

## Foreign Direct Investment Inflows to Ethiopia during 1992 to 2012: An Empirical Analysis

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### Abstract:

*Foreign Direct Investment (FDI) inflow is important for economic growth of developing nations. The gap between domestic savings and investment is widening in all most all African nations especially in Sub-Saharan Africa as the loans and official developmental assistance by multilateral agencies are gradually declining. Thus, FDI as a catalyst to re-finance the developmental requirement have been lately realized by these nations. Many African economies including Ethiopia started the liberalization process in 1990s. However, still the result of are yet to be realized fully. This is due to the interrelationship between degree of liberalization and FDI. Further, FDI is governed by suitable macro-economic variables in the host country climate. Empirical evidence underlines the importance of gross domestic product, gross capital formation, infrastructure availability, trade openness, export, import, external debt, costs of starting business and etc. These act as potential determinants of FDI inflows to a country. The aim of this paper is to analyze the various potential determinants of FDI inflows to Ethiopia during the period 1992 to 2012. We have used an econometric model used by UNCTAD to determine these potential determinants of FDI equity inflows. The time frame for this analysis is 20-years period, based on data availability. Majority of the explanatory variables specified in the econometric model are seemed to be significant in attracting FDI inflows to*

*Ethiopia. The result of the analysis is in line with most empirical evidences.*

**Key words:** Foreign Direct Investment, trade openness, gross capital formation, cost of starting business, regression model.

## **1. Introduction:**

The economic development of a nation depends upon its investment level. The investment in turn depends on savings. However, all African nations suffer from the problem of generation of sufficient gross domestic savings to reorganize the development process. Thus, the foreign direct investment (FDI) is imperative for these economies to fill up the gap between savings and investment. FDI along with financial resources bring entrepreneurial and technological skills. The importance of FDI has been given due importance in the development of the economy by many economists (Todaro, 1992). There is no dearth of definition and categories of investment in economics literature. However, an investment is regarded as FDI if the foreign investor holds at least 10 percent of the ordinary share or voting rights (IMF, 1993). Here, we have used the following definition of FDI: Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors (World Bank, 2010). Most empirical research opines about the important role of FDI in boosting up the productivity and efficiency of an economy (OECD, 2002). Many empirical researches conclude about the pivotal role played by FDI in enhancing private investments (Douglas et al, 2003). All these

empiricism resulted in increased attention by the developing nations for policy redesign and macro-economic re-orientation of the economy in order to encourage the FDI inflows.

The liberalization process in Ethiopia started way back in 1991. The policy reform included liberalization of foreign trade, deregulation and decentralization of economy and devaluation of the national currency. Further many changes in investment policies were initiated to attract foreign investment. However, the need for FDI is important for Ethiopia as there always remain a wide gap between domestic saving and investment in domestic environment. The saving – investment gap which could have been filled up by multilateral agencies loans is firstly declining in Sub-Saharan Africa (Asiedu, 2003) including Ethiopia. Thus FDI has become an alternative source to carry forward the growth initiatives. However the FDI inflows to a country depend upon no of macro-economic variables. Both theoretical and empirical literature underlines the importance of these variables as determining factors of FDI. FDI play a major role in determining the economic growth. Recently Ethiopia has started encouraging the inflow of FDI by creating a suitable platform for investment climate. Many Sub-Saharan African nations are realizing higher growth rate and per capita income for more than two decades. Ethiopian economy needs to grow at 10% per annum for few years to achieve this growth level. Further, gross domestic saving of Ethiopia is abysmally low to turn down the economy (EEA, 2000 & 2007). Realizing the insufficiency of capital at home, Ethiopian government opened up several sectors of the economy for foreign investment. Ethiopian Investment Authority has taken adequate initiatives to rationalize the foreign investment sector. However, the performance of the country in attracting FDI is not encouraging. Ethiopia accounts for less than 2% of FDI coming to Africa. Thus, it is important find out the rationale behind such lack lustre performance. As empirical evidence shows that

macro-economic variables are the most significant determinants of FDI inflow to a country. In Ethiopian context there is a need to find out about these variables.

The FDI net inflow to Ethiopia during the period 1992 to 2012 is presented in Table 1.

**Table 1: FDI Net Inflows<sup>1</sup>  
(In Current US\$)**

<i>Year</i>	<i>FDI Net Inflows</i>	<i>GDP (current US\$)</i>	<i>FDI Net Inflows (% of GDP)<sup>2</sup></i>
1992	1,70,000	10,30,08,90,065	0.002
1993	35,00,000	8,66,90,71,081	0.040
1994	1,72,10,000	6,80,10,44,147	0.253
1995	1,41,40,000	7,52,36,72,045	0.188
1996	2,19,30,000	8,39,14,23,399	0.261
1997	28,84,90,000	8,43,19,51,046	3.421
1998	26,06,70,000	7,67,50,00,360	3.396
1999	6,99,80,000	7,55,98,65,039	0.926
2000	13,46,40,000	8,09,13,84,891	1.664
2001	34,94,00,000	8,08,04,96,318	4.324
2002	25,50,00,000	7,70,70,34,813	3.309
2003	46,50,00,000	8,46,57,44,001	5.493
2004	54,51,00,000	9,94,55,71,030	5.481
2005	26,51,11,675	12,17,39,19,387	2.178
2006	54,52,57,102	15,00,08,03,171	3.635
2007	22,20,00,573	19,34,66,46,117	1.147
2008	10,85,37,544	26,57,13,20,718	0.408
2009	22,14,59,581	31,84,33,57,840	0.695
2010	28,82,71,568	29,38,56,11,867	0.981

<sup>1</sup> Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors. Data are in current U.S. dollars.

<sup>2</sup> Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.

Year	FDI Net Inflows	GDP (current US\$)	FDI Net Inflows (% of GDP) <sup>2</sup>
2011	62,65,09,560	31,36,76,06,700	1.997
2012	27,85,62,822	42,80,52,15,879	0.651

Source: Country Data of Ethiopia, World Bank, 2014. (Downloaded from World Bank website on 06.11.2014)

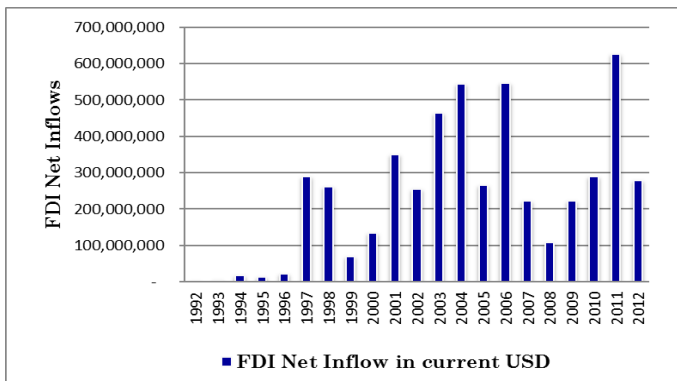


Figure 1: FDI Net Inflows to Ethiopia during 1992 to 2012

## 2. Review of Literature:

Empirical evidence shows that in Africa, FDI are largely concentrated in oil and mineral sectors. This is very prominent in countries having more of the above-mentioned resources such as Angola, Botswana, Namibia, Nigeria and etc. This implies a relation between availability of natural resources and FDI (Basu and Srinivasan, 2002). Certain countries derive the benefits of attracting FDI because of their locational advantage like Lesotho and Swaziland. Foreign investors have established their subsidiaries in these countries to at a cheaper cost to serve the large market of South Africa. However, countries like Seychelles and Mauritius have attracted huge foreign investment by streamlining their FDI rationale (UNCTAD, 1998). The report of Morisset concludes that around 2/5<sup>th</sup> of total FDI to Africa go to countries having abundance natural resources (Morisset, 2000). But it is also true that a country can attract FDI by taking care of its economy. The macro- economic

variables that attract FDI are many. Empirical evidence shows that determinants such as gross capital formation, external trade, availability of infrastructure, business processing climate, trade openness, gross national expenditure, GDP growth, exchange rate, gross savings, external debt, inflation, GDP per capita, Official development assistance are some of the variables that have impact on FDI.

Capital formation implies abundance of capital resources along with less transaction cost to carry out a business process, better access to potential market, suitable usage of natural resources as well as suitable climate for establishment of a business unit. These include creation of adequate road infrastructures and transportation services, electricity, telecommunication, water supplies (Birhanu, 1999). Creation of adequate capital infrastructure is thus basic to establish any business unit abroad.

Liberalization process in Ethiopia started way back in 1991 in line with World Bank and IMF supported Structural Adjustment Programme. The rationale behind this programme was to wipe out structural distortion and macro-economic imbalances in the economy, improvement of infrastructure, strengthening of human resources and finally combating poverty. The government of Ethiopia started number of reforms major to change the economic orientation from control economy to free market mechanism so as to make it parallel with World economy. This was done with a view to give more impetus to private participation (FDRE, MoFED, 2002). The major initiatives included deregulation of price, devaluation of national currencies by 141.6 %, reduction of import duties from 230% to 60%, abolition of export taxes except coffee, easing the export licensing regulation and procedure, freeing the exchange market etc. Further government established Ethiopian Private Agency (EPA) in 1994 with an objective to de-regulate state-owned enterprises to private enterprises (AfDB, OECD, 2003). As a result of this many public sector enterprises with poor

performance were made private one for better efficiency. In order to realise better efficiency of agriculture sector an industrialization process of agriculture sector was carried out with an objective to increase the productivity of agriculture farm sector and enhance the employability of the farm labour force (Economic Commission for Africa, 2002). All these efforts brought the fruit with an average growth rate jumped to 5 % (Andrews et. al. , 2005), decline in inflation from 21% to less than 5%, increase in income per capita by 2.4%, increase in investment by 16 % of GDP during this period (Geda and Degefe, 2002). About the investment frontier 64 % of total investment in Ethiopia comes from domestic sector. However, government initiatives and the liberalization process of 1991 played a major role in converting the FDI from meagre 0.04% in 1992 to 27% in 1997. Major FDI to Ethiopia comes from middle-east followed by European Union.

In Ethiopia, foreign investment can come either by setting up a branch or by making joint investment with local company. FDI can be made in any sector except few which has been kept exclusively for public investment or for domestic investors. The continuous revision by government is gradually unshackling many sectors for private participation. For example, defence, hydro-electric plants and telecommunication which were exclusively coming under government domain is now freed for foreign investment participation. However, the government has underlined there are certain minimum criteria for foreign investment such as minimum capital entry criterion, holding of 27% equity share by local firm in case of joint venture, submission of progress report in every six month both by foreign investors and local firms. But there are certain relaxations like there is no requirement to meet local content requirements or operational guidelines, cent percent exemption from import duties and import tax on capital equipment, relaxation from export tax, one year to five years exemption from payment of income tax, tax exemption on R & D

expenditure, no tax on remittance, opportunity to carry forward initial operation losses, freedom on choosing capital assets depreciation model by investor, permission of 100 % repatriation of capital, profits, dividend and interest on foreign loans or on payments for technology transfer, 100% repatriation of proceeds from sales, transfer of shares and winding up the units. Further, EIA has been conferred with the responsibilities of coordinating and facilitating foreign investment in the country. Ethiopian government has established other organisations such as Ethiopian Privatization Agency (EPA), Regional Investment Promotion Agency to boost up the FDI. It has delegated authority to various ministries and departments such as Ministry of Trade and Industry, Ministry of Foreign Affairs, Ministry of Taxation and Ministry dealing with customs to attract FDI on priority basis.

There is no dearth of empirical researches on determinants of FDI. However, these studies conclude that these determinants of FDI are country specific. So it is difficult to delineate determinants of FDI. Further, some determinants applicable at certain time period may not be applicable in other time (UNCTAD, 1998). Determinant also varies from country to country and variables applicable in Africa may not be suitable in country in Asia, Europe or Latin America (Batra et. al., 2003). This view was also confirmed by Asiedu (2004). The research conducted by Asiedu on 32 Sub-Saharan African and 39 non Sub-Saharan nations during 1988-98 came up with conclusion that market size, market locations, natural resources, macro-economic and political stability, human resources, efficient legal and nepotism practices affects the FDI inflows to Africa, where as market locations is one the major determinant for Sub-Saharan Africa (Asiedu, 2002). With their research on 80 developing countries, Schneider and Frey (1985) found out that the degree of economic development and political stability in the country are two major determinants of FDI inflows. However, higher GDP per capita, urbanization,



availability of suitable infrastructure facilities brings more FDI to a country opined Root and Ahmed (1979) in their research with 70 developing countries. In labour- intensive and export oriented firms human resources and quality designs are important determinants opined Noorbakhsh (2001). The macro-economic and political stability in Africa are two important determinants of FDI inflow to Africa (UNCTAD, 1999). Suitable business environment is one of the main determinants of FDI in Sub-Saharan Africa (Morisset, 2000). Size of the market, privatization, natural resources, historical relations with nations attracts FDI inflow in Africa particularly Sub-Saharan Africa, opined Jenkin and Thomas (2002). The study conducted by Linda and Said (2007) in North Africa and Middle East countries revealed that openness of the economy, natural resources and return on investments are chief determinants of FDI in these regions. A study by Getenet and Hirut (2006) in Ethiopia found that GDP growth, liberalization process encourage FDI inflows, whereas macro-economic instability and poor infrastructure discourage FDI.

In this study we have selected the following variables such as gross capital formation, trade as percent of GDP, imports and exports of goods and services, trade openness, transport services, cost of business start- up procedure (% of GNI per capita), official exchange rate, gross national expenditure, GDP growth, gross savings, external debt, GDP per capita, and inflation as major macro-economic variables that attract FDI inflows to Ethiopia. A proxy value is used for other determinants such as natural resources, geographical location, market proximity etc.

### **3. Variables used:**

*Gross Capital Formation:* Gross capital formation involve creation of capital infrastructures such as roads, rails, ports, telecommunication services, electricity generation etc.

Availability of well-developed infrastructure reduces the cost of doing business and ensures highest returns to investment (Morisset, 2000). The study has taken into account only existing infrastructure in the form gross capital formation. The potential gross capital formation has been left out. Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress." According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. Data used here are in current U.S. dollars.

*Exports and Imports in goods and services:* Export and import position of a country are important from the point of view of balance of payment position. A favourable balance of payment position creates conducive atmosphere for foreign investors from the point of view of foreign trade policy whereas a highly unfavourable balance of payment position hinder FDI. Here the export of goods, services and income is the sum of goods (merchandise) exports, exports of (nonfactor) services and income (factor) receipts. Data are in current U.S. dollars. Similarly, import of goods, services and income is the sum of goods (merchandise) imports, imports of (nonfactor) services and income (factor) payments. Data used are in current U.S. dollars.

*Trade:* Total trade of the country determines the likelihood of going for foreign investment by any nation. Here the trade is the sum of exports and imports of goods and services measured as a share of gross domestic product. Data used are in current U.S. dollars.

*Trade openness:* Trade openness determines the degree of liberalization process in the economy. Trade openness is measured by the sum of imports and exports to the total GDP of the country. Data used are in current U.S. dollars.

*Transport services:* Transport service is one important determinant of FDI. Transport services (% of commercial service imports) covers all transport services (sea, air, land, internal waterway, space, and pipeline) performed by residents of one economy for those of another and involving the carriage of passengers, movement of goods (freight), rental of carriers with crew, and related support and auxiliary services. Excluded are freight insurance, which is included in insurance services; goods procured in ports by non-resident carriers and repairs of transport equipment, which are included in goods; repairs of railway facilities, harbours, and airfield facilities, which are included in construction services; and rental of carriers without crew, which is included in other services.

*Cost of business start-up procedures (% of GNI per capita):* Cost to register a business is normalized by presenting it as a percentage of gross national income (GNI) per capita. The costs incurred on initial business start-up involve huge administrative and regulatory costs. Sometime these cost acts as deterrent in setting up a business.

*Official exchange rate (LCU per US\$, period average):* Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar). The stability of domestic currency in relation to hard currencies brings more FDI than the frequent large variations. Frequent large variations erode the values of foreign investor assets (Goldberg and Klien, 1997).

*Gross National Expenditure:* Gross national expenditure (formerly domestic absorption) is the sum of household final

consumption expenditure (formerly private consumption), general government final consumption expenditure (formerly general government consumption), and gross capital formation (formerly gross domestic investment). Increases in gross national expenditure always have positive impact on FDI as it imply a strong consumption force in the economy.

*GDP growth (annual %)*: Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2000 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. GDP growth indicates the performance of the economy. Higher economic growth means better performance and *vice-versa*. Lower the GDP growth, the value of the investment get affected so as the FDI.

*Gross savings*: Gross savings are the difference between gross national income and public and private consumption, plus net current transfers. More the saving, more is the investment. Higher the investment higher is the growth rate of the economy.

*External debt stock (% of GNI)*: Total external debt stocks to gross national income. Total external debt is debt owed to non-residents repayable in foreign currency, goods, or services. Total external debt is the sum of public, publicly guaranteed, and private nonguaranteed long-term debt, use of IMF credit, and short-term debt. Short-term debt includes all debt having an original maturity of one year or less and interest in arrears on long-term debt. GNI (formerly GNP) is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. Increase in

external debt creates fiscal crisis in the economy therefore affects the FDI inflow (Serven and Solimano, 1992).

*GDP per capita (annual% growth rate):* Annual percentage growth rate of GDP per capita based on constant local currency. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

*Inflation, Consumer prices (annual %):* Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used. High inflation acts as deterrent of FDI inflow. Rate of return on investment get reduced because of inflation.

#### 4. Objective:

The objective of this paper is to find out the determinants of FDI inflows to Ethiopia during the period 1992 to 2012.

#### 5. Methodology:

We have analysed the potential determinants of FDI inflows to Ethiopia during the period 1992 to 2012 with the help of an econometric model used by UNCTAD (UNCTAD, 1993). The FDI model used is as given below:

##### 5.1. FDI Model:

$$FDI_t = \beta_0 + \beta_1 GCF_t + \beta_2 T_t + \beta_3 Im_t + \beta_4 Ex_t + \beta_5 TS_t + \beta_6 CB_t + \beta_7 OP_t + \beta_8 XR_t + \beta_9 NE_t + \beta_{10} GDP_t + \beta_{11} GS_t + \beta_{12} ED_t + \beta_{13} In_t + \beta_{14} PI_t + \sigma$$

$FDI_t$  = Inflow of FDI in year t

$GCF_t$  = Gross capital formation in year t

$T_t$  = Trade in year t

$Im_t$  = Import in year t

$Ex_t$  = Export in year t

$TS_t$  = Transport services in year t

$CB_t$  = Cost of starting business in year t

$OP_t$  = Openness of the economy in year t

$XR_t$  = Official exchange rate in year t

$NE_t$  = National expenditure in year t

$GDP_t$  = Gross domestic product in year t

$GS_t$  = Gross savings in year t

$ED_t$  = External debt in year t

$In_t$  = Inflation in year t

$PI_t$  = GDP per capita in year t

$\sigma$  = Random error.

$\beta_0$  = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}, \beta_{13}$  and  $\beta_{14}$  are coefficient of different determinants of FDI inflows such as gross capital formation, trade, import, export, transport services, cost of starting business, openness of the economy, official exchange rate, national expenditure, gross domestic products, gross savings, external debts, inflation and GDP per capita respectively. The significance of these coefficients have been analysed with the help of regression analysis.

## **6. Assumptions:**

We have assumed that the Gross Capital Formation (GCF), Trade (T), Import (Im), Export (Ex), Transport Services (TS), Cost of Starting Business (TEU), Trade Openness (OP), Exchange Rate (XR), Gross National Expenditure (NE), GDP growth (GDP), GDP Per Capita (PI), External Debt (ED), Inflation (In) and Gross Savings (GS) are the main determinants of FDI inflows to Ethiopia. The following assumptions about the variables have been considered.

- i. There exist a positive relationship between Trade and FDI inflows;

- ii. Gross Capital Formation (GCF) attracts foreign investors to increase their operation;
- iii. Favorable Import (Im) and Export (Ex) position have positive influence on FDI inflow;
- iv. Availability of good Transport Services (TS) attract more FDI;
- v. Less Cost of Starting Business (CB) has positive influence in FDI;
- vi. The degree of Trade Openness (OP) attracts more FDI inflows;
- vii. Stable Exchange Rate (XR) ensure more FDI inflows;
- viii. National Expenditure (NE) have a positive influence on FDI inflows;
- ix. Higher GDP growth (GDP) ensure higher FDI inflows;
- x. Higher GDP per capita (PI) ensure higher FDI inflows;
- xi. More the External debt (ED) less is FDI inflows;
- xii. Higher the Inflation (In) less is FDI inflows;
- xiii. Higher the Gross Savings (GS) more is FDI inflows.

## 7. Data used:

The summary data used for this analysis are presented in Table 2 to Table 4. These data have been compiled from Country Data of Ethiopia of World Bank (2014). The data used in the analysis belongs to time period 1992 to 2012.

**Table 2: Data used in the Analysis**

Year	Foreign direct investment, net inflows (% of GDP)	External debt stocks (% of GNI)	Inflation, consumer prices (annual %)	Gross national expenditure (% of GDP)	Gross capital formation (% of GDP)
	<i>FDI</i>	<i>ED</i>	<i>In</i>	<i>NE</i>	<i>GCF</i>
1992	0.002	90.40	10.53	104.45	11.76
1993	0.040	112.12	3.54	108.71	18.16
1994	0.253	148.29	7.59	107.05	18.47
1995	0.188	136.80	10.02	106.10	20.17
1996	0.261	119.58	-8.48	107.08	18.77

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1997	3.421	114.74	2.40	106.86	15.05
1998	3.396	129.45	0.89	108.02	17.25
1999	0.926	71.67	7.94	112.69	17.51
2000	1.664	67.85	0.66	112.06	23.11
2001	4.324	70.86	-8.24	111.84	24.53
2002	3.309	84.62	1.65	114.15	27.31
2003	5.493	86.05	17.76	114.26	25.00
2004	5.481	66.86	3.26	116.90	29.76
2005	2.178	50.72	12.94	120.61	26.53
2006	3.635	15.16	12.31	122.95	27.94
2007	1.147	13.48	17.24	119.54	24.46
2008	0.408	10.77	44.39	119.82	24.70
2009	0.695	16.28	8.47	118.53	25.59
2010	0.981	24.82	8.14	119.88	27.43
2011	1.997	27.19	33.22	115.14	27.87
2012	0.651	24.31	22.77	118.07	33.08

Source: Country Data of Ethiopia, World Bank, 2014.

(Downloaded from World Bank website on 06.11.2014)

**Table 3: Data used in the Analysis**  
(Continued)

Year	Trade (% of GDP)	GDP growth (annual %)	Gross savings (% of GDP)	Official exchange rate (LCU per US\$, period average)	GDP per capita growth (annual %)
	<i>T</i>	<i>GDP</i>	<i>GS</i>	<i>XR</i>	<i>PI</i>
1992	10.95	-8.67	15.28	2.80	-11.83
1993	20.40	13.14	14.47	5.00	9.26
1994	21.45	3.19	20.93	5.47	-0.25
1995	25.69	6.13	23.05	6.16	2.73
1996	25.77	12.43	19.18	6.35	9.00
1997	30.83	3.13	11.99	6.71	0.12
1998	35.05	-3.46	15.85	7.12	-6.20
1999	36.87	5.16	10.49	7.94	2.20
2000	36.38	6.07	18.68	8.22	3.08
2001	36.07	8.30	22.33	8.46	5.22
2002	39.65	1.51	23.75	8.57	-1.38
2003	41.18	-2.16	24.53	8.60	-4.94
2004	46.95	13.57	26.34	8.64	10.39
2005	51.14	11.82	17.15	8.67	8.73
2006	51.02	10.83	13.22	8.70	7.83
2007	45.27	11.46	22.50	8.97	8.48
2008	43.04	10.79	21.12	9.60	7.86
2009	39.92	8.80	17.79	11.78	5.96



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<b>2010</b>	47.59	12.55	23.87	14.41	9.63
<b>2011</b>	49.13	11.18	28.86	16.90	8.32
<b>2012</b>	45.93	8.73	27.04	17.70	5.96

*Source: Country Data of Ethiopia, World Bank, 2014.*

*(Downloaded from World Bank website on 06.11.2014)*

**Table 4: Data used in the Analysis**

Year	Imports of goods and services (% of GDP)	Exports of goods and services (% of GDP)	Cost of business start-up procedures (% of GNI per capita)	Transport services (% of service exports, BoP)	Trade Openness = (Import +Export)/ GDP
	<i>Im</i>	<i>Ex</i>	<i>CB</i>	<i>TS</i>	<i>OP</i>
1992	7.70	3.25	-	67.03	0.187
1993	14.56	5.85	-	74.84	0.183
1994	14.25	7.20	-	73.99	0.297
1995	15.90	9.79	-	69.09	0.315
1996	16.43	9.35	-	57.59	0.270
1997	18.84	11.99	-	54.06	0.292
1998	21.54	13.51	-	36.34	0.372
1999	24.78	12.09	-	39.99	0.379
2000	24.22	12.16	-	42.55	0.331
2001	23.96	12.12	-	44.80	0.395
2002	26.90	12.75	-	42.81	0.409
2003	27.72	13.46	483.9	39.18	0.463
2004	31.92	15.02	77.4	36.77	0.553
2005	35.87	15.27	64.9	46.08	0.561
2006	36.99	14.04	45.9	51.16	0.498
2007	32.41	12.87	41.3	56.44	0.494
2008	31.43	11.61	29.8	59.01	0.493
2009	29.22	10.69	267.5	57.19	0.392
2010	33.73	13.85	199.8	54.39	0.495
2011	32.14	17.00	181.2	56.79	0.557
2012	32.00	13.93	135.3	63.22	0.470

*Source: Country Data of Ethiopia, World Bank, 2014.*

*(Downloaded from World Bank website on 06.11.2014)*

## 8. Result of the Analysis:

A regression analysis was carried out with the data presented in Table 2 to Table 4. In this analysis, we have considered FDI as dependent variable and all others variables (assumed determinants) as independent variables. The summary result of the regressions is presented in Table 5. Most of the explanatory

variables specified in the econometric functions are seen to be significant elements in attracting FDI to Ethiopia.

**Table 5: Result of Regression Analysis**

<i>Dependent Variable (Y)</i>	<i>Independent Variable (X)</i>	<i>R<sup>2</sup></i>	<i>Coefficient</i>	<i>t-Value</i>
FDI	Gross Capital Formation ( <i>GCF</i> )	0.37	4.6	3.36
FDI	Trade ( <i>T</i> )	0.71	4.2	6.76
FDI	Import ( <i>Im</i> )	0.61	3.8	5.43
FDI	Export ( <i>Ex</i> )	0.84	4.7	10.02
FDI	Trade Openness ( <i>OP</i> )	0.55	4.3	4.83
FDI	Exchange Rate( <i>XR</i> )	0.38	2.9	3.41
FDI	Gross National Expenditure ( <i>NE</i> )	0.24	18.6	2.42
FDI	Transport Services ( <i>TS</i> )	0.51	-6.1	-4.44
FDI	Cost of starting business ( <i>CB</i> )	0.04	0.2	0.58
FDI	GDP Growth ( <i>GDP</i> )	0.01	0.2	0.47
FDI	Gross Savings ( <i>GS</i> )	0.00	0.2	0.26
FDI	External Debt ( <i>ED</i> )	0.02	-0.2	-0.58
FDI	Inflation ( <i>In</i> )	0.03	-0.3	-0.77
FDI	GDP Per capita ( <i>PI</i> )	0.00	0.0	0.01

The above results explain about 95 % of the variation. Summary results are presented below:

- i. The Trade with a coefficient of +4.2 with R<sup>2</sup> value 0.71 and significant t-statistics of 6.76 make it a very significant determinant of FDI inflows.
- ii. The coefficient of +4.7 with R<sup>2</sup> value 0.84 and significant t-statistics of 10.02 make Export a significant and important determinant of FDI inflows.
- iii. The coefficient of +3.8 with R<sup>2</sup> value 0.61 and significant t-statistics of 5.43 make Import a significant determinant of FDI inflows.
- iv. Trade Openness with a co-efficient of +4.3 and R<sup>2</sup> value 0.55 and t –Statistics 4.83 turns out to be a significant determinant of FDI inflows.
- v. GCF with a coefficient of +4.6 with R<sup>2</sup> value 0.37 and significant t-statistics of 3.36 make the variable GCF a significant determinant of FDI inflows.

- vi. The coefficient of +2.9 with a low  $R^2$  value of 0.38 and t-statistic of 3.41 make the Exchange Rate another significant determinant of FDI inflows.
- vii. Gross National Expenditure with a co-efficient of +18.6 and low  $R^2$  value 0.24 and t –Statistics 2.42 make the GNE a weak determinant of FDI inflows.
- viii. Transport services with a weak coefficient of -6.1 and but high  $R^2$  value of 0.51 and high t –Statistics of 4.44 make the TS a significant determinant of FDI inflows.
- ix. The Cost of starting business with coefficient of +0.2 with  $R^2$  value 0.04 and significant t-statistics of 0.58 make it a non-significant determinant of FDI inflows.
- x. GDP growth with a coefficient of + 0.2 and  $R^2$  value + 0.01 and t –Statistics of 0.47 turn out to be a non-significant determinant of FDI inflows.
- xi. Gross savings with a coefficient of + 0.2 and  $R^2$  value + 0.00 and t –Statistics of 0.26 turn out to be a non-significant determinant of FDI inflows.
- xii. Inflation with a coefficient of - 0.3 and  $R^2$  value + 0.03 and t –Statistics of 0.77 turn out to be a non-significant determinant of FDI inflows.
- xiii. External debt with a coefficient of -0.2 and  $R^2$  value - 0.02 and t –Statistics of 0.58 turn out to be a non-significant determinant of FDI inflows.
- xiv. GDP per capita also turn out to be a non-significant determinant of FDI inflows.

## 9. Conclusion:

The above analysis shows, among the selected variables Trade, Imports, Exports, Trade Openness, Official Exchange Rate, Gross Capital Formation, Gross National Expenditure and Transport Services found to be significant determinants of FDI inflows to Ethiopia during the period 1992 to 2012. However, GDP Growth, Cost of Starting Business, Gross Savings,

Inflation, External Debt and GDP Per Capita found to be non-significant determinants of FDI inflows to Ethiopia during the above-mentioned period.

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