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DRIVERS OF DOMESTIC REVENUE MOBILIZATION IN SOMALIA: EXPLORING THE ROLE OF EXTERNAL GRANTS AND PUBLIC EXPENDITURES

Abstract

The purpose of this paper is to examine the drivers of domestic revenue mobilization in Somalia by applying the autoregressive distributed lag model, where monthly data are used. The study assessed whether external grants reduce the incentive of the Somali fiscal authorities to mobilize domestic revenue and whether the operating expenditures significantly explain the domestic revenue mobilization effort more than other expenditures, including the expenditures on the social assistance benefits. The study found that external grants reduce the government's incentive to enhance domestic revenue in the short and long run, and the operational expenditures are more significant for the domestic revenue mobilization effort than other expenditures, including the social assistance benefits. The study also found that COVID-19 has a significant negative impact on domestic revenue, as the pandemic hit Somalia, domestic revenue dropped by 8% in 2020, falling to approximately USD 211.2 million from USD 230.3 million in 2019. This study does not recommend the reduction or termination of the external grants since it is a critical support for Somalia's state-building efforts. However, it recommends improvement in the quality of grant management procedures and urgent reconsideration of expenditure priorities by giving greater importance to development expenditures over recurrent expenditures.

Keywords

domestic revenue mobilization, grants, expenditures,
Somalia, COVID-19, autoregressive distributed lag

JEL Classification

H71, H72, H81

INTRODUCTION

The goal of a fiscal policy is broader than the previously narrow focus of macroeconomic stabilization, and it is becoming a necessity for governments to rely on fiscal systems as the core means to achieve fair wealth redistribution, inclusive growth, and continued success in the sustainable development goals (Addison et al., 2018). An effective fiscal policy, such as strengthened domestic revenue mobilization and prudent public expenditure management, creates resource space for governments to invest in major development programs (Vilaihan, 2019). As a result, the UN placed domestic resource mobilization at the center of the global pursuit of sustainable development (UN, 2015). Moreover, an effective fiscal policy creates a "social contract" between the government and its citizens and thus fosters trust, accountability, transparency, and service delivery (Ferreira & Guerrero, 2022).

Many developing economies implemented a series of tax policy and institutional reforms in response to the vital role of domestic resource mobilization for development, state-building, and democracy (Ruamps et al., 2020). This led to growing domestic revenue in most

low- and lower-middle-income countries over the past decades. A staggering USD 4.3 trillion in tax revenues were recorded in low- and middle-income countries in 2016, which was double the foreign and local private capital they received in the same year (Haldenwang & Laudage, 2019). For the past decade, the African continent has been working to enhance fiscal systems, with the average tax-to-GDP ratio of 33 of the continent's economies rising by 1.5 percentage points between 2010 and 2021 (OECD et al., 2023). However, the continent's revenue mobilization performance is still lower compared to the OECD and Latin America and Caribbean regions. The federal government of Somalia's fiscal strategy continues to prioritize domestic revenue mobilization, as domestic revenue has seen a remarkable increase, growing fourfold from US 69 million in 2013 to US 329 million in 2023. Despite significant growth, Somalia's domestic revenue is one of the lowest in Africa, particularly among East African economies.

While global discourse emphasizes the role of fiscal policy in achieving inclusive growth and sustainable development, many developing countries, including those in Africa, have implemented numerous fiscal reforms and achieved notable increases in domestic revenue. Somalia's fiscal system continues to underperform compared to the continental level. The federal government of Somalia implemented various reforms, yet the tax-to-GDP ratio remains critically low, less than three percent, against an African average of 15 percent. This raises many questions about the unique constraints facing Somalia's domestic revenue mobilization efforts and the role of external grants and government expenditure. The existing studies have largely focused on broad fiscal strategies and expenditure but have not sufficiently addressed how grants and expenditure practices impact domestic revenue mobilization in fragile and conflict-affected states like Somalia. Thus, there is a need for more focused research on the drivers of domestic revenue mobilization in Somalia, particularly the interplay between government expenditure, external grants, and the country's fiscal performance.

1. LITERATURE REVIEW AND HYPOTHESES

The drives of domestic revenue have been gaining a growing research interest in the past decades. However, the evidence from the literature suggests conflicting findings on the impact of grants. Some studies show that foreign aid granted during times of crisis and conflict positively affects tax performance (Diakite et al., 2019). Others found that foreign aid has a positive impact on economic growth when the policy environment is favorable to growth (Tsikata, 1998).

The nature of the aid-domestic revenue mobilization relationship is nonlinear, with the institutional environment being a moderating factor that may reverse the nature of aid impact on domestic revenue mobilization (Diakite et al., 2019). The role of the institutional environment in domestic revenue mobilization is emphasized by the findings of Ndoricimpa (2021), who reported that the tax reforms do not matter where the institutional environment is corrupt and tax exemptions are abusive. In the East Africa region, a positive relationship – which oc-

curs through policy advice and technical assistance – between aid and taxation has been reported in Ethiopia (Mascagni, 2016). However, in Comoros, Diaz-Sanchez et al. (2022) found a significant negative relationship between external grants and tax in the long run, underscoring that grants are a cheap source of financing and reduce the fiscal authority's incentive to expand their tax collection and reform capacity.

An IMF working paper also found that the composition of aid matters when investigating the aid-revenue relationship. The study finds that concessional loans promote domestic revenue, while grants are associated with lower domestic revenue (Aslam et al., 2022). Finally, an empirical study of the determinants of domestic revenue mobilization in the sub-Saharan Africa region by Addison and Levin (2012) found that foreign aid negatively affects the direct-tax-to-GDP ratio. On the impact of government expenditures on domestic revenue mobilization, Hlongwane et al. (2022) found that government expenditures encourage taxation in South Africa. Another study in Malaysia finds that higher government expenditures are associated with higher govern-

ment revenues (Ullah, 2016). An earlier study by Anderson et al. (1986) discovers hard evidence that prior government expenditures lead to increased taxes in the future.

Several studies and reports (van den Boogaard & Santoro, 2021; Isak, 2018; Raballand & Knebelmann, 2020; Scek, 2022) were conducted on the nature, challenges, and effectiveness of Somalia's domestic revenue mobilization. A fundamental challenge to Somalia's domestic revenue mobilization is the traditional reluctance of citizens to pay taxes (Raballand & Knebelmann, 2020) and the state's failure to deliver basic services (Isak, 2018) – a lack of “social contract.” The lack of economic opportunities, security, and informality in economic activities are all other environmental factors attributed to the weak domestic revenue mobilization in Somalia (van den Boogaard & Santoro, 2021; Raballand & Knebelmann, 2020; Scek, 2022). However, the lack of a social contract between the government and its citizens is arguably the fountain of all the other environmental challenges reported by the literature. For instance, informally generated revenues by the non-state authorities fill the service gap left by the government, and non-state taxing authorities (such as armed groups, elders, and other informal actors) are perceived as fairer and better service providers than the government (van den Boogaard & Santoro, 2021). Mullins et al. (2020) argued that raising revenue from domestic sources in developing economies to finance development needs strong political leadership.

The proposition that enhancing fiscal capacity, including domestic revenue mobilization, is central to achieving sustainable development and state-building has caught the attention of developing countries and donors (Moore, 2014), although domestic revenues play an important role in state-building capacity to fulfill citizen expectations and establish a solid social contract (Oppel et al., 2022). The prioritization of domestic revenue mobilization in developing countries is also a result of the huge financing gap for service delivery and declining donor support (Ndoricimpa, 2021). In that regard, evidence from both industrialized, developed nations and sub-Saharan Africa suggests that

a country's improved fiscal capacity leads to more democratic and less corrupt institutions (Baskaran & Bigsten, 2013). These study findings confirm the hypothesis that the revenue responds to prior government expenditures and not vice versa. This hypothesis, which is referred to as the spend-and-revenue hypothesis (Ullah, 2016), is centered on the notion that the government first determines how much to spend and then looks for revenues to finance the expenditure needs. This hypothesis is supported by Aisha and Khatoon (2022), who found that government expenditure granger causes the government revenue and not vice versa in a case study of Pakistan. Moreover, Gwaindepi (2021) found that the Latin American and Caribbean countries excel in revenue collection and maintaining revenue stability; however, the wealthier nations in sub-Saharan Africa outperform their Latin American and Caribbean counterparts.

From the literature review, it is clear that the drivers of domestic revenue mobilization have not been investigated in Somalia. Therefore, the aim is to determine the drivers of domestic revenue mobilization in Somalia by exploring the role of external grants and public expenditures. By identifying the factors driving domestic revenue mobilization, the study provides insight and policy recommendations for enhancing Somalia's capacity to generate domestic revenue. Based on the literature review (Ullah, 2016; Aisha & Khatoon, 2022), this paper tests the following hypotheses:

- H1: External grants reduce the incentive of Somali's fiscal efforts to mobilize domestic revenue.*
- H2: Operating expenditures have a more significant impact on domestic revenue mobilization efforts than other types of expenditures, including those on social assistance benefits.*

2. METHODOLOGY

This study applies the autoregressive distributed lag (ARDL) structural break to test cointegration to examine the long-run and error correction model to determine whether a short-run relation-

ship between the variables exists. The study is based on monthly data for the period between January 2015 and August 2023 obtained from the Central Bank of Somalia, Somalia National Bureau of Statistics, and the Ministry of Finance. This study tests two sets of models. The first set of models uses total domestic revenue as the dependent variable, while the second uses tax revenue as the predicted variable with two samples (Table 1). The main model of the study uses a full sample to test the impact of grants and government expenditures on domestic revenue in Somalia. However, due to a lack of data on control variables, namely, imports, exports, and inflation, the study employs a shorter subsample that starts from January 2018 to June 2023. Regarding the estimation model, this study uses an autoregressive distributed lag {ARDL (p, q)} model, which can be generalized as follows:

$$Y_t = \gamma_{0i} + \sum_{i=1}^p \delta_i Y_{t-i} + \sum_{i=0}^q \beta_i X_{t-i} + \varepsilon_{it}, \quad (1)$$

where Y_t is a dependent variable, X_t is a vector of independent variables, and ε_t is a vector of white noise error terms (serially uncorrelated and independent). The dependent variable in an ARDL model is a function of its lagged values and the current and the lagged values of exogenous variables, where lags for the dependent and independent variables are represented by p and q , respectively. One advantage of using the ARDL model is that it allows the estimation of the long-run relationship among the cointegrated variables. ARDL is also more efficient with small samples compared to vector autoregressive (VAR) model. This property is particularly important to this study since the second sample is relatively small. Finally, ARDL is very convenient to the variables mixed levels of integrations {I (0) and I (1)}. The model specification adopted in this study is a parsimonious model, focusing on the core explanatory variables identified in the existing literature on domestic revenue performance. Critically, these core sets of explanatory variables are particularly relevant given the peculiar characteristics of the Somali economy. From the foregoing discussion, the domestic revenue function takes the following form:

$$\begin{aligned} \Delta \ln DR_t = & C_0 + \alpha_1 \ln DR_{t-1} + \alpha_2 \ln GEXP_{t-1} \\ & + \alpha_3 \ln EG_{t-1} + \alpha_4 COVID19_t + \sum_{i=1}^n \alpha_i \Delta \ln DR_{t-1} \\ & + \sum_{i=1}^n \alpha_2 \Delta \ln GEXP_{t-1} + \sum_{i=1}^n \alpha_3 \Delta \ln EG_{t-1} \\ & + \sum_{i=1}^n \alpha_4 COVID19_{t-1} + \lambda ECM_{t-1} + \varepsilon_t, \end{aligned} \quad (2)$$

where DR is domestic revenue. $GEXP$ is government expenditure, EG is external grants, $COVID19$ is the COVID-19 pandemic, and error correction model (ECM) is the speed of adjustments toward long-run equilibrium, and ε is error term. The first set models, which are Equations (2) and (3), demonstrate empirical models that use the total domestic revenue as dependent variables. However, to identify the impact of trade indicators and inflation on Somalia's domestic revenue mobilization by making a slight modification, Equation (3) has a small size and adds trade indicators and inflation as control variables, so that Equation (2) can be restated as follows:

$$\begin{aligned} \Delta \ln DR_t = & C_0 + \alpha_1 \ln DR_{t-1} + \alpha_2 \ln GEXP_{t-1} \\ & + \alpha_3 \ln EG_{t-1} + \alpha_4 COVID19_t + \alpha_5 \ln IM_{t-1} \\ & + \alpha_6 \ln EX_{t-1} + \alpha_7 \ln INF_{t-1} + \sum_{i=1}^n \alpha_i \Delta \ln DR_{t-1} \\ & + \sum_{i=1}^n \alpha_2 \Delta \ln GEXP_{t-1} + \sum_{i=1}^n \alpha_3 \Delta \ln EG_{t-1} \\ & + \sum_{i=1}^n \alpha_4 COVID19_t + \sum_{i=1}^n \alpha_5 \Delta \ln IM_{t-1} \\ & + \sum_{i=1}^n \alpha_6 \Delta \ln EX_{t-1} + \sum_{i=1}^n \alpha_7 \Delta \ln INF_{t-1} \\ & + \lambda ECM_{t-1} + \varepsilon_t, \end{aligned} \quad (3)$$

where DR is domestic revenue. $GEXP$ is government expenditure, EG is external grants, $COVID19$ is the COVID-19 pandemic, IM is imports, EX is exports, INF is inflation rate, and ECM is the speed of adjustments toward long-run equilibrium, and ε is error term. The second set of models uses tax revenue as the dependent variable and breaks down government expenditures into three main categories: compensation expenditures, expenditures on goods and services, and other expenditures – a group of small expenditures. These

sets of models aimed to isolate the net impact of grants, various types of government expenditures, COVID-19, and other control variables on the tax effort by the federal government of Somalia.

$$\begin{aligned} \Delta \ln TR_t = & C_0 + \alpha_1 \ln TR_{t-1} \\ & + \alpha_2 \ln COMP_EXP_{t-1} + \alpha_3 \ln GS_EXP_{t-1} \\ & + \alpha_4 \ln O_EXP_{t-1} + \alpha_5 \ln EG_{t-1} + \alpha_6 COVID19_t \\ & + \sum_{i=1}^n \alpha_1 \Delta \ln TR_{t-1} + \sum_{i=1}^n \alpha_2 \Delta \ln COMP_EXP_{t-1} \quad (4) \\ & + \sum_{i=1}^n \alpha_3 \Delta \ln GS_EXP_{t-1} + \sum_{i=1}^n \alpha_4 GS_EXP_{t-1} \\ & + \sum_{i=1}^n \alpha_5 \Delta \ln EG_{t-1} + \sum_{i=1}^n \alpha_6 \Delta COVID19_{t-1} \\ & + \lambda ECM_{t-1} + \varepsilon_t, \end{aligned}$$

where *TR* is tax revenue. *COMP_EXP* is compensation expenditures, *GS_EXP* is the expenditures on goods and services, *O_EXP* is other expenditures, *EG* is external grants, *COVID19* is the COVID-19 pandemic, and *ECM* is the speed of adjustments toward long-run equilibrium, and ε is error term. Equation (4) is updated as follows to explain the effect of trade and inflation on the tax revenue of Somalia with other relevant control variable:

$$\begin{aligned} \Delta \ln TR_t = & C_0 + \alpha_1 \ln TR_{t-1} \\ & + \alpha_2 \ln COMP_EXP_{t-1} + \alpha_3 \ln GS_EXP_{t-1} \\ & + \alpha_4 \ln O_EXP_{t-1} + \alpha_5 \ln EG_{t-1} + \alpha_6 COVID19_t \\ & + \alpha_7 \ln IM_{t-1} + \alpha_8 \ln EX_{t-1} + \alpha_9 \ln INF_{t-1} \\ & + \sum_{i=1}^n \alpha_1 \Delta \ln TR_{t-1} + \sum_{i=1}^n \alpha_2 \Delta \ln COMP_EXP_{t-1} \\ & + \sum_{i=1}^n \alpha_3 \Delta \ln GS_EXP_{t-1} + \sum_{i=1}^n \alpha_4 GS_EXP_{t-1} \quad (5) \\ & + \sum_{i=1}^n \alpha_1 \Delta \ln TR_{t-1} + \sum_{i=1}^n \alpha_2 \Delta \ln COMP_EXP_{t-1} \\ & + \sum_{i=1}^n \alpha_3 \Delta \ln GS_EXP_{t-1} + \sum_{i=1}^n \alpha_4 GS_EXP_{t-1} \\ & + \sum_{i=1}^n \alpha_9 \Delta \ln INF_{t-1} + \lambda ECM_{t-1} + \varepsilon_t, \end{aligned}$$

where *TR* is tax revenue. *COMP_EXP* is compensation expenditures, *GS_EXP* is the expenditures on goods and services, *O_EXP* is other expenditures, *EG* is external grants, *COVID19* is COVID-19 pandemic, *IM* is imports, *EX* is exports, *INF* is inflation rate, and *ECM* represents the speed of adjustments toward long-run equilibrium, and ε is error term. Equations (4) and (5) are applicable to analyze the drives of

Table 1. Data description

Variable	Description	Measurement	Source
DR	Domestic revenue	The sum of tax and non-tax revenue	Ministry of Finance of Somalia
TR	Tax revenue	The tax revenue	Ministry of Finance of Somalia
GEXP	Government expenditure	The total government expenditure	Ministry of Finance of Somalia
EG	External grants	The total grants received by the government	Ministry of Finance of Somalia
COMP_EXP	Compensation expenditures	The total compensation expenditures	Ministry of Finance of Somalia
GS_EXP	Goods and services expenditure	The total spending on goods and services	Ministry of Finance of Somalia
O_EXP	Other expenditures	This variable is a collection of small expenditures	Ministry of Finance of Somalia
COVID19	COVID-19 pandemic	A dummy variable that is equal to 1 in the whole 2020, otherwise 0. 2020 was the most restrictive year due to the COVID-19 pandemic in Somalia	Created by the author
IM	Imports	The imports through the Mogadishu port and airport	The Central Bank of Somalia
EX	Export	The exports from the Mogadishu port and airport	The Central Bank of Somalia
INF	Inflation rates	The monthly inflation rates	Somali National Bureau of Statistics

tax revenue. The order of integration of the variables suggests that an ARDL model is appropriate. Therefore, the study sequentially estimates two different models. Model (1) is the baseline specification exploring the determinants of domestic revenue. Model (2) investigates the drivers of tax revenue to check whether baseline results are robust.

3. RESULTS

The study analyzes the drivers of domestic revenue by employing an ARDL model, which explores the long- and short-run relationship between the variables. The study has two sets of results presented for each model since two samples were considered in the study. The lagged values of the dependent variables are discussed in the results since the historical values of the domestic revenue or the tax revenue hardly have a predictive explanation of the future values. A similar approach was taken by Haq and Larsson (2016) and Hlongwane et al. (2022). To check for the stationarity of the variable time series, the study uses the unit test through augmented Dickey-Fuller (ADF) with trend and constant (Nkoro & Uko, 2016). When analyzing time series data, a unit root test is necessary since the presence of a unit root in the series can result in spurious regression results, which can be misleading. Since this study uses the ARDL model, testing for a unit root is critical to ensure that all the variables are $I(d)$, where $d < 2$. This is because the ARDL model cannot be used if one or more of the variables in consideration are integrated of order two $\{I(2)\}$.

Table 2. Unit root test: Full sample

Variables	ADF	
	T-Stat	Prob
At level		
lnDR	-3.188343	0.0927
lnTR	-8.941060	0.0000
LEG	-10.09514	0.0000
lnGEXP	-2.140689	0.5163
lnCOMP_EXP	-2.232336	0.4664
lnGS_EXP	-1.408801	0.8521
lnO_EXP	-10.66568	0.0000
At first difference		
ΔlnDR	-13.03979	0.0000
ΔlnTR	-13.05109	0.0000
ΔlnEG	-10.40193	0.0000

Variables	ADF	
	T-Stat	Prob
ΔlnGEXP	-5.418343	0.0001
ΔlnCOMP_EXP	-11.59311	0.0000
ΔlnGS_EXP	-13.09586	0.0000
ΔlnO_EXP	-9.532997	0.0000

Table 3. Unit root test: Shorter subsample

Variables	ADF	
	T-Stat	Prob
At level		
lnDR	-3.736887	0.0268
lnTR	-7.543874	0.0000
lnEG	-8.032492	0.0000
lnGEXP	-9.516131	0.0000
lnCOMP_EXP	-2.524345	0.3158
lnGS_EXP	-9.877720	0.0000
lnO_EXP	-9.108559	0.0000
lnIM	-6.352673	0.0000
lnEX	-5.828381	0.0000
INF	-3.698674	0.0294
At first difference		
ΔlnDR	-9.952891	0.0000
ΔlnTR	-14.92825	0.0001
ΔlnEG	-10.80481	0.0000
ΔlnGEXP	-4.138910	0.0100
ΔlnCOMP_EXP	-8.496835	0.0000
ΔlnGS_EXP	-14.29908	0.0000
ΔlnO_EXP	-7.790217	0.0000
ΔlnIM	-15.08282	0.0001
ΔlnLEX	7.646256	0.0000
ΔINF	-9.879413	0.0000

The test results are shown in Tables 2 and 3. None of the variables is $I(2)$ in both samples; this means that all variables are integrated at $I(1)$. Considering these results, the application of the ARDL model is right for this study. The optimal lag selection for the ARDL model is both science and art. As a result, the optimal lag structure is determined by estimating unrestricted VAR and using the Schwarz criterion (SC). SC is used because it is better than the Akaike information criterion in small samples that apply the ARDL model (Pesaran & Shin, 1999). However, if the selected lags result in an unfit or unstable model, the necessary adjustments will be made by running many regressions and selecting the one with the smallest information criterion, demonstrating stability, fit, and white noise errors. Testing for cointegration is necessary to determine the existence of a long-run relationship between the variables (Ari, 2021). In other words, the cointegration test helps one determine the ex-

istence of a long-run equilibrium among the variables and whether they converge over time, even if they are drifting apart in the short run. This study uses the bounds cointegration test to determine the existence of a long-run relationship among the underlying series in the four models. The null hypothesis of the bounds cointegration test is as follows:

H0: No long-run relationship exists.

H1: There exists a long-run relationship.

Rejecting the null hypothesis of the test means that there is a long-run relationship among the variables. In that case, the study estimates the ECM; otherwise, the short-run estimation of the model will suffice. Tables 4 and 5 show the results of the bounds cointegration tests.

Table 4. Bounds cointegration test: First set model

Bounds cointegration test for model (1)		
Test-st	Value	K
F-st	19.15786	2
Level of significant	Lower bound I(0)	Upper bound I(1)
10%	3.17	4.14
5%	3.79	4.85
2.50%	4.41	5.52
1%	5.15	6.36
Bounds cointegration test for model (2)		
Test-st	Value	K
F-st	5.39	5
Level of significant	Lower bound I(0)	Upper bound I(1)
10%	2.26	3.35
5%	2.62	3.79
2.50%	2.96	4.18
1%	3.41	4.68

Table 5. Bounds cointegration test: Second set model

Bounds cointegration test for model (1)		
Test-st	Value	k
F-st	7.09	4
Level of significant	Lower bound I(0)	Upper bound I(1)
10%	2.45	3.52
5%	2.86	4.01
2.50%	3.25	4.49
1%	3.74	5.06

Bounds cointegration test for model (1)		
Test-st	Value	K
F-st	4.96	7
Level of significant	Lower bound I(0)	Upper bound I(1)
10%	2.03	3.13
5%	2.32	3.5
2.50%	2.6	3.84
1%	2.96	4.26

Since the *F*-statistic values of all four models are bigger than the I1 bound of the critical value at a 5% significance level, the study rejects *H0* of all four bounds cointegration tests. This means that there is a long-run relationship between the variables.

Table 6 summarizes the long-run relationships among domestic revenue, government expenditure, external grants, COVID-19, imports, exports, and inflation. The result shows that government expenditure has a positive effect on domestic revenue in the long run. This implies that an increase in government expenditures increases domestic revenue; this indicates that the domestic revenue mobilization in Somalia positively responds to expenditure pressures exerted on the Somali government. These results are consistent with Aisha and Khatoon (2022), Hlongwane et al. (2022), and Ullah (2016), who found that government expenditure has a positive effect on domestic revenue in South Africa, Malaysia, and Pakistan, respectively. The ARDL results show that external grants have a negative relationship with domestic revenue in the long run, suggesting that an increase in external grants decreases domestic revenue. The result is consistent with the findings of Addison and Levin (2012), Aslam et al. (2022), and Diaz-Sanchez et al. (2022). The result also confirms the hypothesis that grants reduce the incentive for the government to enhance domestic revenue.

As expected, COVID-19 has a significant negative impact on domestic revenue. When the pandemic hit Somalia, domestic revenue dropped by 8% in 2020, falling to approximately USD 211.2 million from USD 230.3 million in 2019 due to COVID-19's negative economic impact, which weakened key sectors vital for government revenue and burdened nation-building projects and the overall economy. In the long run, imports positively affect domestic revenue since Somalia relies heav-

Table 6. Drivers of domestic revenue: First set model

Variables	Model (1)	Model (2)
lnGEXP	(0.6330) 0.0000***	(0.21924) 0.1764
lnEG	(-0.1678) 0.0001***	(-0.09492) 0.0800*
COVID-19	(-0.2237) 0.0119***	(-0.28622) 0.0014***
lnIM	-	(0.722567) 0.0001***
lnEX	-	(-0.01352) 0.8861
INF	-	(-0.07305) 0.0566*
Constant	(8.2665) 0.0000***	(1.367293) 0.6380
Model statistics		
R-sq.	0.767054	0.840
Adj. R-sq.	0.747015	0.752
Durbin-Watson stat	2.064	1.818
Diagnostic tests		
Serial-Corr	0.2207	0.1871
Hetero.	0.0781	0.6325
Normality	0.8369	0.0752
CUSUM	Stable	Stable
CUSUM-Sq.	Stable	Stable

Note: (*) significant at 10%; (**) significant at 5%; (***) significant at 1%.

ily on customs revenue from international trade. Customs revenue, which constitutes 30-50% of Somalia's total tax income, increased as imports rose. In 2022, taxes on international trade reached USD 115 million, making up 56% of domestic revenue. As found by Gaalya et al. (2017), trade openness positively influences tax revenue. The long-run coefficient of inflation has a significant and negative effect on domestic revenue. This implies that higher inflation can cause slowing economic activities that lead to lower tax revenue. This result is consistent with Nalyanya et al. (2020) who also found that inflation negatively influenced tax revenue performance in Kenya.

The result of the diagnostic tests of the study of all models indicates that there is no serial correlation and heteroskedasticity and that there is a normal distribution (probability chi-square value is statistically insignificant). Moreover, the study tested the dynamic stability of the models using the cumulative sum of recursive residuals (CUSUM) and cumulative sum of recursive residual squares (CUSUMQ), showing that all models are stable.

The empirical results for the relationship between government expenditure and domestic revenue are positive in both the long and short run, thus suggesting that the increase in government expenditure raises domestic revenue in both the long and short run. This supports the spending-tax hypothesis, whereby the government raises revenues for pre-planned or prior expenditures. The ARDL results show that external grants and COVID-19 have a negative relationship with domestic revenue in the short run, and the result is constant with long-run findings (Table 7). The short-run results indicate that imports have a positive effect on domestic revenue. In fact, the imports are the most significant variable that explains the variation in the domestic revenue. These findings are understandable, given Somalia's reliance on customs revenue. Finally, inflation negatively affects domestic revenue both in the long and short run. The coefficient of the error correction term is negative and statistically significant, which implies that any disequilibrium in the past months can be adjusted with a higher speed of 77% to long-run equilibrium.

Table 7. ARDL short-run estimates

Variables	Model (1)	Model (2)
$\Delta \ln GEXP$	(0.3306) 0.0000***	(0.220909) 0.0005***
$\Delta \ln GEXP(-1)$	(-0.0560) 0.2332	(-0.01479) 0.7794
$\Delta \ln GEXP(-2)$	–	(-0.04745) 0.3443
$\Delta \ln EG$	(-0.0493) 0.0099***	(-0.04789) 0.0272***
$\Delta \ln EG(-1)$	(0.0366) 0.0589*	(0.02131) 0.3037
$\Delta \ln EG(-2)$	–	(0.000706) 0.9686
$\Delta \text{COVID-19}$	(-0.1652) 0.0133***	(-0.22077) 0.0023***
$\Delta \ln IM$	–	(0.636852) 0.0001***
$\Delta \ln IM(-1)$	–	(-0.06464) 0.6233
$\Delta \ln IM(-2)$	–	(-0.0777) 0.5247
$\Delta \ln EX$	–	(-0.0184) 0.6442
$\Delta \ln EX(-1)$	–	(0.001426) 0.9743
$\Delta \ln EX(-2)$	–	(0.014475) 0.7439
ΔINF	–	(-0.05047) 0.0403***
$\Delta INF(1)$	–	(-0.00795) 0.7552
$\Delta INF(-2)$	–	(0.022193) 0.3390
CointEq (-1)	(-0.7383) 0.0000***	(-0.77133) 0.0000***

Note: (*) significant at 10%; (**) significant at 5%; (***) significant at 1%.

Based on the second model, the result (Table 8) confirmed that external grants have a negative effect on tax revenue. The outcomes support the previous model and the hypothesis that external grants reduce the government's incentive to mobilize domestic revenue. However, all three main government expenditures, such as compensation, goods and services, and other expenditures, positively impact tax revenue; this result is in line with the previous model and findings. It supports the spending-tax hypothesis, whereby the government raises revenues for pre-planned or prior expenditures. The imports, as was the case in the previous model, are positively associated with tax revenue. The exports do not have

any significance for the tax revenue because of their small size relative to the imports. Inflation negatively affects tax revenue; this result is in line with the previous model and findings. The ARDL results show that COVID-19 has a negative relationship with tax revenue. In 2020, tax revenues showed a 10% decline, largely due to losses caused by COVID-19 to the government's revenue-generating sectors. The result of the diagnostic tests of the second set model indicates that there is no serial correlation and heteroskedasticity and that there is a normal distribution (probability chi-square value is statistically insignificant). Moreover, the dynamic stability of the model shows that the model is stable.

Table 8. Determinants of tax revenue: Second set model

Variables	Model (1)	Model (2)
lnEG	(-0.113)	(-0.04836)
	0.0241***	0.2316
lnCOMP_EXP	(0.2081)	(0.023707)
	0.0188***	0.772
lnGS_EXP	(0.4830)	(0.255253)
	0.0177***	0.0015***
lnO_EXP	(0.1140)	(0.1048)
	0.1149	0.0717*
lnEX	(-0.0444)	(-0.04956)
	0.7968	0.5875
lnIM	-	(0.19193)
		0.3383
INF	-	(0.052033)
		0.0566*
COVID-19	(-0.0444)	(-0.17477)
	0.7968	0.002***
Constant	(5.3009)	(15.31594)
	0.0588**	0.0001***
Model statistics		
R-sq.	0.784	0.88
Adj. R-sq.	0.762	0.62
Durbin-Watson stat	2.04	2.56
Diagnostic tests		
Serial-Corr	0.52	0.06
Hetero.	0.71	0.46
Normality	0.4003	0.9579
CUSUM	Stable	Stable
CUSUM-Sq.	Stable	Stable

Note: (*) significant at 10%; (**) significant at 5%; (***) significant at 1%.

The short-run results (Table 9) indicate that external grants have a negative impact on tax revenue. Likewise, the external grants negatively affect the tax revenue in the long run. However, compensation expenditures, expenditures on goods and services, and other expenditures have a positive impact on tax revenue both in the long and short run. As was the case in the previous model, the imports have a positive impact on tax revenue. The exports have a positive relationship with tax revenue in the short run. The inflation rate negatively affects the tax revenue, which is in conformity with the findings from the previous model. As before, COVID-19 has a negative impact on tax revenue in the short run. The coefficient of the error correction term (ECMt-1) is negative and statistically significant, along with a high coefficient,

which implies that any disequilibrium in the past months can be adjusted with a higher speed of 128% to long-run equilibrium.

The results consistently show that external grants have a negative impact on total domestic revenue and tax revenue; this supports the hypothesis that External grants reduce the incentive of Somali's fiscal efforts to mobilize domestic revenue, improve tax policies, and enhance its legitimacy as a taxing authority.

The empirical results for the relationship between government expenditure and domestic revenue are positive in both the long and short run. This supports the conclusion that operational expenditures are more significant for domestic revenue

Table 9. ARDL short-run estimates

Variables	Model (1)	Model (2)
$\Delta \ln TR(-1)$	(-0.6112) 0.0000***	-
$\Delta \ln TR(-2)$	(-0.3501) 0.0001**	-
$\Delta \ln EG$	(-0.0377) 0.0158***	(-0.0990) 0.0017***
$\Delta \ln EG(-1)$	-	(0.0087) 0.6940
$\Delta \ln EG(-2)$	-	(-0.0098) 0.6592
$\Delta \ln EG(-3)$	-	(-0.0272) 0.2544
$\Delta \ln COMP_EXP$	(0.0688) 0.0485***	(-0.0756) 0.1883
$\Delta \ln COMP_EXP(-1)$	-	(0.1319) 0.0746***
$\Delta \ln COMP_EXP(-2)$	-	(-0.0893) 0.1837
$\Delta \ln COMP_EXP(-3)$	-	(0.0689) 0.1837
$\Delta \ln COMP_EXP(-4)$	-	(-0.1279) 0.0291***
$\Delta \ln COMP_EXP(-5)$	-	(-0.1196) 0.0291***
$\Delta \ln GS_EXP$	(0.0787) 0.0043***	(0.1035) 0.0348***
$\Delta \ln GS_EXP(-1)$	-	(-0.0427) 0.3275
$\Delta \ln GS_EXP(-2)$	-	(-0.0718) 0.0617***
$\Delta \ln GS_EXP(-3)$	-	(-0.0688) 0.1353
$\Delta \ln LO_EXP$	(0.0377) 0.1554	(0.1687) 0.0048***
$\Delta \ln O_EXP(-1)$	-	(-0.0232) 0.4448
$\Delta \ln O_EXP(-2)$	-	(0.0491) 0.1771
$\Delta \ln O_EXP(-3)$	-	(0.0665) 0.0884*
$\Delta \ln IM$	-	(0.6458) 0.0008***
$\Delta \ln IM(-1)$	-	(0.3560) 0.0892*
$\Delta \ln IM(-2)$	-	(0.1328) 0.4957
$\Delta \ln IM(-3)$	-	(-0.0095) 0.9527
$\Delta \ln IM(-4)$	-	(0.2593) 0.1238
$\Delta \ln EX$	-	(-0.0561) 0.2397
$\Delta \ln EX(-1)$	-	(-0.1241) 0.0500***

Table 9 (cont.). ARDL short-run estimates

Variables	Model (1)	Model (2)
$\Delta \ln EX(-2)$	–	(0.1915) 0.0101***
$\Delta \ln EX(-3)$	–	(0.0241) 0.7605
ΔINF	–	(0.0246) 0.4102
$\Delta INF(-1)$	–	(-0.0499) 0.0950*
$\Delta INF(-2)$	–	(-0.0023) 0.9382
$\Delta INF(-3)$	–	(0.0682) 0.0592*
$\Delta INF(-4)$	–	(-0.0043) 0.8947
$\Delta INF(-5)$	–	(-0.0247) 0.3532
$\Delta COVID19$	(-0.0147) 0.7972	(-0.2245) 0.0089***
CointEq (-1)	(-0.3308) 0.0008***	(-1.2846) 0.0000***

Note: (*) significant at 10%; (**) significant at 5%; (***) significant at 1%.

mobilization efforts than other types of expenditures. Additionally, it emphasizes the spending-tax hypothesis, whereby the government raises revenue for pre-planned or prior expenditures.

4. DISCUSSION

This paper investigated the determinants of domestic revenue mobilization in Somalia by exploring the role of external grants and public expenditures. The results consistently show that external grants have a negative impact on domestic and tax revenue; this result is in line with the previous findings by Addison and Levin (2012), Aslam et al. (2022), and Diaz-Sanchez et al. (2022), who found that the foreign aid is negatively associated with the local revenue. This supports the hypothesis that external grants reduce the government's incentive to mobilize domestic revenue, improve tax policies, and enhance its legitimacy as a taxing authority.

The negative association between external grants and domestic revenue mobilization in Somalia has economic, political, and cultural aspects. On the economic side, limited development plans and sufficient external grants have created a small fi-

ancing gap that discourages domestic revenue mobilization. The reliance on grants has reduced the incentive for fiscal reforms and raising tax awareness, as grants have become substitutes for additional domestic revenue. On the political front, having a development program and following through on the development pledges is not a condition for political legitimacy in Somalia, and economic and development agendas play a little role in political elections. This leaves successive administrations with the option to limit the financing gaps to levels that grants only can meet without additional domestic revenue mobilization effort. As a result, the reliability and/or the continuity of the development-financing mechanisms becomes irrelevant, making the domestic revenue and grants perfect substitutes. Additionally, a longstanding reliance on foreign aid has fostered a culture where grants are seen as the primary source of development funding, leading society to expect services without paying taxes. This tendency, combined with the historic reluctance of the Somali public to pay taxes (Raballand & Knebelmann, 2020), makes the grants cheaper and easier to raise than mobilizing the revenue. This culture makes grants a politically safer option for financing development than local resources. As a result, authorities avoid the challenging process of

institutional reform and raising social awareness, relying instead on grants to fund limited development agendas without facing public demands for accountability and transparency. Mascagni (2016) reported that aid-tax substitution does not exist in Ethiopia due to the national spirit of independence and bigger development plans of the state that grants alone cannot finance. They argued that the availability of grants makes the development programs more viable and realistic, prompting the government to focus on raising domestic revenue to realize them and creating complementarity between aid and domestic revenue. This argument supports the substitution effect proposed by this study in the case of Somalia.

The empirical results for the relationship between government expenditure and domestic revenue are positive in both the long and short run. This result is consistent with Aisha and Khatoon (2022), Hlongwane et al. (2022), and Ullah (2016), who found that government expenditure has a positive effect on domestic revenue in South Africa, Malaysia, and Pakistan, respectively. The compen-

sation expenditures and expenditures on goods and services are also positively associated with domestic revenue. This supports the spending-tax hypothesis, whereby the government raises revenues for pre-planned or prior expenditures. The positive significance of government expenditures for domestic revenue can be attributed to two things. First, most of the personal income tax comes from the compensations of the federal civil servants. Except for a few large businesses, the government does not tax private-sector employees. However, most businesses that pay taxes in Somalia are government contractors providing goods and services. As government spending on compensation and consumption increases, so does domestic revenue. Additionally, higher expenditures pressure the government to raise more revenue to meet its obligations. It is important to note that most government spending goes toward operational rather than developmental costs. While this spending boosts domestic revenue, it does not strengthen the social contract because it does not fund public goods or services. Social assistance benefits account for less than 1% of GDP.

CONCLUSION

This paper aimed to investigate the drivers of domestic revenue mobilization in Somalia over the period between January 2015 and August 2023 by applying the ARDL model to find a cointegration relationship between variables and short-run dynamics. The study found that external grants reduce the government's incentive to enhance domestic revenue in the short and long run. It also found that the operational expenditures, namely, the compensations and expenditures on goods and services, explain and are more significant for the domestic revenue mobilization effort than other small expenditures, including the social assistance benefits. This supports the hypothesis that the government is so focused on itself that it cannot spare any resources for service delivery.

External grants are crucial for the Somali government's institutional recovery and development. However, there is a risk that they may reduce the government's incentive to enhance domestic revenue mobilization efforts. Rather than ending grants to the Somali government, this paper recommends focusing on improving the quality of grants and the projects they support, restructuring government expenditures, and broadening the tax base. The paper's key recommendation is to condition grants and end budget support for operational costs. These grants often cover recurrent expenses and may diminish the government's incentive to improve domestic revenue. To address this, project financing should be structured to maintain the government's motivation to mobilize domestic revenues. This can be achieved by limiting grant contributions to each project and requiring the government and public to co-finance projects. This approach will drive fiscal reform, ensure funds are directed to projects benefiting the public, and strengthen the social contract and trust between the government and taxpayers.

The government should redirect its spending to enhance service delivery, support the private sector, and build public trust. Currently, spending is mainly on compensation, while generating personal income

tax reduces resources available for development programs that could strengthen public trust and the social contract. In addition, the government should diversify its revenue sources to reduce reliance on import taxation, which is vulnerable to global trade shocks. Strengthening tax administration is essential, including improving collection efficiency, enhancing taxpayer services, and enforcing anti-evasion measures. Expanding the tax base, which is among the lowest in sub-Saharan Africa, and implementing reforms such as introducing property taxes or taxing informal businesses will help increase revenue.

AUTHOR CONTRIBUTIONS

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