


## DETERMINANTS OF EXTERNAL DEBT: THE CASE OF SOMALIA



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### ABSTRACT

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Most emerging countries owe substantial external debt and depend on foreign aid to achieve sustainable economic development. However, this paper's key purpose is to examine the determinants of Somalia's external debt. To achieve this, the study used the autoregressive distributed lag (ARDL) model and cointegration test to establish the short- and long-run relationships during the period from 1980 to 2018. The results show that exchange rate and domestic investment have a significant and positive effect on external debt in the long run, while GDP per capita and government expenditure have a significant negative relationship with external debt; the result in the short run is consistent with the long-run result. The study recommends that the government of Somalia should also concentrate on the profitable sectors (e.g., livestock, fisheries and agriculture) with a view to improving the production and revenue base in order to minimize external debt, government expenditure and imports. Similarly, the expansion of a simpler tax base system and the removal of spending dependence on fiscal stability would boost fiscal balance. Many governments have disguised borrowing by those fiscal measures, which have expanded debt stocks. Foreign debt and aid dependence are not the best ways to ensure a healthy economy, so the Somali governments should start rethinking the allocation of foreign debt and policymakers could promote a strategy and policy to reduce high dependence on debt that has worked in the past.

**Contribution/Originality:** This study contributes to the existing literature by investigating the determinants of external debt in Somalia.

## 1. INTRODUCTION

External debt is perceived to be an important source of finance on which governments depend in order to meet public objectives. Foreign debt is one of the main sources of financing for the development of resources in developing countries, where it is appropriate for the governments to borrow to meet financial necessities in the cases of deficit in order to close the gap between saving and investment (Abd Rahman, Ismail, & Ridzuan, 2019). It has been the primary global problem, not only in the heavily indebted least developed economies, but also in emerging economies (Lau & Lee, 2016). The determinant factors that influence foreign debt in developing economies became a significant challenge for academics and policymakers. Present literature has identified both adverse global trends outside the influence of particular countries (e.g., the events of the 1970s and 1980s, such as rising interest rates, shocks in oil markets, recessions in developed countries and poor product prices) and domestic macroeconomic influences, such as fiscal irresponsibility, misalignment of exchange rates and measures that deter

saving (Lyoha, 2000; Osei, 1995). The consequences of unsustainable foreign debt plaguing the continent of Africa have been well documented. The economic effects of excessive indebtedness on output drew a pool of recommendations from both non-academic and academic spheres (Mensah, Aboagye, Abor, & Kyereboah-Coleman, 2017).

In African economies, crises of foreign debt and inherent fiscal deficit are major problems, especially in Sub-Saharan Africa, where the fiscal deficit is a prevalent phenomenon due to the high level of government expenditure. Long-term foreign debt is high and increasing in most African countries, with the median debt-to-GDP ratio growing over 38%. The upward trend in foreign debt ratios is largely driven by the end of the commodity super-cycle, export revenues and slow productivity growth. East African countries appear to face numerous downside threats that could threaten economic development and growth prospects. Another main factor is large current account deficits and associated rises in foreign debt. East Africa has numerous fragmented states, but mobilizing domestic capital is way below what's required to stimulate investment and development. Low domestic savings and high spending contribute to sustained fiscal deficits and rising debt (AfDB, 2019). Foreign debt was the largest of foreign capital inflows in East Africa in 2018 and the external debt reached \$102.25 billion by the end of 2017. The debt-to-GDP ratio for East African countries have risen from 40.1% in 2014 to 51.9% in 2018, respectively.

According to the World Development Indicators, external debt in Sub-Saharan Africa has risen by 50% over the last decade. In certain countries in the region, debt conditions have become untenable, demanding immediate actions, the extent and modalities of which depend on the precise diagnosis of the cause of debt distress. Over the period from 1980 to 1990, foreign indebtedness grew phenomenally in Somalia. The average debt-to-GDP in Somalia's economy was over 100% in the 2018. According to a World Bank report in 2015, the gross foreign debt of Somalia was projected to rise to about 128% of GDP by 2039. Moreover, according to the World Bank's Criminal Procedure and Investigations Act, Somalia's debt-carrying capacity is weak. Main threats affecting the outlook include instability, external financing and economy, further underlining the unsustainability of the existing debt load in Somalia. A rapid loan build-up pushed Somalia's economy close to a debt crisis, endangering the region's long-run economic stability. Most of the foreign debt was used to finance ambitious public investment programs. From 1960 until the late 1980s, a large part of the foreign debt was used to finance the military expenditure of the government (Somalia, 2018). Somalia's external public debt was US\$2.8 billion in 2017. The 27 creditors in Somalia are divided into three parts: non-Paris Club (13.4%), multilateral (32.8%) and Paris Club (53.8%). The country's top five largest creditors are Italy (13%), USA (22%), France (9%), the Intentional Monetary Fund (7%) and the World Bank (11%). As for external debt cancelation, so far, China has fully canceled all of Somalia's debt, while Saudi Arabia rescheduled about US\$106 million in 2016. The majority of the population of Somalia (67%) was born after the civil war, receiving little benefit from the US\$4.6 billion of foreign debt that was used for development projects and whose effect was not sustained due to disruptive armed conflict. Saddling current generations with these debts is unreasonable and even more troublesome as these debts restrict access to grants and concessional services. Most foreign creditors are aware the problems of the federal movement of Somalia and do not expect to collect payment on the current and past debt obligations until the external debt crisis in Somalia has been solved through debt relief processes (Somalia, 2018). Figure 1 presents the foreign debt inflow in Somalia between 1970 and 2017.

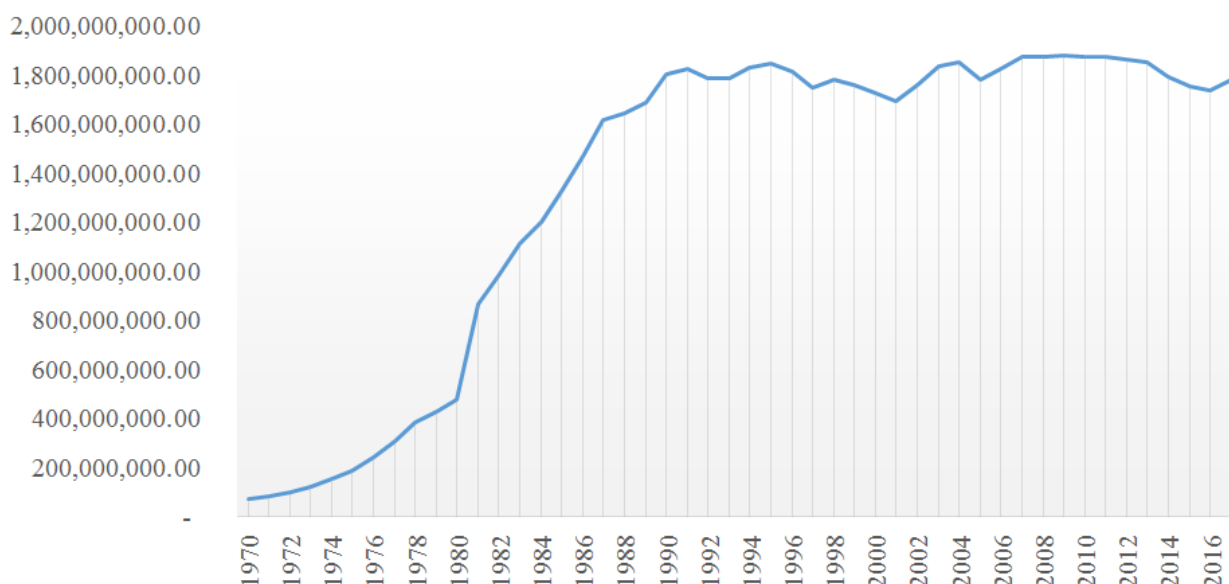


Figure-1. External Debt in Somalia (1970–2017).

The data reminds us that Somalia's economy is becoming more dependent on external debt. Somalia is one of the least developed economies that relies on foreign debt to correct economic disruptions and boost the welfare of society, but the growing dependence on foreign debt will lead to future difficulties in repaying debt, thus increasing the burden. This paper's key purpose is to examine the determinants of Somalia's foreign debt over period from 1980 to 2018.

The rest of the article is organized as follows: Section 2 contains the literature reviews in brief on examined factors to determine the external debt; Section 3 presents the methodology, model specifications and data; Section 4 is dedicated to the empirical analysis with discussions of methodological issues and study findings; and finally, Section 5 draws the study to a conclusion and offers recommendations.

## 2. LITERATURE REVIEW

The issue of external debt has been at the forefront of international discourse since the 1979 world oil crisis, which plunged several developing economies into a recession and previous extensive literature has been conducted the determinants of external debt. There has been a rise in academic interest in foreign debt in recent years, especially in developing economies. [Murwirapachena & Kapingura \(2015\)](#) suggested that an increase the foreign reserves of a nation could also help decrease its foreign debt. Low and unreliable foreign exchange reserves on the economic fronts will raise several other problems. Reducing imports and growing exports is one way that South Africa can raise foreign reserves. Some of the previous studies examined the macroeconomic determinants of foreign debts, such as [Al-Fawwaz \(2016\)](#), who confirmed that there is a negative, statistically significant, long-term GDP per capita. Similarly, [Awan, Anjum, & Rahim \(2015\)](#) introduced the macroeconomic determinants of foreign debt in Pakistan; the study found that when Pakistan's debt load rises, the trade openness, exchange rate and fiscal deficit are statistically significant determinants of foreign debt. [Yazdanfar \(2017\)](#) argued that short-term debt is linked positively to growth and size, and negatively to age, viability and liquidity. Long-term debt is positively related to growth in the tangibility of assets and negatively related to tax shields for scale, performance, liquidity and non-debt. [Bittencourt \(2015\)](#) stated that economic growth plays an important role in a region's foreign debt ratio and inflation. An interest ceiling is likely to be used as a debt liquidation tool that affects structural change, largely introduced after re-democratization, but is not expressed in the study carried out here as disparity does not affect the scale of the government. More recent studies found determinants of external debt, such as that of [Gokmenoglu & Rafik \(2018\)](#) who found that through increasing GDP the Malaysian government can afford to reduce external debt, which means that the government relies on GDP to repay foreign debt. Conversely, the amount of external

debt would be raised by an increase in capital. Controlling discretionary expenditure is also an optimal means of controlling foreign debt. Any decline in capital expenditure would also have an impact on economic development, which, in turn, may lead to a rise in external debt, specifically in relation to Africa. [Muhanji & Ojah \(2011\)](#) found that global commodity prices and world interest rate shocks impacted foreign debt in a sample of African economies. Interestingly, global commodity price shocks contributed to a rise in foreign debt, while world interest rate shocks tended to determine foreign debt. Another study that examined the determinants of Africa's foreign debt was that by [Mensah et al. \(2017\)](#) who reported that a growth rate in foreign debt has positive effects over a long period to unit shocks or adjustments in government expenditure and domestic borrowing. Growth rates of foreign debt were negatively affected in the medium term by shocks in inflation, tax income and growth rate demand.

Empirical evidence of the foreign debt determinants in Malaysia, studied by [Pyeman, Noor, Mohamad, & Yahya \(2014\)](#), stated that a policy for external debt management is important for a nation because moderate international loans could be harmful to the economic condition of the country. Similarly, [Greenidge, Drakes, & Craigwell \(2010\)](#) suggested that a policy for debt management should be introduced to boost the efficiency of the productive sectors. Higher growth of GDP would narrow the gap between investment and savings, thereby reducing the need for foreign debt and, by extension, lowering the rate of foreign debt growth. More specifically, a higher level of private production could contribute to higher export growth; the increase of foreign currency received would promote debt servicing. In the case of currency depreciation, an increase in exports will also help to contain the volume of foreign debt because acceleration threatens to lead a rise in foreign debt. [Buch & Lusinyan \(2003\)](#) investigated the short-term determinants of foreign debt; the report noted that there is no substantial difference between developing economies and markets in the determinants of lending by short-term banks. The level of economic growth and the share of bank loans have been shown to have a positive effect on the share of short-run debt, with OECD membership having a negative impact. The theme of external debt and its determinants have generated some debate in recent decades and drawn considerable attention in the financial sector. [Lourenco & Oliveira \(2017\)](#) examined the short-term determinants of foreign debt in private sectors in Portugal and their study confirmed that firms in the district of Santarém in Portugal have a high level of foreign debt, primarily short-term debt.

After the global financial crisis, the indebtedness of developing economies reached new highs in 2018 due to easy accessibility of foreign finance sources as well as highly favorable borrowing conditions. [Gamel & Van \(2018\)](#) found that debt relief increased domestic investment but did not affect foreign direct investment. The rise in domestic investment is in line with the hypothesis of debt overhang, which is promising because investment is essential to long-term growth. Human capital investment has been positively affected by the improved Heavily Indebted Poor Countries program and the Multilateral Debt Relief Initiative or external debt relief. After debt relief, the long-term adjusted net enrollment rate rose by about 20%. Debt relief had little effect on the rate of female employment but had a positive impact on the rate of male employment, especially in the long run. With higher GDP per capital growth rate and higher household demand, living standards have increased. [Sheng & Sukaj \(2021\)](#) stated that foreign debt shocks lead to a slow fall in the ratio of external debt to GDP, which is likely due to the availability of other forms of financing. However, there is a strong dependence on foreign debt financing in most emerging economies during recessionary periods. For economies with higher levels of foreign debt, shocks pose significant concerns regarding debt pressure in these countries on their paths to building resilience. Foreign debt shocks cause the foreign debt-to-GDP ratio to fall slowly; however, countries with higher levels of foreign debt raise serious problems due to foreign debt distress ([Sheng & Sukaj, 2021](#)).

The redistribution of world financial services market roles in favor of larger emerging economies and least developed economies. [Akhmadeev, Bykanova, & Turishcheva \(2018\)](#) noted severe problems that were linked to capital inflows and outflows in the BRICS countries (Brazil, Russia, India, China and South Africa) in post-crisis

periods. This is all attributed to developing economies' slow recoveries, a high risk of a full-scale debt crisis in European Union economies and mounting uncertainties in some countries after financial reform. Raising external debt as a significant means to finance fast economic development and importing innovations into the BRICS countries renders their financial markets more susceptible to exogenous pressures and shocks, leading to an irrational strengthening of national currencies. [Brafu-Insaidoo, Ahiakpor, Vera Ogeh, & William \(2019\)](#) found that a decrease in regulatory constraints on foreign borrowing, and between international and domestic interest rates, the performance of GDP and the deepening of financial resources lead, in both the long and short runs, to an increase in the short-run external debt. [Kregel \(2020\)](#) examined the link between foreign debt and monetary sovereignty. The study noted that modern monetary theory supporters also believe that monetary supremacy is possessed by a nation state that issues its own currency. However, the external restrictions encountered by most open economies, regardless of the adopted exchange rate regime, restrict monetary sovereignty. [Mijiyawa \(2020\)](#) found that exchange rate, economic growth and remittance inflows negatively and significantly affect the foreign debt-to-GDP ratio. The study also found that foreign debt is persistent; however, countries with stronger policies and institutions for access to external debt have been given greater priority. Furthermore, [Bellot, Selva, & Menéndez \(2017\)](#) found that higher or lower GDP per capita contributes to higher foreign debt and that regions with higher external debt-to-GDP ratios appear to see lower deficits in the future. The literature review covers empirical results regarding the determinants of external debt. These recent studies have provided various factors affecting external debt and confirms that there is still an open question. Therefore, this paper explores the determinants of Somalia's external debt.

### 3. RESEARCH METHODOLOGY

This paper used the autoregressive distributed lag (ARDL) structural break to empirically test the long and short run to determine Somalia's external debt from 1980 to 2018 and to examine the long-term with the error correction model to determine whether the variables have existing short-term relationships. This study employs and follows the existing framework determinants of foreign debt literature, such as [Bittencourt \(2015\)](#) and [Gokmenoglu & Rafik \(2018\)](#). Therefore, the basic specification of the model is presented as:

$$ED = \beta_0 + \beta_1 ER_t + \beta_2 X_t + \beta_3 GDP\_C_t + \beta_4 GE_t + \beta_5 DV_t + \varepsilon_t \quad (1)$$

Where ED is external debt, ER is exchange rate, GDP\_C is gross domestic product per capita, GE is government expenditure, DV is domestic investment and  $\varepsilon$  is the error term. The ARDL methodology includes the bound F-test for cointegration and the ARDL method is a technique involving two steps. To examine the long-term cointegration presence, [Equation 1](#) is re-arranged in the ARDL framework as an unrestricted error correction model (ECM) as per [Equation 2](#):

$$\begin{aligned} \Delta ED_{it} = & C_0 + \alpha_1 ED_{t-1} + \alpha_2 ER_{t-1} + \alpha_3 X_{t-1} + \alpha_4 GDP\_C_{t-1} + \alpha_5 GE_{t-1} + \alpha_6 DV_{t-1} + \sum_{i=1}^n \alpha_1 \Delta ED_{t-1} + \\ & \sum_{i=1}^n \alpha_2 \Delta ER_{t-1} + \sum_{i=1}^n \alpha_3 \Delta X_{t-1} + \sum_{i=1}^n \alpha_4 \Delta GDP\_C_{t-1} + \sum_{i=1}^n \alpha_5 \Delta GE_{t-1} + \sum_{i=1}^n \alpha_6 \Delta DV_{t-1} + \varepsilon_i \end{aligned} \quad (2)$$

Where delta ( $\Delta$ ) is the operator of the difference and represents the short-term dynamics. Long-term relationships along with the variables are measured by the parameters attached. The model for short-run error correction is used to determine short-run dynamics and to confirm the robustness of the long-run coefficient in [Equation 2](#). This is calculated as shown in [Equation 3](#):

$$\Delta ED_t = C_0 \sum_{i=1}^n \alpha_1 \Delta ED_t + C_0 \sum_{i=1}^n \alpha_2 \Delta ER_{t-1} + \sum_{i=1}^n \alpha_3 \Delta X_{t-1} + \sum_{i=1}^n \alpha_4 \Delta GDP\_C_{t-1} + \sum_{i=1}^n \alpha_5 \Delta GE_{t-1} + \sum_{i=1}^n \alpha_6 \Delta DV_{t-1} + ECM_{t-1} + \varepsilon_i$$

(3)

Where ED represents total external debt, ER is official exchange rate, X stands for export of goods and services, GDP\_C is GDP per capita, GE represents total government final consumption expenditure, while DV represents gross domestic investment.

Based on data from the annual time series for the 1980–2018 period, the current data are in US dollars and were obtained from the World Bank and United Nations Statistics Division. The study applied the ARDL structural break to the cointegration test to examine the long-term and error correction model to determine whether there is a relationship between the variables in the short term. Table 1 presents the data description of the variables.

Table 1. Data Description.

Variable	Measurement	Source
ED	Total external debt stock (DoD, current US\$)	The World Bank
ER	Real exchange rate (LCU per US\$, period average)	United Nations Statistics Division
X	Export of goods and services (current US\$)	United Nations Statistics Division
GDP_C	GDP per capita (current US\$)	United Nations Statistics Division
GE	General government final consumption expenditure (current US\$)	United Nations Statistics Division
DV	Gross domestic investment (current US\$)	United Nations Statistics Division

The level of use of International Monetary Fund (IMF) credit, long-term debt and short-term debt that is publicly guaranteed and unsecured is the total foreign debt. Short-term debt encompasses all debt with an initial maturity of one year or less and long-term debt arrears. The official exchange rate is the value of the currency of Somalia against the currency of the US dollar. Export is the total value of goods and services being exported to the rest of the world. This includes the value of freight, transport, insurance, merchandise and other services, such as construction and communication services. GDP per capital is a measure of economic output in a country that accounts for the number of people in a country. Government expenditure, including all existing expenditure on goods and services, is the final consumption expenditure of the general government. It also includes most expenditure at current prices on national security and defense. Gross capital formation consists of outlays to boost the economy's capital assets plus net changes to the inventory level.

The study was conducted using a quantitative analysis method. To examine the existence of a short- and long-run equilibrium relationship between all variables in the study, the ARDL test was carried out. This study used the structural break of the ARDL to test the cointegration approach to examine the long-run and error correction model to determine if short-run relationships between variables exist. Pesaran, Shin, & Smith (2001) introduced the ARDL cointegration testing approach, which shows that cointegration and the order of integration of the test variables provide greater insight. Gómez-Puig & Sosvilla-Rivero (2015) noted that the ARDL bounds testing approach does not require lag-length symmetry; each variable may have different lag lengths. We used the Phillips–Perron (PP) and augmented Dickey–Fuller (ADF) unit root tests in order to determine the stationary variables to avoid spurious effects, as the condition of the use of the ARDL technique is to integrate all variables at order zero or one.

#### 4. EMPIRICAL RESULT AND DISCUSSION

In this section, the findings obtained in the empirical analysis and discussion are presented. The analysis used the unit root test to assess the data stationarity, then we explored the empirical factors that determined the external debt in Somalia from 1980 to 2017.

##### 4.1. Unit Root Test

The study performed both Phillips–Perron and augmented Dickey–Fuller unit root tests to evaluate the integration level of each variable using trend and intercept unit root testing. One of the ARDL's basic assumptions is that the integration order should not exceed one. Pesaran et al. (2001) noted that if the order of integration is greater than one or at least II for each of the variables, then there is a critical bond. The results of the unit root tests are shown in Table 2.

Table 2. Unit Root Test Results.

Phillips–Perron (PP)							
Variable	Level		1 <sup>st</sup> Difference		2 <sup>nd</sup> Difference		Conclusion
	t-statistics	Prob. *	t-statistic	Prob. *	t-statistic	Prob. *	
ED	-5.617762	0.0002					I (0)
ER	-8.827718	0.0000					I (0)
X	-2.382364	0.3824	-9.258023	0.0000			I (0)
GDP_C	-1.930775	0.6190	-7.060695	0.0000			I (0)
GE	-2.342755	0.4021	-7.239349	0.0000			I (0)
DV	-2.180317	0.4864	-6.464053	0.0000			I (0)
Augmented Dickey–Fuller (ADF)							
ED	-2.233154	0.4582	-1.281354	0.8766	-4.436362	0.0062	I (2)
ER	-3.746005	0.0314					I (0)
X	-2.778255	0.2138	-5.485331	0.0004			I (1)
GDP_C	-2.047842	0.5572	-5.081079	0.0011			I (1)
GE	-3.079657	0.1259	-5.239520	0.0007			I (1)
DV	-2.223188	0.4638	-5.218380	0.0007			I (1)

The results show that the PP and ADF test variables are non-stationary at the level but become stationary when the first difference failed to reject the null hypotheses at the level. Most variables are integrated at the first difference at the 1% and 5% significant levels. Exchange rate, export of goods and services, GDP per capita, final consumption expenditure by the general government and gross domestic investment are stationary at the first difference, so all null hypotheses did not fail to reject for every test at first difference, while external debt is integrated at the second difference at 1%. Since the order of integration of the variables is a mixture of I(0), I(1) and I(2), the ARDL is the most appropriate technique for examining cointegration among variables.

##### 4.2. ARDL Long-Run and Short-Run Tests

To examine the existence of a short- or long-run relationship between all variables in the study, the ARDL test was performed. This method provides greater insight into the status of the cointegration and the order of integration of the test variables.

The ARDL model results (see Table 3) indicate that the exchange rate has a positive long-term relationship with foreign debt; this is consistent with theoretical expectations, meaning that the exchange rate contributes significantly to increasing the level of long-term foreign debt. This result is also consistent with the result of Staveley-O'Carroll and Staveley-O'Carroll (2018) who noted that in terms of exchange, the debt valuation channel ties movements to the actual value of the debt that is denominated in foreign currency. A negative relation was found between GDP per capita and foreign debt in long run, which indicates that GDP per capita leads to an

increase living standards, national income and savings, and will cause a decrease in external debt. A negative correlation between debt and GDP per capita is consistent with [Presbitero \(2006\)](#).

The main result of the study indicated that domestic investment is a significant factor that positively affects external debt in the long run. This implies that domestic investment may increase public investment which turns to government expenditure. An increase in the government's need to borrow to meet the financial requirements leads to an increase external debt; similar findings were reported in the study by [Chung \(2009\)](#). A negative relation was found between government expenditure and external debt in the long run. Similar findings were reported in the study by [Sezgin \(2004\)](#) who found that in the long term, there is a negative link between expenditure and foreign debt.

**Table-3. ARDL Long- and Short-Run Test Results**

<b>Long-Run Test of ARDL</b>				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-statistic</b>	<b>Prob. *</b>
ER	7761.737597	2521.064367	3.078754	0.0096***
X	1.128983	1.636287	0.689966	0.5033
GDP_C	-1910369.835551	772134.657150	-2.474141	0.0293**
GE	-14.725130	1.409722	-10.445411	0.0000***
DV	7.388688	0.613633	12.040884	0.0000***
<b>Short-Run Test of ARDL</b>				
D(ER)	16862.158812	7757.470016	2.173667	0.0505**
D(X)	3.579012	2.446065	1.463171	0.1691
D(GDP_C)	-1057844.427505	2093062.903118	0.000000	0.0000***
D(GE)	-2.227152	2.361386	-0.943154	0.3642
D(DV)	2.631177	0.900922	2.920538	0.0128**
ECT(-1)	-1.442620	0.297324	-4.852015	0.0004***

Note: \*\*\*, \*\* and \* indicate statistically significant levels at 1%, 5% and 10%, respectively.

The ARDL model result is the error correction to estimate the short run parameters with adjustment speed. The coefficient for the lagged term for error correction measures the adjustment speed. The short-run coefficients of the variables with a D indicate short-run elasticity. The coefficient ECM (-1) is (-1.44) but insignificant, which implies an adjustment of approximately 144% to the long-run equilibrium after one year. Exchange rate and domestic investment have a significant and positive short-term impact on external debt, whereas GDP per capita and government spending have a negative relationship with foreign debt, and the short-term outcome is consistent with the long-term outcome.

**Table 4. Cointegration and ARDL Diagnostic Test Results.**

<b>Cointegration</b>				
<b>No. of CE(s)</b>	<b>Eigenvalue</b>	<b>Trace Statistic</b>	<b>0.05 Critical Value</b>	<b>Prob.**</b>
None *	0.750825	129.5922	107.3466	0.0008
At most 1	0.604204	78.17710	79.34145	0.0610
At most 2	0.411357	43.88341	55.24578	0.3351
At most 3	0.337066	24.27578	35.01090	0.4273
At most 4	0.153956	9.065834	18.39771	0.5733
<b>ARDL Diagnostic Tests</b>				
<b>Test</b>	<b>Null hypothesis</b>			<b>Prob.**</b>
Breusch–Godfrey LM Test	No serial correlation			0.5918
ARCH	No heteroskedasticity			0.1537
Jarque–Bera (JB)	There is a normal distribution			0.029
Ramsey Test	There is not a problem			0.5538



#### 4.3. Cointegration and ARDL Diagnostic Tests

The cointegration test was conducted to examine the existence of a long-run equilibrium relationship among all variables in the study. The study applied the maximum eigenvalue and trace tests for all variables, considering the assumption of trend and intercept. Heteroskedasticity was tested using the ARCH test, serial correlation using the Breusch–Godfrey serial correlation and normality using the Jarque–Bera test. Table 4 presents the cointegration and ARDL diagnostic test results.

The Johansen cointegration test results confirmed that there is a cointegration relationship between variables at the 10% level of significance, which implies that there is a significant long-term impact on foreign debt. The results show that at the significance level of 5%, at least one cointegrating equation exists. The result of the diagnostic check indicates that the model is free from autocorrelation or heteroskedasticity, which means that the two measures at the 5% level are negligible. In addition, the Ramsey test and the test of normality show that they are right and that the distribution is normal.

## 5. CONCLUSION AND RECOMMENDATIONS

Most emerging countries need substantial foreign aid and external debt to achieve sustainable economic development. This paper analyzed Somalia's external debt determinants from 1980 to 2018. ARDL structural break is used in this paper to test the co-integration approach to examine the model of long run and error correction to determine whether short-run relationships between variables exist. This study employs and follows the existing framework determinants of foreign debt literature such as Bittencourt (2015) and Gokmenoglu and Rafik (2018). The results show that the exchange rate and domestic investment have a significant and positive effect on foreign debt in the short term, while GDP per capita and government expenditure have a significant negative impact on foreign debt, which is consistent with long-term results in the short term.

Regarding policy recommendation based on the results, it is clear that the Somali economy is becoming more dependent on foreign debt, which can lead to potential difficulties in repaying debt and increase vulnerability to debt crises. Somalia should concentrate on the profitable sectors (e.g., livestock, fisheries and agriculture) with a view to improving the production and revenue base in order to minimize external debt, government expenditure and imports. Similarly, the expansion of a simpler tax base system and the removal of spending dependence on fiscal stability would boost fiscal balance, as many governments have disguised borrowing by those fiscal measures, which have expanded debt stocks. Finally, foreign debt and aid dependence are not conducive to creating a stable economy, so it is recommended that the Somali government should rethink the allocation of foreign aid, and policymakers could introduce a strategy to reduce high dependence on debt that has been proven to work in the past, e.g., the reduction of Nigeria's debt during the Okonjo-Iweala reform as the minister of finance who saw Nigeria's debt liability massively reduced. This was achieved through the establishment of a debt management office (DMO) to manage the external debts of the countries. Therefore, before adopting policies, we need to realize the growth effects of foreign debt in Somalia.

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