


FACTORS INFLUENCING FOREIGN DIRECT INVESTMENT INFLOW IN SOMALIA

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 28 November 2022</p> <p>Accepted 20 February 2023</p>	<p>Purposes: The last four decades, the value of foreign direct investment (FDI) inflow in Somalia has fluctuated between \$339,000,000 in 2016 and \$43,390,000 in 1970. Thus, this research investigated the factors influencing foreign direct investment (FDI) inflows in Somalia. Over the period from 1980-2017 and data are obtained from the World Bank.</p>
<p>Keywords:</p> <p>Factors; Foreign Direct Investment; Inflow.</p>	<p>Design/ Methodology/ approach: this study used The Vector Auto regression (VAR) model. The econometric methodology to be utilized includes the unit root test for used Augmented Dickey-Fuller (ADF), co-integration test, Johansen integration test and diagnostic test includes serial correlation, normality, heteroskedasticity and AR root test. Furthermore, they are also utilized for VAR Granger causality tests.</p>
	<p>Findings: The findings of this paper indicated unit root test showed that all variables except external debt are not stationary at the level but become stationary after first differencing at the 10% level of significant. The co-integration test indicates the relationships between variables are integrated. The Granger-causality test shows only one-way Granger-causality relationships from FDI to GDP, import and export variables or so-called unidirectional Granger causality. Moreover, impulse response function indicates results all variables are positive related in the short run and long run except for imports which is negative related with FDI. Although, GDP, imports and inflation are significant to FDI, but export and external debt are insignificant to FDI. Therefore, this research concludes that FDI influences economic growth in Somalia.</p>
	<p>Research limitations/ implications: Although this research has expended and evolved prior studied various respects, a comprehensive and systematic time-series study on FDI and its determinants in Somalia would involve more capitals than had been made available for this study. There are still a number of specific constrains to be noted on the investigating FDI and its determinants in this paper, some factors such as political and macroeconomic instability, human capital, infrastructure and corruptions are not considered owing to data availability. Moreover, it's recommended that future studies could improvement widely and update research in FDI.</p> <p>Doi: https://doi.org/10.26668/businessreview/2023.v8i2.514</p>

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FATORES QUE INFLUENCIAM O FLUXO DE INVESTIMENTO ESTRANGEIRO DIRETO NA SOMÁLIA

RESUMO

Propósitos: Nas últimas quatro décadas, o valor do fluxo de investimento estrangeiro direto (IDE) na Somália oscilou entre US\$ 339.000.000 em 2016 e US\$ 43.390.000 em 1970. Assim, esta pesquisa investigou os fatores que influenciam os fluxos de investimento estrangeiro direto (FDI) na Somália. Durante o período de 1980 a 2017 e os dados são obtidos do Banco Mundial.

Projeto/ Metodologia/ abordagem: este estudo utilizou o modelo Vector Auto regressão (VAR). A metodologia econométrica a ser utilizada inclui o teste de raiz unitária para Dickey-Fuller Aumentado (ADF) usado, teste de co-integração, teste de integração Johansen e teste de diagnóstico inclui correlação serial, normalidade, heteroscedasticidade e teste de raiz AR. Além disso, eles também são utilizados para testes de causalidade VAR Granger.

Descobertas: Os resultados deste trabalho indicaram que o teste de raiz da unidade mostrou que todas as variáveis, exceto a dívida externa, não são estacionárias no nível, mas se tornam estacionárias após diferirem pela primeira vez no nível de 10% de significante. O teste de co-integração indica que as relações entre as variáveis são integradas. O teste de causalidade Granger-causalidade mostra apenas relações de causalidade Granger-causalidade unidirecional do IDE ao PIB, variáveis de importação e exportação ou a chamada causalidade unidirecional Granger. Além disso, a função de resposta a impulso indica resultados que todas as variáveis estão relacionadas positivamente no curto e longo prazo, exceto as importações, que estão relacionadas negativamente com o IED. Embora o PIB, as importações e a inflação sejam significativos para o IDE, mas as exportações e a dívida externa são insignificantes para o IDE. Portanto, esta pesquisa conclui que o IDE influencia o crescimento econômico na Somália.

Limitações/ implicações da pesquisa: Embora esta pesquisa tenha gasto e evoluído previamente estudado vários aspectos, um estudo abrangente e sistemático de série temporal sobre o IDE e seus determinantes na Somália envolveria mais capitais do que os que foram disponibilizados para este estudo. Ainda há uma série de limitações específicas a serem observadas na pesquisa sobre o IDE e seus determinantes neste estudo, alguns fatores como instabilidade política e macroeconômica, capital humano, infra-estrutura e corrupções não são considerados devido à disponibilidade de dados. Além disso, recomenda-se que futuros estudos possam melhorar amplamente e atualizar a pesquisa em IED.

Palavras-chave: Fatores, Investimento Direto Estrangeiro, Influxo.

FACTORES QUE INFLUYEN EN LA ENTRADA DE INVERSIÓN EXTRANJERA DIRECTA EN SOMALIA

RESUMEN

Objetivos: En las últimas cuatro décadas, el valor de la entrada de inversión extranjera directa (IED) en Somalia ha fluctuado entre 339.000.000 de dólares en 2016 y 43.390.000 dólares en 1970. Por lo tanto, esta investigación investigó los factores que influyen en las entradas de inversión extranjera directa (IED) en Somalia. Durante el período comprendido entre 1980 y 2017 y los datos se obtienen del Banco Mundial.

Diseño/Metodología/Enfoque: En este estudio se utilizó el modelo de regresión automática vectorial (VAR). La metodología econométrica utilizada incluye la prueba de raíz unitaria de Dickey-Fuller aumentado (ADF), la prueba de cointegración, la prueba de integración de Johansen y la prueba de diagnóstico de correlación serial, normalidad, heteroscedasticidad y raíz AR. Además, también se utilizan para las pruebas de causalidad de Granger VAR.

Resultados: Los resultados de este trabajo indican que la prueba de raíz unitaria mostró que todas las variables, excepto la deuda externa, no son estacionarias en el nivel, pero se vuelven estacionarias después de la primera diferenciación en el nivel de significación del 10%. La prueba de cointegración indica que las relaciones entre las variables están integradas. La prueba de causalidad de Granger sólo muestra relaciones de causalidad de Granger unidireccionales de la IED al PIB y a las variables de importación y exportación, o la denominada causalidad de Granger unidireccional. Además, la función de respuesta al impulso indica que todas las variables están relacionadas positivamente a corto y largo plazo, excepto las importaciones, que están relacionadas negativamente con la IED. Aunque el PIB, las importaciones y la inflación son significativas para la IED, las exportaciones y la deuda externa son insignificantes para la IED. Por lo tanto, esta investigación concluye que la IED influye en el crecimiento económico de Somalia.

Limitaciones e implicaciones de la investigación: Aunque esta investigación ha gastado y evolucionado antes de estudiar varios aspectos, un estudio exhaustivo y sistemático de series temporales sobre la IED y sus determinantes en Somalia implicaría más capitales de los que se han puesto a disposición para este estudio. La

investigación de la IED y sus factores determinantes en este documento sigue presentando una serie de limitaciones específicas: algunos factores, como la inestabilidad política y macroeconómica, el capital humano, las infraestructuras y la corrupción, no se han tenido en cuenta debido a la disponibilidad de datos. Además, se recomienda que los futuros estudios mejoren ampliamente y actualicen la investigación sobre la IED.

Palabras clave: Factores, Inversión Extranjera Directa, Flujo de Entrada.

INTRODUCTION

Foreign direct investment (FDI) can bring many benefits to foreign investors, among which the most significant are savings in transport expenses (both inputs and finished products), reduced labor costs, accessible infrastructure, and savings in customs costs. Furthermore, contributions to imported goods; a closer position to clients, the chance of fast and efficient delivery with the accessibility of data; about preferences and possibility for rapid adaption of products following market requirements (Jovanovic and Gavrilovic, 2006)

Besides, FDI can be separated into three types: fund stocks, invested income and intra-company credits (UNCTAD Report, 2009). According to rights of ownership, at least 10 percent of normal or voting shares ownership is referring to as FDI, whereas smaller than 10 percent rights is recognized as an investment portfolio. It is significant to remember which almost three-quarters annual FDI inflows to Africa on average go primarily to 24 countries, which the World Bank classified as dependent on oil and minerals. Studies showed that Africa's biggest FDI recipients are the following countries (UNCTAD Report, 2009): Nigeria, South Africa, Morocco, Libya, Sudan, Equatorial Guinea, Egypt, Algeria, Tunisia and Madagascar. Africa's share of world FDI inflows stayed mostly below 3 percent despite being 5.88 percent in 1980.

Somalia is a nation located in East Africa with a land range of 637,657 square kilometers, and an approximately 15 million populations. The country geographically is diverse but have only one-ethnic group. Agriculture and livestock are the major contributors to the economy with other sectors such as fishing also making significant contributions.

However, the military government altered the structures and policies of the country, resulting in nationalization and governance of all major companies and industries. Nevertheless, all goods and services that facilities are possessed by private organizations (Argiolas et al., 2009).

The investment is a significant component in every business ecosystem, which is particularly true in a setting such as that in the Somali regions, controlled by micro-sized businesses in need of investment to develop and achieve economies of scale. A growing number

of external governments, companies and investors are looking at the areas of Somalia for advancement in the private sector, prospects investment and for scaling up their businesses. Although there are several prospective investors, the most committed and involved of these actors are Somali diaspora. These are societies actively forward to household, associates, and many in the Somali regions have been a lifeline. The World Bank estimates that in 2014, US\$1.3 billion from the global diaspora flowed into Somalia, representing 24 percent of GDP. Furthermore, diaspora capital contributes considerably to private sector investment in remittances, which mainly paid monthly household expenditures and gave their resources with close ties to family and friends; diaspora members often provide capital for micro-start-ups. Many new diasporas seek home path; a good business climate and a stable economic view would offer guarantees for people wanting to come back.

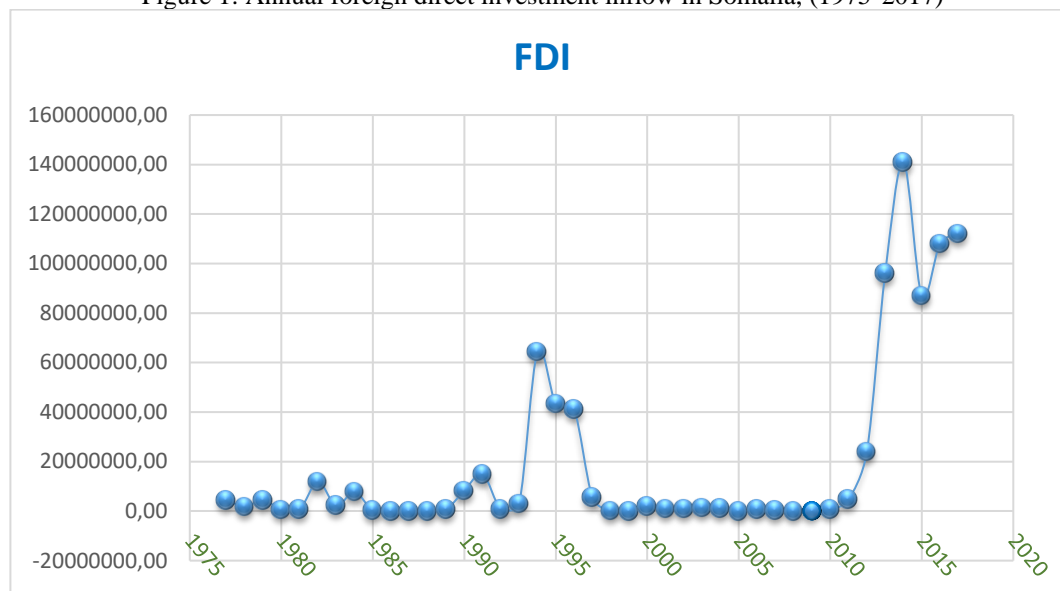
Despite many challenges, these vital movements of diaspora investments to the Somali economy continue to remain. The Somalia regions safety, financial, and political complications have taken a heavy toll on governing association's efficiency. Money transfer channels are therefore mainly informal, and hence concentrate focus on related issues such as corruption, the prospective terrorist financing, and laundering money. According to the World Bank report (2015), Somalis diaspora and non-diaspora need in addition to the international community, transparent and reliable investment channels that can be overcoming these issues and accomplish increasing companies in need of capital.

Somalia's FDI dropped marginally; the study stated that in recent years, Somalia reported a 7 percent investment inflow of US\$106 million compared to US\$107 in 2013. At the end of 2014, FDI balances amounted to US\$ 988 million, which represents 0.1 percent of the same period's Arab total (UN, 2014).

The FDI Markets database released in the economic times from January 2003 to May 2015 shows the following: 16 Arab and foreign investors are implementing 17 FDI projects in Somalia as regard Somalia's fresh FDIs (Greenfield or rural) operation. The total investment cost of these projects estimated at nearly US\$ 936 million, which employed approximately 1208 workforces. Arab and foreign investments entering to Somalia focused on the telecommunication sector with a 65.2 percentage, while the warehouse sector accounted for 21 percent. Most significant companies investing in Somalia Bolor Group went to the top of the list where, it implements a project with an investment price estimated at US\$197 million dollars (UNCATD, 2014).

The last four decades the value of Somalia FDI fluctuated between US\$339,000,000 in 2016 and US\$43,390,000 in 1970, but the recent foreign direct investment value, net inflows (Bop, current US\$) in Somalia was US\$339,000,000 (IMF, 1988).

Figure 1: Annual foreign direct investment inflow in Somalia, (1975-2017)



Source: combine by the author and data obtained World Bank

The FDI trends over the years are shown in figure 1 above. It indicates that between 1975 and 1990 FDI was relatively stable in the years; it increased between 1990 and 2000. Between 2000 and 2010, it was stable again in the year. FDI increased in Somalia after the year 2011.

Many factors can cause low FDI in Somalia: including reducing extra capital investment source and foreign saving may also result in reducing productivity advantage that contains job creation, related spillover effects, technology transfer, trade, proficiency growth, competitiveness and access to the overseas market. If Somalia's FDI increases, the above variables also will be increased. The purpose of this research is to investigate the factors influencing FDI inflow in Somalia.

LITERATURE REVIEW

Theoretical Review

Foreign investments are generally private foreign investments, and foreign aids. FDI and portfolio investments also recognized as a foreign private investment (Ilhan, 2007; Lamine, 2010). According to Organization for Economic Cooperation and Development (OECD) defines FDI as; returns creating a lasting interest by a resident enterprise in one economy (direct

investor) in an enterprise (direct investment enterprise) that is local in an economy other than that of the direct investor. The fixed interest suggests the presence of a long-term association between the direct financier and the direct investment creativity and an essential point of impact on the administration of the business. The direct or indirect rights of ownership at 10 percent or more of the voting authority of an enterprise local in one economy by a shareholder resident in another economy is proof of such an association (OECD, 2008, 48).

Constructed on the planned promotion of investment, FDI can be categorized as market seeking FDI, resource seeking FDI, efficiency seeking FDI and strategic asset seeking FDI (Kinyondo, 2012; Ilhan, 2007; Spatz, 2004). Moreover, there are horizontal, vertical, and differentiated FDI dependent on the scope of activity (Beugelsdijk & Zwinkels, 2008)

Established on investment approach, FDI can be undeveloped investment, brownfield investment, cross-border union and achievements, and shared risks (UNCTAD, 2013a; Esso, 2010; Kinyondo, 2012; Rajan, 2004; Solomon, 2008).

The modern concepts of FDI consist of; theory of product life cycle, the theory of monopolistic advantage, theory of internalization, and the eclectic paradigm theory (Solomon, 2008; Assefa, 2006; Patterson, et al., 2004; Dunning, 1993). Although, the eclectic paradigm suggestions overall context for clarifying international production. Dunning's model of ownership location and internalization (OLI) structure associations three benefits, which encourages FDI: Ownership advantage (O), Location advantage (L) and Internalization advantage (I) (Dunning, 1993; Dunning, 2000). It relates a macroeconomic theory of international trade (L) and a microeconomic theory of the firm (O&I).

Macroeconomics Foreign Direct Investment (FDI) Theories

Lipsey (2004) defines the macroeconomic point view as sighted FDI as a specific arrangement of the flow of capital across national borders, from home-based countries to host countries, calculated in the balance of payments statistics. These flows provide increase to a particular procedure of stocks of capital in host countries, namely the amount of home country investment in organizations, typically corporations, controlled by a home country owner, or in which a home country owner holds an individual share of voting rights. Lipsey (2004) additional describes that the variables of interest are the stream of financial capital, the value of the stock of money that is gathered by the investment firms and the flows of income from the investments. Macro-level factors that effect on a host country's capability to attract FDI include market size, economic growth rate, GDP, infrastructure, natural resources, institutional

factors such as the political stability of the country, amongst others and attention on this theory to my project.

Naveed et al. (2013) evaluated the association between FDI and GDP by using the ARDL method for the event of China; there are founds long and short-run relations. They similarly notice, " The research gap between theory and its application as empirically confirms the positive relationship between FDI and economic growth".

Empirical Review

Foreign Direct Investment (FDI) and Gross Domestic Product (GDP)

Jude and Leveuge (2013) purposed to test the influence of FDI on the growth by working on 94 developing countries (including five CIS countries: Armenia, Azerbaijan, Belarus, Kazakhstan and Ukraine) over the period 1984–2009 years. The findings confirmed that only FDI has no significant impact on economic growth.

Onyeagu and Okeiyika (2013) investigated the link between foreign direct investment, human capital and economic growth in Nigeria. They also examined the long-run sustainability of FDI-driven growth. The outcomes revealed FDI significantly and inversely influences growth in the long term.

Inekwe's (2013) explored that FDI in the servicing sector has an essential influence on economic growth. Nevertheless, FDI in the industrial sector has no significant effect on economic growth. In furthermore, FDI in the industrial sector has a significant impact on the employment rate, whereas FDI in the servicing industry has no significant impact on the employment rate. The research also proposes that for the beneficial effect on growth, the Nigerian Administration should entice more FDI inflows into the service sector.

Gursoy et al. (2013) inspected the influences of FDI on economic growth in Azerbaijan, Kyrgyz Republic, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan during the period 1997–2010 empirically. The Johansen cointegration and Granger causality tests were used to estimate the causal association between FDI and economic growth. The findings of the cointegration test stated that the variables of FDI and economic growth cointegrated for Azerbaijan and Turkmenistan. Employing the Granger Causality test, they establish that FDI generated GDP for Azerbaijan and that bidirectional causality is practical for Turkmenistan.

Al Khathlan (2014) evaluated the connection between FDI inflows and economic growth with employing Saudi Arabia from 1980 to 2010 years. Implemented by cointegration method, the research determined that FDI have a positive relationship in the long run but statistically insignificant through economic growth.

Islam (2014) examined with the effect of FDI on Bangladesh's economy from 1996 to 2010, using secondary data. He claims that foreign direct investment shows a key role in attaining anticipated with economic growth in Bangladesh. Their findings indicate a positive relationship between FDI, GDP, export and personal investment.

SidratulMuntah et, al. (2015) analysed the effect of Foreign Direct Investment on the economic growth of Pakistan. The results show a positive correlation between FDI and economic growth.

Agrawal (2015) explored FDI and economic growth in (BRICS) economies such as Brazil, Russia, India, China and South Africa. He concentrated on the panel-level assessment of cointegration and causality, which stated that the existing relationship between FDI and BRICS economic growth in the long run.

Sothan (2017) estimated the interaction between foreign direct investment and economic growth in Cambodia, from 1980 to 2014, using a vector error correction model (VECM). The experimental results demonstrate that the dominant unidirectional relations that run from foreign direct investment to economic growth in the long run. In contrast, in the short run there are no links between FDI and economic growth.

Foreign Direct Investment (FDI) and Inflation

Faiza et al. (2012) analysed with the effects on FDI attributable to the growth and inflation in Pakistan employing time series annual data between 1990 and 2011. FDI employed as dependent variable whereas GDP and inflation used as independent variables. The findings show that inflation and economic growth were positive related to FDI.

Sharafat (2014) investigated the relationship between FDI, inflation, service debt and literacy rate in Pakistan. Using the Johansen cointegration method during the period 1972-2013 and he find that unidirectional causality running from FDI, service debt, inflation and literacy rate to development has been verified in short run tests and inflation have long-term negative effects on Pakistan's economic growth.

Rahman (2015) examined the effect of FDI on economic growth in Bangladesh. The study used statistical analyses of the links between FDI and his impact on designated macroeconomic indicators such as inflation rate, GDP and trade balance. The research was worked multiple regression analyses to estimate the association between independent (FDI) and dependent variables (macroeconomic indicators). The outcomes indicated that a negative correlation between FDI and economic growth.

Foreign Direct Investment (FDI) and Exports

Nguyen and Sun (2012) studied the impact of FDI on exports, imports and net export of Vietnam using the gravity model for the period 1990-2007. They found evidence of significant spillovers from FDI (measured by the output share of foreign direct investment firms (FFs) in an industry) on local firm's export in the Vietnamese manufacturing area. Besides, they also reported that spillovers were heterogeneous and depend on firm characteristics.

Sakyi and Egyir (2017) explored the Bhagwati hypothesis for 45 African countries operating generalized method of moment (GMM) technique during the data 1990–2014. Their conclusion indicated that FDI inflows and trade (exports) have a significant effect on economic growth in these countries.

Ahmad, Draz, and Yang (2018) tested the relationship between FDI, exports and economic growth for ASEAN5 (Indonesia, Malaysia, the Philippines, Singapore and Thailand) economies. They utilized Johansen cointegration and Granger causality for the period of the exploration of 1981–2013. The research indicated that FDI and growth have bi-directional causality in the long run and there is a unidirectional causality from FDI to exports in the short run.

Foreign Direct Investment (FDI) and Import

Anwar and Nguyen (2011) applied gravity model to check the influence of FDI on exports, net exports and imports of Vietnam for panel dataset of its 19 key trading partners from 1990-2007. The complementary link between FDI and exports does expose, also among FDI and imports, correspondingly in the post-Asian financial crisis period; a significant positive correlation happens between net exports and FDI.

Ahmed et al. (2011) explored the impacts of openness in the Pakistan economy by seeing the trade and FDI linkages working annual data from 1972 to 2001. They discuss that increasing international trade (exports and imports) is not the only pointer of openness but also foreign direct investment. The outcomes indicated that there is a long-run relationship between FDI, exports and local output.

Yasin and Ramzan (2013) objected at investigation GDP growth, exports and imports below FDI impact in Pakistan from 1976-2010. The assumption generally focuses on FDI led trade surplus and economic growth. An Autoregressive Distributed Lag (ARDL) method worked to found that long run connection between FDI, exports, imports and GDP. The result presented no long run relationship among FDI with exports, imports and GDP.

Foreign Direct Investment (FDI) and External Debt

Michael and Sulaiman (2012) examined the impression of external debt on the level of economic growth and the capacity of investment in Nigeria over the years 1980 – 2008. The outcomes of their investigation show that there occurs a positive rapport between foreign debt, economic growth and investment. Their conclusions direct that external debt ratio of GDP motivates growth in the short - term; the private investments, which is a measure of real and touchable development demonstrations a drop.

Ostadi and Ashja (2014) explored the consequence of external debt service on FDI in development cooperation among eight developing countries applying panel regression model. The coefficients of external debt service and government size were publicized to be negative and significant a suggestion that external debt service and government size are central elements of FDI. On the other hand, the verdicts exposed the coefficient of government size to be negative and significant.

Hossein Ostadi and Samin Ashja (2014) examined the causality between external debts and FDI in D-8 member countries utilizing panel data. They find out that a significant negative relationship between external debt and FDI.

Abala (2014) estimated the association between economic growth and FDI in Kenya using OLS model. One of the investigation aims was to evaluate the bases of FDI in Kenya. The results showed the coefficients of external debt service and openness of the economy to be negative and insignificant. This means that external debt service and openness of the economy are not significant factors of FDI in Kenya.

DATA AND METHODOLOGY

The statistical technique in employed in this study is vector Auto- regression (VAR) econometric technique using a time series data covering the period from 1980 to 2017 has been used which were obtained from SESRIC and world Data include the annual series data on variables of export, imports, foreign direct investment, external debt, GDP and inflation rate and dependence model we use to determine effect or influence of all variables. Also, we use E views computer Software version 10 this model cited from Blonigen and Piger (2020).

Data and Measurement

FDI inflow: FDI inflow as dependent variable using data from Somalia reported by SESRIC from 1980 up to 2017.

Inflation: Inflation represents GDP deflator date obtained from trading economics from 1980 up to 2017. External debt: Total external debt in Somalia country by using date from 1980 up to 2017 the data obtaining from SESRIC. GDP: Goods and service producing in Somalia country by using date from 1980 up to 2017 the data obtaining from SESRIC. Export goods to outside of Somalia by using data from 1980 up to 2017 the data obtaining from SESRIC and imports an import is a good or service that is transported to another nation by using data from 1980 up to 2017 the data obtaining from SESRIC.

Model specification

$$FDI_t = \alpha_0 + \alpha_1 GDP_t + \alpha_2 INF_t + \alpha_3 EXP_t + \alpha_4 IMP_t + \alpha_5 EXD_t + \mu_t \quad (3.4)$$

FDI= foreign direct investment

GDP= gross domestic product

INF= inflation

EXP= export

IMP= import

EXD= external debt

The expected findings in literature review result shows Foreign Direct Investment, Gross Domestic Product, Exports and imports have positive relationship, and statistically significant, while inflation and external debt have negative relationship and statistically insignificant.

DATA ANALYSIS AND FINDINGS

Descriptive Statistics

In the following descriptive analysis shows the maximum, minimum and mean average. Mean value stands highest average and standard deviation. With the dependent variable, the descriptive results in Table 1 show that average of LFDI is (14.53551) unit, and its standard deviation is (2.533139) and the highest is (18.76427) unit. With the independent variables include GDP, export, import, inflation and external debt, GDP its average is (21.50189) unit, and its standard deviation is (2.533139) and the highest is (21.70589) unit. The average of export is (16.45166) unit and its standard deviation is (1.166295) and its highest is (18.61171) unit. The average of import is (17.88797) unit. And its standard deviation is (0.851556) and its highest is (19.33119) unit. The average of external debt is (2.31E+09) and its standard deviation is (7.92E+08) and its highest is (3.07E+09). The mean average of inflation is (8.323488), the standard deviation of inflation is (8.634149), and its highest is (42.00000). This study second

step is to examining unit root test by using the Augmented-Dickey-Fuller (ADF) and decided which method is suitable.

Table 1 Descriptive Statistics

	LFDI	LGDP	LEXPORT	LIMPORT	EXT_DET	INFLA
Mean	14.53551	21.50189	16.45166	17.88797	2.31E+09	8.323488
Median	14.34614	21.53335	15.95086	17.86084	2.62E+09	5.600000
Maximum	18.76427	21.70589	18.61171	19.33119	3.07E+09	42.00000
Minimum	9.210340	21.23609	14.96924	16.70310	4.01E+08	0.620000
Std. Dev.	2.533139	0.142374	1.166295	0.851556	7.92E+08	8.634149
Skewness	-0.055489	-0.308381	0.297636	0.156543	-1.166502	2.566721
Kurtosis	2.232470	1.878892	1.661229	1.624472	3.155649	9.354167
Jarque-Bera	1.027423	2.797019	3.667205	3.399754	9.339686	113.9931
Probability	0.598271	0.246965	0.159837	0.182706	0.009374	0.000000
Sum	595.9558	881.5776	674.5180	733.4069	9.48E+10	341.2630
Sum Sq. Dev.	256.6718	0.810817	54.40973	29.00587	2.51E+19	2981.941
Observations	41	41	41	41	41	41

Unit Root Tests

Table 2 summarizes the results of each variable's unit root test using ADF test. The result indicates that only variable (external debt) is a stationary, but rest of other variables are not a stationary at level series in either intercept or intercept and trend. Furthermore, all variables except (external debt) are not stationary at the level series or does have unit root among variables, and the null hypothesis (H_0) cannot rejected at the level of significance at 10%. Therefore, the analyses continued by performing the ADF test the first difference series.

At the first difference, for both in intercept or intercept and trend, all variables are stationary. This means that all the order 1built-in factors are I (1), Besides, the result also exposes that all variables are stationary at the rate 10% in significance level. Thus, the null hypothesis (H_0) can be rejected and conclude that all the time series factors are stationary, which similarly means that variables does not have any unit root.

Table 2: unit root test using Augmented Dickey–Fuller test (ADF)

Variables	Level		First difference	
	Intercept	Trend & intercept	Intercept	Trend & intercept
LFDI	-2.101968	-2.316766	-5.594014*	-5.540760*
LGDP	-1.912841	-1.856923	-5.885904*	-5.822877*
LEXPO	-1.412851	-2.360139	-5.350477*	-5.296731*
LIMPO	-1.633255	-2.674597	-4.263727*	-4.197113*
EXT_DEBT	-10.64789*	-3.638423*	-3.715470*	-3.943916*
INFLA	-0.846049	-2.970342	-5.464818*	-5.380126*

Johansen Cointegration Test

This research tests the factors that are I (1). Trace Statistic shows the p-values most are less than 0.05 significant levels, so, the null hypothesis can be refused, and this shows Cointegrating equations in the model. Table 4.5.1. and table 4.5.2 shows the cointegration test results based on the trace and Maximum Eigenvalue Statistic. Both the trace and the Maximum Eigenvalue test show that there are at most 4 cointegration equations in the model at 5% level of significance (four cointegration on trace and four cointegration on maximum eigenvalue) which means it indicate the long run equilibrium among the variables

Table 3.1 Johansen Cointegration test results based on the trace statistic

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.844903	182.0555	95.75366	0.0000
At most 1 *	0.730156	116.8259	69.81889	0.0000
At most 2 *	0.609852	70.97903	47.85613	0.0001
At most 3 *	0.486951	38.03603	29.79707	0.0045
At most 4	0.284286	14.67757	15.49471	0.0661
At most 5	0.081382	2.970973	3.841466	0.0848

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 3.2 Johansen cointegration test results based on the Max-Eigen statistic
 Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.844903	65.22957	40.07757	0.0000
At most 1 *	0.730156	45.84689	33.87687	0.0012
At most 2 *	0.609852	32.94300	27.58434	0.0093
At most 3 *	0.486951	23.35846	21.13162	0.0239
At most 4	0.284286	11.70660	14.26460	0.1222
At most 5	0.081382	2.970973	3.841466	0.0848

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Vector Autoregressive Model-Lag-lengths Criteria

We have to decide the order of the vector autoregression (VAR). The lag length criterion depends on the Akaike information criterion (AIC).

Table 4 Lag Length Selection from VAR estimates

VAR Lag Order Selection Criteria						
Endogenous variables: LFDI LGDP LEXPO LIMPO EXT_DEBT INFLA						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-221.0155	NA	0.012092	12.61197	12.87589	12.70409
1	-35.72543	298.5229	3.12e-06	4.318079	6.165518*	4.962885
2	15.98654	66.07640*	1.55e-06*	3.445192*	6.876150	4.642689*

* Indicates lag order selected by the criterion
 LR: sequential modified LR test statistic (each test at 5% level)
 FPE: Final prediction error
 AIC: Akaike information criterion
 SC: Schwarz information criterion
 HQ: Hannan-Quinn information criterion

Established on the result table 4.6 above, it shows AIC (3.445192) 2 lag.

Therefore, we choose 2 lags as the answer.

Diagnostic test

The Autocorrelation LM test

This test shows serial correlation when we estimate the equation in time series model.

Table 5 The Autocorrelation LM test

Lags	LM-Stat	Prob
1	79.54633	0.0000
2	43.15551	0.1920
3	39.13612	0.3309
4	23.91102	0.9387
5	43.12757	0.1928
6	18.97555	0.9912
7	34.37239	0.5461
8	25.92149	0.8926
9	25.15662	0.9121
10	32.14442	0.6526

10% level of significant

Hypothesis:

$H_0 = p > 0.1$ (no serial correlation)

$H_1 = p < 0.1$ (exist serial correlation)

The Investigation of whether exist serial correlation or not in the model, we refer AR (2) and AR (4). The results show AR (2) and AR (4) has no serial correlation. We can conclude that we reject H_0 for AR (2) and AR (4).

4.5.2 Normality tests

Normality tests

Table 6 Normality Test

Component	Jarque-Bera	Df	Prob.
1	6.752961	2	0.0342
2	1.968695	2	0.3737
3	0.850845	2	0.6535
4	0.305810	2	0.8582
5	1.155445	2	0.5612
6	2.024462	2	0.3634
Joint	13.05822	12	0.3648

Hypothesis:

H_0 : Normal Distribution, skewness and excess kurtosis are zero/residuals are multivariate normal.

H_1 : The distribution is not normal/ the residual are not multivariate normal.

Based on the normality test, the above table 4.8 shows the p-value is $0.3648 > 0.1$. We can be rejected H_0 in this model, and we conclude that this model has no normal distribution, skewness and excess kurtosis are zero or residual are multivariate normal.

Heteroskedasticity Test

VAR Residual Heteroskedasticity Tests: No Cross Terms (only levels and squares)

Table 7 Heteroskedasticity Test

Joint test:	Df	Prob.
Chi-sq	504	0.2112

10% level of significance

Hypothesis:

H_0 : $\alpha_1 = \alpha_2 = 0$ (No Heteroskedasticity /homoscedasticity)

H_1 : $\alpha_1 \neq \alpha_2 \neq 0$ (exist heteroskedasticity)

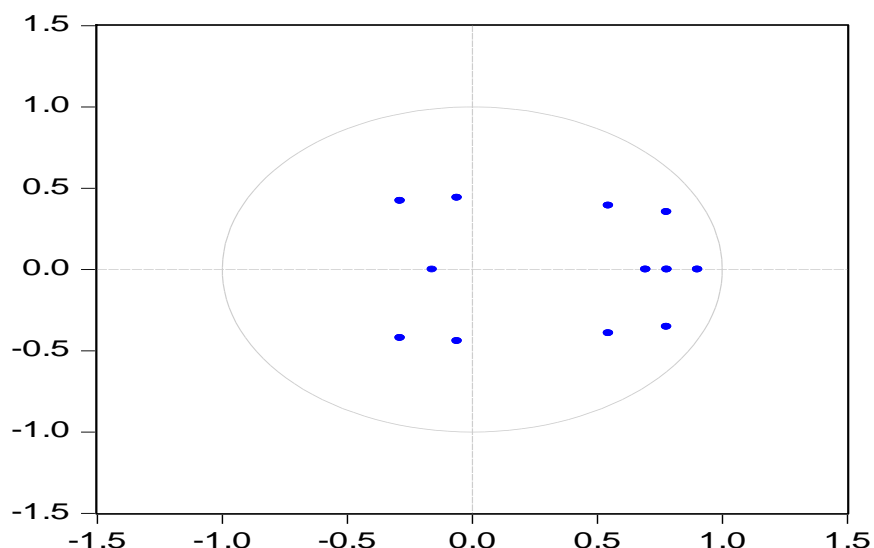
The result shows table 4.9 p-value $0.2112 > 0.1$, and we can reject H_0 . So, the model no heteroskedasticity problem or homoscedasticity in this model.

Auto-Regression tests

AR root test employed to observe the response to understand the model's stability. If the estimated ARMA method is stationary (covariance), inside the unit circle should lie the n of all AR roots. If the estimated ARMA procedure is invertible, the unit circle should lie inside all

MA roots. Based on the AR root figure 4.10 below shows that all the points are inside of the circle, and it means that model seems stable.

Figure 4.1 AR ROOTS
 Inverse Roots of AR Characteristic Polynomial



Granger causality tests

VAR Granger Causality/Block Exogeneity Wald Tests

Table 8 Dependent variable: LFDI

Dependent variable: LFDI

Excluded	Chi-sq	Df	Prob.
LGDP	10.41224	2	0.0055
LEXPO	3.401691	2	0.1825
LIMPO	4.732819	2	0.0938
EXT_DEB	3.778833	2	0.1512
INFLA	6.654064	2	0.0359
All	26.49062	10	0.0031

When LFDI is a dependent variable, we can reject H_0 for LGDP, LIMPO and INFLA because of the p-value (0.0055), (0.0938) and (0.0359) smaller than 0.1. We can conclude that LGDP, LIMPO and INFLA Granger-causality of LFDI mean that LGDP, LIMPO and INFLA can cause LFDI. Meanwhile, for the LEXPO, and EXT_DEBT, we cannot reject H_0 because of the p-values are bigger than 0.1, and it shows does not Granger-causality of LFDI.

CONCLUSION AND RECOMMENDATIONS

The last four decades, the value of a foreign direct investment in Somalia has fluctuated between \$339,000,000 and \$43,390,000, though there is an upsurge within the last three years between 2015 and 2018. Thus, this research examines the determinants of foreign direct investment in Somalia. Moreover, annual time series data was obtained for the research from the World Bank (WB) and the Statistical, Economic and Social Research for Islamic countries (SESRIC), covering period 1980 to 2017. The research also employed the vector auto-regression (VAR) model. The other econometrics techniques utilized in this research includes the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) Unit Root Test, cointegration test, and the Johansen cointegration test. Diagnostic tests such as autocorrelation LM tests, normality test, heteroskedasticity and AR model tests also conducted. In addition, the research has gone through the impulse response function, variance decomposition and Granger causality tests. The outcome of the unit root test indicates that no variables are stationary at the level but became stationary after first differencing at the 10% level of significance. This implies that factors are integrated of order 1 that is $I(1)$. After establishing the stationary of the factors in the first difference, the study proceeds with the cointegration test, which is sensitive to the lag length. Thus, the maximum lag selected is 2 lags in the selection process for lag length. The cointegration test result shows the relationship between variables are cointegrated. The diagnostic tests of autocorrelation LM-Test indicated no autocorrelation in the model and the normality-test, confirms the model has no abnormal distribution. Heteroskedasticity test result shows the model is homoskedasticity, while, AR root test figure demonstrates all the points are within the round, it confirmed that the model seemed to be stable.

Furthermore, the results of the Granger causality test, shows only one-way unidirectional Granger causality running from LFDI to all variables. Furthermore, impulse response function indicated that all the variables positively related in both SR and LR except LIMPO, which shared negative relationship with LFDI.

This study strongly recommended the Government of Somalia to encourage good policies in order to attract foreign direct investment. The research also suggests the implementation of good policies that can improve the financial institutions for proper management of both monetary and fiscal matters of Somalia. It also recommends the need of the government to strategize international trade flow, by providing necessary infrastructures that can lower the cost of doing business in Somalia. Finally, the research recommended future studies on FDI to improve and update current situation.

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