 2014) Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar). The stability of domestic currency in relation to hard currencies brings more than the frequent large variations. Frequent large variations erode the values of foreign investor assets.

Exchange rate is the rate at which a country's currency can be exchanged for another. The Birr has suffered a lot of depreciation over the years in terms of exchange rate. Investment is affected by the rate of exchange in two ways. A depreciation of the exchange rate renders the Birr weaker in relation to the foreign currency. The investor is then in the position to have more of the Ethiopia currency from the conversion. On the other hand, the domestic private investor who depends on imports for his operations is also faced with the price at which to

convert his money for the currency of the imports. A depreciation of the exchange rate renders the imports more costly since he has less from the conversion. Thus a positive or a negative effect on private investment is expected.

The impact of the exchange rate on FDI could happen in two ways; lowering costs of production by MNCs; and by affecting the competitiveness of the goods produced which yield profit for the foreign firms. From these perspectives, there is no consensus on the relationship between exchange rate and (Lim, 2001) argues that the depreciation of a currency (increase in the exchange rate) could imply that foreign firms would be able to purchase assets and technology in the host country cheaply thus increasing . On the contrary, a decrease in the exchange rate, meaning an appreciation, would imply more foreign currency earnings for the foreign investors hence would increase FDI inflow.

Reserve as a percentage of GDP

Total reserves comprise holdings of monetary gold, special drawing rights, reserves of IMF members held by the IMF, and holdings of foreign exchange under the control of monetary authorities. The gold component of these reserves is valued at year-end (December 31) London prices. Data are in current U.S. dollars (World Bank, 2014). A positive relationship is expected between FDI and reserve.

FDI log Lag

The size of the existing FDI stock in host countries is an important consideration for foreign investors. The more FDI stock a country has, the more FDI will flow to that country. FDI lag is used to test the agglomeration effect. It is believed that the country which has FDI inflow is better in attracting new FDI inflow. Investors tend to invest in a country where there are foreign enterprises.

3.9 Measurement of Variables for Time series model

FIGURE 3-1 MEASURMENT OF VARIABLES - TIME SERIES MODEL

Types of variables	**Measurement (Proxy)**	**Expected Sign**	**Types of variables**
Net FDI inflow (in aggregate)	Net FDI Log		
Corporate Tax Rate	Annual CTR	-	Business variables
Market Growth Rate	Real GDP growth rate	+	Policy variables
Openness to trade	Ratio of import plus export to GDP	+	Policy variables
Inflation	Annual Inflation rate (Consumer Price Index)	-	Policy variables
Political Stability	Average index of political freedom and civil liberty	-	Policy variables

3.10 Measurement of Variables for Panel data model

FIGURE 3-2 MEASURMENT OF VARIABLE - PANEL DATA MODEL

Types of variables	**Measurement (Proxy)**	**Expected Sign**	**Types of variables**
FDI inflow in each sector	Log of FDI		
Tax Holiday (Dummy Variable)	The presence or absence of Tax holiday (TH…) Provision represented by: 1 for presence of TH, 0 for absence of TH	+	Business variables
Custom duties (Dummy Variable)	The presence or absence of Custom duties (CD…) Provision represented by: 1 for presence of TH, 0 for absence of TH	+	Business variables
Transport service	Log of Transport service	+	Policy variables
Exchange Rate	Annual Foreign Exchange rate	-/+	Policy variables
Reserve	Reserve as a percentage of GDP	+	Policy variables
FDI Lag	Lag of FDI log in each sector	+	

3.11 Model Specification

The researcher adopted two separate models in order to analyze the the impacts of Corporate tax rate and Tax exemptions on FDI in aggregate and FDI in each sector respectively.

3.12 Time series model - (Model-I)

Following to previous empirical researches of (Fahmi, 2012), this model employs five independent variables comprise of Gross Domestic Product Growth rate (GDPGR), Inflation (INF), Trade Openness (TOP), Corporate Tax Rate (CTR), Political instability (POL) while Foreign Direct Investment Inflow (FDILOG) is treated as dependent variable.

Since this study emphasized on the relationship between dependent variable (FDI inflow) and the independent variable taxation (Corporate tax rate), other independent variables will be treated as control variables.

Therefore, model specification of this study can be formulated as follow:

FDI= f (Corporate tax rate, Market growth rate, inflation, trade openness and, Political Instability)

From the above general model, the below detailed model is developed

(Model-I)

$$FDI_t = \beta 0 + \beta 1 CTR_t + \beta 2\ GDPGR_t + \beta 3\ INF_t + \beta 4\ D(POL)_t + \beta 5\ D(TOP)_t + \varepsilon_t$$

Where:

FDI $_t$: Net Foreign Direct Investment Inflow in USD at country level (in aggregate)

$\beta 0$: is an intercept of the model

Corporate Tax Rate: Statutory Corporate Tax Rate according to Income Tax Law

GDP Growth rate: Gross Domestic Product Growth rate

INF: Inflation based on Consumer Price Index

POL: Political Instability

TOP: Trade Openness on (Export + Import) / GDP

εt: is an error term and.

3.13 Panel data model (Model-II)

The study utilizes panel data analysis technique, involving multiple regressions, to determine the effects of tax incentives (tax holiday and custom duty exemption) on foreign direct investment in each sector.

Most researches have focused on the effects of tax incentives on aggregate FDI inflow and few of them taking sectoral distributions of rather than the aggregate one however this study

provides a departure by taking both the aggregate and sectoral distributions of FDI rather than any of the two.

Following to previous empirical researches of (Simret, 2013) and (Cleeve, 2004) (Cleeve, 2008) For this study we utilize multiple regression analysis involving random effect model in order to determine the factors that affect the inflow of FDI to each sector in Ethiopia.

The unspecified model is of the form:

$$FDI_{it} = A + \alpha INCENTIVE_{it} + \beta X_{it} + \varepsilon_{it}$$

Where FDI_{it} is the dependent variable measuring the inflow of FDI into sector *i* in time *t*. $INCENTIVE_{it}$ is the focus explanatory variable, tax incentives, proxied by tax holiday and exemptions from custom duty which are the most popular incentives used in Ethiopia. Given the difficulty of measuring tax incentives, this study uses dummy variable to show the presence and absence of tax incentives in sectors under consideration. It is assumed that both tax holiday and custom duty exemption take a value of 1 if the incentives are offered and zero otherwise. Vector X_{it} represent other variables which affect the inflows of FDI. These control variables are Transport service (TR), Exchange rate (XR), Reserve as a percentage of GDP (RSERVPGDP) and FDI Lag.

The model is modified to take special features of the country and theories in to account. it is the dependent variable measuring the inflow of to sector i at time t. which is defined as the birr (local currency) values of inflows in thousands.

Therefore, model specification of this study can be formulated as follow:

FDI_{it} = ***f (Custom duties, Tax holiday, Transport service, Exchange rate, reserve)***

From the above general model, the below detailed model is developed

$$FDI_{it} = \beta 0 + \beta 1 CUSTD_{it} + \beta 2\ TAXH_{it} + \beta 3\ TR_{it} + \beta 4 XR_{it} + \beta 5\ RESERVPGDP_{it} + \beta 6\ FDIlog(-1)_{it} + \varepsilon t$$

Where:

FDI_{it}: Net Foreign Direct Investment Inflow in Birr at sector $_i$ t-time

$\beta 0$: is an intercept of the model

CUSTD: Custom duties in sector i at time t

TAXH: Tax holiday in sector i at time t

TR: Transport service

XR: Exchange Rate

RESERVPGDP: Reserve as a percentage of Gross Domestic Product

FDIlog(-1): Lag of FDI (agglomeration effect)

εt: is an error term and.

3.14 Data Processing

(Gujarati, 2004), explained that regression analysis is a study concerning the relationship of dependent variable with one or more independent variables in estimating or predicting the population means or average of dependent variable from the fixed values of independent variables. In this study, the regression model is exercised in the form of linear regression. Regression type in which this study employs is a time series regression analysis by implementing Ordinary Least Square (OLS) method. OLS regression analysis constitutes an approach in predicting or forecasting the dependent variable based on one or more independent variable in such a manner that the error term or residual between predicted variable and real variable is minimized as small as possible.

In this study, since the limelight of this study is taxation, the objective of OLS regression is to forecast the relationship between FDI inflow and taxation, by keeping other independent

variables as control variables. Time series data covering 22 years from 1992 to 2013 will be processed using regression analysis by utilizing Eviews 6 econometrics software.

The reason of using OLS in this study are:- It is extensively used by many econometricians because of its intuitively appealing and relatively less complicated in terms of mathematics calculation than other methods; OLS offers the most reliable way under comfortable calculation in predicting the relationship between dependent variable and independent variable which is the main objective of this study; and Adequate data sufficiency needed in this method is of moderate size compared to sophisticated data requirement in other methods, which is hardly possible, to be retrieved.

In addition to time series model, Panel data regression models is selected because by combining time series of cross-section observations, panel data give "more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency." In addition to this Panel data can better detect and measure effects that simply cannot be observed in pure cross-section or pure time series data. By making data available for several thousand units, panel data can minimize the bias that might result if we aggregate individuals or firms into broad aggregates (Gujarati, 2004).

4. Chapter Four

4.1. Time series Model

4.1.1 Descriptive Analysis

Before we precede further to deep analysis of time series OLS, it is better to describe the nature of the variables we use in this regression. Descriptive statistics of dependent and independent variables in the model can be summarized as presented in table 4-1.

TABLE 4-1 SUMMUARIES OF DESCRIPTIVE STATISTICS

Statistics	FDI log	CIT	POL	INFL	TOP	GDPGR
Mean	18.55401	0.334091	5.068182	0.098682	0.403455	0.070364
Median	19.36777	0.3	5	0.081	0.402	0.087
Maximum	20.67508	0.5	6	0.444	0.561	0.136
Minimum	12.04355	0.3	4	-0.085	0.183	-0.087
Std. Dev.	2.028348	0.049729	0.495106	0.121261	0.113097	0.060038
Skewness	-1.798949	1.859657	0.327333	1.144044	-0.410889	-1.101003
Kurtosis	5.993059	6.624427	3.276157	4.610524	2.211429	3.421208
Jarque-Bera	20.078	24.72229	0.462779	7.176704	1.189065	4.60739
Probability	0.000044	0.000004	0.79343	0.027644	0.55182	0.099889
Sum	408.1883	7.35	111.5	2.171	8.876	1.548
Sum Sq. Dev.	86.39814	0.051932	5.147727	0.308791	0.268611	0.075695
Observations	22	22	22	22	22	22

This study covers 22 observations from 1992 to 2013. One dependent variable (FDI log) and five independent variables (Corporate tax rate, Political stability, inflation, Trade Openness, and GDP Growth rate) are summarized in the above table 4-1. Using anti log formula, FDI log has a mean of $114,262,615.30 and standard deviation of 7.953827 which shows that the data are not equally spread. The difference between the maximum and the minimum FDI log is due to the fact that there were very low FDI ($ 170,000) in the year 1992 followed by a historic peak of $ 952,959,700.00 in 2013 However, it is still permissible to incorporate the

data into OLS regression analysis. Moreover, the summary of the data shows that all variables have positive average even though some of them have negative value as shown in the minimal value of inflation and GDP Growth rate. CIT has an average rate of 33.40% which is closer to the existing rate of 30%. Inflation has a mean of 9.86% but there were great variation between maximum (44.4%) and minimum rate (8.5%) which shows that the existence macroeconomic instability in the country. POL has an average index of 5.06 which shows that the country has partial stability. GDPGR has an average rate of 7.03% which is very low as compared to the existing double digit growth rate since the growth rate from 1992-2004 were single digit except in the year 1993 and 1996.

Even if some of the variables have non normal distribution, the normality assumption for linear regression applies to the error term, not to the outcome variable and most certainly not to the explanatory variable.

To be more precise about the trend of the main variable in time series, figure 4.1, and 4.2, illustrate the series of variable CIT and FDI inflow consecutively.

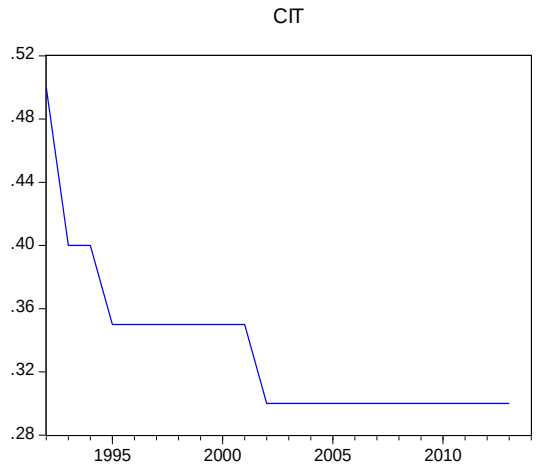


FIGURE 4-1 TRENDS OF CIT

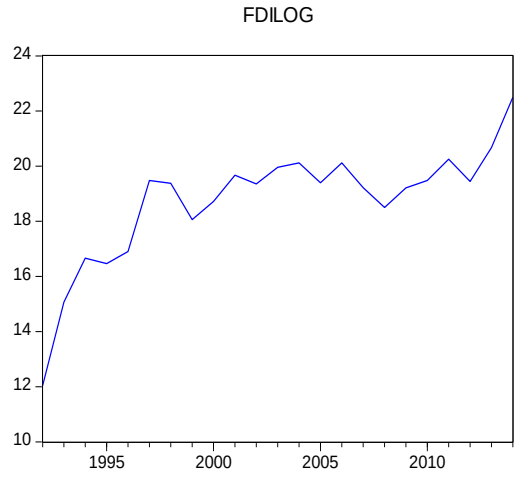


FIGURE 4-2 TRENDS OF FDILOG

The above figures (Figure 4-1 and Figure 4-2) clearly show the gradual decline of CIT until it reaches to 30% in 2002 and in the contrary FDI log is increasing sharply since 1992.

4.1.2 OLS Basic Assumption Test

4.1.2.1 Multicollinearity

The first basic assumption test which will be undertaken here is multicollinearity test. Multicollinearity means that independent variables should not correlate one another. If correlation exists between independent variable, then we are in the state of multicollinearity problem. In this case, the regression model will end up with an incorrect or erroneous result and therefore, invalid conclusion will be prevailed. 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). Table 4-2 shows that, the maximal absolute correlation value among independent variables is -0.478542 which exists between INFL and CIT 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 we do not have multicollinearity.

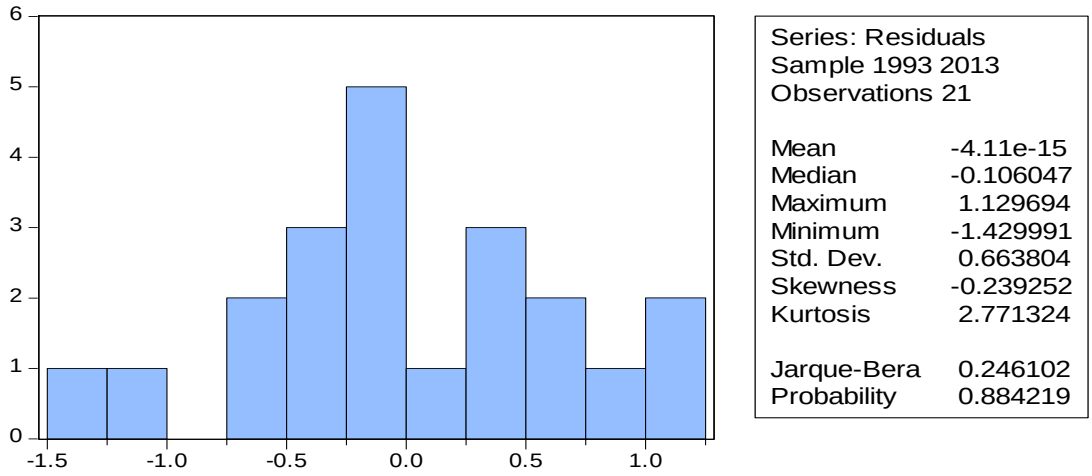
TABLE 4-2 CORRELATION RESULT AMONG INDEPENDENT VARIABLES

Variables	**CIT**	**D(POL)**	**INFL**	**D(TOP)**	**GDPGR**
CIT	1				
D(POL)	-0.004216	1			
INFL	-0.478542	0.313937	1		
D(TOP)	0.207627	0.198114	-0.08027	1	
GDPGR	-0.226312	-0.09376	0.160805	-0.23958	1

4.1.2.2 Normality Test of residuals

One of the assumptions of linear regression analysis is that the residuals are normaliy distributed, at mean zero and standard deviation of one. This study applied Jarque-Bera test to detect normality problem in the model. Null hypothesis in Jarque-Bera test is that the data have been normally distributed. If we select 5% level of significance, then we may reject the null hypothesis Jarque-Bera test is below 5%; otherwise we have no option but to accept null hypothesis and conclude that the residual data are normally distributed (Brooks, 2008).

FIGURE 4-3 NORMALITY GRAPHOF THE RESIDUALS



As can be seen in the above graph 4-3 and the associated table on the right side of the graph, the P-value of Jarque-Bera (JB) test is 0.884219 which is much higher than 0.05 (5%) hence the null hypothesis of the data is normally distributed is not rejected.

4.1.2.3 Autocorrelation Test

Autocorrelation test is conducted by applying Durbin-Watson Test (d-statistics) and Breusch-Godfrey Serial Correlation LM Test. According to Gujarati (2005), the area in which we do not reject null hypothesis and decide that we do not have autocorrelation problem in the model is if the Durbin Watson value is located between d_U and 4-$d_{U..}$ As figure 4-6 of the differenced regression result of the model shows, Durbin Watson statistics value is 1.905062

which is clearly located between d_L (0.829) and d_U (1.964). Therefore, it is considered that the result is inconclusive to conclude the absence or presence of autocorrelation. However the BG test (at 2 lags) which is shown in the below Figure 4-4 clearly presents the absence of autocorrelation hence the null hypothesis of there is no auto correlation is not rejected as per the p-value of 0.9960 and 0.9935 for the F -statistic and Obs*R-squared respectively.

FIGURE 4-4 SERIAL AUTO CORRELATION TEST

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.004058	Prob. F(2,13)	0.9960
Obs*R-squared	0.013104	Prob. Chi-Square(2)	0.9935

4.1.2.4 Heteroscedasticity Test

Heteroscedasticity test aims at testing whether the regression model has constant residual variance for each observation. If the residual variance of each observation is different, we conclude that there is a heteroscedasticity. This study carries out White test for heteroscedasticity. The null hypothesis of this test is homoscedasticity or constant variance. At 5% level of significance, if the White p-value > 5%, it is possible to conclude that we have no heteroscedasticity problem. As per the below Figure 4-5, all of the three tests are greater than 5% hence we don't reject the null hypothesis of the constant variance of the residuals.

FIGURE 4-5 HETROSKEDASTICITY TEST

Heteroskedasticity Test: White

F-statistic	2.049586	Prob. F(5,15)	0.1293
Obs*R-squared	8.523729	Prob. Chi-Square(5)	0.1296
Scaled explained SS	3.851604	Prob. Chi-Square(5)	0.5710

4.1.3 Unit root test

We proceed to perform formal unit root tests using the Augmented Dickey-Fuller. The results reported below were carried out with intercept but no trend. As can be seen from the results given in Table 4-3 below, the unit root tests using intercept only suggest that few series (TOP and POL) are non-stationary in level and become stationary after first differencing. Hence Most of the variables are stationary at level i.e. *I*(0) series. This implies that the null hypothesis cannot be rejected and that the time-series has to be differenced. We then conduct the same tests on the first difference of the time series. As can be seen from the test results on the first difference given in Table 4-3, the null hypothesis has been rejected for all variables indicating that all variables become stationary at their first difference.

In order to avoid spurious regression non stationary variables are converted to stationary variables to this end TOP and POL are integrated of order I(1). In testing unit root, automatic lag selection (Shwarz) is used based on the default eviews of maximum lag selection.

Null Hypothesis: Unit root (individual unit root process)

TABLE 4-3 UNIT ROOT TEST

Unit root testing before and after 1st differencing					
	ADF Fisher Statics	Status		ADF Fisher Statics	Status
Series	with intercept but no trend Prob.		Series	with intercept but no trend Prob.	
LOGFDI	0.0206	Stationary	LOG	0.0206	Stationary
CIT	0.0002	Stationary	CIT	0.0002	Stationary
INFL	0.0323	Stationary	INFL	0.0323	Stationary
GDPGR	0.0006	Stationary	GDPGR	0.0006	Stationary
POL	0.4946	Non stationary	D(POL)	0.0008	Stationary
TOP	0.2718	Non Stationary	D(TOP)	0.0004	Stationary

Finally a short run model of the regression is developed using 1st difference of non stationary series which helps to avoid or minimize inflated R^2 due to autocorrelation arising from non stationary series.

The final short run model estimated therefore has the following form:

$$\boldsymbol{FDI_t = \beta 0 + \beta 1 CTR_t + \beta 2\ GDPGR_t + \beta 3\ INF_t + \beta 4\ D(POL)_t + \beta 5\ D(TOP)_t + \varepsilon_t}$$

4.1.4 Model estimation

After we fulfill all of Ordinary Least Square basic assumptions and conducting unit root test, now we are ready to conduct regression analysis. Our model is clear from any statistical problem.

The regression analysis is undertaken with unit root problem (non-stationary variables) and without unit root problem (differenced variables), to control for non-stationary variable estimation problems. First I presented the regression result which has unit root as sown in the Appendix-4 and followed by the differenced variable estimation as shown in Figure 4-6, which deals with the stationary issues that are discussed above.

One thing should be clear and remembered on interpreting regressions in first-differences. While interpreting at level regression, I use a percentage change in the dependent variable cause β percentage changes on the independent variable but, for regressions at difference, I use a change in percentage change in the independent variable cause a percentage change on the dependent variable.

I recommend the reader to see the impact impacts of Corporate tax rate on FDI in Ethiopia using the regression result after differencing which is shown at the below Figure 4-6 because non stationary variables are differenced and cleared from the unit root problem and presented in the below section.

FIGURE 4-6 REGRESSION RESULTS AFTER DIFFERENCING

Dependent Variable: FDI LOG

Method: Least Squares

Date: 05/03/15 Time: 05:26

Sample (adjusted): 1993 2013

Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	33.51050	2.075416	16.14640	0.0000
CIT	-42.81070	5.953332	-7.191050	0.0000*
D(POL)	0.920314	0.453087	2.031207	0.0603
INFL	-3.837004	1.690746	-2.269414	0.0384**
D(TOP)	3.277349	3.030506	1.081453	0.2966
GDPGR	-5.041527	3.624739	-1.390866	0.1846

R-squared	0.790142	Mean dependent var	18.86404
Adjusted R-squared	0.720189	S.D. dependent var	1.449028
S.E. of regression	0.766495	Akaike info criterion	2.540978
Sum squared resid	8.812711	Schwarz criterion	2.839413
Log likelihood	-20.68027	Hannan-Quinn criter.	2.605746
F-statistic	11.29537	Durbin-Watson stat	1.905062
Prob(F-statistic)	0.000118		

(*) p<1%; (**) p<5%

The estimated regression equation is;

FDI log $_t$ = 33.51050 - 42.81070 (CIT) + 0.920314 (POL) - 3.837004 (INFL) + 3.277349 (TOP) - 5.041527 (GDPGR)

Figure 4-6 shows regression estimation of FDI inflow on corporate tax rate and other control variables.

4.1.5 Explanatory Power of the Model

The model is statistically fit with p-value of the F-statistic is 0.00118 and it is good enough to explain the model. This means that all the independent variables in the model have jointly contributed to the variation in FDI log. This also represents a good performance of the model.

The estimated results show R^2 and adjusted R^2 of 0.7901 and 0.720189 respectively. This signifies that 72% of the variations in Foreign Direct Investment are explained by the independent variables. High value of R^2 indicated that the independent variables (CIT, POL, INFL, TOP, and GDPGR) succeed to explain the FDI inflow trends.

4.1.6 Statistical Test for OLS Model

This section discusses several statistical tests covering t-test from previous OLS regression. Test is conducted by comparing the value of t-statistics of each independent variable with the value of t-table. By using e-views, we can easily know the result of t-test by comparing Probability of t-value with level of significance. In this study, we are using 5 percent α or 95% confidence level. If the probability of t value < 5 percent, then we may conclude that the independent variable is significant toward dependent variable. To be more precise explanation of t-test for each independent variable will be presented below:

Constant (Y-intercept)

The constant has a positive significant coefficient of 33.51050 with a significant p - value of 0.0000 hence, if all other independent variables are constant, there will be USD 33.51 FDI inflow in Ethiopia.

Corporate income tax (CIT) rate

Corporate tax rate shows a negative sign and indicates a significant relationship with FDI inflow. The probability value of t-statistics for tax rate is 0.000, which is lower than 5 percent level of significance. The negative sign here is quite acceptable since lower tax rate means higher profit after tax for investors. Assuming that other independent variables are constant, a 1unit change in CIT rate will result in a -4,200% change in FDI. This finding is consistent with (Cover, 2010); (Van Parys and Klemm, 2011); (Demirhan and Masca, 2008); (O. Effiok et.al., 2013) (Fahmi, 2012); (Cleeve, 2008); (K. Ahiawodzi and K. Tsorhe, 2013). This result is also in line with theory and previous empirical results showing a negative relationship between investment and the after tax cost of capital.

Political instability

Political instability has insignificant and positive relationship with FDI at 5% significant level. The sign of the variable is not as per our initial expectation and being a control variable less emphasis is given to it. The positive coefficient might be related to the foreign investor such as Chinese company give less emphasis to political instability instead they want to make Ethiopia as a trade partner in the long run. In addition to this, we cannot explain it since the effect is economically insignificant. This result is also similar to (Babatunde and Adepeju, 2012); (Oniyewu and Shareshta, 2005).

Inflation

Inflation has a negative sign and significant relationship with FDI Inflow. The probability value of t-statistics for inflation is 0.0384 which is remarkably small compared to 5 percent level of significant. The negative sign of inflation over FDI inflow is quite expected. Assuming that all other independent variables are constant, a 1unit change in inflation will result in a -383% change in FDI. This result is consistent with (Oniyewu and Shareshta, 2005); (Amanuel, 2014); (Mohapatra, 2014). This finding implies that macroeconomic stability is an important determinant of foreign direct investment inflows to Ethiopia. For example (Getinet and Hirut, 2005); (Demirhan and Masca, 2008) also found the same result.

Trade openness

Trade openness has a positive sign and insignificant relationship with FDI Inflow. The probability value of t-statistics for openness is 0.2966 which is above 5 percent level of significance. TOP has no significant relationship with FDI inflow. The positive sign is as per our expectation, and it is probably due to the open market policy from Ethiopian government which encourages international trade in the form of export and import. This result is consistent with (Naude´ and Krugell, 2007).

GDP Growth

Probability value of t-statistics is 0.1846 which is higher than 5% significant. Therefore, we may conclude that GDP Growth has no significant relationship with FDI inflow. The result is not as per our expectation. Since the main focus in this study is not GDP Growth and we only consider GDP Growth as control variable, we will not go further explaining this relationship because the reason of inputting GDPG in this model is only for control variable and it is also insignificant at p-value of 18.46%. The result is similar to (Amanuel, 2014); and (Van Parys and Klemm, 2011).

4.2. Panel data model

4.2.1 Panel data model- Descriptive statistics

Before we proceed further to deep analysis of panel data model, it is better to describe the nature of the variables used in this regression. Descriptive statistics of dependent and independent variables in the model can be summarized as presented in table 4-4.

This study covers 219 observations from 1992 to 2013. One dependent variable (FDI log) and six independent variables (Tax holiday, Customs duties, FDI log, Transport service, Exchange rate, and Reserve as a percentage of GDP) are summarized in the below table.

TABLE 4-4 DESCRIPTIVE STATISTICS OF PANEL DATA MODEL

Statistics	FDI log	TAXH	CUSTD	FDI LOG(-1)	LOG(TR)	XR	RESERVPGDP
Mean	8.760685	0.196347	0.643836	8.704729	-0.64178	9.323744	0.067117
Median	10.99205	0	1	10.95999	-0.60899	8.6	0.068508
Maximum	17.41451	1	1	17.41451	-0.28982	17.7	0.147742
Minimum	0	0	0	0	-1.01225	2.8	0.006482
Std. Dev.	5.979882	0.398144	0.479962	6.004325	0.217898	3.940338	0.036977
Skewness	-0.56236	1.528837	-0.60074	-0.54268	-0.16271	0.958841	0.096587
Kurtosis	1.75268	3.337341	1.360884	1.723871	1.911054	3.116183	2.559599
Jarque-Bera	25.7398	86.35138	37.68841	25.60957	11.78678	33.6804	2.110333
Probability	0.000003	0.000001	0.000001	0.000003	0.002758	0.000001	0.348134
Sum	1918.59	43	141	1906.336	-140.55	2041.9	14.69852
Sum Sq. Dev.	7795.459	34.55708	50.21918	7859.317	10.35051	3384.726	0.298065
Observations	219	219	219	219	219	219	219

FDI log has a mean of Birr 6,129.47 Millions with standard deviation of 395.39 which shows that the data are not equally spread. The deviations both in the mean and the standard deviation of FDI log is due to the fact that there were large inflow of FDI in some sectors such as Agriculture, Manufacturing, Real state, and construction while there exits very small amounts of FDI inflow in Health, Hotels, Tour operation, and Electricity where consistent FDI flow to these sectors starts after 2002. However, it is still permissible to incorporate the data into model OLS regression analysis. Moreover, the summary of the data shows that all variables have positive average except TR. Tax holiday has a mean of 0.196347 since out of the ten sectors; it is given only for 2 sectors that is for Agriculture and Manufacturing. A custom duty has a mean of 0.643836 due to the fact that, out of the ten sectors seven of them have exemptions. Even if some of the variables have non normal distribution, the normality assumption for linear regression applies to the error, not to the outcome variable and most

certainly not to the explanatory variable. In addition to this the sample size is so large hence the normality of the regression will not be affected.

4.2.2 OLS Basic Assumption Test

4.2.2.1 Multicollinearity

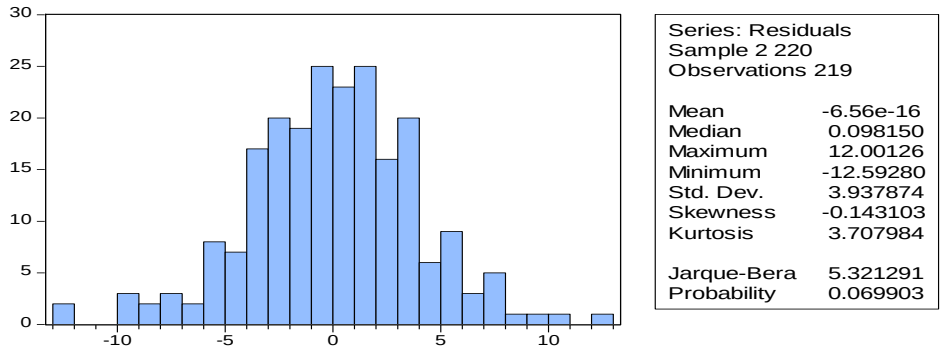
TABLE 4-5 CORRELATION AMONG INDEPENDENT VARIABLES

	TAXH	CUSTD	LOG(-1)	LOG(TR)	XR
TAXH	1				
CUSTD	0.367633974	1			
LOG(-1)	0.290844364	0.217491529	1		
LOG(TR)	-0.01022612	0.005503852	-0.051189435	1	
XR	0.015260076	0.078688601	0.459252688	0.046009186	1
RESERVPGDP	0.010314654	-0.027841962	-0.323576017	-0.444674812	-0.485890198

Table 4-5 shows that, the maximal absolute correlation value among independent variables is -0.485890198 which exists between XR and reservpgdp 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 we do not have multicollinearity problem.

4.2.2.2 Normality Test

FIGURE 4-7 NORMALITY GRAPHN OF THE RESIDUALS



As can be seen in the above Figure 4-7 and the associated table on the right side of the graph, the P-value of Jarque-Bera (JB) test is 0.069903 which is higher than 0.05 (5%) hence the null hypothesis of the data is normally distributed is not rejected.

4.2.2.3 Auto correlation

Autocorrelation test is conducted by applying Durbin-Watson Test (d-statistics) and Breusch-Godfrey Serial Correlation LM Test. According to Gujarati (2005), the area in which we do not reject null hypothesis and decide that we do not have autocorrelation problem in the model is if the Durbin Watson value is located between d_U and 4-d_U. As shown in the panel regression result in figure 4-11, the Durbin Watson statistics value is 2.013890 which is clearly located between d_U *(1.8343)* and 4-d_U *(2.16457).*

As per Durbin-Watson "d" statistic, the Significance points of d_L and d_U at 0.05 level of significance for 219 observation are d_L (1.72348) and d_U (1.83543) Gujirati (2003). Therefore, it is conclude that there is no autocorrelation. In addition to this the BG test (at 2 lags) which is shown in the below Figure 4-8 clearly presents the absence of autocorrelation since the null hypothesis of there is no auto correlation is not rejected as per the p-value of 0.6115 and 0.5995 for F -statistic and Obs*R-squared respectively.

FIGURE 4-8 SERIAL AUTO CORRELATION TEST

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.492929	Prob. F(2,210)	0.6115
Obs*R-squared	1.023306	Prob. Chi-Square(2)	0.5995

4.2.2.4 Hetroscadasticity

Heteroscedasticity test aims at testing whether the regression model has constant residual variance for each observation. If the residual variance of each observation is different, we conclude that there is a heteroscedasticity. This study carries out White test for heteroscedasticity. The null hypothesis of this test is homoscedasticity or constant variance.

With 5% level of significant, the White p-value > 5% for us helps to conclude that we have no heteroscedasticity problem. As per the below Figure 4-9 two of the three tests (F-statistic and Obs*R-squared) are greater than 5% hence we don't reject the null hypothesis of the constant variance but the Scaled explained SS is below 5% and rejects the null.

FIGURE 4-9 HETROSKEDASTICITY TEST

Heteroskedasticity Test: White

F-statistic	1.339560	Prob. F(24,194)	0.1427
Obs*R-squared	31.13307	Prob. Chi-Square(24)	0.1500
Scaled explained SS	39.50222	Prob. Chi-Square(24)	0.0242

4.2.3 Hausman Test

AS per the below figure 4-10, I compared the fixed effect model with the random effect model using the Husman test. The Hausman test indicated that the random effect is the appropriate model so we focus on it.

FIGURE 4-10 HAUSMAN TEST

Null hypothesis: GLS estimates are consistent

Correlated Random Effects - Hausman Test

Equation: EQ02HAUSMANTEST

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.237458	3	0.3564

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
RESERVPGDP	44.948775	-46.248043	0.521427	0.0720
CUSTD	7.643531	4.715383	2.648390	0.0720
LOG(TR)	-8.040041	-8.079366	0.000478	0.0720

Since fixed effect estimation does not accept an explanatory variable that is constant over time, and mathematically it's impossible to invert a singular matrix, and that is what causes the error. When test yields an error because of non-invertible differences in covariances between the two estimators, we need to re-estimate the random effects model without all dummies and time-constant variables. The null hypothesis of the Hausman test is that both estimators are consistent and thus corr (Xit,Cit)=0 (Introduction to Eview user guide 6 or 7, 2013). Hence i can not reject the null on a 5% significance level, and therefore we have that the unobserved characteristics and the explanatory variables reservpgdp, custd, and log(tr) are uncorrelated. I fix this by removing Tax holiday and time-constant variable such as (XR, FDI log lag) from the regression, and run it again hence I used three variables out of six to

check the Hausman test as shown in the above figure 4-10. Therefore we conclude that the random effects estimator is the most efficient to use in this case.

4.2.4 Statistical Test for Random Effect Model (REM)

This section discusses several statistical tests covering t-test from previous OLS regression. T-test is conducted by comparing the value of t-statistics of each independent variable with the value of t-table. By using eviews 6, we can easily know the result of t-test by comparing Probability of t-value with level of significance. In this study, we are using 5 percent α or 95% confidence level. If the probability of t-value < 5 percent, then we may conclude that the independent variable is significant toward dependent variable. To be more precise explanation of t-test for each independent variable will be presented below:

FIGURE 4-11 REGRESSION RESULT OF PANEL DATA MODEL

Dependent Variable: FDI LOG
Method: Panel EGLS (Cross-section random effects)
Date: 05/09/15 Time: 14:22
Sample (adjusted): 1993 2013
Periods included: 21
Cross-sections included: 10
Total panel (balanced) observations: 210
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.855266	1.486172	-1.248352	0.2133
TAXH	1.954505	0.746842	2.617025	0.0095*
CUSTD	0.701951	0.596513	1.176757	0.2407
FDI LOG(-1)	0.524905	0.058037	9.044378	0.0000*
LOG(TR)	-2.197716	1.383311	-1.588736	0.1137
XR	0.383058	0.103608	3.697192	0.0003*
RESERVPGDP	6.722090	10.06520	0.667855	0.5050

Effects Specification

	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	3.802282	1.0000

Weighted Statistics

R-squared	0.572531	Mean dependent var	9.036209
Adjusted R-squared	0.559896	S.D. dependent var	5.882583
S.E. of regression	3.902525	Sum squared resid	3091.629
F-statistic	45.31464	Durbin-Watson stat	2.013890
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.572531	Mean dependent var	9.036209
Sum squared resid	3091.629	Durbin-Watson stat	2.013890

(*) p<1%

The estimated regression equation is;

$FDI\ log_{it} = -1.855266 + 1.954505\ (CIT) + 0.701951\ (CUSTD) + 0.524905\ FDI\ LOG(-1) - 2.197716\ LOG(TR) + 0.3833058\ (XR) + 6.722090\ (RESERVPGDP)$

Figure 4-11 shows regression estimation of sector FDI inflow on Tax Holiday, Customs duty and other control variables.

4.2.5 Explanatory Power of the Model

The model is statically fit with p-value of the F-statistics of 0.000000 and it is good enough to explain the model. All the independent variables in the model have jointly contributed to the variation in private sector investment. This also represents a good performance of the model

The estimated results show R-bar Squared of 55.98%. This signifies that 56% of the variations in Foreign Direct Investment are explained by the independent variables.

Since we have no statistical problem, high value of R^2 indicated that the independent variables (Taxh, Custd, XR, FDI log (-1), and Reservpgdp) succeed to explain the FDI inflow trends24

4.2.6 Statistical Test for OLS Model

This section discusses several statistical tests covering t-test from previous OLS regression. T-test is conducted by comparing the value of t statistics of each independent variable with the value of t table. By using eviews 6, we can easily know the result of t-test by comparing Probability of t value with level of significance. In this study, we are using 5 percent α or 95% confidence level. If the probability of t value < 5 percent, then we may conclude that the independent variable is significant toward dependent variable. To be more precise explanation of t-test for each independent variable will be presented below:

Constant (Y-intercept)

The intercept has a coefficient of -1.85526 with a p-value of 0.2133 which is above 5% significant level hence it will not be interpreted.

Tax holiday

Our main focus here is tax holiday which has a positive sign with coefficient of 1.954505 and indicates a significant relationship with FDI log. The probability value of t-statistics for tax rate is 0.0095 which is much lower than 5 percent level of significance. The positive sign here is quite acceptable since lower tax rate means higher profit after tax for investors. Assuming that other independent variables are constant, the presence of a 10 years tax holiday results in 195% change in FDI of Agriculture and Manufacturing sector. This result is consistent with (Cleeve, 2008); (Simret, 2013); (Van Parys and Klemm, 2011).

Customs duty

Customs duty shows a positive sign and indicates an insignificant relationship with FDI log. The probability value of t-statistics for tax rate is 0.2407 which is higher than 5 percent level of significance. The positive sign here is quite acceptable since lower tax rate means higher profit after tax for investors. This result is consistent with (Simret, 2013).

FDI log lag

FDI log lag shows a positive signal and indicates a significant relationship with FDI log. The probability value of t-statistics for tax rate is 0.0000 which is much lower than 5 percent level of significance. The positive sign here is quite acceptable. Assuming that other independent variables are constant, a 1% increase in FDI log lag results in 52.49% increase in FDI in each sector. More investors will be attracted to countries where there are already performing investors because the existing investors will act as a signal to other investors that wishes to invest. This result is consistent with (Hasen and Gianluigi, 2010); (Ibrahim et.al, 2012);

(Ibrahim et.al, 2012); (Tesfanesh, 2012); (Anyanwu, 2012); Ryan D. Bennett (2005). Significance of the lagged dependent variable is an evidence of another concentration pattern (i.e. agglomeration effects) to Ethiopia seems to be concentrated in places where there is already prior inward FDI.

Transport Service

Transport service which is a measure of country's infrastructure shows a negative sign with coefficient of -2.197716 and indicates an insignificant relationship with FDI log. The probability value of t-statistics for transport service is 0.1137 which is higher than 5 percent level of significance. The negative sign here is not as per our expectation. This might be due to the infrastructure in Ethiopia such as Railway, Roads, etc are under construction and once these constructions are completed there might attract more FDI. This result is consistent with (Mohapatra, 2014).

(UNCTAD, 2002), also pointed out that one of the specific economic challenges and constrains identified by private investors in Ethiopia is the poor infrastructure facilities, in particular in the areas of telecommunications, transport and power supply.

Exchange rate

Exchange rate shows a positive sign with coefficient of 0.383058 and indicates a significant relationship with FDI log. The probability value of t-statistics for exchange rate is 0.0003 which is much lower than 5 percent level of significance. The positive sign here is quite acceptable since as the currency of the investors is stronger, they can buy more raw materials in the host countries. Assuming that all other variables are constant, a unit increases in exchange rate results in a 38.3 percentage increase in FDI. This result is consistent with (Adegbite et.al, 2012); (Mohapatra, 2014); (Etim et.al., 2014). The Currency Areas Hypothesis and the Effect of the Exchange Rate theories are also supports this finding, since a country with a strong currency serves as a source of FDI while a country with weak currency acts as a recipient of FDI.

Reserve as a percentage of GDP

Reservpgdp rate shows a positive sign with coefficient of 6.722090 and indicates an insignificant relationship with FDI log. The probability value of t-statistics for Reservpgdp is 0.5050 which is much higher than 5 percent level of significance. The positive sign here is quite acceptable since as the amount of reserve increases the host country investor will able to buy raw materials without any problem. This result is consistent with (Khachoo and Khan, 2012). The insignificant result of reservpgdp might be the increase in reserve of the country increases in actual values while the increment doesn't help the country to stay longer with sufficient foreign currency reserve.

As per (NBE, 2012/13), the gross international reserve of NBE was able to cover 1.7 months of imports of goods and non-factor services hence the country is still in need of additional reserve.

4.3. Tax (exemption) expenditure report in Ethiopia

As per the interview conducted with ERCA tax officials and MoFED annual report, tax exemptions are not included in as part of government expenditures hence costs related to tax incentives are ignored during budget preparation. The exclusion of tax expenditures during budget preparation results in lower emphasis by the government.

As per ERCA officials, there is no report related to tax holiday exemption since they believed that, maintaining records of tax exemption will result in additional administrative cost without any tax collection during the exemption periods.

5. Chapter Five Summary, Conclusion, and Recommendations

The purpose of this chapter is to review the whole thesis and highlight future researcher directions. Accordingly section one preset the major findings; section two provides the conclusion part and the third sector presents recommendation made by the researcher for all concerned bodies. This study conducted an empirical analysis on the effectiveness of tax incentives in attracting foreign direct investment in Ethiopia using two separate regression models.

In the time series regression model the general effects of corporate tax rate on FDI (in aggregate) is analyzed. Control variables included in the model are inflation rate, gross domestic product growth rate, trade openness and political stability. In the panel data of random effect model, the impacts of tax incentives (tax holiday and custom duty) on FDI at sector level is analyzed. Control variables included in the model are exchange rate, transport service, reserve as percentage of GDP and FDI lag. In addition to this trend analysis of FDI, tax incentives and Marginal effective tax rate are discussed using descriptive statistics.

5.1 Summary of major findings

As per table 1-2, the marginal effective tax of Ethiopia is (-3.5) which is below 89 countries as per the rank of 90 selected countries in the world. Ethiopia is ranked 90th from 90 countries in METR.

As per the interview conducted with ERCA tax officials, there is no tax expenditure report prepared by MoFED except the tax exemption report prepared by ERCA.

Major findings from the Time series model:

There is a negative and significant relationship of corporate tax rate and FDI inflow during the year 1992-2013. Assuming that other variables are constant, a 1unit change in CIT rate will result in a -4,200% change in FDI.

Inflation rate has a negative and significant relationship with FDI Inflow. Assuming that other variables are constant, a 1unit change in inflation rate will result in a -383% changes in FDI.

Major findings from Panel data model:

Tax holiday has a positive sign with coefficient of 1.954505 and indicates a significant relationship with FDI log. Assuming that all other variables are constant, the presence of a 10 years tax holiday results in 195% change in Agriculture and Manufacturing sector.

Customs duty shows a positive sign but has insignificant relationship with FDI log.

FDI log (-1) shows a positive sign and indicates a significant relationship with FDI log. Assuming that other independent variables are constant, a 1% increase in FDI log lag results in 52.49% increase in FDI in each sector. More investors will be attracted to countries where there are already performing investors because the existing investors will act as a signal to other investors that wishes to invest.

Exchange rate shows a positive sign with coefficient of 0.383058 and indicates a significant relationship with FDI log. As the currency of the investors is stronger, they can buy more raw materials in the host countries. Assuming that other variables are constant, a unit increases in exchange rate results in a 38.3 percentage increase in FDI.

5.2 Conclusion

This study attempts to study the impacts of tax incentives in attracting FDI in Ethiopia both in aggregate and at sector level. To this end, the researcher has reviewed theoretical explanations relating to the determinants of FDI. The researcher has reviewed relevant literature pertaining to the determinants of FDI in the context of developing and developed countries.

Theory states that FDI into a country can, among others things; stimulate growth by creating new jobs and causing technological spillovers. For that reason, governments have embarked

in aggressive fiscal policies in order to attract capital from foreign investors. Correspondingly, an instrument being used lately is the Corporate Income Tax rate. It's been claimed that the CIT is a major influent component of the location decisions of MNEs. Therefore, by offering lower tax rates, governments are expecting to attract higher volumes of investment. Further on, based on the regression results of the model, it can be concluded that the hypothesis is consistent with theory. The Corporate Income Tax is an important variable that influences the location of new investment by MNEs thus, supporting the behavior of governments towards fiscal policies. Therefore, it is crucial that governments offer an investment-friendly environment through competitive tax rates that will encourage more foreign investment. In addition to this corporate tax rate of the country is reduced from 50% to 30% since 1992.

The effective marginal tax rate of the country shows us the country is at the lowest position in the world which results in lower revenue base.

Lack of tax expenditure report results in weak follow up of tax exemptions since the budget preparation by MoFED doesn't incorporate tax expenditures as other expenditures that involve cash outlay.

Foreign direct investment has been recognized as a facilitator of economic growth for developing countries. As a result Ethiopian government undertaken many structural reforms (privatization, liberalization etc.) and introduced investment incentives (fiscal and non-fiscal incentives) since 1992 to promote FDI. Among the incentive provided tax holiday and custom duty exemptions are the most popular. Following the reforms and the provision of incentives private investment in general and FDI in particular has shown a considerable increase. Among the two tax exemptions, tax holiday is found to be the most significant determinants of FDI while Customs duties is found to be insignificant.

From non tax factors, inflation and exchange rate found to be the significant determinants of FDI in Ethiopia.

The other determinants of FDI in Ethiopia is the previous year FDI inflow which is the agglomeration effects as proxied by FDI log (-1) since the existing investors acts as a signal of a better investment environment in to the country.

As a result of reducing corporate tax rate and providing tax exemptions, the annual inflow of FDI increased from US$ 170,000 in 1992 to US$ 952,959,700 in 2013. However Ethiopia is still among the poor performer in attracting FDI relative to other African countries.

5.3 Recommendation

Based on Time series - multiple regression models, this study empirically investigates factors that affect FDI (in aggregate) in Ethiopia during 1992-2013. The study found that corporate tax rate and inflation rate are significant factors affecting FDI in Ethiopian during 1992-2013, while Trade openness, market size growth, and political stability are found to be statistically insignificant factors for FDI of Ethiopia during the year 1992-2013.

The negative and significant corporate tax rate signifies the importance of implementing a more competitive corporate tax rate in East Africa hence investors are attracted to Ethiopia assuming that lower corporate tax rate decreases cost of doing business and in turn increasing marginal revenue. As a result of this the researcher recommended to reduce the existing tax rate of 30%.

The negative and significant coefficient of inflation indicates the importance of a more focused macro-economic policy environment that supports the economy and builds confidence for potential investors. Necessary steps have to be taken to contain inflation through the adoption of sound monetary policies.

Based on Panel data - Random effect model, this study empirically investigates factors that affect FDI at sector level in Ethiopia during 1992-2013. This study found that Tax holiday, Exchange rate, and agglomeration effect are significant factors affecting FDI during 1992-2013, while Custom duties, Transport service, and reserve as percentage of GDP are found to be statistically insignificant factors for FDI of Ethiopia during the year 1992-2013.

The positive and significant Tax holiday signifies the importance of implementing a more competitive tax exemption in Ethiopia for Agriculture and manufacturing sector since the inflow of FDI in these two sectors increases hence the researcher recommends continuing tax holiday exemptions.

The positive and insignificant relationship of Customs duty with FDI log indicates that, there shouldn't be any additional customs duties exemption.

The positive and significant exchange rate coefficient indicates the importance of a devaluating Birr which results in more exchange of Birr with hard currencies such as USD and Euro. The researcher recommendation regarding exchange rate is to devaluate Birr in respect to other hard currencies but care should be taken since it also results in increasing cost of production.

The positive and significant agglomeration effect (FDI log lag) coefficient indicates the importance existing foreign investors in Ethiopia which signals the existence of good investment environment in the country. The researcher in light of the findings recommends the country to create more favorable investment climate for the existing investors since it will help the country to attract new investors.

Considering the Marginal Effective Tax Rate, the country is placed at the bottom of all countries with METR of -3.5 as a result of this the country tax revenue will be diminished hence the there shouldn't be any further reduction of CTR and there should not be additional tax exemption such as tax holiday and customs duties for the purpose of attracting FDI in to the country since there is no other country in the world with lower METR. Instead Ethiopia should focus on other mechanisms to attract FDI such as creating a stable inflation rate and creating competitive exchange rate.To put it in a nutshell there should balance between providing tax exemptions and losing tax revenue while attracting FDI.

Finally tax expenditure report should be incorporated in the budget preparation because it helps to follow tax exemptions given by the country.

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Appendix 1- Data used FDI in each sector in "000" Birr

Year	Agricultu.	Mining and quarryi.	Manufa.	Educat.	Health	Hotels	Tour Operatio Trans &Co	Real Restate, Mac & *Equ*	Const. Contracting Water Well Dri	Electricity, gas, st & water
1992	0	0	8,976	0	0	144,900	0	0	0	0
1993	0	44,453	0	0	0	0	0	0	43,205	0
1994	0	0	208,379	0	0	0	0	0	107,000	0
1995	5,225	0	162,235	0	0	0	0	0	0	0
1996	9,415	0	466,251	0	75,151	0	0	0	0	0
1997	104,412	16,878	604,850	107,178	6,974	0	0	1,594,307	28,383	0
1998	71,325	15,754	178,117	10,444	128,692	0	0	314,251	244,730	0
1999	28,883	370,132	0	0	0	0	0	820	43,421	0
2000	237,141	0	266,290	34,298	0	23,893	3,370	471,571	293,729	0
2001	344,289	0	1,354,996	200,000	0	0	0	609,859	6,367	0
2002	99,478	5,858	280,928	8,600	843,238	0	0	175,153	198,032	0
2003	1,045,552	6,265	1,274,723	9,512	15,460	57,526	4,390	105,631	78,204	0
2004	1,982,599	60,000	1,579,386	35,880	2,800	100,925	22,703	431,044	846,734	391,800
2005	1,417,179	33,000	2,138,771	34,924	22,914	309,831	18,617	433,053	197,128	59,467
2006	3,183,392	51,000	32,110,412	63,940	79,576	934,166	6,328	1,782,204	2,136,304	0
2007	9,204,910	117,450	3,248,667	54,757	186,550	340,487	46,230	3,190,520	269,753	1,582
2008	28,028,872	166,438	20,994,379	120,929	131,085	5,424,121	177,893	4,166,065	1,014,049	57,459
2009	10,443,265	116,390	36,561,628	205,395	1,483,471	608,333	255,838	2,878,780	3,447,283	59,400
2010	21,888,698	300,251	23,742,855	188,187	788,037	4,362,565	351,443	4,112,897	4,287,526	20,000
2011	21,261,673	8,900	27,196,735	490,062	290,278	869,266	3,948,216	54,631	212,322	0
2012	9,982,584	81,458	33,401,197	710,115	1,571,962	1,677,707	45,124	1,884,768	11,281,236	3,169
2013	4,365,742	21,000	14,611,454	34,800	2,031,432	204,916	31,760	787,386	2,426,722	209,876

Source EIA

Appendix 1 continued-Data used

Year	Transp. Ser	Reserve	CIT rate	Exchange rate	FDIUSD	TOP	POL	INFL	GDPGR
1992	0.6703	270,054,750.00	0.50	2.8	170,000.00	0.187	5	0.105	-0.087
1993	0.7484	499,938,575.00	0.40	5	3,500,000.00	0.183	5	0.035	0.131
1994	0.7399	587,541,828.00	0.40	5.47	17,210,000.00	0.297	5.5	0.076	0.032
1995	0.6909	815,019,180.00	0.35	6.16	14,140,000.00	0.315	5.5	0.1	0.061
1996	0.5759	843,310,659.00	0.35	6.35	21,930,000.00	0.27	4.5	-0.085	0.124
1997	0.5406	588,431,591.00	0.35	6.71	288,490,000.00	0.292	4.5	0.024	0.031
1998	0.3634	598,411,624.00	0.35	7.12	260,670,000.00	0.372	4.5	0.009	-0.035
1999	0.3999	546,583,378.00	0.35	7.94	69,980,000.00	0.379	4	0.079	0.052
2000	0.4255	362,554,252.00	0.35	8.22	134,640,000.00	0.331	5	0.007	0.061
2001	0.448	489,895,096.00	0.35	8.46	349,400,000.00	0.395	5	-0.082	0.083
2002	0.4281	965,896,457.00	0.30	8.57	255,000,000.00	0.409	5	0.017	0.015
2003	0.3918	955,608,347.00	0.30	8.6	465,000,000.00	0.463	5	0.178	-0.022
2004	0.3677	1,496,784,383.00	0.30	8.64	545,100,000.00	0.553	5	0.033	0.136
2005	0.4608	1,042,595,244.00	0.30	8.67	265,111,675.00	0.561	5	0.129	0.118
2006	0.5116	867,438,380.00	0.30	8.7	545,257,102.00	0.498	5	0.123	0.108
2007	0.5644	1,289,865,510.00	0.30	8.97	222,000,573.00	0.494	5	0.172	0.115
2008	0.5901	870,502,513.00	0.30	9.6	108,537,544.00	0.493	5	0.444	0.108
2009	0.5719	1,780,874,201.00	0.30	11.78	221,459,581.00	0.392	5	0.085	0.088
2010	0.5439	2,567,137,793.00	0.30	14.41	288,271,568.00	0.495	5	0.081	0.126
2011	0.5679	207,115,955.00	0.30	16.9	626,509,560.00	0.557	6	0.332	0.112
2012	0.6322	300,659,811.00	0.30	17.7	278,562,822.00	0.47	6	0.228	0.086
2013	0.6322	314,406,189.00	0.30	17.7	952,959,700.00	0.47	6	0.081	0.105

Source World Bank, Freedom House, Tax proclamations

Investment Proclamations	Issued on	Areas of change
(FDRE, 1992)	25-May-92	Areas eligible for investment incentives were limited to Manufacturing and Agriculture sectors. The incentives provided were 100% exempt on from custom duty on importation of capital goods and income tax exemption (tax holiday) ranging from 1-8 years depending on type and location of the investment.
(FDRE, 1996)	18-Jun-96	Extended areas eligible to incentives to Education, health, tourism and construction sectors. Capital entry requirements for joint ventures reduced from US$500,000 to US$300,000 and for technical consultancy services reduced to US$100,000. This code was opened the real estate sector and Electricity and water supply to foreign investors, extended the losses carried forward provision, and cut the capital gains tax from 40% to 10%.
(FDRE, 1998)	11 June, 1998	The major changes introduced in this proclamation were Defense and telecommunication sectors allowed to private sectors to invest jointly with government which was reserved for government only in the earlier codes.
(FDRE, 2002)	July 2002	Further liberalized the investment regime and removed most of the remaining restrictions. In general all areas of investments are open for foreign investors except Banking, insurance and microcredit and saving services; forwarding and shipping agency services; broadcasting services; and air transport services using aircraft with a seating capacity of up to 20 passengers which are reserved for government, domestic investors and Ethiopian nationals.

Appendix 2: Summaries of Investment Proclamations in Ethiopia

(FDRE , 2002)	4-Jul-02	Investment proclamation focusing on Income Tax
(FDRE , 2012)	Septembe r 2012	Investment proclamation to enhance Manufacturing sector
(FDRE , 2012)	1-Nov-12	Investment incentive and areas reserved for domestic investors
(FDRE , 2014)	August 13,2014	Ethiopian Investment Board and Ethiopian Investment Commission Establishment in order to implement transparent and efficient investment administration thereby to expand and encourage investment Investment incentive and areas reserved for domestic investors Industrial Development Zone -Additional 2 years Income tax exemptions if the investment is made In the industrial zone located in Addis Ababa area or special zone of Oromia or additional 4 years if located in other areas
(FDRE , 2014)	22-Jul-14	The investment board oversee the administration and supervision of industrial development zone

Apprndix 2 continued...

Appendix 3: Correlation coefficient of Time series Model

	FDILOG	CIT	D(POL)	INFL	D(TOP)	GDPGR
FDILOG	1					
CIT	-0.78012	1				
D(POL)	0.208047	-0.00422	1			
INFL	0.195452	-0.47854	0.313937	1		
D(TOP)	0.04786	0.207627	0.198114	-0.08027	1	
GDPGR	-0.05656	-0.22631	-0.09376	0.160805	-0.23958	1

Appendix 4: Regression result with non stationery variables

Dependent Variable: FDILOG

Method: Least Squares

Date: 05/05/15 Time: 18:18

Sample (adjusted): 1992 2013

Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	26.98048	3.871485	6.969028	0.0000
CIT	-32.73438	7.235890	-4.523891	0.0003
POL	0.209082	0.400610	0.521908	0.6089
INFL	-4.643355	1.800683	-2.578663	0.0202
TOP	5.808741	3.237384	1.794270	0.0917
GDPGR	-6.185364	3.595033	-1.720530	0.1046

R-squared	0.879295	Mean dependent var	18.55401
Adjusted R-squared	0.841574	S.D. dependent var	2.028348
S.E. of regression	0.807338	Akaike info criterion	2.636853
Sum squared resid	10.42873	Schwarz criterion	2.934410
Log likelihood	-23.00539	Hannan-Quinn criter.	2.706949
F-statistic	23.31082	Durbin-Watson stat	1.974220
Prob(F-statistic)	0.000001		

Appendix 5: Correlation coefficient of Random effect Model

	FDILOG	TAXH	CUSTD	FDILOG(-1)	LOG(TR)	XR
FDILOG	1					
TAXH	0.32272	1				
CUSTD	0.246362	0.368822	1			
FDILOG(-1)	0.724666	0.312306	0.232402	1		
LOG(TR)	-0.112	3.05E-19	0.015032	-0.08955	1	
XR	0.510867	4.14E-19	0.07148	0.5521	0.136877	1
RESERVPGDP	-0.24153	-1.90E-19	-0.03863	-0.30102	-0.41331	-0.61924

Appendix 6- FDI inflow in Africa in 2013

Rank	Countries	FDI in (2013)
1	South Africa	8 187.9
2	Mozambique	5 935.1
3	Nigeria	5 609.0
4	Egypt	5 553.0
5	Morocco	3 358.4
6	Ghana	3 226.3
7	Sudan	3 094.4
8	Congo, Democratic Republic of the	2 098.2
9	Congo	2 038.3
10	Equatorial Guinea	1 914.0
11	United Republic of Tanzania	1 872.4
12	Zambia	1 810.9
13	Algeria	1 691.0
14	Mauritania	1 154.1
15	Uganda	1 145.9
16	Tunisia	1 095.6
17	Liberia	1 061.3
18	**Ethiopia**	**953.0**
19	Gabon	856.0
20	Madagascar	837.5
21	Libya	702.0
22	Namibia	699.1
23	Niger	631.4
24	Sierra Leone	579.1
25	Cameroon	572.0
26	Chad	538.4
27	**Kenya**	**514.4**
	Africa (Total)	**57 238.8**

Source: (UNCTAD, 2014)