The Impact of FDI on Industrialization in Ethiopia

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Abstract
The Foreign Direct Investment has been recognized one of the main tools that can drive the host country to achieve industrialization due to multiple roles of bringing capital investment, technology, and skills, which are vital, the industrialization process.The motivation behind this study is to research the effect of Foreign Direct Investment inflow Industrialization in Ethiopia, utilizing the time series data from 1992-2017 and employing the Vector Autoregressive model (VECM). The result of the Johanson cointegration test demonstrated that there exists a long-run equilibrium relationship between the variables. Moreover, the outcome of VECM for Long-Run analysis shown that FDI has a positive impact and significant on Industrialization while the result of the short-run analysis showed that the FDI has insignificant but positive in impact on Industrialization, which means that the FDI inflows have a significant impact on Ethiopia's industrialization in the end. Similarly, the variance decomposition outcome reveals the impact FDI in the short-run is not too significant, but its impact increases in the long –run. Therefore, this study recommends that the government to give a suitable strategy and policies, which would give the first priority to attract more FDI and associate with the industrialization, process that ongoing on in the country.
Keywords: Impact, FDI, Industrialization, Ethiopia, VECM.

Introduction
As many scholars' consensus, one of the first steps to achieve sustainable development is industrialization, which has long last benefits on economic growth. There are many reasons why countries are pursuing industrialization. A portion of these reasons is linked to Kaldor's law, which gives a theoretical structure to the connection between manufacturing and economic growth. Recent researches have demonstrated that industrialization takes into account more prominent economies of extension, with nations that can create more significant assortments of goods and services additionally being unquestionably bound to accelerate fast economic growth. (Szirmai & Verspagen, 2015) And (Rodrik, 2012) While Ethiopia realizes the importance of industrialization carried out significant economic reforms in 1992. The government implemented a new economic policy in which the push of the reform, which was aimed from controlled to a market economy. (Tada, 2001) Along with that, introduced and increased ingenuousness by undertaking trade liberalization, removing trade barriers. (G. Haile & Assefa, 2006). In the middle of the 2000s, the country has experienced economic growth and has become one of the world's fastest-growing, non-oil producing economies. (Easterly, 2002). Despite this rapid growth, however, the structural

transformation of the economy remains the country's central challenge to get a handle for that obstacle the Ethiopian government has founded Industrial policies, and along with that, the government realized that without getting Foreign Direct Investment (FDI) it is unlikely to overcome that barrier. Since, the Foreign Direct Investment (FDI) is considered as one of the significant channels of technology transfer across borders since the inflow of FDI contains learning about new technology, materials, and production method. (Bodman & Le, 2013). As well, the FDI can accelerate growth in the ways of generating employment in the host countries, fulfilling the saving gap and huge investment demand and sharing knowledge and management skills through backward and forward linkage in the host country.

I addition to that a comprehensive industrial policy was then formulated in 2002/03. The industrial policy was more concreted into action by various sub-sector strategies and by the successive development plans such as Sustainable Development and Poverty Reduction Program (SDPRP) 2002/03-2004/05, the Plan of Action for Sustainable Development and Eradication of Poverty (PASDEP) 2005/06-2009/10(Gebreeyesus, 2016). The Growth and Transformation Plan (GTP) 2010/11-2014/15. The first development plan gave great emphasis to smallholder agriculture, while in the second and third ones was broadened to encompass urban and the industrial sector development. (T. Haile, 2015). Likewise, various policy instruments were introduced to support and guide industrial development following the start of the implementation of these policies. Between 2003/04 and 2010/11, the country has received a substantial amount of FDI; the GDP grew by about 10.6 percent annual average. Also, All the major sectors, including manufacturing, increased by more than 10 percent over this period. (Rodrik, 2016). If ongoing economic development and comprehensive industrial policy to be continued, the country might very well be on route to turning into Africa's manufacturing powerhouse.

The motivations behind study are: (1) Since the last century Ethiopia has received substantial amount of FDI, as far as we know, there is no past study that has analyzed the positive or negative the impact of FDI on Industrializing in Ethiopia. (2) Many previous researches has resulted that FDI is benefiting the industrialization through different channels. We will conduct our study to check if these results are also valid in Ethiopia. I believe that this study will give a new direction of studies to research the relationship between Foreign Direct Investment and Industrialization in Ethiopia.

The paper proceeds as follows. The following section discusses the literature review and literature about Ethiopia's industrialization journey, and then we present the methodology in the four sections, including the econometric method, data description. The empirical analysis and results are shown in the fifth section. Conclusion and policy recommendations remarks are offered in the final.

Literature Review

Industrialization set of economic and social procedures identified with the revelation of more efficient routes for the making of the significant worth of products. (Simandan, 2009). This that, for the most part, a piece of full modernization process through the advancement of new techniques for production and Technology. That implies manufacturing plant generation depends on centralization and motorization of activities by concentrating on large scale manufacturing. (Abdullah & Egbu, 2010). From the above definitions, there are three main elements, which are the backbone of industrialization, and without Foreign Direct Investment, it is unlikely to get them.

i.   Technology transfer, according to(Damooei & Tavakoli, 2006). In addition, FDI is a major source of technology transfer to the host country. Besides, the foreign direct investment (FDI) is considered as one of the significant channels of technology transfer across borders since the inflow of FDI contains learning about new technology, materials, and production methods. (Bodman & Le, 2013).

ii.   Manufacturing, after the host country gain technology, materials, and machinery through FDI. Conveniently, the host country can set up manufacturing system, which helps the country to change its raw material into valuable products.

iii. Productivity, FDI is shifter of productivity because of its dual role of a mover production efficiency and shifter production outskirts. (Chen, Chang, & Zhang, 1995).

In addition to that, numerous elements could forward the industrialization process. Some of them are socio-economic, financial, and political institutions are the most important.(Beji & Belhadj, 2014). combining all these elements with straightforward policy any host country can use Foreign Direct Investment as a tool which could help to become an industrialization country.

Moreover, some empirical studies find that FDI has a positive impact on Industrialization. For example, the research of (Yao & Wei, 2007). They are aimed at the impact of FDI in Newly Industrializing Economies. Panel data set was used and a GMM approach, the study found that FDI is helping production efficiency since FDI is the main channel of technology transfer and knowledge. As well as the study of (AGU & OKOLI, 2015) the study finds that the impact of foreign direct investment flow on the manufacturing firms in Nigeria. The time series data set was utilized, OLS, and VECM. The study found that FDI inflow, especially a long run, have a positive impact on manufacturing. On the other hand, other studies find that Foreign Direct Investment has no significant effect on Industrialization. For instance, the study by(Gui-Diby & Renard, 2015). The study examined the impact of FDI inflow and Industrialization in African countries. The data set utilized panel data and the method of analysis was FGLS. The result indicates that FDI has a negative impact on Industrialization. In a similar, the study of (Njangang, Chameni Nembua, & Nembot Ndeffo, 2018) investigated the relationship between Chinese foreign direct investment and Industrialization for 41 African countries. The data set employed was also panel data, and the method of analysis was GMM. The investigation was to discover that the Chinese FDI did not significantly affect the Industrialization process in African countries.

Ethiopia's Industrialization Journey
Ethiopia is an agrarian economy. It has enormous land and human labor. Thus, it has structured and has been rural lead industrialization since the last two and a half decades. (Zerihun, 2008).

Indeed, the nation understands that the industrialization assumes a vital for the country's economic developments where the manufacturing sector assumes a crucial role in the growth process. The country's industrial development had started in the mid-20th century. In the (1958-74), the imperial regime was carried out. Progressive medium-term plans were the most vital arrangement instruments for growing the industrial sector. (Oqubay & Tesfachew). In addition, the government established a system, which was intended to attain more foreign investment. After the implementation of those plans, the country gained more foreign investment. Also, the manufacturing sector increased. (Baum & Tolbert, 1985). The Degree regime (1974-1991) not only reversal the political direction of the nation; however,

additionally, economic strategy and procedure of the country. The government nationalized approximately 100 manufacturing companies. (Wubneh, 1994). Conversely, The government gave more priority for state-owned companies, and the led to found 273 medium and large companies which 65% more were owned by the government. (Chole, 2004). The Derg era, the economic performance of the country was prolonged and near to collapse due to the misguided economic policies and totalitarian political rule that leaded the period of stagnant in the Ethiopian economy.

After EPRDF come to power in 1991, it rectified the economic structure of the country and put into action set of principles to invigorate the private sector, free market, and mechanisms to attract Foreign Investment. (Fenta, 2014). Moreover, the government has introduced a strategy of industrialization called ADLI(Agriculture Development Led-Industrialization), which aims to give the first precedence to agriculture as to elevate the output, employment and the advancement of different areas of the economy. (Abdella & Ababa, 2002). Additionally, the government put into practice continuous advancement plans such as SDPRP(2002/03-2004/05), PASDEP (2005/06-2009/10) and GTP1(2010-2015) and GTP2(2015-2020). (Altenburg, 2010) and(GTP, 2015). All of these development plans have been to the path to achieving the industrialization dream of the country.

Figure 1. The annual rate of change in the shares of the manufacturing value added(% of GDP) in Ethiopia from 1992-2017.
Source: Author computation.

The Variables, Econometric Method, and Data
Our study mainly focused on the impact of Foreign direct investment on the Industrialization process in Ethiopia. Industrialization is our dependent variable, estimated by industry value added(% of GDP). The primary independent variable is a foreign direct investment (% of GDP) To guarantee that assessed outcomes are not one-sided by omitted variables, we incorporate five control variables in our study. Namely: Agriculture, Human capital, Employment, Level of income, and Infrastructure. Due to data limitation have affected the prospect to put in more variables in our study.

The Variables Dependent Variable

Industry Value Added as a percentage of GDP(IVA) The value added to the industrial sector is an accumulation of the value added to the subgroup which includes manufacturing, mining, oil & gas, water & sewerage, electricity, and construction According(Azarhoushang, Masoumy, Wu, & Paris, 2015). Furthermore, FDI has positive impacts on industrial value-added through technology spillover, management know-how, and increasing labor productivity. Also, in their studies (Iddrisu, Adam, & Halidu, 2015) and (Adegboye, Ojo, & Ogunrinola, 2016). Which has utilized the value-added industrial as an independent variable to measure the impact of FDI on industrialization? Due to that our study employed the industry value added(% of GDP) as a dependent variable.

Econometric Method

To investigate the impact on FDI on the industrialization process in Ethiopia, we follow (Gui-Diby & Renard, 2015) and (Nkoa, 2016) and we framed following an econometric model for Ethiopia as follow:

$$IVA_t = f(FDI, GDPg, AGRI, HC, EMPL, INFR) \qquad (1)$$
$$IVA_t = \beta_0 + \beta_1 FDI_t + \beta_2 GDPg_t + \beta_3 AGRI_t + \beta_4 HC_t + \beta_5 EMPL_t + \beta_6 INFR_t + \varepsilon_t \qquad (2)$$

Where: β1,β2,β3,β4,β5,β6. Are coefficient, while Ɛ is a random error term and t is period,
FDI inflow in Ethiopia is still considered as an essential key for the industrialization of the country. Many previous types of research have resulted that FDI is benefiting the productivity in the industrial sectors through different channels. Therefore, the study will employ FDI inflow as a percentage of GDP as an independent variable in our research to check the effects of FDI in the industrialization process of the country
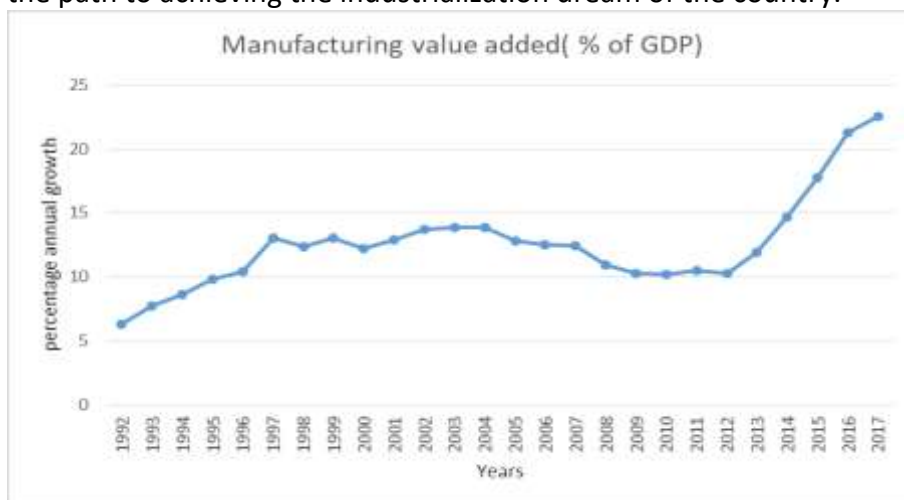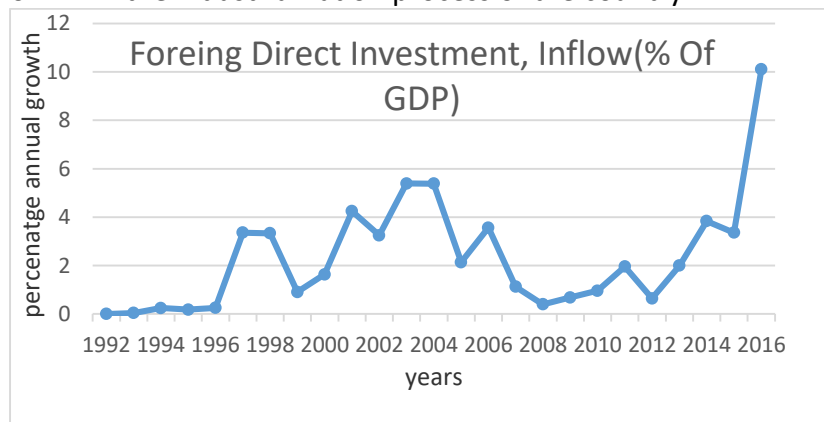

Figure 2. The annual rate of change in the shares of the Foreign Direct Investment (% of GDP) in Ethiopia from 1992-2017.
Source: Authors' computation

The level of income is vital for industrialization as different studies discussed, for instance, the study of (Kaya, 2010) and (Rowthorn & Ramaswamy, 1999). Have finds that this variable has a positive effect on industrialization. Our research employs GDP per capita growth(annual%) as a proxy for the level of income.

The Agriculture sector in Ethiopia is the establishment of the country economy and accounting for half of the GDP, 83.9% of exports and 80% employment (agriculture & transformation, 2014). Also, its backbone of the country's industrialization process. In addition to that,(Gui-Diby & Renard, 2015) and (Kang & Lee, 2011), have utilized in their studies, To analyze the impact of agriculture in the industrialization of the country, our research will employ Agriculture, forestry and fishing value added (annual % growth).
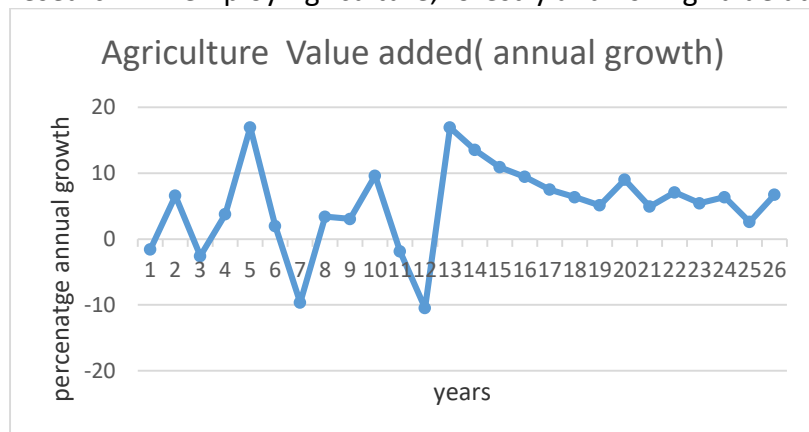

Figure 3. The annual rate of change in the shares of the Agriculture value added (Annual % growth) in Ethiopia from 1992-2017.
Source: Authors' computation

Human Capital is a measure of the skills, education, capacity, and attributes of labor, which influence their productive capacity and empowering them to understand their potential as productive members of society. (Lutz, Butz, & Samir, 2017) also that, Human capital has an impact on manufacturing employment because it gives the necessary skills required for manufacturing jobs. (Wood, 1995). Moreover, There are several ways that researchers use it to measure Human Capital like Income-Based Approach, Cost-Based Approach, and Output-Based Approach. We used the Output-Based Approach for this study due to data availability. Some economist endeavor to estimate the stock of human capital using school enrollment rates as a proxy of human capital. (Benhabib & Spiegel, 1994). for that reason, our study will utilize this as variable As proxy high school enrollment (% of gross).

Employment As stated by many researchers, the Industrialization leads to urbanization by creating job opportunities and considering the unemployment problem in Ethiopia and the potential positive impact that job creation can have on industrialization. According to the study of (Acevedo, 1990). Which founds that the industrialization process has a positive effect on employment creation of host countries. For that reason, our research will employ this variable of the employment industry (% of total employment)as an independent variable to check the industrialization Impact on job creation of the country.

The Infrastructure, the Basic infrastructure like roads, public transportation, telecommunication, and energy, is crucial for industrialization. (Le Blanc, 2015). Also, The main driver of industrialization is manufacturing, which generally needs energy efficiency and energy efficiency can attain by building energy infrastructure. As he mentioned his research by(Mesagan & Bello, 2018), one of the main barriers of Africa's industrialization is the lack of adequate energy. Therefore, to evaluate its effect on industrialization in the country, our

study will use this variable as a proxy of proxy electric production from hydroelectric source % of total)

Data

We derived the data of each variable used in this study from the World Development Indicators covering the period from 1992 to 2017

Variables	Variables definitions	Sources
IVA	Industry, value added (% of GDP)	World Bank(WDI)
FDI	Foreign direct investment, net inflow (% of GDP)	World Bank(WDI)
GDP.g	GDP per capita growth (annual%) (proxy level of income)	World Bank(WDI)
AGRI	Agriculture, forestry and fishing value added (annual % growth)	World Bank(WDI)
HC	Human Capital As proxy high school enrollment(%of gross)	World Bank(WDI)
EMPL	Employment in industry (% of total employment)	World Bank(WDI)
INFR	Infrastructure (proxy electric production from hydroelectric source % of total)	World Bank(WDI)

Empirical Results
Descriptive Statistics

Table 1

Variables	Mean	Std. Dev.	Min	Max	Kurtosis	Skewness
IVA	12.53633	3.611981	6.298477	22.53469	4.673681	1.160909
FDI	3.439384	5.953202	0.0016201	5.40257	17.60279	3.790804
HC	62.11238	27.40881	21.62279	101.9442	1.514011	.0284666
GDP.G	4.413735	5.579342	-11.90256	10.4081	4.205324	-1.360957
EMPL	5.40605	2.274596	2.184	9.53529	1.808247	.0407232
INFR	0 .95.46262	3.64546	87.26502	99.6941	2.508596	-.6725827
AGRI	5.048536	6.620198	-10.48489	16.96199	3.469839	-.5021844

Note: Normal skew: 0, Kurtosis: 3

The above table presents descriptive statistics for all the variables based on this table The average value of industry value added is around 12.55 while its a minimum value of is around 6.25   and its maximum is around 22.5. moreover, the normal portion of Foreign direct investment is around 3.4 percentage of GDP and the lowest FDI that the country received is around 0.005 percentage of GDP while the highest maximum FDI that country ever received is around 5.4 percentage of GDP.

Correlation Matrix
Table 2

Variables	IVA	FDI	HC	GDPg	EMPL	AGR	INFR
IVA	1.0000						
FDI	0.7900	1.0000					
HC	0.4841	0.3251	1.0000				
GDPg	0.2094	0.0187	0.4946	1.0000			
EMPL	0.6797	0.5011	0.9482	0.5210	1.0000		
AGRI	0.0315	-0.0798	0.2347	0.8245	0.2797	1.0000	
INFR	0.1967	0.4087	0.0357	0.1403	0.1977	0.1442	1.0000

The above table presents the correlation matrix between all the variables and shows that: Foreign Direct Investment inflow, Employment, and Human Capital are positively correlated with the level of Industrialization while The correlation between the level of Industrialization and the level of Agriculture shows to be feeble. Moreover, The correlation between the level of Industrialization and the level of Income and Infrastructure appears restrained.

Unit Root Test

Utilizing the Augmented Dicker - Fuller (ADF) test for a unit root, the stationary of each series was checked. The ADF results for the seven series associated with the equation are displayed in below Tables.

Table 3: Unit root test

Variables	ADF at level	P-value	ADF first Diffrence	P-value
IVA	-1.442954	0.5436	-2.376487	0.0198**
FDI	-2.156418	0.2260	-5.876726	0.0004***
HC	-3.300936	0.0891*	-2.457696	0.0164***
GDPg	-5.330880	0.0002***	-6.141609	0.0000***
EMPL	0.784334	0.9916	-3.347068	0.0238 ***
AGRI	-4.566547	0.0014***	-5.516370	0.0000***
INFR	-3.074664	0.0422***	-4.707287	0.0001***

Note: Decision rules on unit root testing; Reject the Null hypothesis when the p-value is less than or equal to 0.10 (10%) significance level or$\mid t_s \mid > \mid t_T \mid$. MaxLag=3

The outcome demonstrates that all variables exhibit integrated order one. That implies that all
that there is a probability to have a cointegrating vector whose coefficient can straightforwardly be interpreted as long-term equilibrium. In this manner, as the following stage, Johansen follows test is utilized to check whether we have a cointegration relationship among our Variables.

Johansen Co-integration Test Results

Co-integration test is utilized to decide if there is a long-term equilibrium relationship between variables. If there is a co-integration connection between variables at that point, the variable is a long- term equilibrium between change trend. From the above mentioned, we realize both might be a cointegration relationship, before cointegration, we ought to create the VECM model first to decide the optimal lag order number of the model.

Table 5: Lag Order Selection

LAG	LL	LR	DF	P	FPE	AIC	HQIC	SBIC
0	-380.809	NA	49	0.000	4.8e+06	35.2554	35.3372	35.60
1	265.385	230.85	49	0.000	14701.6	29.216	29.871	31.96
2	-85.0449	360.68	49	0.000	0.619572*	-17.276*	-18.503*	- 22.85*
3	4268.07	8706.2	49	0.000	NA	-374.5	-372.207	-336.5
4	4500.03	463.93	49	0.000	NA	-395.59	-393.295	-387.5

Table 6: The results of Co-integration Test results of Trace and Max statistic

Hy.co	Eigenvalue	Trace statistic		Max Eigenvalue statistic	
		T-statictic	Crit-value	T-statistics	Crit-value
None*	0.953094	219.0916	125.6154	73.43047	46.23142
Atmost 1 *	0.877084	145.6611	95.75366	50.31014	40.077
Atmost 2 *	0.845541	95.35098	69.81889	44.82783	33.87687
Atmost 3 *	0.677846	50.52316	47.85613	27.18541	27.58434
Atmost 4	0.443933	23.33774	29.79707	14.08481	21.13162
Atmost 5	0.309519	9.252929	15.49471	8.888787	14.26460
Atmost 6	0.015058	0.364141	3.841466	0.364141	3.841466

From the above results, the Johansen cointegration test demonstrates that under the state of the significance level of 5%. mark (trace) statistics of 219.5 < the critical value of 125.6, reject H0 = 0. On the other hand, the largest Eigen values (Max - Eigen) statistic is 73.4 > the critical value of 46.23, reject hypothesis H0 = 0.

The above table showed both Trace test, and Max-eigenvalue test indicates that there is at least three cointegration relationship, based on that there is a long-term cointegration relationship between the dependent variable and independent variables.

The long-run and short-run Relationships

The result of Johansen cointegration test shows that there is cointegration our variables for that reason we to conducted a vector error correction model(VECM) to know the long-run and short-run relationship between among our cointegrated variables.

TABL 7

Results of VECM for Long-Run model

Variables	Coefficients	Standard Error	T-statistics
IVA	1.000000		
FDI	-2.737772	(0.13219)	[-20.7107]
HC	0.135462	(0.01964)	[6.89661]
GDPg	0.372799	(0.03959)	[9.41633]
INFR	0.429111	(0.11096)	[3.86727]
AGRI	0.579972	(0.07738)	[7.49478]
EMPL	-1.101028	(0.27084)	[-4.06519]
C	-42.42845		

Note: Dependent Variable as IVA

From the above table illustrates that the long-run relationship between the Industry, value added (IVA), and other six independent variables. All significant at 1% level. In the long run, FDI has a positive impact and significant on IVA which means whenever one percentage increases the Foreign Direct Investment will cause to 2.7 percentage increase of Industry, value added (% of GDP).

Table 8
Result of short-run Dynamics
The below table consists of the output of the CointEq1 equation in the error correction model. The coefficient of the error correction term for the equation is negative, but it is not significant at a 5% significance level this reveals to that there is a sensible change towards the long-run state.

Error Correction	Coefficient	Standard Error	t-value	p-value
CointEq1	-0.143321	0.134645	1.064439	0.3040
D(IVA(-1))	0.188476	0.261549	0.720613	0.4822
D(FDI(-1))	0.411411	0.270803	1.519230	0.1495
D(HC(-1))	-0.136959	0.066089	-2.072346	0.0559**
D(GDPG(-1))	0.039529	0.088990	0.444193	0.6632
D(INFR(-1))	-0.111213	0.094109	-1.181745	0.2557
D(AGRI(-1))	1.167413	1.232968	0.946831	0.3587
D(EMPL(-1))	-0.017763	0.061667	-0.288050	0.7773
C	0.411364	0.439315	0.936375	0.3639

Note: Dependent Variable: IVA

According to above table the FDI has insignificant but positive in impact on IVA in the short run while HC is significant but negative impact on IVA in the short-run. The GDPg and AGRI have positive impact on but insignificant while both EMPL and INFR have neither significant nor positive impact on IVA in the short-run

Results of Forecast Error Variance Decomposition
Table 9
Variance Decomposition of IVA:

| Period	S.E.	IVA	FDI	HC	GDPG	INFR	AGRI	EMPL
1	1.468622	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	2.178214	98.45782	0.293527	0.395127	0.015382	0.712044	0.012880	0.113222
3	2.804449	95.84190	1.392942	0.912118	0.140683	1.492181	0.007834	0.212345
4	3.410496	93.09545	2.683648	1.432490	0.247812	2.256933	0.005300	0.278366
5	4.016961	90.66923	3.844108	1.914507	0.331920	2.925772	0.003877	0.310590
6	4.635083	88.68771	4.762331	2.358390	0.391587	3.477684	0.002959	0.319340
7	5.274041	87.13014	5.433996	2.772943	0.431795	3.915210	0.002311	0.313601
8	5.942838	85.92904	5.892914	3.166248	0.457760	4.252645	0.001828	0.299559
9	6.650810	85.01149	6.181755	3.543687	0.473590	4.506854	0.001461	0.281162
10	7.407771	84.31351	6.340231	3.907977	0.482324	4.693943	0.001178	0.260840

As we can see from the above table in the short run, in year three impulse or shock to IVA account to 95.84 percent variation of the fluctuation in IVA(own shock). Which means the shock in the IVA can cause 95.84 percent variation of the fluctuation to IVA. We can call own shock while a shock to FDI can cause to 1.3 percent of fluctuation in IVA. On the other hand, in the long run in the tenth year impulse or shock to IVA account to 84.31 percent variation of the fluctuation in IVA while a shock to FDI can cause 6.34 percent to IVA.

As shown by the table, the forecast error variance of FDI It has increased the significantly entire duration of the forecast. That means that the impact of FDI in the short-run is not too significant, but its impact increases in the long –run that implies the FDI has a significant impact on industrialization in Ethiopia in the long-run time.
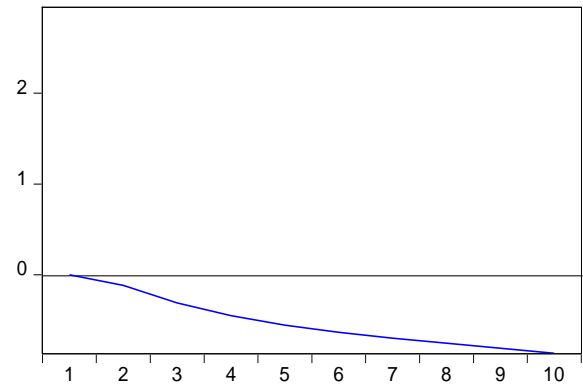
Impulse Response Function

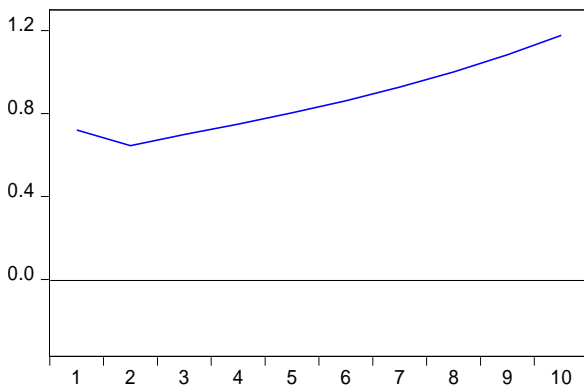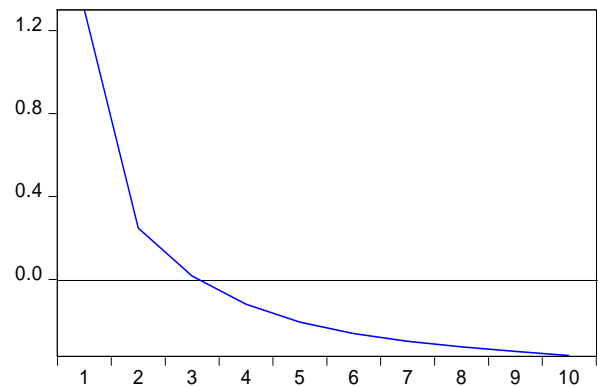Response to Cholesky One S.D. (d.f. adjusted) Innovations
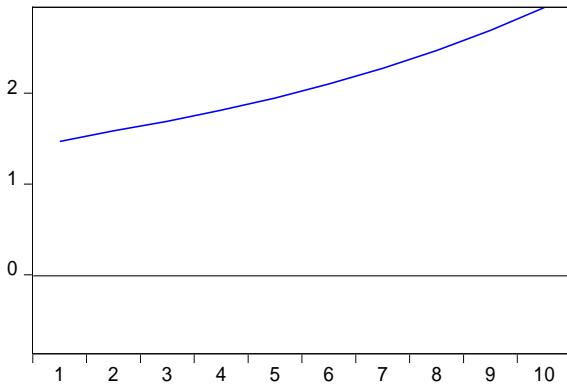
Impulse response function shows how responsive a dependent variable is to a shock in an independent variable

As we can see the above figure, a positive shock to IVA resulted in a positive response of IVA but a negative response to FDI. A positive shock from FDI resulted in a positive response to IVA, but a positive shock from FDI resulted in a negative response to FDI.

Summary, Conclusion and, Policy Recommendations
Summary

Our stud mainly focused on the impact of FDI on Industrialization in Ethiopia. It is oriented to investigate how FDI affects the Industrialization process of the country — also considering other effects and using econometrics and statistical approaches to find the real impact of FDI on Industrialization of the country. The unit root test shows that in the level the INFR, AGRI and, GDPg are stationary while in the first difference all variables are Stationary. The result of the Johansen cointegration test demonstrated that there exists a long-run equilibrium relationship between the variables. Furthermore, the outcome of VECM in the long-run relationship showed that In the long run, FDI has a positive impact and significant on IVA while the short analysis showed that the FDI has insignificant but positive in impact on IVA in the short run. finally, The variance decomposition result shows that all variables have a significant impact on industrialization in the long-run.

Conclusion

As our study and others have pointed out, foreign direct investment plays a vital role in industrialization, asset growth and, infrastructure development in any developing country. In an economy, foreign direct investment are evocative about the positive impact of industrialization which later leads to boost GDP and, economic growth in the country. This can also be demonstrated from the previously mentioned studies in the literature review. All achievements made in such manner should give specific attention to the economic, political and social circumstance of the nation. Furthermore, their must be prepared and investable opportunities so that the opportunities and benefits of investment can have a positive impact on the economy. Without this, every investment made will be unable to generate the desired results. Additionally, for a nation like, Ethiopia the government should focus on infrastructure development, staff training, encouraging entrepreneurs in the country, creation stable environment for economic and political opportunities, and ensuring appropriate policies for investors.

Policy Recommendations

The results of this study are likely to provide an opportunity to shape some policy implications.
Our results affirmed that the inflow of FDI in Ethiopia has positive impact on Industrialization.
Along with these results, we are suggesting the policymakers to endorse FDI by giving more incentive to foreign firms. Also, structuring other suitable arrangements, structuring, and strategies that would attract Foreign Investment. Furthermore, Based on the obtained results
other vital factors which play a crucial role for industrialization, namely Human capital, Infrastructure, Agriculture, Employment it should be given special attention and create a mechanism which links an industrialization process of the country.
Lastly, Since the possible advantage of FDI to the host county will be determined by how the Multinational enterprise (MNE) is transmitted technical knowledge, know-how and, working practices to the local firms which may occur what is known" FDI spillover ". the government must come up with a clear policy that guides the integration of foreign and domestic companies to acquire the benefits of the FDI and, enable technology transfer.

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