EFFECT OF TAX INCENTIVE ON DOMESTIC INVESTMENT IN ETHIOPIA: A CASE STUDY IN THE MANFACTURING SECTOR.

BY

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Statement of Declaration

I Meron Elias, have carried out independently a research work entitled "The impacts of Tax incentives in Domestic Investment in Ethiopia: A case in the Manufacturing sector." in partial fulfillment of the requirement of the M.Sc. program in Accounting and Finance with the guidance and support of the research advisor. I do hereby declare that this thesis is my original work and that it has not been submitted by any other person for an award of degree in this or any other university/institution.

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APPROVAL

The undersigned certify that they have read and hereby recommend to Addis Ababa University to accept the Thesis submitted by Meron Elias entitled “The impacts of Tax incentives in Domestic Investment in Ethiopia: A case in the Manufacturing sector”, in partial fulfilment of the requirements for the award of a Master’s Degree in Accounting and Finance.

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Abstract

In the growth and development literature, capital accumulation and industrialization are considered the crucial and critical key to economic growth. Given this, many developing countries particularly Ethiopia which follows agriculture led industrialization policy made number of attempts to increase ratio of investment in the country. Tax incentives schemes are among the attempts made to create investment friendly environment.

This study poses a general question of whether or not domestic manufacturing investment have increased in Ethiopia because of the tax incentives offered; and thus whether or not offering such incentives has been beneficial to the country.

To answer this question the study adopts mixed methods of research by using both descriptive and inferential statistics where primary data is collected using interview with MOFED and ERCA officials and secondary data is collected from different sources such as MOFED,EIA,ERCA,IMF and World bank.

Descriptive statistics is used to analyze the trends of domestic manufacturing investment, tax revenue and expense rate of Ethiopia. Inferential statistics is also used by employing time series OLS model. A 23 years secondary data from 1992-2014 was collected then time series OLS regression was applied by employing Log DMIN as dependent variable along with tax incentives as independent variable and GDP growth rate, inflation, market openness and Log transport availability as control variables. The regression analysis is conducted using Eviews 8 software and to account for inherent problems of time series data, different tests such as correlation, autocorrelation and stationarity test were applied.

The regression result show that tax incentives and market openness have significant positive long run effect on private domestic manufacturing investment, inflation on the other hand has significant negative long run effect. Hence to promote the performance of domestic manufacturing investment in the country, the study recommended that the government should continue marketing the tax incentive scheme and bring them to be on budget. Further the study recommended that the government should continue working on improving the trade and infrastructural environment of the country.

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List of Acronyms and Abbreviations

AEO	African Economic Outlook
ATPC	African Trade Policy Centre
COMESA	Common Market for Southern and East Africa
DTTs:	Double Taxation Treaties
EBA	Everything but Arms
EIA	Ethiopia Investment Agency
EPZs:	Export Processing Zones
ERCA	Ethiopian Revenue and Customs Authority
ETB	Ethiopian Birr
FDRE	the Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
GSP	Generalized system of Preference.
GTP	Gross and Transformation Plan
IMF	International Monetary Fund
LDC's	Least Developed Countries
MENA	Middle East and North Africa
MOFED	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia
OECD	Organization for Economic Cooperation and Development
SADC	South African Development Community
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nation Education Scientific and Cultural organization,
USD	United States Dollar
WDI	World Development Indicator
WGI	Worldwide Governance Indicators

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CHAPTER ONE

1. Introduction

The nature of this study focused on investment policy and promotion and gave special consideration to investment in manufacturing sector. This chapter sets the scene for the study by discussing in broad terms the background of the study, the problem statement and objective of the study. It also defines the study scope and its significance.

1.1. Background of the study

Governments need to perform various functions in the field of political, social and economic activities to maximise social and economic welfare. In order to perform these duties and functions governments require large amount of resources called public revenues. Public revenue consists of taxes, revenue from administrative activities like fines, fees, gifts and grants. However, taxes are the first and foremost important sources of public revenue which are central to the current economic growth and development agenda. The importance of taxation as a veritable tool of economic growth and development depends on a proper tax system which has the capacity to generate revenue through tax. While fulfilling the revenue function, taxes also have a pervasive influence on economic decisions of individuals and businesses, and on social equity. (SADC, 2004).

Likewise, there is a general agreement that, the process of economic growth and investment\capital formation is closely interconnected. According to World Bank (2013), GDP growth is higher for those countries, which have relatively higher investment/GDP ratio.

Virtually governments are keen to attract potentials to investment. Investment can generate new jobs, bring in new technologies and, more generally, promote growth and employment. The resulting net increase in domestic income is shared with government through taxation of wages and profits and possibly other taxes on business (e.g. property tax) (OECD ,2009).

Given the above mentioned potential benefits, policy makers continually re-examine their tax rules to ensure they are attractive to investment.

At the same time, governments continually balance the desire to offer a competitive tax environment for Investment sector, with the need to ensure that an appropriate share of domestic tax is collected from this investment (Ibid).

Tax policy shapes the environment in which international trade and investment take place. Thus, a core challenge is finding the optimal balance between a tax regime that is business and investment friendly, and one which can leverage enough revenue for public service delivery to enhance the attractiveness of the economy (Ibid).

Tax concessions represent perhaps the most widely adopted measures in developing countries to promote economic development. Today virtually all developing countries and many developed countries too offer inducements to approved enterprises in the form of reductions in or exemptions from import duties and income taxes for given periods of time(Bird 2010).

This is made for varying reasons. In some cases the incentives may be seen as a counterweight to the investment disincentives inherent in the general tax system. In other cases the incentives are intended to offset other disadvantages that investors may face, such as a lack of infrastructure, complicated and antiquated laws, and bureaucratic complexities and weak administration, in the tax area or elsewhere (Ibid).

Investors often emphasize the relative unimportance of the tax system in investment decisions compared with other considerations. Firms first examine a country's basic economic and institutional situation. While they are attracted to the potential markets and the relatively low-cost labour, other considerations inhibit large-scale investment, such as uncertainty in the policy stance of governments, political instability, and, in transition economies, the rudimentary state of the legal framework for a market economy. Tax incentives on their own cannot overcome these negative factors (IMF, 1998).

Tax incentives by their nature represent revenue cost for government revenue. The cost of tax incentives are wide-ranging and go beyond any immediate revenue loss.

Apart from revenue losses, they include distortions to the economy as a result of preferential treatment of investment qualifying for incentives, administrative costs from running and preventing fraudulent use of incentives schemes, and social costs of rent-seeking behaviour, including possibly an increase in corruption.

1.2. Statement of the problem

Two fundamental premises underpin the case for tax incentive programs in developing countries: first, that additional investment is needed to foster more rapid economic growth; and second, that tax breaks can be effective in stimulating investment. Both propositions may seem self-evident, yet they are subject to important qualifications that are highly pertinent to understanding the effectiveness and impact of investment tax incentives (Bolink 2004).

There appears to be two perspectives regarding the effectiveness of fiscal incentives, some argue that fiscal incentives promote investment which generate job opportunities and leads to overall economic growth. On the other hand, those who advise against tax incentives argue that tax preferences create inequities, the actual revenue cost can be high if the investment has been viable any way, and abusive tax avoidance schemes erode the revenue base (Bolink 2004).

As one of the developing countries, Ethiopia also has been undertaking tax reforms and introducing incentives since 1961 G.C. Most of these taxes have been reformed and amended following the policies of the past three governments in power. In the past decade following the general 1992 liberalization (or reform) policy of the country major reforms have occurred (Geda and Shimeles 2005).

The Ethiopian government implemented a series of re-form measures since 1992 A.D. like deregulation, privatization, liberalization of foreign ex-change market, elimination of export tax except for coffee, lowering of maximum import duties and Provision of adequate incentives. The Ethiopian government has been also providing investment incentives to encourage private investment and to promote the inflows of foreign capital. Reduced Custom import duties, exemptions from

payment of export customs duties, income tax holding, tax holidays and losses carried forward are some among the investment incentives given by Ethiopian government (Semiret 2013).

The policy rational for tax incentives are aimed at creating conductive environment for both domestic and foreign private investors. The overall policy of the government is designed to improve the living standards of the people, enhancing economic growth and thereby increase the productivity of revenue (ERCA, 2011). To achieve the desired Economic growth and development there needs to be structural changes from low to high productive economic activities; industrialization is a key factor in the development process (UNCTAD, 2012).

However as per National bank of Ethiopia annual reports for the past ten years, the sectorial distribution of investment in the manufacturing sector have been fluctuating and didn't make any significant change so far. The 2013/14 annual report of NBE shows that the industrial sector accounts for only 12.4% of GDP. Further as per EIA (2014) the industrial sector mainly comprises small and medium enterprise.

Therefore, this research paper tries to look at the effect of tax incentive schemes in supporting investment in the manufacturing sector by attracting potential investors taking Ethiopian case.

1.3. Objectives of the study.

1.3.1. General objective of the study

The general objective of the study is to assess the effect of tax incentives given by Ethiopian government to attract and support domestic investors in the manufacturing sector.

1.3.2. Specific objective of the study

With the view of achieving the above general objective the study addresses specific objectives. The specific objectives of the study are:

i. Determining major factors affecting decision of domestic private investors to invest in manufacturing sector.

ii. Identifying the effect of Tax Incentives on domestic private investment in manufacturing sector.

iii. Showing the trend of domestic private investments during the study period.

iv. Showing the trend of investment in the manufacturing sector during the study period.

1.4. Scope of the study

The main focus of this research is examining the impact of tax incentive on domestic private investment specifically on the manufacturing sector. The analysis covers the period 1992 to 2014G.C. Even if there are different investments incentive schemes in Ethiopia, in this study the popular tax incentive scheme is addressed. Further the impact of tax incentive is considered in respect to its impact in attracting operational capital investment to the sector.

1.4. Significance of the study

The factor that motivated me to study on this area is, even though there have been few studies on the impact of tax incentives on investment specially foreign direct investment, there is lack of sufficient researches in Ethiopia on the area specially concerning effect of tax incentive on domestic manufacturing investments.

The study assesses domestic manufacturing investment trends in Ethiopia and its determinant. It also analyse the effect of tax incentives on the domestic investment promotion.

The research have a greater significance to ERCA in reviewing their fiscal policy; EIA in evaluating their investment policy and also shows the gaps and areas that could be studied for further research.

1.6. Organization of the study

This paper is organized in such a manner that the first chapter presents the back ground of the study, statement of the problem, objectives of the study, research hypothesis, significance of the study, methodology and scope and limitation.

The second chapter present the review of related literature and the third chapter is about the methodology. Discussion and analysis of the data gathered is presented in chapter four and finally the last chapter, chapter five, provides the conclusion and recommendations.

CHAPTER TWO

2. Literature Review

In this chapter both theoretical and empirical literatures is presented. Basic investment theories; conceptual framework of determinants of domestic investment; theories of tax incentives and arguments of investment tax incentives are broadly addressed in the chapter.

2.1. Theoretical Review

2.1.1. Introduction

In the growth and development literature, capital accumulation is regarded as a key determinant of an economy's long-run growth .At the continental level, economic transformation is one of the key priority issues in the draft strategic plan of the African Union entitled Agenda 2063. It is also one of the four priority issues identified by African countries in the African common position on the post-2015 development agenda. At the national level, many countries have also made economic transformation a key focus of their development agenda in the medium to long term. For example, the Ethiopian Government has a Growth and Transformation Plan aimed at boosting agricultural and industrial growth. A key challenge facing these countries is how to translate their vision of economic transformation into reality. Clearly, this requires an understanding of the drivers of structural transformation in the development process. (UNCTAD, 2014) It identified investment and technology as two key drivers of structural transformation. But according to UNCTAD investment rates in Africa are currently low relative to Africa's investment requirements and also relative to what is observed in other developing-country regions. Boosting investment is therefore of strategic importance in achieving the African development agenda. While investment is important to the development process, it should be noted that it is a necessary and not a sufficient condition for economic transformation and sustained growth. In this regard, if African Governments want investment to play an effective role in supporting economic transformation and development, the focus should not be solely on boosting the quantity of investment to levels deemed necessary to meet national development goals. They also have to address two related issues.

The first is how to ensure that investment is allocated to strategic or priority sectors, particularly infrastructure, agribusiness and manufacturing. Increasing investment and not allocating it to sectors crucial to achieving Africa's economic transformation agenda will be counterproductive.

The second issue African Governments have to address is how to improve the quality or productivity of investment. (UNCTAD, 2014)

Industrial growth by all intents and purposes is an undisputed pre-requisite for economic growth and development. If transformation will take place and the trend of poverty is to be reduced, rapid industrialization in the African sub-region is an agenda to be pursued. Evidences abound of a fairly strong relationship between economic growth and development and industrial process. Economic growth and development needs structural changes from low to high productive economic activities, industrialization is a key factor in the development process. High, rapid and sustained economic growth and development is strongly related to industrialization (Ibbih JM and Gaiya BA, 2013) referring (Lall 2005; Rodrik 2007; Hasse 2008; Szirmai 2009)

Economic development is crucially dependent on industrial development, both with respect to the industrial sector's pivotal contribution to economic growth and even more conspicuously with regard to the structural transformation of an economy. The importance of the latter is underlined by the fact that economic development is largely thought of as being synonymous with industrialization. [UNIDO, 2003].

2.1.2. Basic Investment Theories

The decision to invest is a central subject in the analysis of economic behaviour mainly because it determines the accumulation of productive capacity and hence the future growth path of an economy. There are different theories regarding investor's behaviour on investment decision and few of them will be presented in this section.

The oldest and most familiar explanation came from the theory of user cost of capital by Dale Jorgenson in the 1960swhere by the firm maximizes its market value by adjusting its capital stock to a point where the marginal value product of capital equals the market interest rate. In other words firms choose investments with positive net present value. Extensions to the user cost were easily made by incorporating fiscal incentives like taxes on profits and investment tax credits to make it more realistic.

The other popular model is by clarck (1917) the accelerator model which is the simplest of them in which the firm is assumed to keep a stable relationship between the capital stock it desires to maintain and the level of output. A key implication of this model is that investment (change in capital stock) is driven by change in aggregate demand. An economic theory that suggests that as demand or income increases in an economy, so does the investment made by firms.

The neoclassical (flexible accelerator) model suggested by Jorgenson (1967) combines the user cost of capital and the accelerator effect to explain investment behaviour. Subject to lags and costs involved in adjusting the capital stock, a competitive firm in the neoclassical model is supposed to realize only a portion of the desired capital stock in the current period. It is also important to note that the firm in the neoclassical model is assumed to operate under perfectly competitive product and factor markets which implies inter alias absence of liquidity constraints (to adjust capital stock) and a general equilibrium situation with full employment.

Another popular and yet equivalent investment model is Tobin's q theory, Tobin (1969) which relates the market value of the firm with its replacement cost as a guide for investment decision. In its simplest form, this theory postulates that investment will be worthwhile as long as the value of the firm in the stock market is higher than the cost of acquiring the firm (its machinery and equipment) in the product market.

This study on the determinants of Ethiopian domestic private investment in manufacturing sector tended to start off with the neoclassical model and attempt to reformulate it by incorporating variables (often on an ad hoc basis) that are supposed to have strong association with investment.

2.1.3. Determinant of Investment in manufacturing sector

The central core of economic growth of any nation is influenced by the growth rate of the industrial sector specially manufacturing industries. The major components of this activity involve labour productivity, capital formation, improvements in technology and the market environment. Designing appropriate strategies for catalyzing and stimulating investment in Africa requires a good understanding of the key determinants or drivers of investment in African countries (UNIDO, 1996).

Industrialization is such a crucial and critical key to economic growth that it calls for improvement in systems, technologies and processes that will utilize natural resources more efficiently.

Interestingly, about a fifth of global income is generated directly from the manufacturing industry, and nearly half of household consumption relies on goods from industrial processes. The industrial revolution has indeed altered the way people work, live, and think, (UNIDO; IDR, 2011)

Basically, many factors could promote or hinder industrialization process. Some of them are socio-economic; others are financial while others are institutional. Though there are extensive literatures in this frame, this study considers only some of the important determinants of investment in the manufacturing industry.

I. Size of domestic market and Trade Openness

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.

There is a significant positive relationship between manufacturing expansion and internal demand so that, other things being equal, larger countries tend to have a higher manufacturing share. In others words, as incomes per capita raise or real GDP raise, share of manufacturing in national income increases (Samouel&Aram 2012). Agarwal (1980) pointed out 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.

Guadagno (2012), basing on Cornwall (1977) model in order to estimate a manufacturing growth equation for a sample of developing countries, shows that the size of the domestic market as well as trade openness are a constant determinants of industrialization. The higher the import export rate of a country the greater the market opportunity or trade openness for investors.

Ethiopia has a large population and thus potentially one of the largest domestic markets in Africa. Beyond the domestic market, by virtue of its membership of the Common Market for Eastern and Southern Africa (COMESA) embracing 19countries with a population of 40 million, Ethiopia enjoys preferential market access to these countries. Ethiopia's proximity to the Middle East also offers potential market opportunities.

The country also qualifies for preferential access to European Union market under EU's Everything-But-Arms (EBA) initiative and to USA markets under the African Growth and Opportunities Act (AGOA) and the Generalized System of Preference (GSP). Thus most Ethiopian products can enter

into these markets quota and duty free. Furthermore, broad ranges of manufactured goods from Ethiopia are entitled to preferential access under the generalized System of Preference (GSP) in USA. Most countries of the EU and other developed countries. No quota restrictions are placed on Ethiopian exports falling under the 4800 products currently eligible for GSP treatment (EIA, 2014).

II. *Inflation and Exchange rate*

Inflation is a real fact of today which cannot be ignored. Even the most developed states have an inflation of several percent. In an economy with a growth dynamic changes taking place in prices constantly. Organized markets for securities and other goods are normal for prices to change from one transaction to another. Sometimes, the price of a good or service may be a trend upwards or downwards for a period of months or years. However, that price changes are the result of the change request or offer for goods and services does not imply, necessarily, some change in the general level of prices. Increasing the price of goods or services may be offset by the decrease of others, so that the average price may remain more or less constant. A change in the average level of prices is if there is a tendency for more prices to move up or down. It can thus appreciate that inflation represents the accelerated growth, and the general level of prices, matched by increased money, low purchasing power of money and depreciation under the influence of economic, monetary, social, and domestic and foreign policies (Bercea & Băndoi 2008).

A stability of the macro environment encourages growth given that it leads firms to act in a rational manner. That's because, in a context of low inflation, suitable deficit and public debt, more risk-averse investment behaviour is limited and access to financial and capital markets is less difficult.

This is especially important in African countries where there may be a dearth of entrepreneurship (Samuel & Aram 2012).

On the other hand, maintaining stable exchange rates prove to be important insofar as it affects long run growth. Indeed, avoiding exchange rate misalignments could protect exporters from an overvaluation phenomenon that affects competitiveness as well as importers from undervaluation that affects purchases and investment programs. Moreover, exchange rate volatility makes difficult and expensive for developing countries to hedge their exchange rate risks, especially small and medium sized firms (Samouel&Aram 2012).

III. Access to credit and the cost of finance

Domestic investment by domestic enterprises is likely to be constrained by lack of access to credit as has been documented in several studies (Ajide and Lawanson 2012). The private sector in Africa has very low access to financial resources for investment. In 2011 domestic credit to the private sector in Africa was about 62 per cent of GDP compared to a world average of 129 per cent and 75 per cent for low and middle-income countries. Within Africa the share of domestic credit to the private sector in GDP is very low in many countries. African firms also face very high costs of finance for investment which, as shown in empirical studies, constrains investment (UNCTAD, 2014).

IV. Domestic savings/Internal Funds

Investment can be financed through both domestic and external sources. However, given the challenges facing African countries in accessing external finance, they tend to rely more on domestic sources for investment. But Africa generally has low savings ratios relative to investment requirements and also relative to what is observed in other continents (UNCTAD, 2014).

Medina &Valdes (1998) find that the availability of internal funds is a key determinant in the investment decisions of companies. As the rate of domestic saving increases financing capacity for investment also increases which leads to higher investment rate.

V. *Incentives*

Investment incentives are measurable economic advantages that governments provide to specific enterprises or groups of enterprises, with the goal of steering investment into favoured sectors or regions or of influencing the character of such investments (Sebastian 2009).

These benefits can be fiscal (as with tax concessions) or non-fiscal (as with grants, loans, or rebates to support business development or enhance competitiveness). Tax and non tax incentives have both been widely used to promote investment (Sebastian 2009).

Incentives especially fiscal incentives have been associated with higher investment in several countries, including Ireland, Mauritius, and Singapore. But while some governments vouch for the effectiveness of incentives, many others have failed to attract expected investments (Green and Villanueva 1991).

Referring Zee, Stotsky and Ley (2002) the study distinguishes, with reference to investment, between a statutory and an economic tax incentive. The former is defined as "a special tax provision granted to qualified investment projects that represent a statutorily favourable deviation from a corresponding provision applicable to investment projects in general (i.e. projects that receive no special tax provision)."

The latter is defined as "a special tax provision granted to qualified investment projects that has the effect of lowering the effective tax burden measured in some way on those projects, relative to the effective tax burden that would be borne by the investors in the absence of the special tax provision." (Ibid)

VI. Tax Policy(Tax Incentives and Corporate tax rate)

The theory of how investment behaviour responds to changes in tax policy has been heavily influenced by the neoclassical framework established by Jorgenson and Hall. According to Jorgenson's neoclassical model, a key variable is the firm's user cost of capital the cost the firm incurs as a consequence of owning an asset. Jorgenson's insight was to show that the user cost of capital could be derived from neoclassical microeconomic theory by examining the decision of a profit maximizing firm (Halletal 1967).

As derived by Jorgenson, the parameters in the user cost of capital formula are of three different types: (1) macro variables (interest rates, inflation rates, real interest rates), which are exogenous to the representative firm; (2) micro variable (economic depreciation rates), which is economically determined by type of capital asset; and (3) tax variables (tax rates, depreciation rates for tax purpose, investment tax credits), which are determined by the tax systems. Thus, both monetary and fiscal policy can influence the user cost, monetary policy by changing the real interest rate, and fiscal policy by altering the rates and rules of the tax system (Gordon 1993).

VII. Lending interest rate

The rate of return of an investment approached by literature through a real interest rate as a representative of the cost of capital is a possible determinant of private investment. The perceived negative relationship between interest rates and private investment is a long debated issue which pulls in a number of prior studies. Neo-classical theory Greene and Vilanueva (1991) suggests that, as high interest rates discourage investment by raising user cost of capital, private investment is negatively related to interest rate. Here, its worth to make two distinctions: the interest rate would have a negative impact in the level of private investment made by domestic agents if the investment is financed in the local credit market. However, an increment in interest rate could have a positive effect in the capital flow from abroad, like it usually happens in emergent markets.

VIII. Infrastructure\Transport availability

Countries with 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 with these characteristics countries would usually attract investment (Oniyewu and Shareshta 2005).

Roads play a vital role in transporting people and goods in Ethiopia. Cognizant of its cardina role, the government has identified the road sector as top priority for public invesment and, remarkable progress has been made in the expansion of the road network in the country.

Addis Ababa the capital city, is an important regional transport hub. The road network radiates from Addis Ababa to regions linking it with important cities, towns and other economically active centers of the country.International highways also link Addis Ababa and other cities and towns with neighbouring countries uch as keniya, Djbouti, Eritrea, Somalia, South sudan and Sudan.In line with the five year growth and transformation plan(GTP), the government has targeted to increase the total road network to 64,500km in 2014\15.

2.1.4. Conceptual Framework

Designing appropriate strategies for catalyzing and stimulating investment in Africa requires a good understanding of the key determinants or drivers of investment in African countries (UNCTAD, 2014). This would make it possible to tailor policy interventions to unlock specific constraints facing investment in given countries on the one hand and to harness the drivers of investment on the other hand. Evidence-based policy design also enables us to establish a hierarchy of interventions given that resources are limited and not all desirable interventions can be undertaken at the same time.
It also permits us to determine the factors that can be influenced or mitigated by policy as opposed to those that are completely out of reach of the policymaker. Against this backdrop and based on literatures the key determinants of domestic investment are summarized in the figure below.

Conceptual framework of determinants of domestic Investment

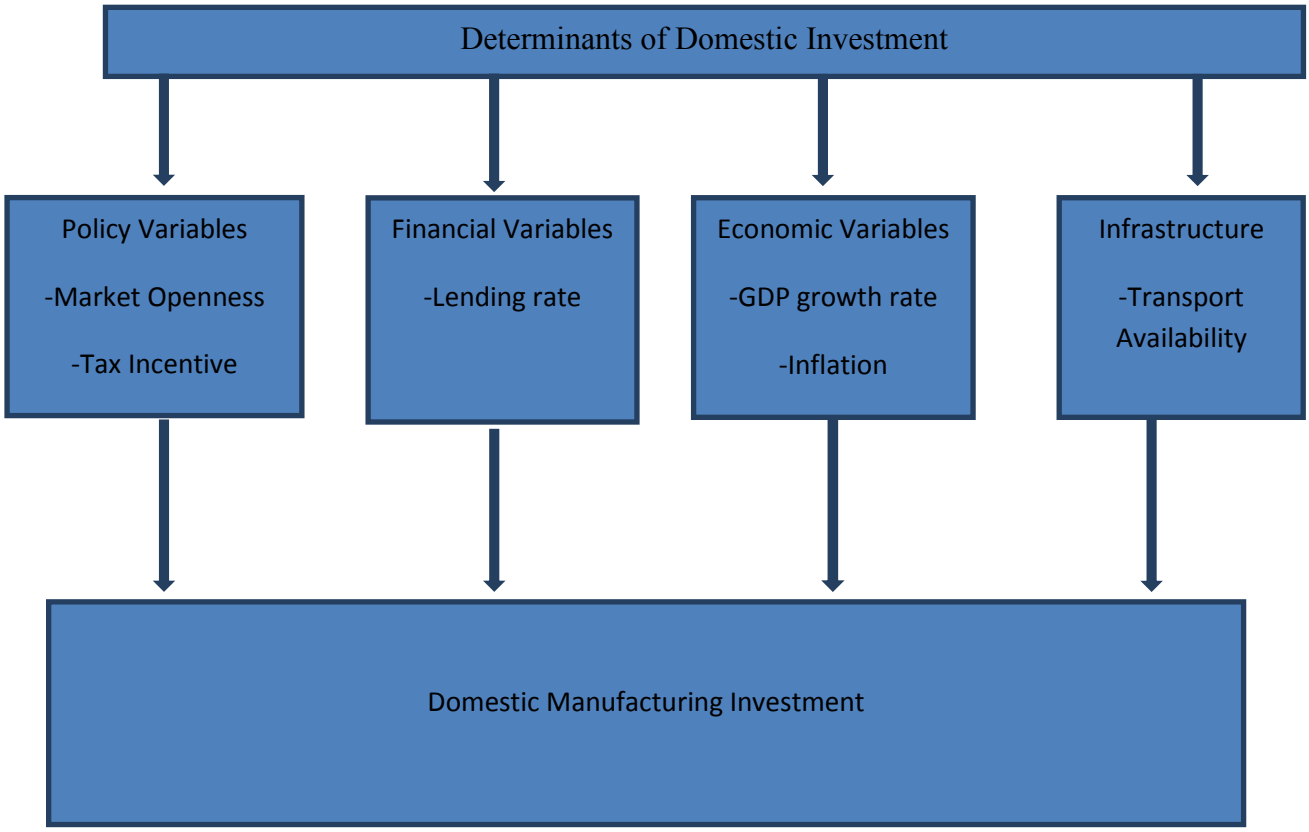

Figure2-1

2.1.5. Taxes in the theory of Investment Behaviour.

The *accelerator investment model* describes the ratio of net investment to GDP depends on the expected rate of GDP growth. Investment rises when output growth accelerates and falls when output growth decelerates.

In other words, an economy on a rapid growth path attracts high rate of investment, while a stagnant or shrinking economy offers no inducement for net investment aimed at the domestic market. Hence, we have an interactive system that can create either a vicious circle of high growth and high investment, or a vicious circle of low growth and low investment (OECD, 2011).

While in the *flexible accelerator model*, the desired capital stock depends not only on output, but also on the user cost of capital (UCC). Investment takes place as long as the value of the added output from an investment exceed the users cost of capital. In other words when the benefits exceed the cost. Neglecting taxes, the UCC consists 3 elements:-

- The financial cost of funds tied up in capital goods
- The cost of depreciation or wear and tear of the capital asset.
- Any change in the relative price of capital goods, due to changing market conditions.

Taxation enters the users cost of capital through three channels:

1. Company tax rate:-From the point of view of the investor, the effective return on capital is diminished to the extent of tax due on company income.
2. Tax incentives: - the cost of paying company tax is offset by any benefit which may accrue to the investor from tax incentives such as tax holydays, preferential tax rate, investment credits or capital allowances in excess of economic depreciation.
3. Tax treatment for the cost of funds:-Investment can be financed by equity or debt. Hence, the overall cost of funds depends on both the real interest rate on debt financing and the risk adjusted real rate of return required by shareholders who provide equity financing. The real cost of debt financing (r_d) is the nominal interest rate (i) less the rate of inflation (π). Since nominal interest payments are deductible in most tax systems, the after tax real cost of debt financing for the firm is $r_d = (1-u)\, i - \pi$.

In this framework, investment takes place as long as the gross return on additional investment exceeds the tax adjusted user cost of capital.

A higher user cost of capital reduces the set of viable investment projects. Conversely, a lower UCC expands the set of viable investment projects and favours capital investment projects. (OECD, 2011)

The *neoclassical model* assumes that investors have access to debt and equity financing at a market determined cost of funds (adjusted for risk).This is a reasonable assumption for large multinational companies, but for many companies the main source of funds for investment is retained earnings. In this case, tax cuts can transfer investment by augmenting the company's net cash flow, providing the means to take advantage of viable investment opportunities that otherwise would be missed for lack of finance.

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. 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 (Chen and Mintz, 2013). Tax incentives may well be an important instrument in accelerating the pace of economic growth through mobilizing savings and investment.

The main objective of any tax-based investment incentive is to simulate private investment by reducing the effective price of capital goods. The tax benefit reduces the tax liability of the firms: the increase in the after tax income is then available for additional investment (OECD, 2011)

Bird (2008) states as follows: “Despite their continuing popularity almost everywhere, tax incentives are usually redundant and ineffective: they reduce and complicate the fiscal system without achieving their stated objectives. Even to the limited extent that some incentives are effective in inducing investors to behave differently than they would have done in response to market signals; the result is often inefficient, diverting scarce resources into less than optimal uses.

Many countries target tax incentives to a specific industry as a means to develop new industries or revive older industries. As a result, in the short run, the UCC in one industry may be heavily subsidized by tax increases in other industries (or on other factors), creating a competitive advantage in the short run (Calitz, etal 2013).

2.1.6. Tax incentives

Incentives can cover a wide range of taxes, including corporate income tax (CIT), VAT, tariffs, property taxes, personal income taxes and social contributions. Incentives in each of these areas require distinct economic analysis.

For instance, a reduction in tariffs for capital goods is usually on firm economic ground in that it eliminates production distortions that create large welfare costs. On the other hand, VAT exemptions on investment may be entirely redundant as VAT liabilities are recovered later in the VAT chain: but these can become beneficial for firms if VAT implementation is problematic, for instance, due to imperfect VAT refund procedures. Corporate income tax incentives are probably most contentious and it is those that have received most critique from observers. Much of the focus below will consequently be on them. Tax incentives that lower the cost of investment are generally to be preferred over profit based tax incentives:

- *Cost-based tax incentives* involve specific allowances linked to investment expenses, such as accelerated depreciation schemes and special tax deductions and credits.

  They are targeted at lowering the cost of capital and so make a greater number of investment projects more profitable at the margin that is, may generate investments that would not otherwise have been made.

• *Profit-based tax incentives* generally reduce the tax rate applicable to taxable income; examples include tax holidays, preferential tax rates or income exemptions. They reduce the tax burden also on investment projects that would be highly profitable, and hence undertaken, even without the incentive. The difference between the two types of instruments is critical. For instance, investments that are highly profitable can be mobile across national borders because, for instance, the rents are associated with intangible assets, such as patents or trademarks and sensitive to both cost-based and profit-based tax incentives. However, for investments with lower profitability, profit-based incentives will be less effective in encouraging investment compared to incentives that reduce the capital cost. Moreover, when profits are earned due to the presence of location-specific factors, such as natural resources, agglomerations, or local markets, profit-based incentives tend to be associated with high redundancy rates and to be ineffective in raising investment.

2.1.7. Efficient use of tax incentive

Efficient use of tax incentives means that objectives are achieved at low social costs. Such costs include revenue losses for government and other social costs, for example due to less efficient resource allocations. Redundancy matters for efficiency too, since it implies a loss of government revenue from projects that would have been undertaken also without tax incentives. Redundancy implies that the tax incentives are a mere cash transfer to the investor: a net social loss to the extent that the marginal cost of public funds exceeds unity (and an even greater loss in national terms if the investor is foreign). On the other hand, for projects that would not have been undertaken without the incentive, there is no direct revenue loss. So long as taxation of the incentivized activity is not entirely eliminated, and the incentive leads to a sufficiently large increase in investment and employment (and/or if the investment generates other tax revenue) there may be a net revenue gain from those projects. To minimize the revenue cost of tax incentives, the goal would thus be to offer tax incentives only to those marginal investors who would not have invested otherwise.

Indirect revenue costs arise from taxpayers abusing the tax incentive regime. For example, if tax incentives are only available to foreign investors, local firms may use foreign entities to route their local investments. Similarly, if tax benefits are available to only new firms, taxpayers can reincorporate or set up new corporations to be treated as a new taxpayer under the tax incentive

regime. Other leakages occur where taxpayers use tax incentives to reduce the tax liability from nonqualified activities, for instance, by shifting taxable income to a related firm that qualifies for a tax holiday or that resides in a tax-free economic zone (McClure 1999; Eason 2004). Preventing such losses requires proper anti-abuse rules and strong administrative capacity to enforce them.

2.1.8. Arguments for and against investment tax incentives

There are arguments for and against of tax incentives in different literatures and empirical works. Arguments in favour 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 (SADC, 2004)

- ***Arguments in Favour of Investment Tax Incentives***

1. ***Higher Profits***. Measures that reduce the tax imposed on income from capital leave investors with a higher net rate of return. This translates directly into greater incentives for investment, and (hopefully) more investment.

2. Positive Externalities. Modern growth theory highlights the importance of positive spill over effects from the accumulation of knowledge and innovation. The benefits are often embodied in new capital investment, investment in research and development, and training associated with new investment, especially for export projects or investments that help to develop networks or clusters as centers of excellence. If spill over effects are significant, then private decisions based on free-market signals lead to an inefficient undersupply of investment and innovation.

There is then a logical justification for government intervention to enhance the market incentive for investment, research and development, and training. Tax breaks can be useful for this purpose.

3. Practicality. Although the fundamental purpose of taxation is to raise revenue, the tax system inherently and invariably affects economic incentives. It is therefore a convenient, practical, and flexible instrument for influencing incentives in a direction that contributes to other policy objectives such as investment promotion, job creation, development of disadvantaged regions, or upgrading of the labour force.

4. Signalling. In conjunction with other measures to create a welcoming investment climate, introducing tax breaks for investors can signal a country's commitment to facilitating investment. It also provides a headline banner for marketing the country as a desirable investment destination.

5. Capital Mobility. In a global economy with high mobility capital, the effective tax rate on capital has to be low to attract inward flows of foreign investment and keep domestic savings at home to finance productive investment.

6. Compensating for Other Deficiencies in the Investment Climate. A common argument in less developed countries is that attractive fiscal benefits are essential to gain the interest of investors who would otherwise not consider investing because of problems, such as unreliable or high cost infrastructure, macroeconomic instability, or a weak legal and judicial system.

7. Revenue Gains. If it is so that investors would go elsewhere in the absence of getting special tax breaks, then the direct revenue loss from offering such incentives is nil. And the indirect revenue impact can be favourable, because the new investments that materialize through the tax incentive program will create jobs and linkage effects that generate tax revenue.

- ***Arguments against Investment Tax Incentives***

In examining the conceptual validity of the various objectives of tax incentives, it is convenient to group all the factors that could have a bearing on an (domestic or foreign) investor's decision to undertake an investment project in any country under four categories: (i) tax related considerations; (ii) non tax-related economic considerations; (iii) non economic considerations; and (iv) social policy considerations. Tax-related considerations refer to features in the tax system as a whole that have an impact on the effective tax burdens on investment projects. If there are limitations in these features that impede investment, the first-best policy is to correct the limitations directly via appropriate tax reform, rather than to compensate for them through enacting tax incentives (H.Zee,etal 2002).

If, for example, depreciation allowances are too restrictive or the CIT rate is too high in relation to international norms, then restructuring depreciation allowances or lowering the CIT rate to competitive levels would be far more preferable than introducing tax incentives in restoring a favourable investment climate. Non tax-related economic considerations refer to those that affect either the general macroeconomic or the microeconomic/structural environment, or both. If there are deficiencies in these environments that impede investment, the first-best policy is to implement sound macroeconomic policies and/or undertake relevant structural reforms, rather than to resort to tax incentives that do not address the root-causes of the deficiencies. For example, large budgetary imbalances can raise questions about the sustainability of present tax rates, and high inflation rates can generate considerable uncertainty about prospective macroeconomic developments. Likewise, rigidities in labour markets can raise labour costs above internationally competitive levels, and poor communication and transportation infrastructures can increase the costs of doing business significantly. When such macroeconomic imbalances occur and/or structural deficiencies exist, tax incentives alone are unlikely to provide sufficient underpinning for investors' confidence they may, in fact, be counterproductive if investors view them as steps in the wrong direction for addressing the underlying problems (H.Zee ,etal 2002).

Non economic considerations refer to those related to the legal, regulatory, and political economy environment. These considerations are often as important as tax and other economic considerations in fostering an environment that is conducive to investment. For example, investors are frequently concerned about the clarity of the law that governs the investment regime and the transparency with which regulations (rules and procedures) associated with the investment law are enforced.

Again, if there are deficiencies in this environment that impede investment, the first-best policy is to undertake corrective actions to remove the deficiencies. Investors' concerns about deficient legislation and onerous regulations, as well as perception of corruption on the part of those officials responsible for approving investment projects, can seldom be overcome by the availability of even generous tax incentives (Ibid).

Social policy considerations refer to those that arise from equity concerns. Producers in certain sectors (e.g., agriculture) may be regarded as economically disadvantaged relative to other, more developed sectors (e.g., industry), and the provision of tax incentives to the former sectors may be considered as a way to advance equity objectives. Such objectives can however, be more effectively

addressed by an appropriately-designed expenditure policy that targets individuals on the basis of their income levels, rather than by tax incentives that target economic activities on a sect oral level (Ibid).

1. Revenue Loss. As explained earlier, the central purpose of tax policy is revenue mobilization. The claim that tax incentives have no adverse impact on revenue assumes that the investments that benefit from tax incentives are additional to what would take place in the absence of the incentives. Tax incentives do cause a loss of revenue. There are four ways in which this can occur:

Redundancy: A tax incentive is redundant, or superfluous, when it does not materially affect the investment decision. This situation arises if the investment has a sufficient rate of return to be viable under the normal tax code, and cannot relocate easily to another jurisdiction. If the investment makes sense anyway, then the tax incentive simply transfers resources to the investor at the expense of the treasury. If redundancy is widespread, then the incentive program generates little additional investment and the revenue cost is high.

Partial redundancy: In some cases tax incentives may be essential to attract a particular investment, but the benefit package is more generous than necessary. The incentive is then partially redundant, and a portion of the tax break is a genuine revenue loss to the treasury.

Indirect revenue costs: Even if investments that benefit from special tax breaks are fully additional and redundancy is zero, significant revenue losses may occur indirectly. This occurs if the tax-favoured activities undercut the profitability of other producers who do pay taxes. A classic example is where companies in operating in an export processing zone serve as a conduit for smuggling, which reduces the income of competing domestic producers.

2. Revenue Leakage through Avoidance and Evasion. Revenue losses can increase many-fold through an entirely different channel. Tax incentives often create opportunities for businesses and individuals to engage in "aggressive tax planning" a polite term for tax avoidance. It is instructive to cite a few examples of how tax planning can convert well-intended incentives into a revenue drain. Company "churning." An existing company (A) can close down all or part of its operations and establish a "new" company (B) that qualifies for a full tax holiday. In the investment promotion statistics, it looks as if the program has stimulated activity B, but in reality the result is a straight revenue loss for the host-country treasury and a windfall for the company. A common variation on

this theme occurs when the tax holiday for B comes to an end. The owners may then shut down B and open a "new" company C, which continues the operations under a new name with an additional tax holiday.

3. ***Impact on Tax Administration***. 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. Highly trained officers are thus diverted from raising revenue to managing programs designed for other social and economic purposes. As emphasized by Zee, et al. (2002): "The more scarce resources are devoted to administering tax incentives, the more other important administrative tasks would be impaired thus jeopardizing tax collection as a whole."

4***. 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.

These features may be convenient for short-term political purposes, but they are undesirable features of public policy in an era where good governance, accountability, and fiscal transparency are in demand. When costs are hidden, it is easy for governments to pursue measures that are not cost-effective, and not consistent with the stated development goals.

5. 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.

This pressure often leads to a proliferation of tax breaks, which riddle the tax net with holes, multiply the fiscal and economic costs, and undermine the coherence of tax policy. And once businesses begin

to benefit from special incentives, pressure to perpetuate the programs becomes inevitable. The cash value of tax incentives is also an open inducement to bribery and corruption. These abuses are particularly likely where approvals are discretionary, criteria are vague, agreements are confidential, and mechanisms are lacking to track and control the direct and indirect fiscal costs. The lobbying activities themselves represent a loss of economic efficiency, as companies devote resources to seeking profit through political influence rather than through higher productivity and product quality.

Principal taxes and Corporate tax Rate in Ethiopia

The Current tax rates in Ethiopia are summarised in the table below:

Table 2-1

Principal Tax rates in Ethiopia

No.	Types of taxes	Rate
1	Corporate income tax	30%
2	Turnover tax	2% and 10%
3	Excise Tax	10% up to 100%
4	Custom duties	0% up to 35%
5	Income tax from employment	0% up to 35%
6	Withholding tax	2%
7	Value added tax	15%
8	Export tax	0 (with exception of hide and skins-150%)
9	Royalty Tax	5%
10	Dividend Tax	10%

Source: Ethiopian Customs and Revenues Authority (2011)

There was no separate tax rate provided for companies in the first Income Tax Proclamation No. 60/1944 and Proclamation No. 107/1949. 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. Even though the rates vary this trend continues until to-date. 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 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 which are summarised in table 2-1 above.

2.1.9. Tax incentive in Ethiopia

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 Defence 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 micro credit 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 (EIA,2014).

The major change conducted in the establishment of Industrial Zone and Investment boards were made on August 13, 2014 and July 2014 respectively. Investment incentives provided in the investment codes are free repatriation of capitals; Duty free importation of goods and vehicles related to the investment; Tax holidays up to eight years; Opening and operating foreign currency accounts; owning immovable property for the purpose of the investment, Loss carry forward, duty drawback scheme and voucher scheme. Among the fiscal incentives given the most popularly used are custom duty exemption and income tax exemption (tax holiday).

A. Fiscal

The Council of Ministers Regulations No.84/2003, as amended in 2008, specifies the areas of investment eligible for investment incentives.

Custom Duty

To encourage private investment and promote the inflow of foreign capital and technology into Ethiopia, the following customs duty exemptions are provided for investors (both domestic and foreign) engaged in eligible new enterprises or expansion projects such as agriculture, manufacturing, agro-industries, construction contracting, etc.

The eligible sectors are Agriculture, manufacturing, construction, education, health, electricity and water supply and hotel and tourism. These incentives include:-

• 100% exemption from the payment of customs duties and other taxes levied on imports is granted to all capital goods, such as plant, machinery and equipment and construction materials;

• Spare parts worth up to 15% of the total value of the imported investment capital goods, provided that the goods are also exempt from the payment of customs duties;

• An investor granted with a customs duty exemption will be allowed to import capital goods duty free any time during the operational phase of his enterprise; and

• Investment capital goods imported without the payment of custom duties and other taxes levied on imports may be transferred to another investor enjoying similar privileges.

Table 2-2

Summaries of investment 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 Defence 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 micro credit 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.
(FDRE, 2002)	4-Jul-02	Investment proclamation focusing on Income Tax
(FDRE, 2012)	September 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 an 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

Income Tax Exemption

Any investors who invest to establish a new enterprise in manufacturing, agro-processing, production of agricultural products and information and communication technology development are entitled to income tax exemptions. Any income tax derived from approved new investment shall be exempted for periods of 1 to 8 years, depending upon the priority area of investment activities and the geographical location of the investment. Conditions for income tax exemption eligibility are:-

• Exports 50 percent his products or services, or supplies 75 percent of his products or services as production or service input to an exporter will be exempted from income tax for 5 years. Under special circumstances, the Board may grant income tax exemption up to 7 years and the Council of Ministers may pass a decision to grant income tax exemption for more than 7 years;

• Exports less than 50 percent of his products or services, or supplies his products or services only to the domestic market will be exempted from payment of income tax for 2 years; and

• Exports, through the expansion or upgrading of his existing enterprise, at least 50 percent of his products or services and increases, in value, his products or services by over 25 percent will be exempted from income tax for 2 years. For each case mentioned above, the length of the tax exemption period may be extended for one additional year when the investment is made in relatively under-developed regions of the country. However, investors who export hides and skins after processing below crust level are not eligible for income tax exemption.

Investors who invest in priority areas (textile and garments, leather products, agro-processing, etc.) to produce mainly export products will be provided land necessary for their investment at reduced lease rates.

B. Non-fiscal

The non- fiscal incentives given to all exporters are the following:

• Investors who invest to produce export products will be allowed to import machinery and equipment necessary for their investment projects through supplier's credit;

• Investors who invest in areas of agriculture, manufacturing and agro-industry will be eligible to obtain loan up to 70 percent of their investment capital from the Development Bank of Ethiopia (DBE) if their investment is sound to be feasible; and

• The Government of Ethiopia will cover up to 30 percent of the cost of infrastructure (access road, water supply, electric and telephone lines) for investors investing in industrial zone development.

Loss carry forward

Business enterprises that suffer losses during the income tax exemption period can carry forward such losses, following the expiry of the exemption period, for half of the tax exemption period.

Export Incentives

Fiscal

The fiscal incentives given to all exporters are the following:

• With the exception of few products (e.g. Semi-processed hides and skins-150%), no export tax is levied on export products of Ethiopia;

• **Duty Drawback Scheme**: It offers investors an exemption from the payment of customs duties and other taxes levied on imported and locally purchased raw materials used in the production of export goods. Duties and other taxes paid are drawn back 100 percent at the time of the export of the finished goods;

• **Voucher Scheme**: A voucher is a printed document having monetary value which is used in lieu of duties and taxes payable on imported raw materials. The beneficiaries of the voucher scheme are also exporters; and

• **Bonded Manufacturing Warehouse Scheme**: Producers not eligible for voucher scheme but having licensed for bonded are entitled to operate such warehouse in importing of raw materials duty free.

Non-fiscal

The non- fiscal incentives given to all exporters are the following:

- Exporters are allowed to retain and deposit in a bank account up to 20 percent of their foreign exchange export earnings for future use in the operation of their enterprises and no export price control is imposed by the National Bank of Ethiopia;
- Franco valuta import of raw materials are allowed for enterprises engaged in export processing; and
- Exporters can benefit from the export credit guarantee scheme which is presently in place in order to ensure an exporter receives payment for goods shipped overseas in the event the customer defaults, reducing the risk of exporters' business and allowing it to keep its price competitive.

In addition to the above stated the most popular incentives the following incentives are also given to investors in order to promote private investment.

- Business enterprises encountering losses during the tax holiday period can carry forward such losses following the expiry of the exemption period for 3 to 5 years
- Free repatriation of profits and dividends
- Expenditures for training and research are tax deductible.

2.2. Empirical Literature Review

2.2.1. Determinants of domestic investment decision\investment in the manufacturing sector

A study set out to analyze the determinants of private investment in Zimbabwe (2009-2011). Variables identified for the study include political risk, GDP, national savings, inflation, interest rates, public investment, trade terms and debt servicing. The study results identifies political risk,

interest rate, GDP, debt servicing and trade terms as key determinants of private investment over the study period.

In Ethiopia, various economic and political reforms expected to stimulate the role of private sector in the economy have been made over the last couple of decades. Though some improvements have been registered as a result of such reforms, the performance of private sector has remained very low thus far. Hence, a study was conducted by Hailu Adunga on 2013 with the main objective of investigating and analyzing factors that determine private investment in Ethiopia (proxy for private sector performance in the economy).To this end, a30-years secondary data(i.e. from 1981 to 2010) was collected from various national and international institutions. Then, multiple regressions using OLS model was applied. The regression results show that public investment, real GDP per-capital, and external debt have significant positive long run effect on private investment, while lagged private investment(proxy for investment climate)has significant negative long run effect. In the short run, real GDP per-capital and external debt have significant positive contribution to private investment, while inflation has significant short run negative effect on private investment after two lags.

The study conducted on Economic Determinants of Domestic Investment: A Case of Pakistan by AmerSohail, UmerRehman& Muhammad Azeem (2014) identified that Domestic investment in Pakistan is stimulated by real GDP growth as well as with the expansion of exports of goods and services. The development of financial sector and human capital is vital for economic escalation in country. However, the stimulation in formal credit and formation of industrial capital may lead towards promulgation in domestic investments.

On the work of NiringiyeAggrey (2014) "Determinants of Private Investment Behaviour in Ugandan Manufacturing Firms" finance was found the major determinant of investment. The aim of the study was to establish the determinants of investment by Ugandan manufacturing firms. The study was based on descriptive and econometric analyses. It was deemed necessary to identify the determinants of investment in manufacturing, as this sector is vital for growth and job creation, and needs higher levels of investment than in the past. The tobit regression was run and the results showed that financing factors emerge as important determinants of the propensity to invest compared to markets, risk, business environment, information deficiency, and firm-specific factors. Debt capital ratio, financing of new investment with credit, and the problem of access to credit were found to be consistently associated with the propensity to invest.

“An Investigation of Macroeconomic Determinants of Domestic Private Investment Evidence from East Africa” a study conducted by Esubalew mainly emphasized on the determinants of domestic private investment in East Africa region with the panel data set from the period of 2000-2012. Based on Econometric findings in which it supports fixed effect model estimation over other methods of procedure confirmed that domestic private investment affected by different parameters: precisely, macroeconomic factors including variations in output and real per capita growth, fiscal and monetary policy and exchange rate movement in the economy are the main factors for the variability of domestic private investments across different times.

Dynamic panel model describing the relationship between industrialization and different socio-economic, financial and institutional determinants for 35 African countries over the period 1970-2012 was run by Samouel and Aram (2012). They conduct also many sub-regional and sub-period analyses in order to check the robustness of the results.

Their main results were the following: (i) as generally found in the literature, financial development, governance and labour market regulation have significant effects on industry; (ii) exchange rate appreciation is detrimental to the industrialization process (iii) financial and institutional factors are the main determinants of industrialization in the northern and eastern countries while socioeconomic factors matter more for the western and southern countries (iv) differences in the power of the industrialization determinants are not likely to emerge.

One of the most fundamental issues that a government must address in formulating policies in a global economy is to define its own role in fostering economic progress. The role of the state, at its most basic level, calls for the provision of laws that define property rights, enforce contracts and resolve disputes. In this sense, without state action, markets could not exist. Governments can play an even larger role by investing in infrastructure that contributes to the efficient functioning of markets.

The research on the title "An overview of incentives theory and practice: A focus on the agro-processing industry in South Africa " identified a hierarchy of enabling needs that a government can consider in addressing its role in advancing economic progress. The proposed hierarchy divides state actions into three levels of activities that characterize and assess enabling environments for agro-industrial enterprises. At the base of the pyramid, the state must provide essential enablers that will make possible the function of markets and enterprises. In this category the research place items such as rule of law (e.g. contract enforcement, property rights), provision of infrastructure and a conducive trade policy. So-called important enablers are second-order activities that the state can and often does

provide, such as finance, transportation and information. Finally, the research define useful enablers as sufficient but not necessary conditions to include grades and standards, linking small farmers to formal markets and business development services(Fisheries 2012).

Provision of investment incentives is in the form of either tax relief or cash grants. International experience shows that such incentives play only a minor role in investment decisions. Firms make investment decisions based on many factors including projections of future demand, certainty about future government policy, prevailing interest rates and moves by competitors. In general, they see incentives as 'nice to have' but not deal breaking as stated on the work of Paul Barbour (2005)" An Assessment of South Africa's Investment Incentive Regime with a Focus on the Manufacturing Sector". On this paper Barbour investigates whether South Africa's tax incentives have been effective in generating additional manufacturing investment (both local and foreign direct investment). South Africa's investment incentive regime compares favorably with international best practice. However, the qualitative and quantitative evidence reviewed supports the hypothesis that the impact on manufacturing investment has been negligible.

2.2.2. Empirical findings on the effect of fiscal incentives on investment

There are mixed thought on empirical literatures on the effectiveness of fiscal incentives in determining investment decision. Even though most of the empirical literatures are on foreign direct investment (FDI) this review tries to cover the major findings and conclusions on the effect of tax incentives on the general investment decision.

James (2009) on his work "Incentives and Investments: Evidence and Policy Implications" analyzes how investment incentives may or may not be used to foster private investment, particularly in developing countries. What makes such incentives effective? How much should they cost? And how are they linked to policymaking and political economy.
The paper reaches the following conclusions about investment incentives:
• On their own, such incentives have limited effects on investments. Countries must also dedicate themselves to improving their investment climates.
• If used, investment incentives should be used minimally mainly to address market failures and generate multiplier effects.

• Incentives should be awarded with as little discretion and as much transparency as possible, using automatic legal criteria.
• To the extent possible, incentives should be linked to investment growth (that is, based on performance), and tax holidays should be avoided.
• Only the tax administration should administer tax incentives.
• Regional cooperation should be encouraged to prevent harmful tax competition between countries.
• Governments should regularly prepare tax expenditure statements to measure and monitor the costs of tax incentives. In addition, incentive policies should be reviewed periodically to assess their effectiveness in helping meet desired goals.

A study by Estian (2013) on the title "The impact of tax incentives to stimulate investment in South Africa" used relatively simple tools such as social accounting matrices and Leontief multipliers which can provide policy makers a means to evaluate the relative value of incentives with respect to their output effects. With these models, the researchers provide preliminary evidence of the superior impact of a general tax incentive such as a reduced corporate tax rate on output.

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.

"Empirical evidence on the effects of tax incentives" a broad cross country analysis in Latin American, Caribbean and African countries by Van Parys and Klemm (2011) is among the studies that found significant impact of tax incentives on investment. They used spatial econometrics techniques for panel dataset of tax incentives over 40 countries to answer; are incentives used as tools of tax competition? 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.

For the second questions, they found that lower CIT rates and longer tax holidays are effective in attracting Investment in Latin America and the Caribbean but not in Africa.

Contrary to the above empirical literature, there are researches that conclude there is no direct relationship or significant effect of tax incentives with investment decision. A study on the title "A Partial Race to the Bottom: Corporate Tax Developments in Emerging and Developing Economies" by Ali Abbas etal (2012) analyzed the impact of incentives on corporate tax revenues and domestic and foreign investment. The study assembled a new dataset on corporate income tax regimes in 50 emerging and developing economies over 1996-2007. 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 study concluded that higher tax rates adversely affect domestic and foreign investment, but do raise revenues in the short-run

Kea kook Song (2014) on his work "The Effects of the Korean Tax Incentives on Investment" examines the effects of the Korean tax incentives on investment during the past four decades (1953-1992). The impact of changes in the tax systems on the user costs of capital is quantified according to the neoclassical framework. The relationship between major economic variables including the user costs of capital and investment is examined with using multiple regression analysis. The results show that economic variables and tax variables have different effects on the user costs of capital that would have no effect on investment behaviour in Korea. The impacts of the tax incentives for investment seemed to have been to reduce tax revenues rather than to influence the allocation of investment resources

El Ha &Zenjiar (2012) conducted a research on the title " The impacts of taxation on investment decision: The case of Morocco", to study the relationship between investment decision and taxation. Based on their survey, they found that although taxation is not the most important determinant of investment, it has a major impact on its profitability and competitiveness.

Using data on the prices of capital goods, Goolsbee (1997) on his work "Investment tax incentives, price and the supply of capital goods" shows that much of the benefit of investment on tax incentives

does not go to investing firms but rather to capital suppliers through higher prices. using the tax subsidies as instruments for investment demand to actually estimate a supply curve for capital puts the short-run elasticity at around 1 which increases to around 2 after two years. Such a supply curve can easily explain the small estimated effects of tax policy in real investment in controversial studies. In addition to their large revenue costs, investment tax subsidies may give large, unintended rents to capital suppliers without increasing real investment until several years later because of short-run asset price response of capital goods. Studies conducted by Ethiopian researchers Simret (2013) and Samuel (2015) on the title " The effectiveness of tax incentives in attracting foreign direct investment to Ethiopia" and "The impacts of tax incentives in attracting foreign direct investment in Ethiopia" respectively, both researchers conclude that the tax incentives given by the Ethiopian government Tax holiday is found to be the most significant determinant of foreign direct investment while customs duties is found insignificant.

Barbour (2005) on his study of "An Assessment of South Africa's Investment Incentive Regime with a Focus on the Manufacturing Sector" described an effective and efficient incentive as an incentive that: Stimulates investment in the desired sector or location, with minimal revenue leakage, and provides minimal opportunities for tax planning.

- Is transparent and easy to understand, has specific policy goals and is expressed precisely in legislation.
- Is not frequently changed, and provides investors with certainty over its application and longevity.
- Avoids trying to target cyclical depressions due to the lag effects of intervention.
- Is developed, implemented, administered and monitored by a single agency.
- Has a low administrative cost for both governments and firms.
- Co-ordinates national, regional and local governments effectively.
- Includes follow-up and monitoring, both to ensure that the incentive criteria are being met and also to provide a monitoring and evaluation feedback loop.
- Incorporates sunset clauses for both the scheme itself and for the duration of benefits to any one firm.

- Is non-discretionary and applied consistently against an open set of transparent criteria.

Historical experience of the efficacy of incentive schemes also provides, with some caution, the following key policy lessons:

- Incentives need to be carefully designed to achieve a specific policy goal. Poorly targeted tax incentives prove ineffective and expensive. Tax holidays, while being easy to administer, are a good example of a poorly targeted incentive.
- Moderate tax incentives that are targeted to new investment in machinery, equipment and R&D, and that provide up-front incentives, are more likely to be cost effective in stimulating desired investment. These can have powerful signalling effects without significant loss of revenue. Investment tax credits and allowances provide specific and targeted policy tools to achieve this.
- Reducing corporate tax to a level comparable with other countries in the region is a sound tax incentive'. However, reductions beyond the level found in capital exporting countries (say, below 20-30%) often bring about greater revenue losses than increases in investment.
- Removing taxes on imported inputs used in the production of exports (not across the board) removes a serious disincentive to export production. Such a move eliminates the distortion in international prices created by import tariffs and provides an incentive for firms to respond to the relative cost advantages of the home economy. Duty drawbacks provide a good example of an incentive which supports exports. Such schemes, however, require a competent tax administration.

In situations where reducing unemployment is a major policy objective, it is important to bear in mind that many tax incentives (such as accelerated depreciation) can work in the opposite direction by favouring capital-intensive investments. Incentives can be created, however, to explicitly encourage labour intensive production.

Incentives play only a marginal role in the investment decision for businesses. Growth in demand, economic and political stability, the state of the infrastructure, the rule of law, and a skilled labour force are more important in determining investment decisions.

Further Barbour indicated that special features of developing countries (such as market power, accumulated tax losses by many firms, credit rationing, and exchange controls) can severely constrain the effect of tax incentives in stimulating investment. Well-designed but poorly implemented tax incentives are equally ineffective. Clear and transparent application and screening procedures, and an effective tax administration regime with 'bite', are crucially important to the ultimate credibility and success of a tax incentive program.

CHAPTER THREE

3. Methodology

The aim of this chapter is to present the research design, the model implemented and methods that are used in this research.

3.1. Population

Population is the whole groups of individuals, phenomenon, or things that the research aims to generalize results on. In this study the target population is defined as private domestic manufacturing investments in Ethiopia.

3.2. Data type, source and collection method

The study relied mainly on secondary data collected from different sources. The major data sources are Proclamations, annual reports, statistical reports, research documents and publications of Ethiopian Investment Agency, Ethiopian Customs and Revenue Authority, Ministry of Finance and Economic Development, National Bank of Ethiopia, International Monetary Fund and World Bank group. In addition, primary data was used to collect information which is not obtained from the secondary data sources. Unstructured Interview was conducted with MOFED and ERCA officials.

3.3. Research design and methodology of data analysis

As stated on the objective of the study, the emphasis of this research is determining the effect of tax incentive on the investment decision in Ethiopian manufacturing sector and determining the variables that have a significant effect on the investment decision. To have a better understanding about the research problem and objective, the research adopted mixed research approach. Quantitative method is supplemented by the qualitative method of inquiry. Econometric regression analysis is used on the quantitative part and interview and review of literatures is conducted for the qualitative method.

Both inferential and descriptive statistics is applied to analyze the data's gathered. In the inferential analysis, the study tries to analyse the significance of selected variables expected to affect investment decision in Ethiopian manufacturing sector using econometric models by applying Eviews 8 software. Time series model is used to identify factors influencing investment decision and to see the impacts of tax incentives on investment in the manufacturing sector .The descriptive analysis of the data is presented using ratios, percentages and graphs.

3.4. Model development and definition of variables

3.4.1. Times series model

This research will try to identify the significant impact of selected independent variables including tax incentives on the dependent variable domestic investment in the manufacturing sector.

The research will follow ordinary least square (OLS) regression model which is used in previous empirical researches of, (Fahmi, 2012), (Semret, 2013) and (Samuel, 2015) with few modifications on both the dependent and independent variables used.

The research paper focuses on the flow of domestic manufacturing investment(**DMINV**) therefore, the dependent variable will be Domestic manufacturing investment .Depending on the strength of the variables, availability of data and fitness to the model ,the study employed six independent variables, the independent variables included in the model are ; GDP growth rate(GDPGR),Market openness (MOP), Inflation rate(INF),Loan interest rate(LR), Transport availability(TRA)and Tax incentives(TAXINCENTIVES).

DMINV= f* (*GDP growth rate, Market openness, Inflation rate, Loan interest rate, Transport availability, and Tax incentives)

Model-1:

DMINV $_t = (\alpha_0 + \alpha_1 GDPGR_t + \alpha_2 INF_t + a_3 MOP_t + \alpha_4 LR_t + \alpha_5 TRA_t + \alpha_6 TAXINCENTIVES + \varepsilon_t)$

Where:

DMINV: Net Operational Domestic Investment flow in birr at country level (in aggregate)

α0: is an intercept of the model

GDPGR: Gross Domestic Product Growth rate

INF: Inflation based on Consumer Price Index

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

LR: Annual interest rate on long term loan

TRA: Transport service

TAXINCENTIVES: Dummy variable

εt: is an error term.

3.4.2. Definition of variables for time series model

Even though many variables have been indicated by literatures as determinants of DMIN, it is not possible to include all of them due to the availability of data and fitness to a specific model therefore we choose few of them depending on the strength of the variables . The main variables in the analysis are:

Dependent variables:-

Domestic manufacturing investment

The dependent variable in this study is 'Private domestic operational manufacturing Investment' (DMIN), which is proxy for the performance of private sector in the economy. It captures domestic private investments in the country over the period under consideration.The industrial sector comprises manufacturing, mining and construction. Manufacturing which has been defined as the physical or chemical transformation of raw materials into new products has however been identified as the part of industry that provides opportunities for poverty eradication, job creation and economic growth (UNCTAD/UNIDO, 2011).

Independent variables:-

GDPGR: GDP 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 (World Bank, 2014). 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.

In the flexible-accelerator model there is a positive association between private investment and income per capital. When higher income countries able to manage resources to domestic saving in which able to get more finance and commence new investment projects. In neoclassical investment theory also, there is a positive association between private investment and income growth rate Jalloh (2002). The research hypotheses related to this variable is GDP Growth have positive effect on DMIN.

INFLATION: - It is a persistent tendency for prices and money wages to increase. The dictionary of economics said "inflation is measured by the proportional changes over time in some appropriate price index, commonly a consumer price index or a GDP deflator" inflation occurs when the general price level is rising.

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. It is used as proxy for macro instability, country inability to control macro environment. Stable and predictable price stimulates informative content of price system, allowing favorable allocation of resources creates suitable system in the economy. But high and unpredictable inflation alters the information system of the relative prices and attached with high riskiness of the projects. Thus, leaves negative impact on the long term investment prospects (Green and Villanueva 1991)

***Market openness*:-**Trade openness refers to a degree of which countries or economies permit or have international trade with others. The formulation of trade openness used in this study is a percentage of (Export + Import) / GDP (World Bank, 2014).

Investment instability and terms of trade volatility have a divergent insight. The presence of trade openness may have non-conventional effects on the level of investment and its cyclical behaviour. Trade openness may lead to a discrete "jump" in the level of investment, as it may trigger a discrete price change and specialization. In the presence of economies of scale, such a shift creates a sizeable boost in aggregate investment. But trade openness may also lead to boom-bust cycles of investment supported by self-fulfilling expectations. In this sense, globalization destabilizes the economy. The economy may oscillate between "optimistic" expectations, "good" terms of trade and investment boom to "pessimistic" expectations, "bad" terms of trade and

investment bust. The likelihood of such oscillations is higher for developing than for developed economies, because the former may typically incur higher setup costs of investment (Bayai and Nyangara, 2013).

Tan et al (2011) analysed the determinants of private investment in Senegal and he found a significant negative relationship between investment and trade openness. One can argue that there would be a negative relationship between import penetration and manufacturing sector performance as foreign competition should restrain the exercise of market power by domestic firms in the domestic(Tan et al 2011).

Lending rate: -Lending rate is the annualized cost of borrowing money. Two controversial views: first as the interest rate rises, it causes to rise real cost of capital goods, negatively affects the rate of private investment, this is in line with neoclassical assumption (Mohammed, 2013).

On the contrary, accumulation of real money balances before undertaking investment activities with the limited access to finance from credit and equity markets in developing countries.

Thus, when interest rate rises positively associated with real money balances, it allows increasing the flow of money to banks, domestic savings rate increases and stimulates capital formation and promote investment further. This is Narrated under McKinnon-Shaw (1973)'s hypothesis.

Transport:- Transport covers all transport services (sea, air, land, internal waterway, pipeline, space and electricity transmission) performed by residents of one economy 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 (World Bank, 2014).Countries with high infrastructure quality usually attract investment flows showing a positive relationship (Oniyewu and Shareshta, 2005).

Tax incentives: - A tax incentive can be defined either in statutory or in effective terms. In statutory terms, it would be a special tax provision granted to qualified investment projects (however determined) that represents a statutorily favorable deviation from a corresponding provision applicable to investment projects in general (i.e., projects that receive no special tax provision). An implication of this definition is that any tax provision that is applicable to all investment projects does not constitute a tax incentive. In effective terms, a tax incentive would be a special tax provision granted to qualified investment projects that have the effect of

lowering the effective tax burden measured in some way on those projects, relative to the effective tax burden that would be borne by the investors in the absence of the special tax provision.

Under this definition, all tax incentives are, therefore, necessarily effective. Tax incentives can take many forms: tax holidays for a limited duration, current deductibility for certain types of expenditures, or reduced import tariffs or customs duties (Zee et al, 2002). This study exploits tax incentives which have been given since 1992 as a dummy variable, representing the presence or absence of tax incentive over the period of 1992 to 2014.

Table 3-1

Summary of variables under investigation and expected signs

Explanatory Variables	Description of indicator variable	Expected sign
Real GDP growth (% Annual)	An indication for real output growth rates of economy of countries. In neoclassical theory of investment there is positive association between private investment and income growth rate.	Positive
Inflation(Log), (Annual %)	Variables used to capture macroeconomic instability and price system of information content.	Negative
Lending Rate (LR) (Annual %)	An indication for user cost of capital goods (when it rises, cost of capital good increases and investment declines, in line with neoclassical assumption. In other side, when interest rate raises the flow of money to banks increases and rate of domestic saving increases and stimulates capital formation and encourage investment	Positive\Negative
TRANSPORT(TRA)	Used as determinant of infrastructure. Countries with high infrastructure quality usually attract investment flows.	Positive

TAXINCENTIVE (TAXINC)	A tax incentive is a special tax provision granted to qualified investment projects that have the effect of lowering the effective tax burden. Tax incentives lower the costs related with investment. On the other hand the opportunity cost of those incentives is higher than the additional investments created. 1or 0 for the presence or absence of tax incentive.	Positive\ Negative

3.5. Research Hypothesis

In order to identify the impact of selected variables including tax incentive in attracting investment to the manufacturing sector the research develops the following hypothesises and use econometric models to test them.

Therefore the study develops the following hypothesises;

$H_0$1: There is no significant impact of GDP growth rate on flow of investment to the manufacturing sector.

$H_0$2: There is no significant impact of market openness on flow of investment to the manufacturing sector.

$H_0$3: There is no significant impact of inflation rate on flow of investment to the manufacturing sector.

$H_0$4: There is no significant impact of loan interest rate on flow of investment to the manufacturing sector.

H_0 5: There is no significant impact of transport availability on flow of investment to the manufacturing sector.

$H_0$6: There is no significant impact of Tax Incentive on flow of investment to the manufacturing sector.

3.6. OLS model evaluation; econometrics criteria

In very general terms, regression is concerned with describing and evaluating the relationship between a given variable and one or more other variables. More specifically, regression is an attempt to explain movements in a variable by reference to movements in one or more other variables (Brook, 2008).

Five assumptions are made relating to the classical linear regression model (CLRM). These are required to show that the estimation technique; ordinary least squares (OLS) and hypothesis tests regarding the coefficient estimates could validly be conducted and the OLS estimation to be BLUE. Specifically, it is assumed that:

(1) E (ut) = 0 Mean of the error term is zero

(2) Var (ut) = $\sigma 2 < \infty$ the variance of the error term is constant

(3) Cov (ui,$u\,j$) = 0 The errors are linearly independent of one another

(4) Cov (ut, xt) = 0There is no relationship between the error and corresponding x variat.

(5) $ut \sim N(0, \sigma 2)$ the disturbances are normally distributed.

Assumption 1: E (ut) = 0

The first assumption required is that the average value of the errors is zero (Brook, 2008). In fact, if a constant term is included in the regression equation, this assumption will never be violated.

Assumption 2: var (ut) = $\sigma 2 < \infty$

It has been assumed thus far that the variance of the errors is constant, $\sigma 2$ this is known as the *assumption of homoscedasticity*. If the errors do not have a constant variance, they are said to be *heteroscedastic.* The consequence of heteroscedasticity is that the variance of parameter is not a minimum, and it leads to inefficiency, and the estimated regression is not BLUE (Best linear unbiased estimator) anymore (Brook, 2008). White's (1980) general test for heteroscedasticity is used in this study.

Assumption 3: cov (ui, uj) = 0 for $i = j$

Assumption 3 that is made of the CLRM's disturbance terms is that the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero. In other words, it is assumed that the errors are uncorrelated with one another.
If the error terms are serially correlated, the variance of the parameter will no longer be the smallest, so it will make standard error large and the estimation will not be BLUE anymore(Brook,2008). This paper utilizes Durbin Watson (DB) and *Breusch–Godfrey test*are to detect autocorrelation problem.

Assumption 4: the *xt*are non-stochastic

Fortunately, it turns out that the OLS estimator is consistent and unbiased in the presence of stochastic regressors, provided that the regressors are not correlated with the error term of the estimated equation. If one or more of the explanatory variables is contemporaneously correlated with the disturbance term, the OLS estimator will not even be consistent. 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 0.85, we should suspect of multicollinearity problems among independent variables (Brooks, 2008).

Assumption 5: The disturbances are normally distributed

If normality is violated, the inferences we make about the coefficient estimate could be wrong. To check whether the residuals are normally distributed Bera-Jarque (hereafter BJ) test issued. A normal distribution is not skewed and is defined to have a coefficient of kurtosis of 3 and a Skewness of 0. BJ will test whether the coefficient of skewness and the coefficient of excess kurtosis are jointly zero. A normal distribution is symmetric about its mean (Brooks, 2008).

Stationarity and unit root testing

A stationary series can be defined as one with a constant mean, constant variance and constant autocovariances for each given lag(Brook, 2008). If the time-series is non-stationary, the mean, variance or covariance will not be constant and one is likely to end up with spurious regression where statistical inference on the basis of the classical regression model will be invalid.

If two stationary variables are generated as independent random series, when one of those variables is regressed on the other, the t-ratio on the slope coefficient would be expected not to be significantly different from zero, and the value of R2 would be expected to be very low.

This seems obvious, for the variables are not related to one another. However, if two variables are trending over time, a regression of one on the other could have a high R2 even if the two are totally unrelated.

So, if standard regression techniques are applied to non-stationary data, the end result could be a regression that 'looks' good under standard measures (significant coefficient estimates and a high R2), but which is really valueless. Such a model would be termed a 'spurious regression'. In this study Augmented Dickey-Fuller tests have been conducted to test for stationarity of the variables.

CHAPTER FOUR

4. Data presentation and analysis

This chapter includes descriptive and inferential presentation of the study results. The first part of the chapter covers descriptive data presentation with brief interpretation of trends of investment and the second part covers the inferential statistics; test of OLS assumptions, data analysis, presentation and interpretation of regression results is presented.

4.1. Trends of Domestic Investment in Ethiopia

Ethiopia is endowed with abundant and untapped resources such as large number of trainable labour force, vast arable land, varieties of plant and animal stocks, and precious minerals together with favourable weather conditions (EIA, 2010). It has population size of about 83.74 million with estimated growth rate of 1.51% according to CSA Inter CensalEstim (2012), indicating one of the potentially large domestic markets in Africa. Since 1991 major economic and structural reforms have been made and different investment incentives have been given to create investment friendly environment in the country. In spite of the macro-economic, political and structural reforms and ranges of investment incentives given, domestic investment has shown gradual increase. However, the gradual increase is not consistent and investor's enormous development potential is far under fetched.

Trend of Gross Domestic Investment in Birr

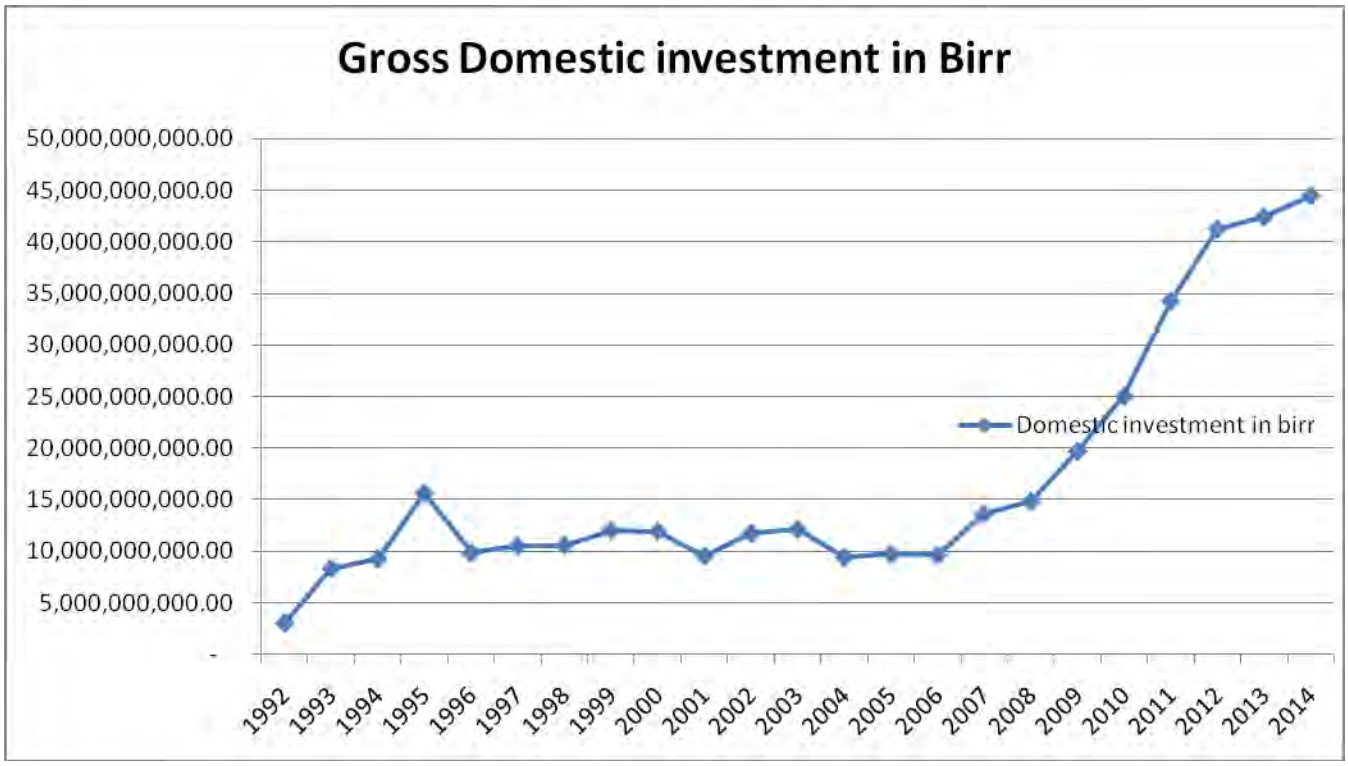

Figure 4-1

Compiled from World Bank Macro Data

As shown in Figure 4-1, domestic investment raised from3, 011.12 in thousands birr in 1992 to 15,594.04 thousands birr in 1995. After decreasing to 9,796.15 thousands birr in 1996, its growth rate didn't show significant change until the year 2007.During this period the country have been in Ethio-Eritria war. The political stability index of the country has also decreased from 5.5 to 4 and the economic movement was relatively stagnant. However Starting from 2007 up to 2014 domestic investment have increased from 13,586.86 in thousands birr to 44,459.54 in thousands birr. This period is where Ethiopia launched millennium development goal; major economic, social and infrastructural development programs started being implemented.

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4.2. Sectoral distribution of investment 2013/14

Of the total number of licensed investment projects during 2013/14, about 35.6 percent were in construction, 23.3 percent in manufacturing, 22.1 percent in real estate, renting and business activities, 8.0 percent in agriculture, hunting and forestry and about 11 percent in other sectors. In terms of investment capital, construction sector constituted 49.9 percent, real estate, renting and business activities 37.9 percent, manufacturing 9.2 percent and the remaining sectors constituted only 3.0 percent of the total investment capital of the year (NBE, 2013/14).Even though in terms of number manufacturing investment is in second place having 23.3% share , in terms of capitalit have low percentage share 9.2% which shows us that even if the number of operational investments in the sector is high the capital share is low indicating that minimum capital requiring manufacturing investments are being made; major industrial manufacturing companies which need high capital investment are not entering the sector.

Distribution of number of Operational Investment Projects by Sector in 2013/14

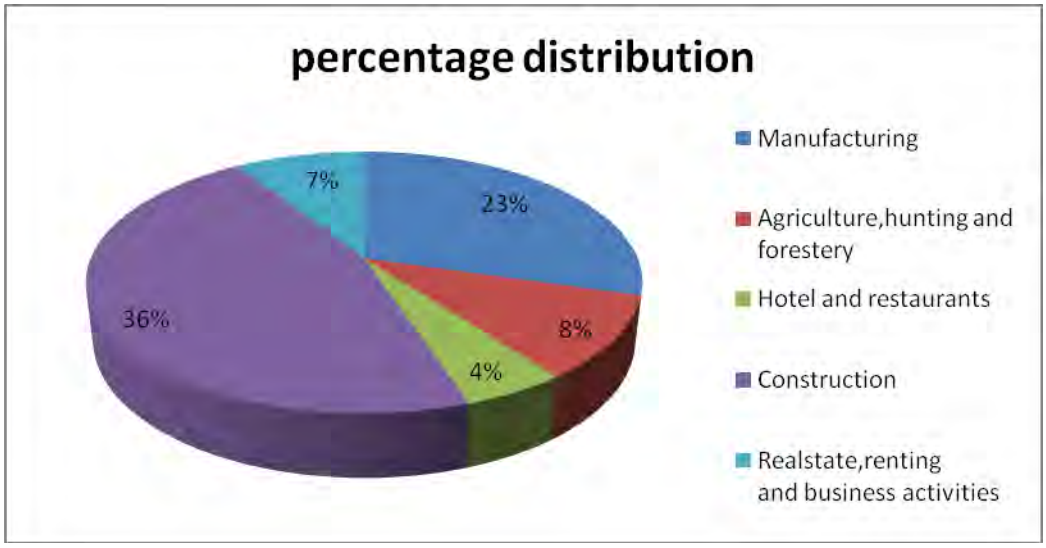

Figure 4-2

Source: NBE

4.3. Trend of domestic Manufacturing investment

As can be seen from fig 4-3 below the growth rate of the number of operational investment shows a positive growth trend in the years 1992-1996, 2004-2008 and 2010-2012.

Percentage growth of operational manufacturing investment in number.

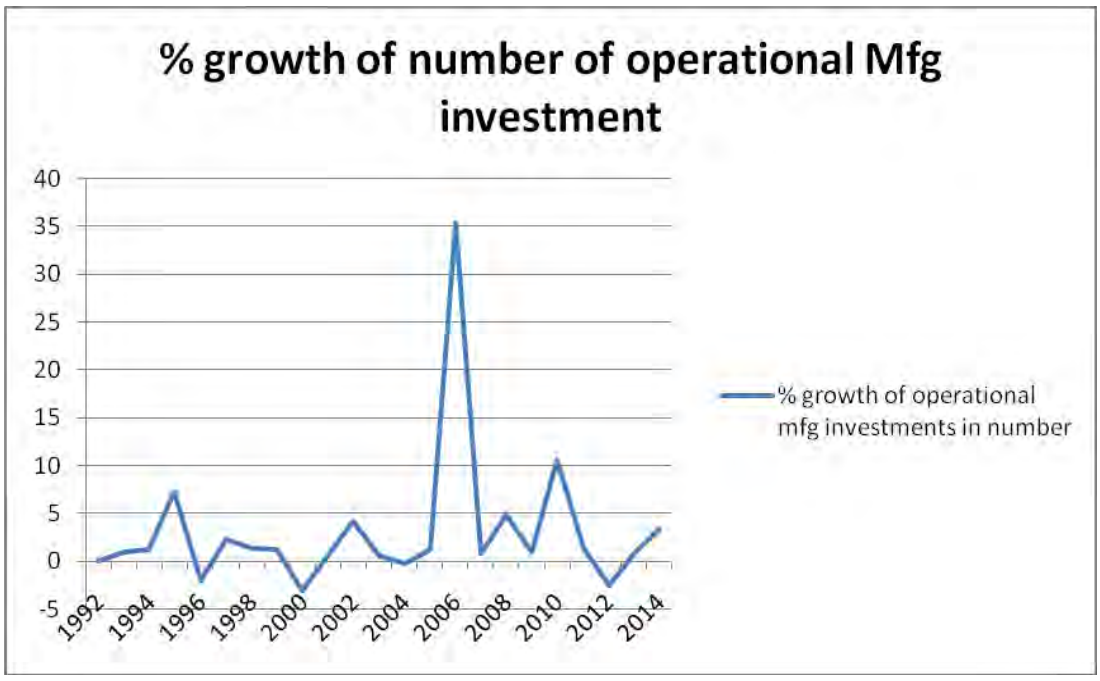

Figure 4-3

In the year 2006, 2007&2008 the number of operational manufacturing investments shows a tremendous growth as a result of the launching of Ethiopia's millennium development goals and strategies. In those specific years total number of 202 investment projects became operational with total capital of 2.5 billion birr.

Trend of gross domestic manufacturing investment in birr.

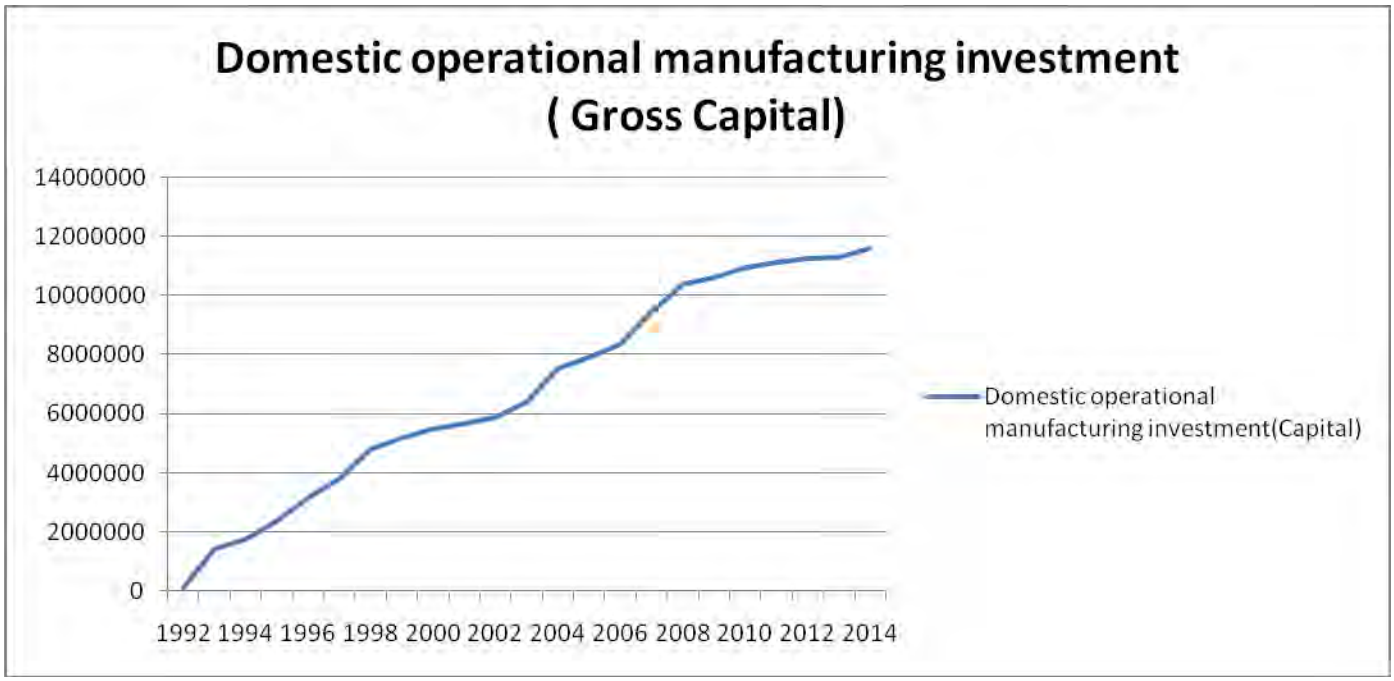

Figure 4-4

Compiled from EIA

Even though the investment capital involved in the manufacturing sector show a positive increase for the past twenty three years, the number of manufacturing companies and the relative capital involved is not proportional indicating that large number of manufacturing investment projects which require minimum capital are being executed in the country.

4.4. Percentage of employment creation by manufacturing sector in Ethiopia

The graph below shows us that the manufacturing sector created a number of employment opportunities. As can be seen from the graph most of them are temporary employment opportunities. In the year 2014 however the composition of the employment is permanent employment.

Employment opportunity created by domestic manufacturing investment.

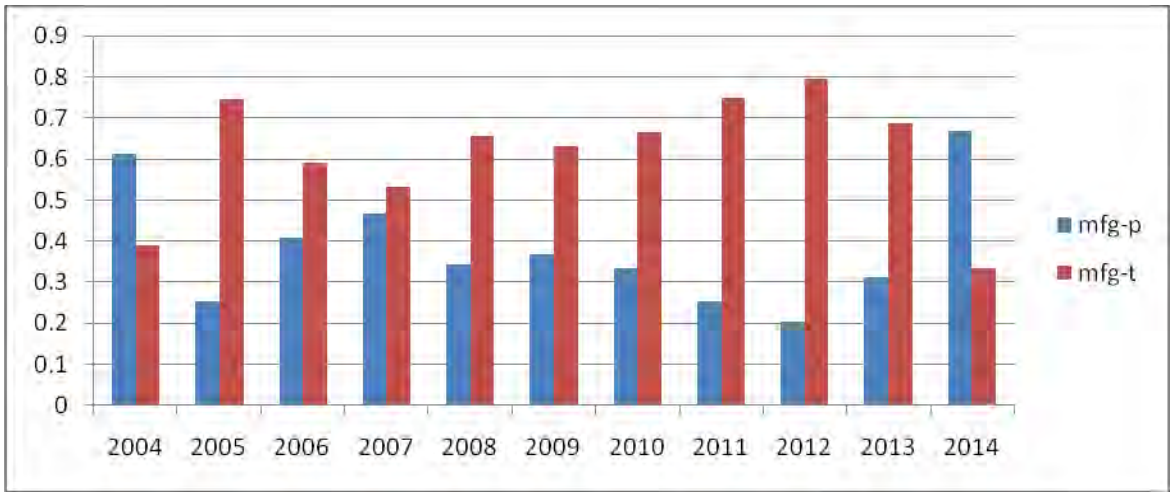

Figure 4-5

4.5. Investment incentives in Ethiopia

Ethiopia has made a considerable progress in economic and social development since 1992 as a result of the implementation of various economic and political reforms, favourable policies and strategies that are instrumental in improving the national economy. Ethiopian government in recognition of the role of the private sector in the economy has revised the investment law over nine times for the years (1992-2012) to make it more transparent, attractive and competitive (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 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.

The policy rationales for tax incentives are aimed at creating conductive environment for both domestic and foreign private investors. The private investor is encouraged to invest in almost all

areas of the economy. The overall objective of the investment policy of the government is designed to improve the living standards of the people, enhance economic growth and thereby increase the productivity of revenue. Even though, providing duties and taxes incentives for investors and business community in the short run has negative impact on revenue productivity, in the long run it has a positive impact in increasing revenue productivity as well as sustainable economic growth(Ethiopian Customs and Revenue Authority, 2011).

Based on ERCA statistical estimation report, estimation of revenue amounting 7,573.55&13,045.05 in Billion birr respectively have been forgone from customs duty during the year 2013/14&2014/15due to the incentive scheme given by the government.

Duties and tax exemption as % of the federal tax revenues collection had shown an increasing trends with an annual percentage share of 51.11% per year (Ethiopian Customs and Revenue Authority, 2011).

As per the interview conducted with ERCA tax officials, even though there are few statistical forecasts about revenue foregone as a result of customs duty free, reports of revenue foregone as a result of tax incentives are not prepared in as part of government expenditures hence opportunity costs related to tax incentives is not determined. However as ERCA officials explained, currently a study is being conducted on how to keep records of those tax incentive costs so that in the future to accommodate the costs in the annual reports of ERCA and further on the expenditure report of MOFED.

Even if one of the millennium development goal(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).

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

Comparison of revenue forgone and collection in Ethiopia from 2005/06 to 2013/14

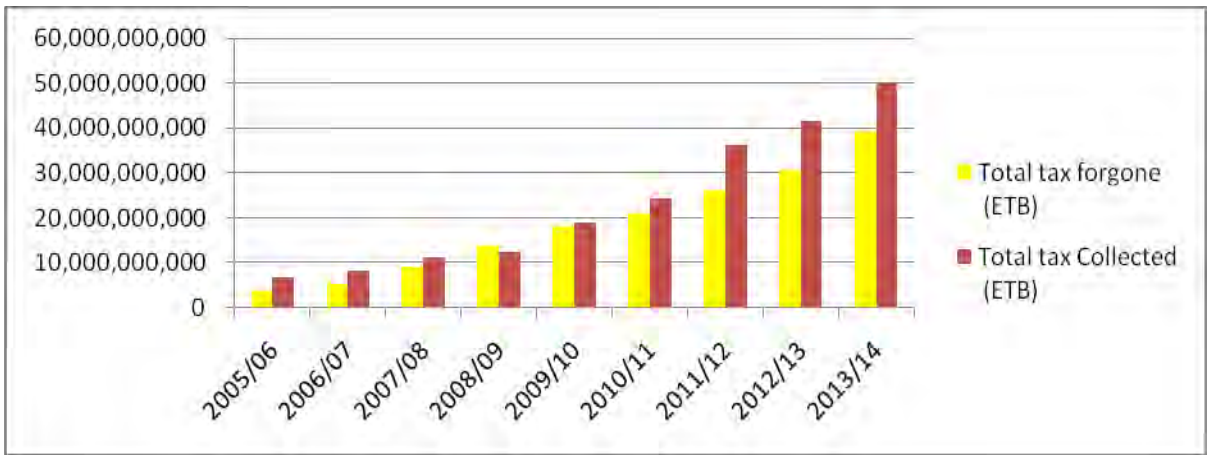

Figure 4-6

Source ERCA Data Center

4.6. Time series model

4.6.1. Descriptive analysis

Before we precede to 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 are summarized as presented in table below.

Table 4-1

Descriptive statistics of variables

Statistics	**DMIN Log**	**GDPGR**	**INF**	**MOP**	**XR**	**TRA**	**TAXINC**
Mean	5.576957	0.072087	0.036522	0.237510	12.01000	-0.266148	0.826087
Median	5.6	0.088000	0.030000	0.11574	11.88000	-0.248413	1.000000
Maximum	6.12	0.136000	0.160000	0.688420	15.50000	0.0000	1.000000
Minimum	6.12	-0.087000	0.040000	0.016665	6.800000	-0.439615	0.000000

Std. Dev.	0.364547	0.059237	0.045288	0.211810	1.912823	0.110859	0.387553
Skewness	-0.510135	-1.168378	0.814493	1.010282	-0.246432	0.290777	1.720618
Kurtosis	2.865657	0.059237	4.133607	2.724402	3.999076	2.733232	3.960526
Jarque-Bera	1.014872	5.557586	3.774547	3.985357	1.189357	0.392313	12.2285
Probability	0.602037	0.062113	0.151484	0.136330	0.551740	0.821883	0.002206
Sum	128.2700	1.658000	0.840000	5.462739	276.2300	-6.121393	19.000000
Sum Sq. Dev.	2.923687	0.077198	0.045122	0.986995	80.49560	0.270374	3.304348
Observations	23	23	23	23	23	23	23

The study covers 23 observations from the period 1992 to 2014. One dependent variable (DMIN log) and six independent variables (GDP growth rate, Inflation, Lending rate, market openness, transport availability and tax incentive) are summarized in the above table. Even though the minimum value of GDPGR and TRA has negative values, the summary of the data shows that all variables have positive average. Market openness of the country has very low rate an average of 23.7% , Inflation has a mean of 3.65% but there were great variation between maximum (16%) and minimum rate (4%) indicating that the existence macroeconomic instability in the country. GDPGR has an average growth rate of 7.2% which is very low rate since the growth rate from 1992-2004 were single digit. Using anti log, DMIN log has a mean of 535 billion birr and standard deviation of 386 billion birr which shows that the data are not equally spread.

4.6.2. Correlation analysis

The correlation between two variables measures the *degree of linear association* between them. If it is stated that y and x are correlated, it means that y and x are being treated in a completely symmetrical way. Movements in the two are on average related to an extent given by the correlation coefficient (Brooks, 2008).

The most widely used bi-variant correlation statistics is the Pearson product-movement coefficient, commonly called the Pearson correlation which was used in this study. Correlation coefficient between two variables ranges from +1 (i.e. perfect positive relationship) to -1 (i.e. perfect negative relationship).

As can be seen from the correlation matrix between the dependent and the independent variable, there is a strong positive correlation between MOP, TAXINCENTIVE with DMIN log which is the dependent variable. However as per brooks (2008) it is not implied that changes in *x* cause changes in *y*, or indeed that change in *y* cause changes in *x* rather, it is simply stated that there is evidence for a linear relationship between these variables.

Table 4-2

Correlation coefficient of Time series Model

	DMIN log	GDPGR	INF	MOP	LR	TAXINC	TRA
DMIN log	1						
GDPGR	0.27271	1					
INF	0.461921	0.143888	1				
MOP	0.774568	0.385591	0.457269	1			
LR	-0.717755	0.002020	-0.383732	-0.346565	1		
TAXINC	0.791631	0.036709	0.075842	0.388600	-0.579979	1	
TRA 1	-0.084280	-0.099498	-0.016611	-0.255748	-0.093079	00.015659	1

4.6.3. OLS Basic Assumption Test

To apply the classical linear regression model OLS, the following five underlying assumptions must be satisfied.

- ✓ The errors have zero mean.
- ✓ The variance of the error is constant and finite over all values of x_t
- ✓ The errors are linearly independent of one another.

- ✓ There is no relationship between the error and corresponding x variable
- ✓ The disturbances are normally distributed.

Test of assumption of Mean of the error term is zero

The first assumption required is that the average value of the errors is zero. If the regression did not include an intercept, and the average value of the errors was nonzero, several undesirable consequences could arise. First, $R2$ can be negative, implying that the sample average, $\bar{y}$, 'explains' more of the variation in y than the explanatory variables. Second, and more fundamentally, a regression with no intercept parameter could lead to potentially severe biases in the slope coefficient estimates (Brook, 2008). However, if a constant term is included in the regression equation, this assumption will never be violated therefore the study uses a constant while running the regression.

Test of assumption of Heteroscedasticity

It is assumed that the variance of the errors is constant, $\sigma 2$ this is known as the *assumption of homoscedasticity*. If the errors do not have a constant variance, they are said to be *heteroscedastic*. The study uses Breusch-Pagan-Godfreytest for heteroscedasticity. The null hypothesis of this test is homoscedasticity or constant variance. With the level of significant 5%, the p-value should be greater than 5% to conclude that there is no heteroscedasticity problem. As per the results of the test stat all of the three tests are greater than 5% hence we don't reject the null hypothesis of the constant variance of the residual.

Table 4-3

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.782819	Prob. F(6,15)	0.5964
Obs*R-squared	5.246108	Prob. Chi-Square(6)	0.5127
Scaled explained SS	2.736914	Prob. Chi-Square(6)	0.8411

Test of assumption of no Autocorrelation/Serial Autocorrelation test

Assumption 3 that is made of the CLRM's disturbance terms is that the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero. In other words, it is assumed that the errors are uncorrelated with one another. Autocorrelation test is conducted by applying Durbin-Watson Test (d-statistics) and Breusch-Godfrey Serial Correlation LM Test. 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 4-d_L and 4-d_U.

The relevant critical values for the test dL= 0.7, dU= 1.67, so 4 –dU= 2.33 and 4-d_L=3.3.The differenced regression result of the model shows, Durbin Watson statistics value is 1.744214 which is clearly located between d_U (1.67) and 4-d_U(2.33). Therefore, based on the result there is no autocorrelation. The BG test (at 2 lags) which is shown in the below table 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 0.6290 and 0.4690 for the F –statistic and Obs*R-squared respectively.

Table 4-4

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.480479	Prob. F(2,13)	0.6290
Obs*R-squared	1.514299	Prob. Chi-Square(2)	0.4690

Test of assumption of Multicollinearity

An implicit assumption that is made when using the OLS estimation method is that the explanatory variables are not correlated with one another. If there is no relationship between the explanatory variables, they would be said to be *orthogonal* to one another otherwise we are in the state of multicollinearity problem where the regression model will end up with an incorrect or erroneous result and therefore, invalid conclusion will be prevailed Brooks(2008).

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 4-5

Correlation result between independent variables

	GDPGR	**INF**	**LR**	**MOP**	**TAXINC**	**TRA**
GDPGR	1					
INF	0.143888	1				
LR	0.002020	-0.383732	1			
MOP	0.385591	0.457269	-0.346565	1		
TAXINC	0.036709	0.075842	-0.579979	0.388600	1	
TRA 1	-0.099498	-0.016611	-0.093079	-0.255748	0.015659	1

As we can see from the above table**,** since the maximal correlation value is below 0.75, we may conclude that we do not have multicollinearity

Test of assumption of Normality

One of the most commonly applied tests for normality is the Bera—Jarque (hereafter BJ) test. Null hypothesis in Jarque-Bera test is that the data have been normally distributed. BJ uses the property of a normally distributed random variable that the entire distribution is characterized by the first two moments the mean and the variance. One of the assumptions of linear regression analysis is that the residuals are normally distributed, at mean zero and standard deviation of one. If the residuals are normally distributed, the Bera–Jarque statistic would not be significant. This means that the *p*-value given at the bottom of the normality test screen should be bigger than 0.05 to not reject the null of normality at the 5% level (Brooks, 2008).

Normality distribution of the OLS model

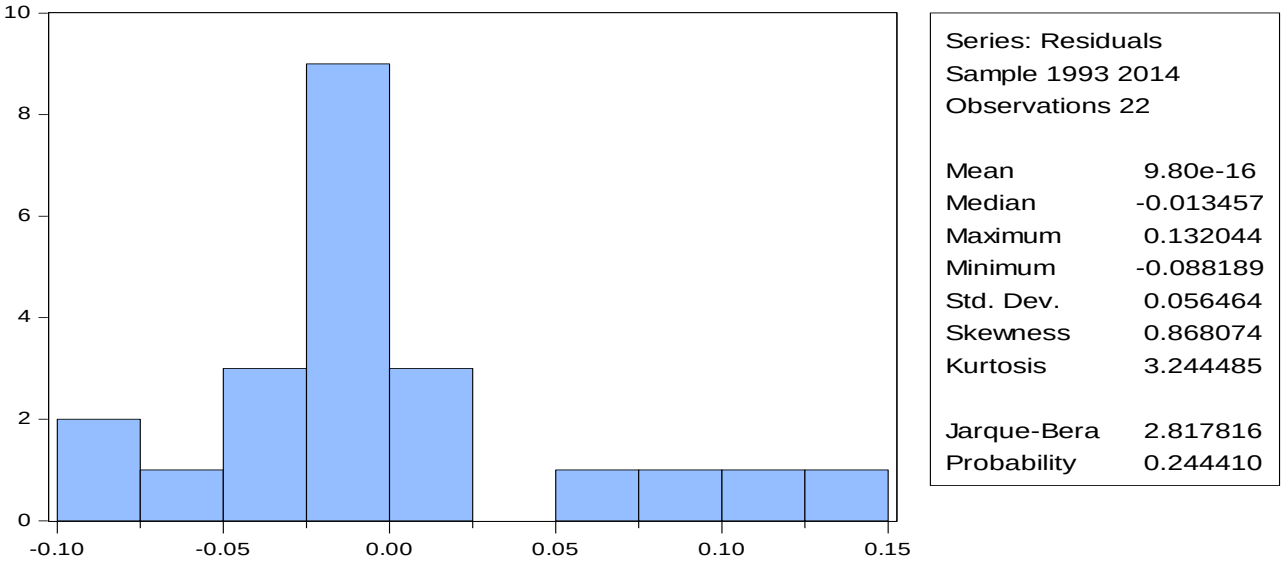

Figure 4-7

As can be seen in the above graph 4-8and the table on the right side of the graph, the P-value of Jarque-Bera (JB) test is 0.244410 which is much higher than 0.05 (5%) hence the null hypothesis that the data is normally distributed is could not be rejected.

4.6.4. Test of Unit root

For the unit root test of the time series variables the study used augmented dickey fuller test (ADF). Dickey Fuller has developed a test with three equations or models.

Model with intercept

$\Delta yt=B1+Zyt-1+ai+et$

Model with trend and intercept

$\Delta yt=B1+B2+Zyt-1+ai+et$

Model with no trend and no intercept

$\Delta yt=Zyt-1+ai+et$

Hypothesis

H0: Variable is not stationary or got unit root

H1: Variable is stationary

For the null hypothesis to be rejected the absolute value of t-critical should be less than the absolute value of t-statistics of the selected equation in our case at intercept. In testing unit root, automatic lag selection (Shwarz) is used based on the default eviews of maximum lag selection. As can be seen from table 4-4 below, TRA will be stationary at first difference therefore we used first difference of the variable while running the regression model.

Table 4-6

Unit root test

Variables	**At level**	**At 1st difference**
DMIN(LOG)	**S***	**S***
GDPGR	**S***	**S***
INF(LOG)	**S***	**S***
MOP	**S***	**S***
TRA	**NS***	**S***
LR	**S***	**S***

S* represents that the variable is stationary

NS* represents that the variable is non-stationary

4.6.5. Cointegration test

The first step in any cointegration analysis is to ensure that the variables are all non-stationary in their levels form, so confirm that this is the case for each of the six series, by running a unit root test on each one (Brooks, 2008).As we can see from the above table not all the variables are non-stationary therefore we cannot conduct Engle–Granger 2-step method or Johansen's method.

The co-integration and stationarity criteria that have been conducted suggest that the first difference for non-stationary series which helps avoid or minimize inflated R^2 caused by autocorrelation.

4.7. Estimation Output

In this section, the above presented long run relationship between the dependent variable and explanatory/determinant variables is briefly described and interpreted in light of theoretical underpinnings and contextual realities of Ethiopia. The secondary data collected were classified and tabulated after which the multiple regression technique was used to estimate the respective relationships.

After fulfilling all of Ordinary Least Square basic assumptions and conducting unit root test, regression analysis is conducted. The regression analysis is undertaken with non-stationary variables and differenced variables, to control for non-stationary variable estimation problem. The regression result is presented on table4-8 below. For regressions at difference, the study used a change in percentage change in the independent variable cause a percentage change on the dependent variable.

The estimated regression equation is;

DMIN log $_t$= 6.802713+0.423634 (GDPGR) + 0.756162 (INF) +0.531123 (MOP) -0.042834 (LR) +0.362218(TAXINC) +0.001086(TRA1)

Table 4-7

Dependent Variable: DMIN
Method: Least Squares
Date: 12/03/15 Time: 11:43
Sample (adjusted): 1993 2014
Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.802713	0.190844	35.64538	0.0000
GDPGR	0.423634	0.327266	1.294464	0.2151
INF	0.756162	0.393030	1.923931	0.0736
MOP	0.531123	0.096181	5.522138	0.0001
LR	-0.042834	0.012654	-3.384975	0.0041
TAXINC	0.362218	0.055666	6.506944	0.0000
TRA1	0.001086	0.050375	0.021567	0.9831

R-squared	0.956101	Mean dependent var	6.784545
Adjusted R-squared	0.938542	S.D. dependent var	0.269492
S.E. of regression	0.066809	Akaike info criterion	-2.320580
Sum squared resid	0.066952	Schwarz criterion	-1.973430
Log likelihood	32.52638	Hannan-Quinn criter.	-2.238802
F-statistic	54.44915	Durbin-Watson stat	1.744214
Prob(F-statistic)	0.000000		

4.7.1. Explanatory power of the model

The null hypothesis of F-statistic (the overall test of significance) that the value of R^2 is equal to zero was rejected at 1% as the p-value was sufficiently low, p(F-statistics) value of 0.0000 indicates strong statistical significance which enhanced the reliability and validity of the model.

From the above values we can understood the explanatory power of selected variables is good while explaining the effect on the dependent variable.

Therefore we can conclude that the model is statistically fit with p-value of the F-statistic 0.00000 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 DMIN log. This also represents a good performance of the model.

4.7.2. Goodness of fit statistics

R^2 and adjusted R^2

It is desirable to have some measure of how well the regression model actually fits the data. Quantities known as *goodness of fit statistics* are available to test how well the sample regression function fits the data that is, how 'close' the fitted regression line is to all of the data points taken together. The most common goodness of fit statistic is known as R^2. One way to define $R^2$is to say that it is the square of the correlation coefficient between y and $\hat{y}$ that is, the square of the correlation between the values of the dependent variable and the corresponding fitted values from the model. It must lie between 0 and 1. If this correlation is high, the model fits the data well, while if the correlation is low (close to zero), the model is not providing a good fit to the data. However, there are a number of problems with R^2 as a goodness of fit measure:

(1) R^2 is defined in terms of variation about the mean of y so that if a model is reparameterised (rearranged) and the dependent variable changes, R^2 will change, even if the second model was a simple rearrangement of the first, with identical RSS. Thus it is not sensible to compare the value of R^2 across models with different dependent variables.

(2) R^2 never falls if more regressors are added to the regression. For example, consider the following two models:

Regression 1: $y = \beta1 + \beta2x2 + \beta3x3 + u$ (3.41)

Regression 2: $y = \beta1 + \beta2x2 + \beta3x3 + \beta4x4 + u$ (3.42)

R^2 will always be at least as high for regression 2 relative to regression1. The R^2 from regression 2 would be exactly the same as that for regression 1 only if the estimated value of the coefficient on the new variable were exactly zero, i.e. $\hat{\beta}4 = 0$. In practice, $\hat{\beta}4$ will always be nonzero, even

if not significantly so, and thus in practice R^2 always rises as more variables are added to a model. This feature of R^2 essentially makes it impossible to use as a determinant of whether a given variable should be present in the model or not.
(3) R^2 can take values of 0.9 or higher for time series regressions, and hence it is not good at discriminating between models, since a wide array of models will frequently have broadly similar (and high) values of R^2.

In order to get around problems related to R^2, a modification is often made which takes into account the loss of degrees of freedom associated with adding extra variables. This is known as adjusted R^2.
So if an extra regressor (variable) is added to the model, R^2increases by a more than off-setting amount, while adjusted R^2will actually fall. Hence adjusted R^2can be used as a decision making tool.

The estimated results show R^2 and adjusted R^2 of 0.956101 and 0.938542 respectively. This signifies that 95.6 percent of the variations in Domestic Manufacturing Investment are explained by the independent variables. High value of R^2 indicated that the independent variables (GDPGR, INFL, MOP, LR, TAXINC and TRA) succeed to explain the Domestic manufacturing investment trends.

4.7.3. Statistical results of the OLS model with stationary variables

In this section discussion of t-test from previous OLS regression test is conducted by comparing the value of t-statistics of each independent variable with the t-table. Using eviews, we can easily know the result of t-test by comparing Probability of t-value with level of significance. In this study a 1 percent α or 99% confidence level is used to interpret the results. If the probability of t value <0.01, then we may conclude that the independent variable is significant toward dependent variable. The explanation of t-test for each independent variable will be presented below:

Constant (Y-intercept)

The constant has a positive significant coefficient of 6.802713with a p – value of 0.0000 hence in our case significant at 1% confidence level. Holding all independent variables constant, there will be 6.802713 ETB investment increase in Ethiopia.

GDPGR

Probability value of t-statistics of GDPGR is 0.2151which is greater than (0.01) 1% significant level. When every time the country's GDP increase the level of investment in the sector also increase though it is not statistically significant. Though the result is not as per our expectation, since GDPGR is used in this model as a control variable we will not further explain the significant result.

Inflation

Inflation has a positive sign and insignificant relationship with DMIN inflow. The probability value of t-statistics for inflation is 0.0736which higher than 5 percent level of significant. The respective sign is not as per our expectation however, the result is similar with the work of (ADAORA, 2013) and (Adunga, 2013). As per the works of Adunga and Adaora , in the short run, inflation rate is found to have a significant negative effect on private investment. However, the long run effect is positive though insignificant at 5% level of significance.

Market openness (MOP)

Market openness has a positive sign and significant relationship with DMIN flow. The probability value of t-statistics for openness is 0.0001 which is below both 5 & 1 percent level of significance. Coefficient of market openness which is measured as a ratio of import export with real GDP is positive and statistically significant at both 1% and 5% means the more open the market system is the higher the DMIN holding other factors constant. The positive sign is as per our expectation and it is due to the open market policy of Ethiopian government which creates trade opportunities for the domestic investors. This result is the same as Guadagno (2012); "The higher the import export rate of a country the greater the market opportunity or trade openness for investors".

When governments' open trade opportunities by opening the import export route of the country domestic manufacturers can access both the local and foreign market opportunities.

Lending Rate (LR)

Lending rate has a significant negative relationship with DMIN. The probability value of t-statistics for lending interest rate is 0.0041 which is below 1 percent level of significance. Holding other variables constant, a one percent increase of in annual lending rate causes a 4.28% increase in DMIN. Domestic private investment is negatively associated with the rate of inflation, real interest rate. In line with neoclassical assumption the increase in cost of debt leads to higher users cost of capital which in turn leads to lower rate of investment.

Transport availability (TRA)

Transport availability considered as a measure of country's infrastructure, shows a positive sign with a coefficient of 0.362218and probability of 0.9831 which is higher than both 1& 5 percent significance level indicating an insignificant relationship with DMIN. The insignificant relationship could be due to the fact that since the infrastructure of the country is still in progress and the percentage of roads paved as out of total roads is minimum in Ethiopia. According to analysis made on World Bank macro data roads paved as percentage of total road is 14% on average.

Tax incentive (TAXINC)

Tax incentive which is our study variable which is the main focus of the study shows a positive coefficient 0.362218 with probability of 0.00000 which is lower than 0.05 indicating a significant relationship with DMIN at 5% significance level. Holding other variables constant, the presence of tax incentive in the country increases DMIN by 32.6%.This result is consistent with (Van Parys&Klemm, 2011) ,(James,2009) , (Estian,2013) and (Biggist, 2007).The positive sign here agrees with the assumption that lower tax rate means higher profit after tax for investors.

According to neoclassical investment theory firms base their investment decision on their optimization problem: profit maximization given costs and benefits. Firms invest up to the point net present value of capital equals its costs. The effects of tax policy on investment behaviour enter the investment function through the user cost of capital. Change in tax policy affect investment through its impact on user cost of capital. According to this theory since tax reductions decrease the user cost of capital /increase the re-turns to capital, investment assumed to increase.

4.7.4. Summary of regression result

Table4-8

Independent Variables	Hypothesis:H_0	Expected sign	Regression result
GDPGR	There is no significant impact of GDP growth rate on flow of investment to the manufacturing sector.	Positive	Fail to reject H_0 (Positive sign)
MOP	There is no significant impact of market openness on flow of investment to the manufacturing sector.	Negative	Reject H_0 (Positive sign)
INF	There is no significant impact of inflation rate on flow of investment to the manufacturing sector.	Positive	Reject H_0 (Positive sign)
LR	There is no significant impact of loan interest rate on flow of investment to the manufacturing sector.	Negative	Reject H_0 (Negative sign)
TAXINC	There is no significant impact of Tax Incentive on flow of investment to the manufacturing sector.	Positive	Reject H_0 (Positive sign)

4.8. Time series regression result with unit root variable

As we can see from the regression output table below even if the output gives a positive R^2, the probability of significance and sign of some coefficients have changed while running the regression with a variable having a unit root. Our main variable tax incentive became insignificant while the rest of the explanatory variables became significant. The result with unit root variable shows a negative effect of transport availability on DMIN while lending rate shows a positive effect. These results are against the theoretical assumptions.

Table 4-9

Dependent Variable: DMIN
Method: Least Squares
Date: 12/04/15 Time: 11:13
Sample: 1992 2014
Included observations: 23

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.164172	0.453568	13.59041	0.0000
GDPGR	2.066963	0.754152	2.740779	0.0145
INF	2.367195	0.929250	2.547425	0.0215
MOP	1.012532	0.300037	3.374690	0.0039
LR	0.088182	0.024251	3.636190	0.0022
TAXINC	0.183818	0.220672	0.832989	0.4171
TRA	-2.109134	0.710173	-2.969888	0.0090

R-squared	0.906075	Mean dependent var	6.709130
Adjusted R-squared	0.870853	S.D. dependent var	0.447365
S.E. of regression	0.160770	Akaike info criterion	-0.571894
Sum squared resid	0.413552	Schwarz criterion	-0.226308
Log likelihood	13.57678	Hannan-Quinn criter.	-0.484980
F-statistic	25.72466	Durbin-Watson stat	1.516019
Prob(F-statistic)	0.000000		

4.9. Presentation of information gathered from interview.

Based on the unstructured interview conducted with ERCA and MOFED officials, the study presents the following points. Even though there is a record of the number of investment projects which are using tax incentive scheme in each year, the amount of tax revenue forgone in relation with the tax incentives specifically tax hollyday is not recorded because the investors usually do not present their profit/loss statements on time. According to the responses of both ERCA and MOFED officials, since there is no trend of record keeping, tax incentive expenditures are not included both in the annual reports of the authority and annual budget of the country. Rough estimations are being used on some of the reports and publications of the authority. According to ERCA officials, until now there has been no developed system that keeps record of this incentive schemes and their expenses however, currently the Authority organized study team to develop a system that will incorporate all the information needed.

CHAPTER FIVE

5. Summary, Conclusion and Recommendation

This chapter brings to light the summary, conclusions and recommendations with respect to the research objectives and the findings of Chapter Four. The chapter presents the conclusions drawn from the research findings and also give recommendations on private domestic manufacturing investment and economic growth in Ethiopia.

5.1. Summary and conclusion

The study conducted an empirical analysis on the effectiveness of tax incentives on domestic manufacturing sector in Ethiopia. The paper analyses whether the existing fiscal incentives available to the Ethiopian manufacturing sector effectively improve the investment level.

The study was conducted using OLS regression model. In the time series regression model the general effects of tax incentive on DMIN is analyzed. Control variables included in the model are gross domestic product growth rate, inflation rate, market openness, transport availability and tax incentive (dummy variable). Augmented Dickey Fuller/ADF/ Technique were applied to check for stationarity in the data series. Besides, hetroscedasticity, multicolliniarity, autocorrelation and normality tests were applied to optimize the utility of the model. In addition to this, trend analysis of DMIN, tax revenue and tax expense rate are discussed using descriptive statistics.

The results of the regression analysis show that increasing the GDP growth rate of the country has a positive insignificant effect on domestic manufacturing investment by way of increasing the domestic capital and the market demand for goods and services which in turn trigger the domestic manufacturing investment. Likewise, market openness, has a favourable effect on the domestic manufacturing investment in Ethiopia. Private domestic manufacturing investment responds significantly to trade terms, with a positive coefficient. Maintaining favourable trade terms is critical to the growth of domestic investment.

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(UNCTAD, 2002).The results of the regression shows that transport availability have positive but insignificant effect on investment. On the other hand, high lending rate could undercut private investment by increasing investment cost, and thereby weakening investors' desire and ability to invest.

Since the 1991 structural reform of the country aggregate domestic investment and domestic manufacturing investment have shown a continuous growth trend although the rate of growth is slow.

Theoretical determinants of investment in manufacturing have been reviewed and theories state that manufacturing investment in a country can stimulate growth by creating new jobs and causing technological spill overs. For that reason, governments have implemented fiscal policies in order to attract potential domestic capital to this sector. Correspondingly, most popular instrument being used lately is the tax incentive scheme.

It's been claimed that the tax incentives is a major influent component of the decisions of investors. Therefore, by offering tax incentives 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. Tax incentive is an important variable that influences the decision of new investment thus, supporting the behaviour of governments towards fiscal policies. Therefore, it is crucial that governments offer an investment-friendly environment through competitive tax rates that will encourage investment.

Tax incentives can play a useful role in encouraging both domestic and foreign investment. How useful they can be, and at what cost, depends on how well the tax incentive programmes are designed, implemented and monitored. Based on the interview conducted the study identified that the government is not recording the revenues generated and the expenditures created due to the high cost of tax administration incentive schemes.

5.2. Recommendation

Based on the time- series regression model this study empirically investigates factors that affect DMIN in Ethiopia during 1992-2014. The study identified that MOP, LR, TAXINC as significant factors influencing investing decision of domestic manufacturers while INF, GDPGR and TRA have insignificant result.

The positive and significant MOP signifies the importance of trade openness to the investment environment. Where the opportunities of trade is open locally, continentally and intercontinentally, domestic investment rate increases as investors are attracted to invest in investment friendly environment with higher marketing opportunities. Therefore the government should continue using trade opportunities like COMESA, AGOA, EBA and GSP.

The negative significant impact of lending rate implies that higher cost of finance leads to lower investment level. Therefore establishment of a well-developed financial sector, including a more integrated credit sectors can help expand access to an array of financial services (credit and insurance; saving facilities).

Promoting government investment in infrastructure works as a compliment to the private sector because inadequate and insufficient infrastructure is a major obstacle to growth, trade and investment. Investment in transport, energy, water and ICT services are essential to bring improve domestic private investment.

Since the regression result shows a positive and significant effect of tax incentive scheme on domestic manufacturing investment it is recommended to market existing incentives more effectively and to bring all incentive schemes 'on-budget' by using tax expenditure analysis. This will help to illuminate each incentive and determine its effectiveness and efficiency in achieving the stated objectives.

From the experience gained during the process of conducting this study, deliberate efforts should be engaged to collect data on investments including the extension of tax incentives and their beneficiaries in Ethiopia, so as to enable effective assessments in terms of cost benefit analysis that will enable effective and informed policy making.

The rationale of doing this is the fact that any fiscal incentives aimed at increasing the level of incremental flow of DMIN should justify the foregone tax revenue for the country's fiscal budget, and thus the Government should face that important task of ascertaining that happens.

The collection of investment-related data proposed above should also involve a process whereby the Government prepares tax incentives expenditure statements regularly so as to measure and monitor the costs of tax incentives. The government should be required at a specific time to assess the success and failure of each incentive program.

Reference

-Admasu Shiferaw Sioum January 2002, “Private investment and public Policy in sub saharan Africa an emperical analysis”, *The Hague* ,The Netherlands.

- Agarwal, J. P. ,1980,” Determinants of Foreign Direct Investment: A Survey Weltwirtschaftliches Archiv”, Volume 116, pp. 739-73.

-Agidew,Esubalew Tadele,(2014), “An investigation of Macroeconomic Determinants of Domestic Private Investment Evidence from East Africa”

-Alexander klemm, S.M. Ali Abbas; Junhyung Park 2012, “ Apartial race to the bottom:Corporate Tax developments in Emerging and Developing Economies”

-Amer Sohail,Umer Rehman &Mohammed Azeem 2014, ”Economic Determinants of Domestic Investment: Acase of Pakistan”

- Antonella Caium OECD 2011,"The Evaluation of the Effectiveness of Tax Expenditures - A novel Approach" , An application to the regional tax incentives for business investment in Italy, *Taxation Working Papers*

-Atoyebi Kehinde , Adekunjo Felix , Kadiri Kayode, Falana Adedamola , 2012 ” The Determinants of Domestic Private Investment in Nigeria” *IOSR Journal of Humanities and Social Science (*JHSS), Volume 2.

- Austan Goolsbee, 1997 ,"Investment tax incentives , prices and the supply of capital goods", *NBER Working paper series* 6192, National bureau of economic research Massachusetts, Cambridge.

-Bayai, I. and D. Nyangara 2013 “An Analysis of Determinants of Private Investment in

Zimbabwe for the Period 2009-2011”, Management 2(6):11-42.

-Berhane, G. ,2010, “The law of corporate taxation in Ethiopia”, Thesis submitted to Addis Ababa University, School of graduate studies

- Biggst, P. 2007,"Tax incentives to attract FDI in Developing countries", UNCTAD

-Bird, Richard M. 2008, “Tax Challenges Facing Developing Countries”, *Rotman Institute for International Business Working Paper Series* IIB Paper no 12. Toronto: University of Toronto Joseph L. Roman School of Management.

- Bruce Bolnick 2004, "Effectiveness and Economic Impact of Tax Incentives in the SADC Region", Nathan Associates Inc., Arlington, Virginia,

-Clark JM,1917. Business acceleration and the law of demand: Atechnical factor in economic cycles.” *Journal of political Economy*25(3):217-35

-Duanjie Chen & Jack M.Mintz 2013, “ The 2013 Global Tax Competitiveness report: A proposed Business tax reform Agenda”

- Estain Calitz, Sally Wallace,Le Roux Burrows 2013,"The impact of tax incentives to stimulate investment in South Africa"

- Estian, C. E. 2013, "The impact of tax incentives to stimulate investment inSouth Africa" , *Stellenbosch Economic Working Papers*: 19/13.

-Fisheries, 2012," An overview of incentives theory and practice: A focus on the agro-processing industry in South Africa ", Danie Jordaan Directorate: Agro-processing Support Department of Agriculture, Forestry and Fisheries .

- Gordon, Robert J 1993, 546-8 Macroeconomics, 6th ed., New York: HarperCollins College Publishers,.

-Greene, J. and D. Villanueva 1991,“Private Investment in Developing Countries: An Empirical Analysis”, *Staff Papers-International Monetary Fund*: 38(1): 33-58.

-GUADAGNO,F 2012, The determinants of industrialization in developing countries 1960-2005,mimeo,UNU-MERIT &Maastricht Univerisity,p.26.

-Hailu Adunga 2013.,“Determinants of Private investmet in Ethiopia.” , Journal of Economics and Sustainable Development, Vol.4, No.20

-Hall, Robert E. and Dale W. Jorgenson 1976, "Tax Policy and Investment Behaviour," *American Economic Review*, Vol. 57, pp. 391-414.

-Howell H. Zee, Janet Gale Stotsky and Eduardo Ley 2002 , “Tax Incentives for Business Investment: A Primer for Tax Policy Makers in Developing Countries,’’

-KazeemBello Ajide and Olukemi Lawanson 2012, “Modelling the Long Run Determinants of Domestic Private Investment in Nigeria”

- Ibbih JM and Gaiya BA 2013, "A cross-sectional analysis of industrialization and growth in Africa"

- Dorel Berceanu, and Anca Băndoi "Inflation influence about investment decision. " ,University of Craiova

-Innocent Bayai and Davis Nyangara,” An analysis of determinants of investment in Zimbuwabe for the period 2009-2011”, *International Journal of Economic and Management Sciences*, Vol. 2, No. 6, 2013, pp. 11-42.

-Jorgenson, D.W. 1967, "The Theory of Investment Behavior." In Determinants of Investment Behavior, edited by Robert Ferber. National Bureau of Economic Research. Cambridge: Massachusetts.

- Keakook Songa , Mar 2014, "The Effects of the Korean Tax Incentives on Investment", Board of Audit and Inspection, Seoul, Korea. Published online.

- Kevin Fletcher ,August 16-17 2002,”Tax Incentives in Cambodia, Lao PDR, and Vietnam”, Prepared for the IMF Conference on Foreign Direct Investment:Opportunities and Challenges for Cambodia, Lao PDR and Vietnam,Hanoi, International Monetary Fund.

-Keyenes, J. Maynard 1936, "The General Theory of Employment, Interest and Money." New York: Harcourt Brace Jovanovich.

- Mike Pfister 2009 , " Taxation for investment and development: An overview of policy challenges in Africa", NEPAD-OECD Africa Investment Initiative

- Niringiye Aggrey 2014 "Determinants of Private Investment Behaviour in Ugandan Manufacturing Firms"

-Oniyewu, S. and Shareshta, A. 2005 " Tax Incentives and Foreign Direct Investment in the MENA Region".

-Park , J., Bedi S., Ali Abbas, S. M., Klemm Al. 2012 ," A Partial Race to the Bottom: Corporate Tax Developments in Emerging and Developing Economies", IMF Working Paper.

-Paul Barbour 2005," An Assessment of South Africa's Investment Incentive Regime with a Focus on the Manufacturing Sector", ESAU Working Paper .

-Samuel(2015), "The impacts of tax incentives in attracting foreign direct investment in Ethiopia"

-Samouel and Aram(2012) ,"What are the determining factors of Industrialization in Africa? ", BEJI Samouel University of Sousse.

-Sebastian James 2009, "Incentives and Investments: Evidence and Policy Implications " Investment climate advisory service of world bank group.

- Simret Mamuye Bora 2013," The effectiveness of tax incentives in attracting Foreign Direct Investment to Ethiopia ", The Hague, The Netherlands Vienna.

-Tan, Bee Wah. T, Chor F 2011,"Private investment and economic growth in Malaysia", *Journal of economic development*, vol1, February, pg 34-67.

- "Tax Law Design and Drafting"volume 2; International Monetary Fund: 1998; Victor Thuronyi, ed.) Chapter 23, Income Tax Incentives for Investment

-"The role of industrial development in the achievement of the Millineum development goals" , December(2003) Proceedings of the Industrial Development Forum and Associated Round Tables, Vienna, 1-3.

-OECD,2011 "Environmental Concerns in international investment Agreements"

-SADC,2004 "Effectiveness and Economic Impact of Tax incentives in the SADC Region"

-Tobin, James 1969, " A General Equilibrium Approach to Monetary Theory." *Journal of Money, Credit and Banking* 1(1): 15-29

-UNIDO,1996 Annual report, Industrial Development, Board seventeenth session, Budget committee thirteenth session,

-UNIDO, 2003 “The role of Industrial development in the achievement of the millenium development goals”

-UNIDO, IDR,2011 " A cross-sectional analysis of industrialization and growth in Africa"

-UNCTAD, 2014 "Economic development in Africa, Catalyzing investment for transformative growth in Africa"

-Van Parys and James, S. a. 2010," The effectiveness of tax incentives in attracting investment: panel data evidence from the CFA Franc zone", .Springer Science Business Media

-Zee,H.H;stotsky,J.G;Ley.E. 2002, “ Tax Incentives for Business Investment. A Primer for policy Makers in Developing Countries”

Appendix-1 Data used for regression

Year	Transp. Ser	Lending rate	DMIN	MOP	INFL	GDPGR
1992	0.6703	6.80	111,796,300	0.0167	0.0434	-0.087
1993	0.7484	14.90	1,317814,260	0.0317	0.0149	0.131
1994	0.7399	14.00	324,625,234	0.0429	0.0318	0.032
1995	0.6909	14.58	629,558,372	0.0629	0.0414	0.061
1996	0.5759	15.08	752,062,027	0.0631	-0.0386	0.124
1997	0.5406	15.50	673,111,725	0.0708	0.0103	0.031
1998	0.3634	11.60	960,239,800	0.0803	0.0039	-0.035
1999	0.3999	11.75	401,758,525	0.0859	0.0330	0.052
2000	0.4255	12	298,558,100	0.1298	0.0330	0.061
2001	0.448	12.75	166,457,700	0.1223	-0.0372	0.083
2002	0.4281	10.75	222,275,782	0.1295	0.0073	0.015
2003	0.3918	10.75	546,406,695	0.1516	0.0711	-0.022
2004	0.3677	10.75	1,090,547,795	0.1827	0.0141	0.136
2005	0.4608	10.50	406,429,687	0.2168	0.0527	0.118
2006	0.5116	11.50	427,375,802	0.2393	0.0504	0.108
2007	0.5644	12.50	1,088,639,718	0.2485	0.0689	0.115
2008	0.5901	12.25	941,351,430	0.3046	0.1596	0.108
2009	0.5719	12.25	224,548,918	0.3471	0.0354	0.088
2010	0.5439	12.25	330,849,308	0.4260	0.0338	0.126
2011	0.5679	11.88	177,179,495	0.5329	0.1245	0.112
2012	0.6322	11.88	141,018,743	0.6562	0.0892	0.086
2013	0.6322	11.88	47,024,865	0.6327	0.0338	0.105
2014	0.6322	11.88	301,652,692	0.6884	0.0310	0.105

Appendix-2 Interview questions

1. Does the authority have a system that keeps record of the investments eligible for tax incentive schemes?
2. Does the authority keep record of opportunity costs related with tax incentive schemes?
3. Do the authorities incorporate the opportunity costs of tax incentives in their annual financial reports?
4. Are the tax incentives given by the government in budget and included in the annual budget reports?
5. Is there a trend of making cost benefit analysis of the incentive schemes?

Appendix -3 Summary of Licensed Manufacturing Domestic Operational Investment Projects

Summary of Licensed Manufacturing Domestic Operational Investment Projects by Year and Status Since July 14, 1992 - July 03, 2015 G.C					
Sector	**Year**	**Operation**			
		No of Projects	Capital in '000' Birr	Perm Empl.	Temp Empl.
Manufacturing	1992	39	111,796	2,606	0
	1993	86	1,320,368	7,157	33
	1994	76	324,625	2,274	118
	1995	145	629,559	4,151	404
	1996	147	752,062	4,662	909
	1997	232	673,112	4,976	6,820
	1998	258	960,240	6,003	17,413
	1999	91	401,759	2,861	2,028
	2000	72	298,558	2,170	401
	2001	44	166,458	1,775	160
	2002	24	222,276	1,177	16
	2003	57	546,407	4,956	578
	2004	81	1,090,548	6,027	3,834
	2005	86	406,430	2,401	7,018
	2006	74	427,376	2,327	3,356

	2007	83	1,088,640	4,353	4,976
	2008	45	941,351	1,019	1,938
	2009	52	224,549	1,151	1,976
	2010	35	336,349	1,410	2,794
	2011	16	177,179	734	2,172
	2012	17	141,019	405	1,584
	2013	6	47,025	151	331
	2014	29	310,153	1,114	557
	2015	2	12,000	25	100

Source: Ethiopian Investment Agency Data