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THE IMPACT OF TAX REVENUES ON ECONOMIC GROWTH: A TIME SERIES EVIDENCE FROM KENYA

Ali Abdulkadir Ali[1], Ali Yassin Sheikh Ali[2], Mohamed Saney Dalmar[3]

Lecturer, Faculty of Humanities, University of Somalia; Assistant Professor, Economic Department, SIMAD University; Graduate Student, Department of Public Policy, SIMAD University; Muqdisho, SOMALIA.

ali.abdukadir.ali@gmail.com, profali@simad.edu.so, abshoow2003@gmail.com

ABSTRACT

The study examines the effect of tax revenue and economic growth of Kenya, from 1980 to 2007. In order to attain this objective, relevant time-series secondary data were collected from the Central Bank of Kenya (CBN) Statistical Statement, Federal Inland Revenue Service (FIRS) and previous works done by scholars. The collected data was analyzed using the ordinary least square method. The results display that tax revenue has a positive significant effect on economic growth. That is, it highpoints the channels through which tax revenue impacts and economic growth in Kenya. The study also tells that grants and other revenues has no a negative result on growth. However, tax revenues can only appear its full potential on the economy if government can come up with fiscal laws and legislations and support the existing ones in line with macroeconomic objectives, which will check-mate tax offenders in order to minimize evasion, corruption, and tax avoidance. These will get about improvement on the tax management and responsibility and transparency of government officials in the management of tax revenue. Above all, these will increase the tax revenue base with resulting increase in growth.

Keywords: tax revenue, GDP, grants, foreign aid, other revenues

INTRODUCTION

The tax payment has been a spectacle of global significance as it affects every economy regardless of national differences (Oboh& Isa, 2012).The need for its payment was highlighted by Jesus in "Mathew 22 vs 17-21" when the Pharisees asked Him whether it was legitimate to pay taxes or not. His reply „render therefore unto Caesar the things which are Caesar's and to God the things that are to God's" suggests that tax payments should be obligatory, non-negotiable, binding and obligatory on all citizens of a country regardless of religion and social status. (Anthony, 2016)

Tax is a necessary charge imposed by a public authority on the income and properties of individuals and companies as stipulated by the government Decree, Acts or Laws unrelatedlyof theparticular amount of service of the payer in return (Omotoso, 2001) Tax payment is not for the direct exchange of good and/or services but a transfer of resources and income from the private sector to the public sector in order to achieve some of the nation's economic and social goals (Okpe, 2000). Such goals may be in for of high level of employment, stable prices, rapid growth of gross national product, favorable balance of payments position, promotion of a free market economy, satisfaction of collective demands, equitable income redistribution, promotion of infant industries, the encouragement of priority sector, encouragement of balance population development and promotion of labor and capital development (Onoh, 2013).

The level of tax paid by the citizens and the items challenged is determined by the administration. Such decision according to Ngerebo and Masa (2012) is based on the worth of the projects or programs government intends to execute, which is the principal factor of the budget -size. Government also courts the rates, basis, the citizens of typeand the time period to pay the tax, on the development of the economy desired and government's observationof the standard of living of the citizens. The amount to which the impact of taxation is handled is dependent on the level of compliance with tax payments which is further dependent on the level of tax learning. Taxes were

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affect the expenditure size of government, the productivity and level of activities of businesses, the consumption pattern of individuals, the propensity to invest and save the growth path of the economy. This included income from production sharing, royalties, and corporate income tax on oil and mining companies (Pfister, 2009).

According to Bhartia (2009), a tax theory may come from on the assumption that there need not be any bond tax paid and benefits received from state activities. In this party, there are two theories,

GDP is generally used as apointer of the economic wellbeing of a country, as well as to gauge a country's standard of living. (Investopedia, 2009)

The definition of the study is derived from (Omotoso, 2001).Tax is aobligatory charge imposed by a public power on the income and properties of individuals and companies as stipulated by the government Decree, Acts or Laws irrespective of the exact amount of service of the payer in return. This paper is about Tax revenue and gross domestic product in Kenya.

PROBLEM STATEMENT

Tax is a method of raising the revenue for the day to day running of government activities. Government activities involve generating funds and using same to provide security, social amenities, infrastructural facilities, etc, for the inhabitant of the country. Base on this, it is worthy of note that the objective of taxation is in tandem with the functions of government. (AKHOR, 2016)

However, it is showed that the role of taxation in promoting an economic growth in Kenya is not felt, primarily because of its poor administration. The major challenges facing tax management in Kenya include frontiers of professionalism, poor accountability, lack of awareness of the general public on the imperatives and benefits of taxation, corruption of tax officials, tax avoidance and evasion by taxing units, connivance of taxing officials with taxing population, lower rate of tax, poor method of tax collection, etc. Individual and Tax administration agencies suffer from limitations in manpower, money, tools and machinery to meet the ever increasing challenges and difficulties. In fact, the negative attitude of most tax collectors toward taxpayers can be linked to poor remuneration and motivation.

LITERATURE REVIEW AND THEORITICAL FRAMEWORK

There is a large number of studies which have been carried out to investigate the relationship between taxation and economic growth. However, findings of these studies tend to give conflicting results. Some studies have shown that taxes have helped improve the performance of the economy whilst other studies have shown that taxation reduces output and hence economic growth while others show little evidence to prove strong relationship between taxation and economic growth of world economies.

Tax policy has an impact on economic growth by discouraging new entrepreneurial and investment incentives, distorting investment decisions and discouraging work effort and workers‟ acquisition of skills (Solow, 1956). Normally, the output of an economy is measured by GDP and determined by its economic resources—the scope and skill of its workforce, and the size and technological productivity of its capital stock.

In a study on the relationship between economic growth and tax of which the purpose is to draw approvals for taxation policy from a review of the endogenous growth literature, it studies together the theoretical research, which indicates how taxation might influence the economy, and the empirical evidence, which seeks to estimate these effects. It evaluates the empirical and theoretical evidence to consider whether an agreement arises as to how taxation affects the rate of economic growth. This paper applied a regression analysis method.

The study suggests the empirical evidence can be understood as supporting the argument that the level of taxes is not that significant (with the obvious and important caveat that this claim does not spread to levels outside the range observed in the data) but the structure of taxation is necessary. When growth is endogenous, taxation can affect the factors that determine the growth rate. (MYLES, 2000)

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Another study whose main idea is to investigate the impact causal relationship among taxation mix, savings and real economic growth and also uses regression method for its analysis find results that show that direct tax to GDP ratio granger causes the real GDP growth significantly which implies that higher direct tax level will foster actual GDP growth. (Siddiqui, 2010)

Concept of GDP

Gross domestic product is the market value of all officially recognized final goods and services produced within a country in a given period of time. (Goossens et al. 2007) It includes all of private and public consumption, government outlays, and investmentsand exports less imports that occur within a defined territory. GDP is commonly used as an indicator of the economic health of a country, as well as to gauge a country's standard of living. (Investopedia, 2009)

GDP measures the monetary value of final goods and services—that is, those that are bought by the final user—produced in a country in a given period of time (say a quarter or a year). It counts all the output generated within the borders of a country. GDP is composed of goods and services produced for sale in the market and also include some nonmarket production, such as defense or education services provided by the government. An alternative concept, gross national product, or GNP, counts all the output of the residents of a country. So if a German-owned company has a factory in theUnited States, the output of this factory would be included in U.S. GDP, but in German GNP.

Not all productive activity is included in GDP. For example, unpaid work (such as that performed in the home or by volunteers) and black-market activities are not included because they are difficult to measure and value accurately. That means, for example, that a baker who produces a loaf of bread for a customer would contribute to GDP, but would not contribute to GDP if he baked the same loaf for his family. (Callen, 2008)

Concept of Tax Revenue

Tax systems are primarily aimed at financing public expenditures. Tax systems are also used to promote other objectives, such as equity, and to address social and economic concerns. They need to be set up to minimize taxpayers' compliance costs and government's administrative cost, while also discouraging tax avoidance and evasion. But taxes also affect the decisions of households to save, supply labor and invest in human capital, the decisions of firms to produce, create jobs, invest and innovate, as well as the choice of savings channels and assets by investors. What matters for these decisions is not only the level of taxes but also the way in which different tax instruments are designed and combined to generate revenues. (Åsa Johansson, 2008)

Taxation is the raising of revenue for the daily running of government activities. Government activities involve creating funds and using same to provide security, social amenities, infrastructural facilities, etc, for the residents of the country. Based on this, it is worthy of note that the objective of taxation is in favor with the functions of government (Akhor, 2014). A tax is "a compulsory charge imposed by the Government without any expectation of direct return in benefit ". Or "an involuntary fee or more precisely, "unrequited payment", paid by individuals or businesses to a government (central or local)". Hence, "taxation should not be like killing the goose that lays golden eggs".

Theoretical Framework on Taxation

According to Bhartia (2009), a taxation theory may be derived on the assumption that there need not be any relationship between tax paid and benefits received from state activities. In this group, there are two theories, namely: 1. Socio-political theory 2. The expediency theory

Socio political theory

This theory of taxation states that social and political objectives should be the major factors in selecting taxes. The theory advocated that a tax system should not be designed to serve individuals, but should be used to cure the ills of society as a whole.

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Expediency theory

This theory asserts that every tax proposal must pass the test of practicality. It must be the only consideration weighing with the authorities in choosing a tax proposal. Economic and social objectives of the state as also the effects of a tax system should be treated irrelevant (Bhartia, 2009). Also, a taxation theory may be based on a link between tax liability and state activities. This reasoning justifies the imposition of taxes for financing state activities and also providing a basis for apportioning the tax burden between members of the society. This reasoning yield the benefit received theory and cost of service theory.

METHODOLOGY

Research Design and Method

The method of analysis used in this study is the Ordinary Least Square (OLS) technique. The OLS is a statistical technique used for fitting a regression line (that is choosing or estimating the structural parameters) to sample of some observations in such a way as to minimize the sum of squares of the deviations of the actual observation from the line. It has been chosen for this analysis. (Gujarati, 2004)

The method of ordinary least squares is attributed to Carl Friedrich Gauss, a German mathematician. Under certain assumptions, the method of least squares has some very attractive statistical properties that have made it one of the most powerful and popular methods of regression analysis. To understand this method, we first explain the least squares principle. In addition, it is one of the most commonly employed methods in estimating relationships in econometric models and its use, in a wide range of economic relationships, has provided fairly satisfactory results.

This regression technique has been employed and found to be suitable here due to its unique properties of linearity, efficiency, sufficiency, least variances, unbiasedness and least mean errors. The statistical properties of OLS are based on the assumptions of CLRM and are enshrined in the famous Gauss–Markov theorem. But before we turn to this theoremlet's provide the theoretical justification for the popularity of OLS, we first need to consider the precision or standard errors of the least-squares estimates.

One of the OLS methods is the multiple regression analysis. Regression analysis is multiple when the value of the dependent variable is estimated on the basis of two or more independent variables. It offers explanation between an explained variable (regressor) and two or more explanatory variables (regressand). In any multiple regression equation, some important statistics embodied are the multiple correlation co-efficient (R), co-efficient of multiple determination (R^2), standard deviation (error) of the estimate (SE), adjusted R^2, Durbin–Waston statistics, t-statistics and F-statistics. Durbin Watson statistics is used to be able to examine the extent of serial correlation among variables. These statistics are used for the analysis of the data.

Sources of Data

The data for this study were mainly secondary data collected from various sources such as IMF and World Bank. The data series used in the study for analysis includes; Real Gross Domestic product. (RGDP) that is GDP at factor prices deflated by the consumer prices index (at constant factor cost) Aggregate Tax Revenue (ATREV) and Grants and other Revenues (GRAN_REV). The data for public revenue covers all the categories of public revenue in Kenya as previously indicated.

The population of the study covered the period of 1960 to 2013 and the sample size covered the period of 1991 to 2013 based on the convenient and systematic sampling techniques. This period is adopted because of the non-availability of data on value added tax before 1993.

Model Specification

In light of the above research methodology and theoretical framework deduced to adequately capture and empirically examine the impact of tax revenue on economic growth in Nigeria, a multiple econometric model for this study was specified. Multiple econometric regression models are one that seeks to explain variation in the values of the dependent variable on the basis of changes in the

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independent variables. The assumption is that, the dependent variable is a linear function of the independent variables.

In other to analyze the effects of public revenues on economic growth in Kenya, an econometric model was specified. The model specified is represented as follows:

$$RGDP = \beta_1 + \beta_2 GRAN\_REV + \beta_4 ATREV + Ui$$

Where RGDP is the real gross domestic product, GRAN_REV is the grants and other revenues and ATREV is the aggregate total tax revenue. The Ui is the error term or the stochastic term. According to Gujarati (2004), the disturbance term *Ui*is a surrogate for all those variables that are omitted from the model but that collectively affect dependent variable.

DATA ANALYSIS, FINDING AND RESULTS

Regression Analysis

This is the regression results of effect of taxation and grants on the growth of Kenya economy (1991-2013). The goodness of fit of the model as indicated by adjusted R-square shows a good fit of the model. An adjusted R-squared value of 0.934356 or 93.43% indicated that the model fits the data well, the total variation in the observed behavior of Gross Domestic Product is jointly explained by variation in total aggregated revenue (AT_REV) and grants and other revenues (GRAN_REV) up to 97%. The remaining 6.57% is accounted for by the stochastic error term which means the other variables not mentioned in the model and that have an effect on the model.

The coefficients are both statistically significant at the 5% level of significance. The first coefficient of the AT_REV is positive which means that in increase of $1 of tax revenue leads to an increase of $0.934 in GDP which is positive in effect. On the other hand the other coefficient is negative in terms of its effect on GDP. That also implies an increase In $ 1 in the GRAN_REV reduces the GDP by $ 0.259. The latter coefficient sign shows it a negative effect on the GDP.

To test for the overall significance of the model, the ANOVA of the F-statistics is used. To test for the individual statistical significance of the parameters, the t-statistics of the respective variables were

Dependent Variable: LOG(GDP)
Method: Least Squares
Date: 12/08/16 Time: 08:57
Sample (adjusted): 1991 2012
Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.437244	1.391381	4.626514	0.0002
LOG(AT_REV)	0.934474	0.091927	10.16543	0.0000
LOG(GRAN_REV)	-0.295383	0.122214	-2.416929	0.0259

R-squared	0.940608	Mean dependent var	23.52935
Adjusted R-squared	0.934356	S.D. dependent var	0.632261
S.E. of regression	0.161992	Akaike info criterion	-0.676414
Sum squared resid	0.498588	Schwarz criterion	-0.527635
Log likelihood	10.44055	Hannan-Quinn criter.	-0.641366
F-statistic	150.4538	Durbin-Watson stat	1.098223
Prob(F-statistic)	0.000000		

considered. Considering their probability values which were automatically generated during the computation process by the eviews7 computer software, the constant term is significant at 5 % level and AT_REV as well as GRAN_REV coefficients are both significant at 5% level with p-values of 0.0000 and 0.0259 respectively. The variables in the growth equation

Model Assumption Tests

Serial Correlation

Here the Breusch-Godfrey serial correlation LM test reveals that the model is free from serial correlation which means that the error terms are not auto-correlated. The null hypothesis is that there is no auto-correlation while the alternative hypothesis is there is an auto-correlation. The observed R-

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squared is equivalent to 2.709710 and its corresponding p-value is 0.2580 which is higher than the chosen significance level α of 0.05 hence the null hypothesis cannot be rejected meaning that there is no serial correlation.

Heteroskedasticity

According the classical linear regression model assumptions, the model is assumed to be free from certain violations such as heteroskedasticty, serial correlation (auto-correlation), perfect multi-co-

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.193996	Prob. F(2,17)	0.3272
Obs*R-squared	2.709710	Prob. Chi-Square(2)	0.2580

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 12/08/16 Time: 09:57
Sample: 1991 2012
Included observations: 22
Presample missing value lagged residuals set to zero.

linearity, et cetera. As the above table indicates, the Breusch-Pagan-Godfrey is a test that is used to detect the presence of heteroskedasticity. The null hypothesis is the error terms are not heteroscedastic, i.e. (homoscedastic) meaning the variance if the error terms is constant and the alternative hypothesis is there is heteroscedasticity meaning that the error terms have different variance. The observed R-squared is 6.661514 and its corresponding p-value is 0.0358 which is lower than the chosen level of significance α = 0.05 so we reject the null hypothesis:

Heteroskedasticity Test: Breusch-Pagan-Godfrey

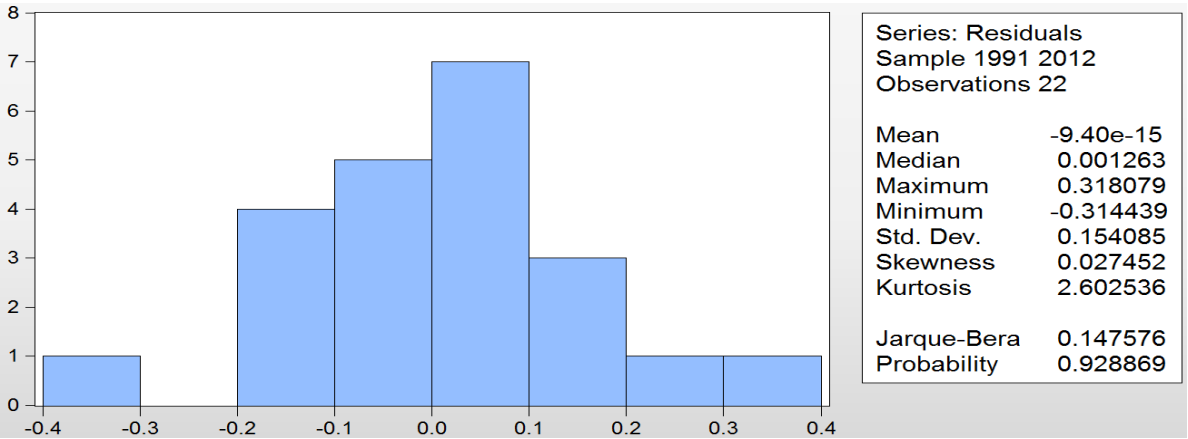
F-statistic	4.125856	Prob. F(2,19)	0.0325
Obs*R-squared	6.661514	Prob. Chi-Square(2)	0.0358
Scaled explained SS	3.981187	Prob. Chi-Square(2)	0.1366

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/08/16 Time: 12:47
Sample: 1991 2012
Included observations: 22

Which implies that the error terms are heteroscedastic, one could report that the model is not free from heteroscedasticity of residuals. Therefore the estimates should be taken with caution.

Normality Test

One of the CLRM assumptions is that error terms are normally distributed so as the table above shows the normality test was run. The null hypothesis is the error terms are normally distributed and the alternative hypothesis is they are not normally distributed. The Jarque-Bera statistic is 0.147576 and its corresponding p-value is .0928869 which is higher than the chosen significance level α = 0.05 so we cannot reject the hull hypothesis meaning that the error terms are normally distributed.



CONCLUSION AND POLICY RECOMMENDATIONS

Different funding sources are available to most governments in the developing world. Despite their availability, each of the various sources has its unique way of contributing to the growth in the overall economy of the country. Foreign or external debt accumulation has over the years been a stumbling block for many developing countries. On the other hand, domestic revenue and foreign grants seem to be funding sources that do not have immediate negative effect on economic growth. This formed the basis for this study. The results in this study show that, domestic revenue and grants do not both have positive impact on the economy. The domestic tax revenue has a positive significant impact on economic growth but grants (foreign aid) have a negative impact on GDP. Moreover, grants cannot be a substitute for domestic revenue generation as domestic revenue is the more important ofthe two variables.

Also, it is noted that, domestic revenue and foreign aid are not well related over the study period. In other words, the flow of foreign aid does not depend on whether there is enough domestic revenue or not. Contrary to this, there is a causal link from both domestic revenue and foreign aid to economic growth though one has a positive effect and the other has a negative effect on economic growth. It is concluded that, domestic revenue is important for enhancing economic growth, and more attention should be given to the generation of domestic revenue. However, these results should be taken with caution as issues of corruption and mismanagement of fund are critical in the use of funds.

Based on the outcome of this study, there is the need for the government:

1. To revise its macroeconomic policies to improve efficiency and productivity of recourses allocation in the economy.
2. To reexamine its domestic revenue by way of increasing tax rate and introducing new taxes in such a way that it does not distort the working of the economy. Finally, effort should be made by the government
3. To encourage the domestic revenue sector by way of investing in the public sector and encouraging investment in the private sector as well.
4. To enhance the tax base of government, employment opportunities should be created and a good environment for entrepreneurship and innovation to thrive made using tax proceeds.
5. Also the government should engage in a complete re-organization of the tax administrative machineries in order reduce tolerable problems of tax evasion and avoidance.
6. In addition, the culture of good governance should be embraced by the government so as to secure the loyalty of the populace to good tax culture.
7. To impose Tax Audit and Investigation departments which are specialized departments and therefore should be manned by professional officers with requisite professional qualifications.
8. Revenue from grants should not be relied on by the government as it negatively affects GDP growth.

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