



ANALYSIS OF DIRECT TAXES AND GROSS DOMESTIC PRODUCT OF THE KENYAN ECONOMY

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Abstract:

Gross Domestic Product acts as an indicator of the economic growth of a country. To enhance economic growth, the government must initiate development that would spur such growth. Gross Domestic Product represents the rise or fall in per capita income. To facilitate such development, the government should ensure consistent income through taxation. The purpose of this study was to establish the relationship between direct taxes and the Gross Domestic Product of the Kenyan economy. The independent variable was direct tax while the dependent variable was real Gross Domestic Product. The Benefit theory of taxation was used in the study. Time series data collected from Economic Survey for 21 years covering the period 1999-2020 was used in the study. The data was analyzed using inferential statistics. The results showed that direct tax accounted for 84% of real GDP during the period under study ($R^2=.85$) and that there was a strong positive correlation between direct tax and real GDP ($R=.916$). Moreover, it was revealed that a unit standard increase in direct tax would significantly lead to .916 increase in real GDP ($\beta=.916$, $p<0.05$). In conclusion, the study failed to accept the null hypothesis and concluded that Direct Taxes have a significant relationship with the Real Gross Domestic Product of the Kenyan economy. The study recommended that government should ensure an effective and efficient way of collecting and utilizing direct taxes since they have a direct bearing on the growth of the economy.

JEL: O10; O40

Keywords: taxes, domestic, economy, growth, government, development

1. Introduction

The tax payment has been a spectacle of global significance as it affects every economy regardless of national differences (Obob and Isa, 2012). Direct taxes include income and corporate taxes (Qazi Masood Ahmed, 1994).

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One major role of governments is the improvement of the welfare of their citizens by the provision of public goods and services. For them to perform such a role, they need financing. Public expenditure by any government is financed primarily through taxation (Nguluu, 2017). Economic theory postulates that the nature of the tax regime can harm or foster growth. A regime that causes distortions to private agents' investment can retard investment and economic growth. On the other hand, if the tax regime leads to the internalization of externalities by private agents, it may induce efficiency in resource allocation and thus foster investment and growth of the economy. The same applies to the nature of government expenditure: excessive spending on consumption at the expense of investment is likely to deter growth and vice versa (Nguluu, 2017).

Across the world, GDP is calculated in different methods. There are three methods that are most commonly used to measure GDP.

In the first method, the expenditure approach, (GDP) is calculated on the basis of the expenditure. The total expenditure spent by three major categories of users i.e., customers, investors and Government is ascertained to know the value of GDP.

In the second method, GDP is defined on the basis of the Income Approach; is the country's total expenditure spent by the country should equal the income generated by the country. Further, revenues of the country must be excess than the expenditure of the country.

The third approach says GDP is the monetary value of all goods and services produced in a specific period of time by a particular country (Geetanjali and Venugopal, 2017). According to Aaron, 2021, from 2010 to 2020, the share of agriculture in Kenya's gross domestic product was 35.15 percent, the industry contributed approximately 16.18 percent and the services sector contributed about 42.19 percent.

The real GDP rates in Kenya between 2016 to 2019 has been 2016: 5.88%, 2017: 4.81%, 2018: 6.32% while in 2019: 5.37%.

2.Literature Review

The Benefit Theory of Taxation by Cooper (1994) suggests that the taxes are to be imposed on individuals according to the benefit conferred on them. In effect, the more benefits a person derives from the activities of the State, the more he should pay to the government, thus a "quid pro quo" is expected to subsist. However, it is impossible to implement precisely due to the difficulty of determining the number of government benefits, including diffuse benefits such as military protection received by each resident and non-resident taxpayer.

Geetanjali and Venugopal (2017) found that there is a significant impact of Net Collection of Direct taxes on Gross Domestic Product. India raises about 50% GDP in the form of Direct taxes. This envisages that policymakers have to therefore emphasize on tax evasion and tax collection. The Indian Taxation system is even though is lucid when it comes to collection, it is becoming complex which means that policymaking should be in the interest of the country but not in the interest of Individuals. India can mobilize more investments so as to compete on a global platform.

Rajeswari and Susai (2014) observed the tax trends and GDP ratio through a study and discussed on origin and evolution of income tax and other taxes. The study also observed the tax buoyancy factor. It was concluded that Tax-GDP ratio has grown consistently up to 2008-09. There was an impact of the economic crisis on tax buoyancy which was enhanced in further years. However, the study established the fact that tax revenue share in GDP was only 15,5% which was the lowest rate of all G20 nations. The study recommended mobilizing more direct tax revenue instead of indirect taxes. Indirect taxes affect haves and have-nots alike.

Dehghan and Nonejad (2015) used the least-squares approach to analyze annual data from Iran from between 1981 and 2010. The results of their analyses suggest a negative impact of corporate taxes, business taxes, and indirect taxes on economic growth.

Babatunde, Ibukun and Oyeyemi (2017) indicated that tax revenue is positively related to GDP and promotes Economic Growth in Africa. It was significant at 5% level. The study concluded that tax revenue has a significant positive relationship with Gross Domestic Product. Therefore, high and weak levels of taxation are favourable to economic growth as upheld by the economic effect of Ibn Khaldun's theory on taxation, which approves the positive impact that lower tax rates have on work, output and economic performance. However, in the midst of harsh economic conditions such as crashing oil prices, rising exchange rates, drop in Naira value, the governments should be ready to develop a comprehensive tax structure or model that will grow, nurture and sustain its tax economic base so as to drive economic performance.

Mohsen and Masood (2015) studied the use of tax revenues, the effect of three types of tax rates including corporate tax rate, business tax rate and indirect taxes rate (each share of taxes in GDP) on economic growth in Iran during the Thirty Years' 1981-2010 with using of Auto Regressive Distributed Lags (ARDL) examined. In addition to these three variables, other variables such as annual population growth rate, inflation rate and degree of trade openness on economic growth are examined. The results suggest that the impact of the increase in the rates of these three types of taxes on economic growth is negative and significant, and for an increase in the rate of corporate tax rate, business tax rate and indirect taxes rate by $\frac{2}{4}$ and $\frac{2}{8}$ and $\frac{1}{8}$ of economic growth is reduced. The results also reflect the positive impact of population growth rate, trade openness rate and the negative impact of inflation rate on economic growth in Iran

Anastassiou and Dritsaki (2005) noted a unidirectional causal relationship between total tax revenues and economic growth as a result of an analysis conducted on annual data from Greece from between 1965 and 2002. Stoilova and Patonov (2012) using data from 1995 to 2010 examined the major tendencies in 27 European Union member countries in the distribution of the total tax burden. The study found that direct taxes had a more efficient impact on economic growth. Muriithi (2013) found that in Kenya, an increase in value-added tax rates had a positive impact on economic growth between 1992 and 2011.

3. Research Objective

Analyze the relationship between direct taxes and the Gross Domestic Product of the Kenyan economy.

3.1 Research Hypothesis

HO₁: Direct Taxes do not have a significant relationship with the Gross Domestic Product of the Kenyan economy.

4. Methodology

Time series data collected from Economic Survey 1999-2020, relating to Net Collection of Direct Taxes and real GDP in absolute terms for a period of 21 years (1999-2020) was used in the study. The data was analyzed using inferential statistics.

The model was specified as:

$$Y_t = \beta_0 + \beta_1 X_t + \varepsilon_t$$

Where:

Y_t = Gross Domestic Product of the Kenyan economy at time t

X_t = Direct tax at time t

β_0 and β_1 are the regression parameters

ε_t = Error term

5. Results and Discussions

Table 1: Model Summary on the Relationship between Direct Tax and Real GDP

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.916 ^a	.840	.831	1297111.75110	.498
a. Predictors: (Constant), Direct tax					
b. Dependent Variable: Real Gross Domestic Product					

It was very clear from Table 1 above that direct tax accounted for 84% of real GDP during the period under study ($R^2=.85$). Moreover, a Durbin Watson, $DW=.498$ indicated that positive autocorrelation was detected in the data. This means that any increase observed in direct taxes would lead to a proportionate increase in real GDP. To add, there was a strong positive correlation between direct tax and real GDP ($R=.916$).

These findings are consistent with Geetanjali and Venugopal (2017), Rajeswari and Susai (2014), Babatunde, Ibukun and Oyeyemi (2017), Anastassiou and Dritsaki (2005), Stoilova and Patonov (2012) and Muriithi (2013). However, the findings contradict those of Dehghan and Nonejad (2015) and Mohsen and Masood (2015).

Table 2: ANOVA Results on the Relationship between Direct Tax and Real GDP

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	167408460003627.900	1	167408460003627.900	99.500	.000 ^b
	Residual	31967479002019.207	19	1682498894843.116		
	Total	199375939005647.120	20			
a. Dependent Variable: Real Gross Domestic Product						
b. Predictors: (Constant), Direct tax						

As shown from the ANOVA table presented in Table 2 above, the F-test was highly significant ($F_{0.01; 1, 19}=99.500$, $p<0.01$). This indicates that the hypothesized regression model was statistically adequate. Thus, the observed R^2 was significantly different from zero and the regression equation was a better predictor of real GDP.

Table 3: Coefficients of Direct on Real GDP

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1017561.287	455127.423		2.236	.038		
	directtax	26.244	2.631	.916	9.975	.000	1.000	1.000
a. Dependent Variable: Real Gross Domestic Product								

From Table 3 above, it was revealed that a unit standard increase in direct tax would significantly lead to .916 increase in real GDP ($\beta=.916$, $p<0.05$). Moreover, the collinearity statistics revealed that tolerance=1.000 and VIF=1.000 implied that there were no issues of multicollinearity since the model had only one independent variable.

7. Conclusion

The study sought to test the hypothesis that H_{01} : *Direct Taxes do not have a significant relationship with the Real Gross Domestic Product of the Kenyan economy.* To this end, the study failed to accept the null hypothesis and concluded that Direct Taxes have a significant relationship with the Real Gross Domestic Product of the Kenyan economy.

8. Recommendations

Based on the conclusion that Direct Taxes have a significant relationship with the Real Gross Domestic Product of the Kenyan economy, the study made the following recommendations:

- The government should ensure an effective and efficient way of collecting direct taxes since they have a strong positive correlation with real Gross Domestic Product.
- The government should ensure effective and efficient use of taxes since they have a direct bearing on the growth of the economy.

Conflict of Interest Statement

The author declares no conflicts of interests.

About the Author

Dr. Johnmark Obura is a Senior Lecturer of Finance at the Department of Accounting and Finance at Bomet University College, Kenya. He has a PhD in Business Administration (Finance), Master of Business Administration (Finance), Master of Science in Applied Statistics and Bachelor of Science in Mathematics and Computer Science. He has research interest in Quantitative Finance, Digital Finance and Business Management. He has participated in a number of Scientific Conferences.

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