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The Impact of Tax Revenue on Economic Growth in Somalia

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Abstract
The study used a simple endogenous growth model to analyze the impact of tax revenue on economic growth in Somalia. The study used a classical linear regression model based on the OLS estimation method to establish the nature and strength of relationship between taxation and economic growth. Pre-estimation tests were carried out to determine heteroskasdicity, correlation, multicollinearity and normality of the variables. The results revealed overall significance of the explanatory variables in explaining GDP. In view of these findings, the coefficient of determination showed that 49.3 percent of the variation in GDP is explained by income and corporate taxes, international trade taxes and domestic indirect taxes. The findings further revealed that the coefficient of domestic indirect taxes was negative and influencing the economic growth in Somalia. The implications of this is that policy makers should focus more on income and corporate taxes and international trade taxes so as to generate more revenue by improving the tax collection system, eliminating fraud, evasion and corruption
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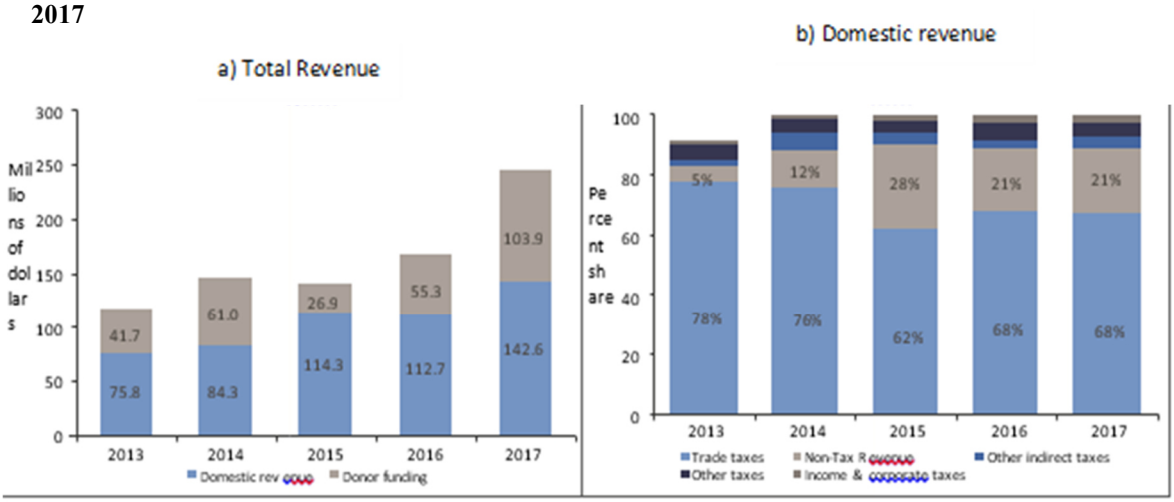
1. Introduction

The greatest obstacles faced by governments are continuously increasing the welfare of their people through the implementation of appropriate economic policies and programs. Governments are trying to achieve this national objective by providing public goods, such as road infrastructure and public services, such as education, security, health, sanitation, etc., hence the creation of economic and social infrastructure. The infrastructure is a firm foundation for economic growth and development of a country. If possible, all public expenditure should contribute to the creation and promotion of an enabling domestic economic environment for local and foreign investment; boost both local and international trade (Kairanya, 2016). Musgrave and Musgrave (1980) postulated a law of public expenditure growth in the United States of America, where, as national income per capita grew, so did government tax revenue as a percentage of Gross National Product (GNP). The implication here is that as the U.S. registered economic growth, so did the country's tax effort. The authors' findings are in conformity with widely acknowledged empirical findings in the discipline of development economics tha as a country's economy grows, its tax base grows commensurately. However, growth rates of both the economy and tax capacity tend to be different from country to country and from period to period, due to both short and long term causative factor, including internal and external economic shocks. The low taxable capacity in developing countries like Kenya was noted as far back as when the country gained its independence when Kaldor (1964) noted that; whereas developed countries' tax revenue averaged at least 25% of GNP. In developing countries they barely surpassed 15%. According to the World Bank (1996), tax revenue accruing to the government of Kenya (GOK) increased from 19.8% of GNP in 1980 to 22.4% in 1994. In comparison, the ratios in 1994 were, respectively, 31.9% for the United Kingdom and 38.0% for France, two countries among those the bank classifies and are globally recognized as high income or developed economies. The upward trend in Kenya's tax effort, though relatively small, is an indicator that the country was on the right economic growth path as far as taxation is concerned. Almost three decades of civil and terror conflicts destroyed Somalia governance, economic structure and institutions, the country experienced profound cycles of interior clash that divided the nation, undermined real foundations and made far reaching weakness (World Bank, 2018). Since the formation of federal government of Somalia (FGS), the tax revenue has increased despite the drought that happened in 2017 which decreased the economic growth (World Bank, 2018). 3 This study discusses one of economic policies on economic growth therefore, there are two main types of polices used, these are fiscal and monetary policy to solve the issue on economic growth. Fiscal policy mainly deals with the collection of revenues (mainly tax revenue) and expenditure by spending it to influence the economy while monetary policy deals how central banks manages the liquidity (how much money there is in money supply) to create economic growth, (Leeper, 2002). Revenue performance of the government continued to expand the tax base, improve compliance and collection. In the last five years, the FGS revenue collection has improved steadily, with significant gains in 2017 (World Bank, 2018). According to the World Bank (2018), in the period of 2013 to 2017, the total revenue (domestic revenue plus donor grants) doubled; from $117.4 million to $246.5 million)

Figure 1.1 Revenue collection by the Federal Government of Somalia improved steadily between 2013 and 2017



In 2017, trade taxes accounted for 68% of domestic revenue (Figure 1.1, panel b). The second largest category is fees and administrative fees, which accounted for 21 percent of domestic revenue. Income and corporate taxes contributed just 2 percent.

A proper way of collecting tax improves a nation's welfare. With regards to the effect of taxation on growth of an economy, the relationship between taxes rates and economic growth is an issue that concerns policy makers (William G. Gale, A. Samwick, 2014).

Manas-Atony (1987) revealed that taxation has positive relation on economic growth, while others found a negative relationship (Marsden 1983, Skinner and Engen 1992, Feldsten 1994, and Cushin 1995).

The last five years (2013-2017) tax revenue of Somalia has gradually been increasing (Economic update, World Bank, 2018). However, the data on economic growth relationship with tax revenue is missing. Hence, this study investigates the impact of tax revenue on economic growth in Somalia

2.0 Literature review

2.1 Theoretical Framework

There are different theories on the impact of taxation and economic growth on a country but are not limited to, classical growth theory, neo-classical growth theory and Keynesian theory of taxation and economic growth are explained in the following.

2.1.1 Classical Growth Theory

The political economist advanced this theory, D. Smith. Ricardo, R. Malthus, Adam Smith (1776) laid down four general taxation canons. First of all, the principle of equity, which means that every nation's subjects should contribute to government support in proportion to their protection from the state. Secondly, the principles of assurance that each person is bound to a certain tax with clear timescales, payment methods and the amount to be paid. Thirdly, the principle that every tax levied at the time and in the right way should be convenient for the taxpayer. Finally, the economic principle in that very tax should ensure that the taxpayer receives some money after the tax has been paid to the state.

Some of the classic theories include the ability to pay theory and the theory of benefits. As far as the latter theory is concerned, taxes are imposed on the taxpayer's ability to pay. The ability to pay principle means that all subjects of the state who are taxpayers receive equal sacrifice. This means that weighing heavy shoulders are taxed more than the poor and this means that the one with heavy shoulders is taxed more heavily than the poor and also loses a greater absolute utility also known as (Progressive tax)

Regarding the theory of benefits, the State should levy taxes on taxpayers based on the benefits received from them. In other words, the more benefits a taxpayer receives from government activities, the more taxes the person pays to the government.

2.1.2 Neo-Classical Growth Theory

This model was advanced by Solow (1956) and Swan (1957), they had not clearly established the link between tax and growth, but believed that the source of long-term growth was exogenous technical changes and that fiscal policy had a small impact on economic growth.

The neoclassical growth models argued that income tax could influence total levels of real variables in a stable state, but not their growth rates (Manas-Antony, 1987). In this respect, countries that discourage the accumulation of capital and/or technological advances through high and progressive taxes would experience lower GDP growth rates

2.1.3 Keynesian Theory

According to the Keynesian standard hypothesis, fiscal policy interferes with private consumption and savings through disposable incomes and returns. A tax reduction would therefore boost private consumption by increasing disposable income. A temporary tax reduction would, however, have minimal effects on private consumption according to the hypothesis of permanent income. In the Ricardian equivalence hypothesis, tax reductions would have no effect on consumption at all, since consumers would save rather than spend in anticipation of a future tax increase.

Increased government spending financed by higher taxes can drive inflationary forces that negatively affect the accumulation of capital. This is because it is associated with greater uncertainty about current savings returns and future relative prices, which are important for investment returns.

High inflation rates lead to highly negative real interest rates for savers, which restrict investment by reducing the flow of savings. Due to the Tobin-Mundell effect, however, highly anticipated inflation leads to a shift in the portfolio away from real money balances and towards real capital, thereby encouraging investment and thus economic growth.

2.2 Empirical Literature Review

Marsden (1983) attempted to establish a link between taxation and economic growth. The author found that taxation did in fact indirectly affect output growth through the products, labor and capital markets. Taxation affects the accumulation of capital by its effects on domestic savings and foreign investment. Taxation can lead to capital being transferred from one sector to another or from one country to another. This movement negatively affects output.

Williamson (1961) gathered a sample of 33 countries to examine the relationship between tax revenue and per capita income. The study found the relationship to be positive and meaningful. Plasschaert (1962) examined the relationship between per capita income and, on the one hand, the import-to-GDP ratio, against the government spending ratio. The study found that per capita income had an insignificant impact on tax revenue by using a sample of 20 less developed countries, the study found out that per capita income insignificantly impacted on tax revenue.

Focusing on the tax structure of Kenya vis-à-vis personal income, Westlake (1974) examined the incidence of these tax types and indirect taxes. The study found that the effect on the distribution of revenues was slightly regressive in both cases. Using a computable general equilibrium model to examine the incidence of different taxes and levies, Mwega (1986) improved Weslake's work (1974) by first replacing taxes and levies with a lump sum (neutral) VAT without taking into account transfer income and secondly incorporating transfers. The taxes and levies revealed a mixed impact on household income in the first scenario, though largely progressive, while the impact was unambiguously progressive in the second scenario. The study showed that the per capita income would be positively affected by a tax structure backed by a good and effective transfer system.

Naharajan (1987) conducted a 1965-1983 study on the fiscal structure of Kenya. The study revealed that the direct tax (Dt) marginal propensity to tax (MPT) was lower than the indirect tax (Ti) MPT (0.16241) (0.07554). Direct buoyancy compared to indirect taxes was respectively 1.21085 and 1.34364. Accordingly, indicating that over two-thirds of absolute tax revenue changes came from indirect taxes. The study further examined the response of direct and indirect taxes to development using inflation per capita dependent (measured by changes in the deflator of GDP (k) as proxies for economic growth.

The relationship between indirect taxes and growth was also attempted by Herberger (1990). According to this study, the adoption of a broader-based indirect tax is the only effective way to reduce the burden of personal income tax thereby boosting disposable income, promoting savings and capital accumulation that are considered key to the development of the economy.

However, such a measure to reduce the tax burden, however, may result in increased consumption rather than savings as the MPC is relatively high in developing countries (Gandhi, 1987). Even among the rich, the author warns that if the economic signal implied in other economic policies is incorrect, such savings can be channeled into unproductive investments such as speculation in commodities, foreign exchange and other existing assets, and hoarding them.

While studying the impact of corporate taxes on economic growth and using cross-country data from 1970 to 1997 to explore the impact of tax policies on economic growth in a country, Lee & Gordon (2005) found that increases in corporate taxes have a negative impact on economic growth in the United States. Such an economic growth outcome can be attributed to the fact that higher corporate taxes tend to discourage investment and also affect the income of already-established businesses, thereby sabotaging potential economic growth advances. A similar result of this research was later reached by Djankov et al. (2008), who found that both aggregate investment and economic growth had a negative impact on corporate taxes.

Anastassiou & Dritstaki (2005) tested the hypothesis that for the period 1965-2002, a low ratio of direct taxation to indirect taxation encouraged economic growth using annual data for the Greek economy. They

concluded that a unidirectional causal relationship existed between the marginal direct tax rate and economic growth.

The study's policy recommendation was to minimize the rate of direct taxation by the Greek government in order to attract capital and technology to maximize economic growth. Greece is currently struggling with an economic crisis due to excessive budget deficits resulting from an unsustainably large public debt. The government is implementing austerity measures that other Eurozone countries and the IMF are supporting. Kenya's lesson is that tax levels should minimize budget deficits while ensuring that savings and investments are not stifled

Johansson et al. (2008) found that corporate taxes are the most harmful to growth, followed by taxes on individual income and then taxes on consumption. Recurrent taxes appear to have the least impact on immovable property. They made a conclusion that revenue neutral growth-oriented tax reform would, therefore, be to shift part of the revenue base from income taxes to less distortive taxes.

Dahlby et.al. (2012) used panel data covering a period of thirty years from 1977 to 2006 to examine the effect of provincial government tax rates on economic growth in Canada. The result showed a higher provincial statutory corporate income tax rate associated with lower private investment levels and thus slower economic growth. The results further indicated that the exchange of retail sales tax with sales tax in line with the federal value-added sales tax resulted in improved provincial investment and ultimately growth.

Ogbonna and Appah (2012) analyzed the impact of changes in assessments on Nigerian economic growth from 1994 to 2009, where they observed that Nigeria's economic growth was significantly and emphatically influenced by tax reforms. For the purpose of their study, relevant secondary data were collected from the Statistical Bulletin of the Central Bank of Nigeria (CBN), the Federal Inland Revenue Service (FIRS), the Federation's Office of the Accountant General and other relevant government agencies.

The data collected were analyzed using relevant descriptive statistics and econometric models like, Ramsey RESET Test, Breusch Godfrey Test, Jacque Berra Test, ADF Test, Johansen Test, and Granger Causality Test. Accordingly, on the basis of the results, it was concluded that tax reforms enhance the government's income generation to undertake socially acceptable expenditure that transforms real output and per capita economic growth. Nevertheless, it was suggested that reasonable financial development cannot be accomplished by changing expenditure forms apart from outdated duty laws and tariffs are checked in accordance with full-scale monetary targets, free and productive evaluation regulatory hardware is degenerated with the responsibility and responsibility of the workforce and straightforward administration of government authorities

2.3 Overview of Literature

Attempts were made by Kelecky (1978), Branson (1989), Herberger (1990) to establish this connection. However, these studies have never determined whether taxation has had a positive or negative impact on output growth rate. Kelecky(1978) established the connection between taxation and growth through the use of population growth and capital accumulation, while Marsden (1983) established this connection through the use of product, labor and capital markets. They also did little, however, to explain why different economies have different tax structures.
Manas-Antony (1987)'s empirical analysis revealed a direct correlation between the tax-GDP ratio and the real GDP growth rate. Other theoretical as well as empirical analyzes have found that a negative relationship exists between the rate of taxation and GDP growth, including but not limited to Marsden (1983), (Skinner &Engen (1992), Feldstain (1994), Cushin (1995) and Ariyo (1997).

Cushin (1995) agrees with earlier empirical findings that have a negative impact on growth with taxes. Ariyo (1997) supported the review by incorporating taxes, transfers and investments as key explanatory variables. Like other versions of previous writers, however, Cushin's model did not disaggregate the different tax types and treated tax as a single explanatory variable instead. Mutisya (2014) investigated CGT's effect on total tax revenue using secondary time series data for the period 1965 to 1994 concluded that CGT would contribute negatively and insignificantly to total tax revenue.

In general, for developing economies, the correlation between taxation and economic growth appears to be stronger. In a country such as Somalia, where there is no clear framework to be followed when designing tax structure, this paper's findings will go a long way in identifying policy implications for policymakers when designing to change tax structure.

Furthermore, the findings will improve policy formulation, implementation and ongoing evaluation of the undertaking. Therefore, the study intends to undertake an empirical study not only on the tax effect on economic growth, but also on the interplay of direct and indirect taxes and their impact on economic growth.

3.0 Data and Methodology

The study used time series data in analysis, it was important to undertake various tests to avoid spurious or nonsensical modeling. The test carried out included; correlation, Recursive Estimate (OLS), heteroskedasticity test and the normality test residual**.**

3.1 Model Specification

The empirical analysis used quarterly time-series data on taxes, control variables and economic growth for the period 2012 to 2018. The specific econometric model becomes;

$GDP = \beta 0 + \beta 1 ICT + \beta 2 TIT + \beta 3 DIT + \varepsilon$ ..... (6)

Where:

GDP = Gross Domestic Product
ICT = Income and corporate taxes
TIT = Taxes on international trade
DIT = Domestic indirect taxes
$\beta 0$ = constant
$\beta 1$, $\beta 2$, $\beta 3$ = are the coefficient parameters estimates
ε = Error term.

4. Results and Discussion

4.1 Descriptive Statistics

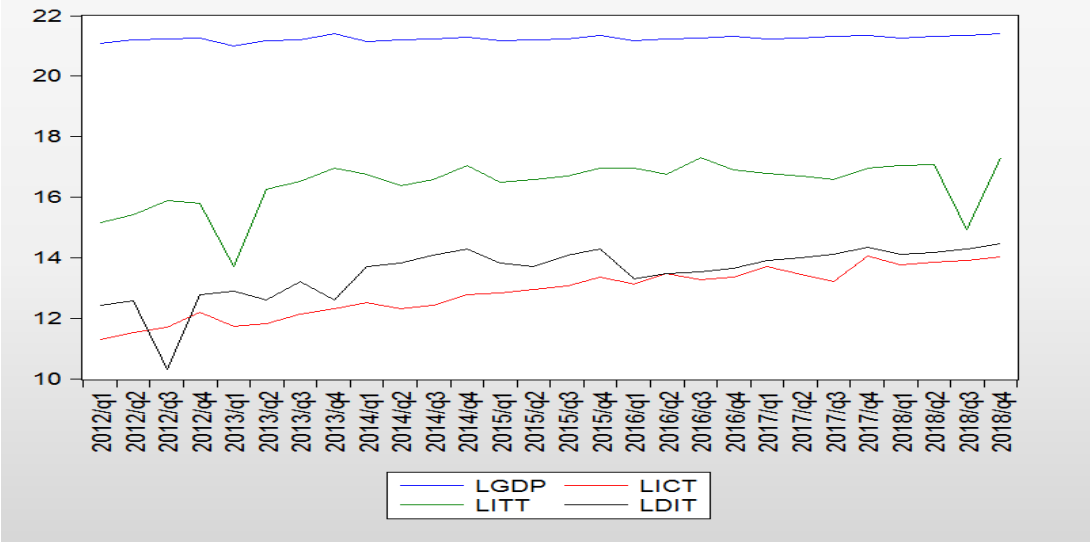
Descriptive statistics of the data series is shown in table 4.1. Descriptive statistics of GDP, income and corporate taxes (ICT), international trade taxes (ITT) and domestic indirect taxes (DIT) .Distribution of a series can be determined by evaluating various statistical measures as indicated in table 4.1.

Table 4.1: Descriptive Statistics

	LGDP	C	LICT	LITT	LDIT
Mean	21.24174	1.000000	12.86039	16.44543	13.51864
Median	21.23615	1.000000	13.01546	16.69189	13.76283
Maximum	21.41656	1.000000	14.06237	17.30227	14.47044
Minimum	21.00844	1.000000	11.28978	13.71015	10.30895
Std. Dev.	0.089000	0.000000	0.811583	0.808546	0.878395
Skewness	-0.252034	NA	-0.288566	-1.786998	-1.856731
Kurtosis	3.410981	NA	1.973384	6.065505	7.300869
Jarque-Bera	0.493488	NA	1.618193	25.86590	37.66849
Probability	0.781341	NA	0.445260	0.000002	0.000000
Sum	594.7688	28.00000	360.0909	460.4721	378.5221
Sum Sq. Dev.	0.213868	0.000000	17.78402	17.65114	20.83262
Observations	28	28	28	28	28

The total observations considered in this study were 28 with four variables (one dependent and three independent variables) and was changed to log in order to get an easy interpret the result. Range is obtained from the difference between the maximum value and minimum value. For example the maximum value of LGDP is 21.41656 million US dollar while the minimum is 21.00844 million US dollar giving arrange of 0.40812 million US dollar. The standard deviation indicates the spread of the values from the mean and is of great importance for evaluation purposes. For example, the data indicates that Domestic indirect taxes have a larger spread compared to other variables. GDP has a standard deviation of 0.089000 Income, corporate taxes have 0.811583, and International trade taxes have 0.808546

Figure 1.3 Line graph of GDP and tax variable



Tax revenue and GDP exhibits slightly constant trends over the sampled periods with small in degree of fluctuations over the periods with third quarter and fourth quarter in 2018 going upward.

4.2 Correlation

Table 4.2: Correlation

	LGDP	C	LICT	LITT	LDIT
LGDP	1.000000	NA	0.629817	0.583683	0.377198
C	NA	NA	NA	NA	NA
LICT	0.629817	NA	1.000000	0.568073	0.746901
LITT	0.583683	NA	0.568073	1.000000	0.430228
LDIT	0.377198	NA	0.746901	0.430228	1.000000

Correlation analysis is used to examine the extent of the correlation of different pairs of variables under study. It measures the correlation coefficient between 1 and -1. This further predicts presence or absence of multicollinearity which is considered to exist when there is perfect linear relationship between the variables under the study. The correlation was used to determine if any pair of independent variables was highly collinear through the magnitude of the correlation coefficient of the pairs of variables established. This bias arises when one or more pairs of independent variables are perfectly correlated to each other. The bias arises when one or more pairs of independent variables are perfectly correlated to each other. Multicollinearity would be considered if the coefficient of correlation was equal to or above 0.8 as it could lead to spurious regressin.

As indicated in Table 4.2, the study found that the pairs of independent variables that had a correlation coefficient of less than 0.8 were income and corporate taxes (ICT), international trade taxes (ITT) and domestic indirect taxes (DIT). This implies the absence of Multicollinearity.

4.3 Regression Analysis Results

A classical linear regression model fit was employed in this study using the OLS method. The dependent variable GDP is regressed on the independent variables income and corporate taxes (ICT), international trade taxes (ITT) and domestic indirect taxes (DIT) .The results of the regression analysis are displayed in table 4.3

Table 4.3: Regression Model

Dependent Variable: LGDP
Method: Least Squares
Date: 05/22/19 Time: 19:57
Sample: 1 28
Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20.08317	0.280234	71.66563	0.0000
LICT	0.065808	0.026307	2.501529	0.0196
LITT	0.036921	0.019451	1.898216	0.0698
LDIT	-0.021817	0.022159	-0.984558	0.3347

R-squared	0.492512	Mean dependent var	21.24174
Adjusted R-squared	0.429076	S.D. dependent var	0.089000
S.E. of regression	0.067248	Akaike info criterion	-2.429291
Sum squared resid	0.108536	Schwarz criterion	-2.238976
Log likelihood	38.01007	Hannan-Quinn criter.	-2.371110
F-statistic	7.763933	Durbin-Watson stat	2.087783
Prob(F-statistic)	0.000857		

The regression analysis used 28 observations and the output shows that the overall model is statistically insignificant given that the probability statistic of the F-test is 7.763933. The R- squared is quite moderate at 0.492512 indicating that 49.25% of variation in the dependent variable (GDP) is explained by the explanatory variables. All the coefficients of the explanatory variables have a positive sign implying that all the tax variables have a positive relationship with the GDP except the domestic indirect taxes being a negative .The coefficient for the Income and corporate taxes (0.065808), international trade taxes (0.036921) and domestic indirect taxes (-0.021817)

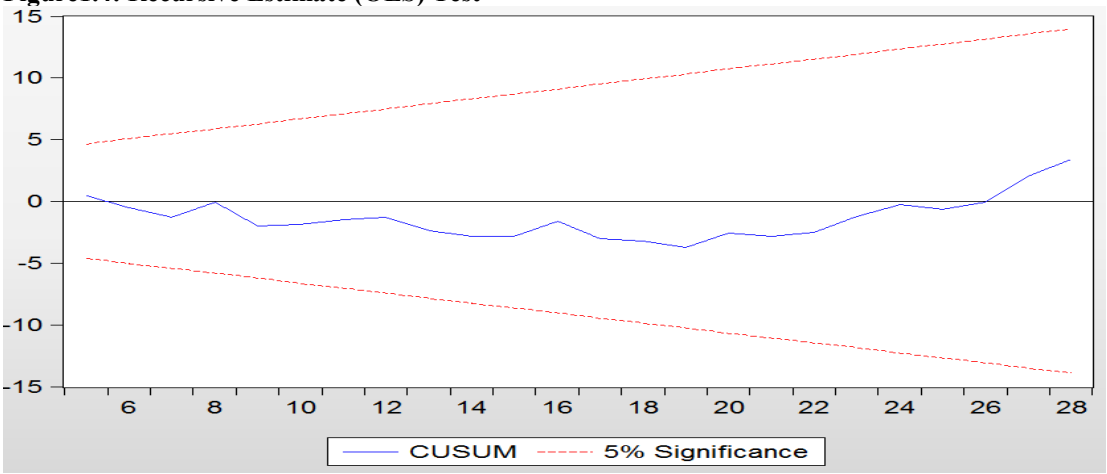
4.4 Post - Estimation Tests

These tests are performed on the specified model to ensure that the model does not violate the OLS assumptions. The first test is the Recursive Estimate (OLS) test to check on specification errors and omission of variables in the model. This is followed by hetroskasdicity test, autocorrelation test, multicollinearity test and finally the normality test on the residuals.

4.4.1 Recursive Estimate (OLS) Test for specification error

This test was carried out to test the overall suitability of the model and confirm if there were some variables omitted from the model. The test results are as shown in figure 1.4.

Figure1.4: Recursive Estimate (OLS) Test



The stability of long run parameters is examined by applying cumulative sum of recursive residuals (CUSUM) Figure 1.4 demonstrate cumulative sum of recursive residuals. The null hypothesis cannot be rejected at 5% level of significance if the plot of test falls within the critical limits. This show the reliability and efficient which lies between the upper and lower critical limits. This implies that there is stability in the model.

4.5 Heteroskedasticity test

The assumption of the OLS requires that the variance of the error test is constantUsing Breusch-Pagan test results are as shown in table 4.4

Table 4.4 Heteroskedasicity test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.281701	Prob. F(3,24)	0.3032
Obs*R-squared	3.866492	Prob. Chi-Square(3)	0.2762
Scaled explained SS	3.848699	Prob. Chi-Square(3)	0.2783

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 05/21/19 Time: 13:28
Sample: 1 28
Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.81E+16	8.75E+15	2.063282	0.0501
ICT	4.59E+09	1.60E+10	0.287091	0.7765
ITT	4.50E+08	5.16E+08	0.871957	0.3919
DIT	-1.78E+10	1.09E+10	-1.627641	0.1167

R-squared	0.138089	Mean dependent var	1.12E+16
Adjusted R-squared	0.030350	S.D. dependent var	1.89E+16
S.E. of regression	1.86E+16	Akaike info criterion	77.88984
Sum squared resid	8.27E+33	Schwarz criterion	78.08015
Log likelihood	-1086.458	Hannan-Quinn criter.	77.94802
F-statistic	1.281701	Durbin-Watson stat	2.089763
Prob(F-statistic)	0.303226		

The assumption of the OLS requires that the variance of the error test is constant (homoskedasticity). We therefore test if our model meets this assumption. The p-value for Breush-Pagan-Godfrey test for heteroskedasticity (0.30322) reveals that the hypothesis for existence of heteroskedasticity is rejected. We therefore accept the null hypothesis for existence of homoskedasticity since the p-value is statistically insignificant at 5% level of significance. These results confirm that we accept the null hypothesis that the model exhibits a constant variance**.**

4.5 Normality Test

In testing for normality of the error tem, VAR Residual Normality test was used. The results are shown in the table 4.6. The null hypothesis in this situation indicates that the error terms is not normally distributed whereas the alternative hypothesis indicates that the error term is normally distributed

Table 4.5 VAR Residual Normality Test

VAR Residual Normality Tests
Orthogonalization: Cholesky (Lutkepohl)
Null Hypothesis: residuals are multivariate normal
Date: 05/21/19 Time: 13:45
Sample: 1 28
Included observations: 26

Component	Skewness	Chi-sq	df	Prob.
1	-0.023717	0.002437	1	0.9606
Joint		0.002437	1	0.9606

Component	Kurtosis	Chi-sq	df	Prob.
1	2.391495	0.401135	1	0.5265
Joint		0.401135	1	0.5265

Component	Jarque-Bera	df	Prob.
1	0.403572	2	0.8173
Joint	0.403572	2	0.8173

The probability value in table 4.6 is insignificant thus leading to do not reject of the null hypothesis. This therefore has an implication in that the residuals are normally distributed.

5. Conclusion and Policy Recommendation

The main objective of this study as to identify the impact of tax revenue on economic growth in Somalia in order to come up with fiscal policy recommendations.A classical linear regression model based on the OLS estimation method was used on the basis of this study to determine the nature and strength ofthe tax and economic growth relationship.

The study revealed that all the independent variables had a positive relationship with GDP except domestic indirect tax after regressing the analysis.

Secondly correlation was used to determine if any pair of the regressand variables had a highly collinear through the magnitude of the correlation coefficient of the pairs of variables established and if there was multicollinearity, the study found that the pairs of independent variables had a correlation coefficient of less than 0.8 were income and corporate taxes (ICT), international trade taxes (ITT) and domestic indirect taxes (DIT). This shows the absence of Multicollinearity.

Finally, post-Estimation was used to identify if the model was proper, there was no omitted variables and was normally distributed, the results showed that the model was proper, had no omitted variables, and it had a normal distribution.

Overall, the results of the study revealed a positive relationship between economic growth and taxation. All the tax variables showed a positive effect on GDP except domestic indirect taxes starting with income and corporate taxes with the most effect followed international trade and finally domestic indirect taxes having a negative relation to GDP.

5.1 Policy Recommendations

Based on the study findings presented and discussed above, the following policy recommendations should be adopted by the government to enhance its fiscal policy decisions and to boost the economic growth.

First, the government should adopt a fiscal policy measure that concentrates on shifting tax structure and enlarging the tax base to increase tax levels without increasing the tax burden. This can be through enhancing the tax base on excise duties to ensure equity and reduce consumption of goods with negative externalities on the lives of citizens.

Secondly, findings give an implication that the government can change the economic growth levels by generating more revenue from taxes by creating new taxes and without harming its citizens. This can achieved through improving the tax collection system, eliminating fraud, evasion and corruption.

5.2 Suggestion for Future Research

Further research is necessary to invalidate these Findings since policy options cannot rely on a single study. Further researchers ought to investigate the effect of omitted variables on economic growth. For instance, there is need to investigate the effect of tax evasion and avoidance, tax compliance levels and tax literacy on economic growth. Future research can also conduct the relationship between economic growth and taxation using other models other than OLS regression models since there is some major structural changes that affect the relationship between these variables were not taken into consideration by the study.

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