Fiscal Policy and Tax Revenue on the Growth and Development of the Ghanaian Economy: Adam Smith's Classical Model of Taxation as a Referent Yardstick

Justice Ebo Crentsil (PhD)
[1] Compliance & Debt Management
Ghana Revenue Authority, Madina Tax Service Centre,
Accra, Ghana,

ABSTRACT: *This study examined the impact of fiscal policy on Ghana's economic growth and development, focusing on the period from 2010 to 2019. Using an Ex-post facto research design and Ordinary Least Square (OLS) regression model, the investigation evaluates the influence of fiscal policy instruments, specifically tax revenue and government expenditure, on economic growth represented by GDP and infrastructural development (INDF). Findings show a strong correlation between fiscal policy instruments and GDP, indicating a significant impact of fiscal policy on Ghana's economic growth. In contrast, while fiscal policy instruments demonstrated a moderate positive correlation with infrastructural development, they did not show a statistically significant impact, suggesting other factors might also considerably influence INDF. However, when considering tax revenue alone, a statistically significant impact on infrastructural development was observed. The results underscore the need for sound fiscal policies to drive economic growth, as effective government expenditure and tax revenue management could foster a conducive environment for GDP growth.*

KEYWORDS: Tax Revenue, Economic Growth, GDP, Development, Fiscal Policy

INTRODUCTION

Fiscal policy and tax revenue play crucial roles in the growth and development of an economy. They shape how the government directs resources, provides public goods and services, and stimulates economic activity. This is no different for the Ghanaian economy. Like any other country, fiscal policy in Ghana refers to using government revenue and expenditure to influence the economy (Gurdal et al., 2021; Stupak, 2019). Conversely, tax revenue forms a significant part of the government's revenue, which can be used to foster development and growth (Hysa et al., 2020). The Ghanaian government uses fiscal policy measures such as taxation, government

spending, and public borrowing to regulate the economy. Studies like Quartey (2010) showed that fiscal policy significantly impacts Ghana's economic growth. As a part of fiscal policy, tax revenue has also been found to substantially influence Ghana's economic growth (Nsor-Ambala & Asafo-Adjei, 2023; Takumah, 2014).

Thus, since the beginning of the 21st century, successive governments of Ghana have implemented various fiscal policies and programs to accelerate the growth and development of the Ghanaian economy. These efforts have aimed to raise the standard of living for citizens to varying degrees. As rightly pointed out by Easterly and Rebelo (1993), 'if you ask an economist to explain the growth performance of a particular country, he is likely to mention fiscal policy as being a vital growth determinant. This deep-seated belief that taxation, public investment, and other aspects of fiscal policy can contribute to growth miracles as well as to enduring stagnation has been articulated in the context of growth models during the past three decades' (p. 417-418).

Ghana's economy experienced considerable growth from 1997 to 2017 until recently (Duodu & Baidoo, 2022; Dzorgbo, 2017; McMillan et al., 2017). Despite these significant growth records, structural imbalances and macroeconomic instabilities persist. These challenges manifest as large fiscal and balance of payments deficits, growth rates unaccompanied by improvements in human development indicators, high youth unemployment, and increasing income disparities among Ghanaians (Gockel & Akoena, 2020). In recent years, fiscal challenges have been marked by shortfalls in tax revenue and higher interest costs. For example, from 2007 to 2021, Ghana consistently recorded deficits in its fiscal balance, with the highest deficit reaching 9.9% of GDP to 12.1% in 2022 (MoF, 2022).

For 2023, the macroeconomic targets were set at an overall budget deficit of 6.5% of GDP, an overall real GDP (with oil) growth of 7%, and an end-of-year inflation rate of 8% within a ±2% range (MoF, 2023). The fiscal policy was designed to improve debt sustainability efforts (which stood at 76.6% of GDP as of end-December 2021 (MoF, 2022). As of June 2022, Ghana's total public debt was 78.3% of GDP) and enhanced fiscal prudence through effective revenue mobilization mechanisms, prudent public expenditures, and the implementation of managed debt sustainability reforms. However, as indicated, recent economic data has shown mixed results in the Ghanaian economy's domestic and external environment. Revenue has been lower than their targets as Domestic Revenue for the period was 10.9% of GDP, falling below the target of 11.2% of GDP by 2.9%. (MoF, 2023). This deficit is attributed mainly to shortfalls in tax revenue collections by the Ghana Revenue Authority and delays in statutory fund payments.

Given the crucial role of fiscal policy in executing government programs for growth and development, it is vital to examine the patterns of government spending and taxation in the context of infrastructure provision, investment promotion, job creation, and overall welfare for citizens. The persistent deficits and revenue shortfalls raise concerns about the effectiveness of Ghana's fiscal policy direction.

Therefore, assessing the impact of government's fiscal policies on the growth and development of the Ghanaian economy will help shape finance and economic policy and enhance understanding of the complexities of government spending and tax collection. This study uses Adam Smith's classical taxation model to ascertain the extent of the relationship between fiscal policy and tax revenue, particularly on the growth and development of the Ghanaian economy.

LITERATURE REVIEW

Taxation and Economic Growth
Taxation is the key to promoting sustainable growth and poverty reduction (Rahman, 2022; Vandenhole, 2018). Tax revenues afford developing countries (Kouam & Asongu, 2022) a stable and predictable fiscal environment to promote growth and finance their social and physical infrastructural needs. In conjunction with economic growth, it decreases long-term dependence on aid and guarantees good governance by promoting the accountability of governments to their citizens (Sebele-Mpofu et al., 2022; Al-tarawneh et al., 2020). Chang and Lebdioui (2020) infer that the mobilization and availability of revenue is the central factor with which an economy is managed. Tax revenue is a core instrument that governments need to achieve expenditures, and it aids in acquiring sustained growth targets.

The nature of tax revenues can aid in predicting a growth pattern (Yusof et al., 2020; Carroll & Goodman, 2011). The complete tax burden is significant in explaining discrepancies in economic growth. The role of fiscal policy in influencing economic growth is not only a major concern of the economic policymakers, tax specialists and administrators but also to academics. Tax policy is used for economic and social purposes such as allocating resources through increasing internal savings, boosting economic growth, providing price stability and controlling the production and consumption level indirectly (Constantin & Șargu, 2020; Maganya, 2020). Economists have long been interested in factors that cause different countries to grow at different rates and achieve different levels of wealth. However, many believe that tax revenue is one of the most significant factors contributing to a country's growth (Serrato & Zidar, 2018; Gale & Samwick, 2017). The nexus between taxation and economic growth can be positive or negative, contingent on how significant tax revenue is as an economic resource (Al-tarawneh et al., 2020; Taha et al., 2011). However, fundamentally, one major setback that could hamper Ghana's effort to attain a full and middle-income status could be a weak fiscal management syndrome. Factually, Ghana had not fared well in terms of fiscal discipline measures. Inadequate tax revenues as a result of a comparatively lower tax base, low collection efforts and poor compliance levels from taxpayers, coupled with higher-than-expected expenditure levels sometimes during general election periods, have all resulted in a lot of budget deficits and large public debts (Amoh & Adom, 2017; Owusu-Gyimah, 2015; Njindan Iyke & Takumah, 2015).

Relatedly, this phenomenon leads to debt financing, bringing about high-interest payments, high inflation rates and unfavourable exchange rate spirals, and its attendant effect of depreciation on the local currency. Thus, Ghana's fiscal deficits and public debt have been persistent challenges

for the country's economic management (Abille & Kiliç, 2023; Osei & Ogunkola, 2022; Ackah et al., 2020). The tax-to-GDP ratio in Ghana increased by 0.2 percentage points from 13.2% in 2019 to 13.4% in 2020. Since 2010, the average for the 31 African countries has increased by 1.6 percentage points, from 14.4% in 2010 to 16.0% in 2020. Over the same period, the tax-to-GDP ratio in Ghana increased by 2.6 percentage points, from 10.8% to 13.4%. The highest tax-to-GDP ratio in Ghana was 13.7% in 2018, with the lowest being 7.8% in 2000 (Revenue Statistics in Africa 2022).

However, fiscal policy has the impetus to positively boost a country's economic growth and development. It has the driving force to balance budget overruns and bring discipline, thereby consolidating fiscal solvency and ensuring adequate finances to meet urgent expenditure requirements. Due to fiscal measures adopted, revenue outturns recorded from 2002 to 2006 exceeded target levels except for 2005, as government expenditure went down from 27.7% in 2000 to 25.5% in 2001. However, an upsurge trend was recorded till the fall from 32.6% in 2004 to 30.6% in 2005 (Ghana. ISSER, 2007). Again, as a result of fiscal prudence in 2009, like Ghana, ISSER (2011) asserts that the primary budget balance recorded a surplus of 0.33% of GDP, and this comparatively was a better position than what was actualized for the 2006-2008 fiscal years. Furthermore, fiscal prudence has achieved macroeconomic stability, resulting in economic growth and development. Measures to increase the tax base and the mobilization of more tax revenue to balance off the high wage bill due to the implementation of the single spine salary pay scheme since 2012 have been very much highlighted in the government's budgeting plans. Hence, in addressing Ghana's macroeconomic difficulties and ensuring adequate growth and development of the economy, adequate fiscal policy measures put in place, with tax revenues playing a significant role, can help consolidate the economic gains so desired as a middle-income status country.

Several studies have analyzed the impact of fiscal policies on economic growth, providing insight into the relationship between fiscal policy, growth, and development in African economies, including Ghana. For instance, Nuru & Gereziher (2022) examined the short-run and long-run asymmetric effects of fiscal policy and found a negative change effect of government spending to be greater than the positive change effect of government spending on economic growth and the real effective exchange rate was found to have a positive and significant effect on economic growth both in the short run and long run. Myles (2000) found that taxation affects the economic growth rate, though the impact is somewhat weak. More recently, Havi & Enu (2015) analyzed the impact of fiscal policy on economic growth in Ghana, concluding that fiscal policy plays a significant role in Ghana's economic growth.

Ogeh Soli et al. (2008) assessed fiscal policy, private investment and economic growth in Ghana and discovered that changes in government recurrent expenditure, current government capital expenditure and international trade taxes are significant for growth, while changes in tax on domestic goods and services, tax on international trade and tax on income and property matter for private capital investment.

Thus, in all the analyses of the development of the study of fiscal policy and its role in economic growth and development, lessons learned can be implemented to give a better outlook for any economy that has not achieved desired targets in this regard. It is therefore imperative that a study on assessing the fiscal policy on the economic growth and development of the Ghanaian economy, particularly with tax revenues playing a major role, could be developed further with cues from previous studies undertaken.

Structure of Ghana's Tax System

Ghana's taxation system, a vital instrument for revenue mobilization and economic growth, has recently experienced several reforms. The Ghana Revenue Authority (GRA) is at the helm of administering this system. Established in 2009, the GRA emerged as a unified body from the combination of three previously distinct revenue agencies: the Internal Revenue Service (IRS), the Value Added Tax Service (VATS), and the Customs, Excise and Preventive Service (CEPS) (Malik et al., 2021; Bekoe et al., 2016). These three revenue agencies played a significant role in the Ghanaian economy. The IRS was responsible for domestic tax collection, including personal and corporate income taxes. The VATS handled the Value Added Tax administration, a major government revenue source. The CEPS was in charge of implementing customs laws and collecting import duties, excise taxes, and other taxes related to international trade.

Unifying these agencies into the GRA aimed to streamline tax administration, improve service delivery, enhance voluntary compliance, and maximize revenue collection. The merger was also expected to eliminate duplication of functions, reduce administrative costs, and improve the efficiency of tax collection (Atuguba, 2021; World Bank, 2020). Since its establishment, the GRA has been mandated to execute Ghana's tax laws and to ensure the effective and efficient collection, accounting, and reporting of tax revenue. It has introduced several initiatives to enhance tax administration, such as integrating tax operations, modernizing tax administration systems, and improving taxpayer services. These initiatives are part of the broader reforms to strengthen Ghana's taxation system to support the country's economic growth and development.

The Ghanaian tax structure comprises direct and indirect taxes (Malik et al., 2021). Direct taxes include personal income, corporate income, capital gains, and gift tax. Personal income tax rates in Ghana are progressive, with a top marginal rate of 25% (Saeed, 2021). A standard 25% corporate income tax rate is levied, although specific sectors like mining and petroleum have different rates (Acheampong & Ali-Nakyea, 2022; Abrokwah et al., 2021). Indirect taxes encompass value-added tax (VAT), excise duties, import duties, and other levies. The standard VAT rate in Ghana is 12.5%, with additional levies such as the National Health Insurance Levy (NHIL) at 2.5% and the Ghana Education Trust Fund (GETFund) levy at 2.5%, totalling 17.5% (Ghana Revenue Authority, 2021). Excise duties apply to specific goods like tobacco, alcoholic beverages, and petroleum products, while import duties cover goods and services imported into the country.

To enhance the efficiency and effectiveness of its tax system, Ghana has implemented several tax reforms that aim to broaden the tax base, simplify tax administration, and improve taxpayer

compliance (Ohemeng & Owusu, 2015; Joshi & Ayee, 2009). These reforms include introducing the Taxpayer Identification Number (TIN) system, adopting a self-assessment regime, and establishing a Large Taxpayer Office (LTO) to focus on administering taxes for large taxpayers. However, challenges persist in Ghana's tax system, such as a narrow tax base, low tax compliance, and a high degree of informality within the economy (Osei & Telli, 2017; Armah-Attoh, D., & Awal, 2013; Ofori, 2009). To further enhance the tax system, scholars have recommended measures like strengthening tax administration, increasing taxpayer education and services, and implementing policies to formalize the informal sector (Saeed, 2021; Peprah et al., 2020; Dube & Casale, 2016; Joshi et al., 2013; Ofori, 2009).

Adam Smith's Classical Model of Taxation

In *The Wealth of Nations* (1776), Adam Smith contended that taxation must follow the principles of fairness, certainty, convenience and efficiency. Fairness, in that taxation, should be compatible with taxpayers' conditions, including their ability to pay in line with personal and family needs. Certainty connotes that taxpayers are clearly informed about why and how taxes are levied. Convenience relates to the ease of compliance for the taxpayers, and efficiency touches on collecting taxes. The administration of tax collection should not negatively affect the allocation and use of resources in the economy and certainly should not cost more than the taxes themselves. Adam Smith's principles of reasonable taxation form a sound basis for taxation today (Boucoyannis, 2013; Innes, 2004); however, they are not always followed. Sometimes tax systems hit specific categories of taxpayers or kinds of consumption while leaving others relatively untouched. Sometimes tax systems lack transparency, imposing charges on some goods without any explicit indication on our bills.

Ghana's taxation system seeks to follow the principles outlined by Adam Smith to ensure tax burden is equitably distributed among citizens, providing a fair, certain, convenient, and economical process. These principles remain relevant and applicable to modern-day tax administration processes, including the tax system in Ghana, as they strive to maintain equity and fairness in tax payments. Equity is fundamental to Ghana's taxation system, emphasizing fairness and justice in tax payments. This principle ensures that individuals pay taxes according to their ability, with the tax amount proportionate to their income levels (Ahinsah-Wobil, 2021; Amoh & Adom, 2017). By implementing a progressive tax system for personal income tax, Ghana's tax system aims to distribute the tax burden equitably among citizens, supporting the government in providing benefits and protections for society.

Certainty is another crucial component of Ghana's tax system. Taxpayers should know in advance how much they are expected to pay, when and where they should make the payment and the form or mode of payment. The Ghana Revenue Authority (GRA) plays a vital role in providing clear information to taxpayers regarding their tax obligations, helping to establish a transparent tax system that fosters trust and compliance (World Bank, 2020; Peprah et al., 2020). Convenience is also essential in Ghana's tax administration process. The tax payment process is designed to be as user-friendly as possible, making it easy for taxpayers to fulfil their obligations. Finally, the

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principle of economy is crucial in Ghana's tax system, as it seeks to minimize the cost of collecting taxes compared to the amounts collected. The GRA ensures that the expenses incurred in administering taxes constitute a small portion of the total revenue generated. By establishing a Large Taxpayer Office (LTO) and Tax Service Centres (TSCs) to focus on the administration of taxes for large taxpayers, the GRA has taken steps to improve efficiency and cost-effectiveness in the tax collection process.

METHODOLOGY

Sources of Data
To effectively explore the impact of fiscal policy on the economic growth and development of the Ghanaian economy, this study employed an Ex-post facto research design. Secondary data was the prime source of data for the study. The utilization of secondary sources enabled the substantiation of the findings and situated them within the context of existing scholarship on the topic. Through the secondary data, we were able to effectively assess the significance of fiscal policy on the Ghanaian economy, advancing our understanding of the subject matter in a comprehensive and nuanced manner.

Consequently, data has been procured from a variety of sources, including the Institute of Statistical, Social and Economic Research, the Statistical Service of Ghana, the Bank of Ghana, and the Ministry of Finance and Economic Planning. The data spans ten years from fiscal years 2010 through 2019. These data sets were tested against four hypotheses, expressed in their null forms, at a 5% significance level. The findings were then used to draw conclusions and policy recommendations.

The four hypotheses are as follows:
1.   The null hypothesis (Ho) posits that fiscal policy has no significant effect on the economic growth of Ghana.
2.   The second null hypothesis (Ho) posits that fiscal policy has no significant effect on the economic development of Ghana.
3.   The third null hypothesis (Ho) posits that tax revenue, in isolation, does not significantly impact the economic growth of Ghana.
4.   The fourth null hypothesis (Ho) posits that tax revenue, by itself, does not significantly contribute to the economic development of Ghana.
In these hypotheses, economic growth is represented by the GDP, while economic development is represented by Infrastructural Development (INDF).

Research Tools Used
To accomplish the objectives of this study, we implemented the Ordinary Least Square (OLS) regression model as our primary research tool to test all identified hypotheses.
The OLS method, often used in regression analysis, is designed to examine the relationships between variables. It can establish whether one variable is dependent on another and determine

whether a relationship is direct or inverse among two or more variables. Furthermore, it allows for the validation of the regression coefficient(s) within a specific sample, subsequently enabling extrapolations to be made about a larger population.

In our analysis, the independent variables are Government Expenditure (GE) and Tax Revenues (TR), while the dependent variables are Gross Domestic Product (GDP) and infrastructural development (INFD). The latter is represented by the growth rate per GDP within the construction sub-sector of the industrial sector.

To streamline the investigation process, we utilized the Statistical Package for Service Solution software (Version 22), a powerful tool in data analysis. We then conducted a t-test to evaluate the impacts of government expenditure and tax revenue on the growth and development of the Ghanaian economy. The conclusions drawn from these rigorous analyses form the backbone of our study's findings.

Model Description

A Regression Model was employed to test the relevance of the hypotheses regarding the impact of government fiscal policies - including spending, investment, and consumption - on the growth and development of Ghana's economy and ascertain whether tax revenues contribute significantly to this economic growth and development. This model scrutinizes the relationship between two independent variables and one dependent variable, designated for specific variables and hypotheses:

$$Y = F(X) \ldots\ldots\ldots\ldots\ldots(1)$$

In this equation, Y is the dependent variable representing economic growth and development indicators such as GDP and infrastructural development (INFD). Meanwhile, X denotes the independent variable, which is either Government Expenditure or Tax Revenue. F stands for the function itself. This function is in the form of a two-variable linear equation:

$$Y = a + bX \ldots\ldots\ldots\ldots\ldots(2)$$

Here: Y = Dependent Variable X = Independent Variable a = Constant indicating the point of interception with Y b = Slope or gradient

We can further rearrange these equations as follows:

$$Y = F(GE+TR) \ldots\ldots\ldots\ldots\ldots\ldots(3)$$
$$Y = F(TR) \ldots\ldots\ldots\ldots\ldots\ldots(4)$$

Specifically, the following variables have been chosen to represent their corresponding values in the model:

GE+TR = Government Expenditures on Spending and Investments, and Tax Revenues, respectively, under Government Fiscal Policy.

TR = Represents only Total Tax Revenue.

Economic Growth = Represents economic growth proxied by GDP.

INDF = Represents economic development through infrastructural development (INDF) proxied by the growth rate per GDP in the construction sub-sector of the industrial sector.

With the first hypothesis, which states that there is no significant effect of fiscal policy on Ghana's economic growth, we have:

$$GDP = F(GE+TR) \ldots\ldots\ldots\ldots\ldots\ldots(5)$$

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The second hypothesis, stating that fiscal policy has no significant effect on Ghana's economic development, is represented as:

INDF = F(GE+TR) ....(6)

The third hypothesis, suggesting that tax revenue alone has no significant impact on Ghana's economic growth, is represented as:

GDP = F(TR) ....(7)

Finally, the fourth hypothesis, asserting that tax revenue alone makes no significant contribution to Ghana's economic development, is depicted as:

INDF = F(TR) ....(8)

4. Results
4.1 Effect of fiscal policy on the Economic Growth of Ghana
Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.963ᵃ	.927	.914	1.026E7

a. Predictors: (Constant), Govt. Expenditure, Tax Revenue

Table 2: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	-4.979E6	4.148E6		-1.200	.253
Tax Revenue	3.161	1.414	.398	2.236	.045
Govt. Expenditure	2.088	.631	.589	3.309	.006

a.   Dependent Variable: GDP

Hypothesis One sought to test the assumption that fiscal policy has no effect on Ghana's Economic Growth. The regression model employed in the study suggested a strong association between the fiscal policy instruments - government expenditure and tax revenue, and Ghana's GDP, a proxy for economic growth. The R-value, which measures the correlation between these variables, stands at .963, indicating a highly strong positive relationship. This infers that changes in government expenditure and tax revenue are closely associated with changes in GDP.

The R Square value was reported to be .927, suggesting that approximately 93% of the variation in GDP is explained by changes in government expenditure and tax revenue. This is a significant proportion and underscores the importance of these fiscal policy instruments in influencing the country's economic growth.

We find compelling results in examining the regression coefficients, which quantify the relationship between each independent variable and the dependent variable. For tax revenue, the

coefficient value is 3.161, with a p-value of .045. This p-value is below the accepted .05 level, indicating statistical significance. In layman's terms, this indicates that for every unit increase in tax revenue, we can expect, on average, a 3.161-unit increase in GDP, assuming all other factors are held constant.

Regarding government expenditure, the coefficient value is 2.088, with an even lower p-value of .006. This suggests a statistically significant relationship between government expenditure and GDP, such that for every unit increase in government expenditure, we can expect a 2.088-unit increase in GDP, again, assuming other factors remain constant. It's important to note the caveat that these results are based on the data from the fiscal periods of 2010-2019 and the specific regression model employed. These findings can provide insightful inputs for policymaking, but it's also crucial to bear in mind the dynamic nature of economies, where many factors interplay. Nonetheless, given these findings, the null hypothesis that fiscal policy has no effect on Ghana's economic growth is rejected. This means we can assert, with a high level of confidence, that the fiscal policy tools - government expenditure and tax revenue - do have a significant impact on Ghana's economic growth. It underscores the pivotal role of sound fiscal policies in driving economic growth and development.

4.2 Effect of fiscal policy on the Economic Development of Ghana
Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632[a]	.399	.299	3.58437

a. Predictors: (Constant), Govt. Expenditure, Tax Revenue

Table 4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.893	1.449		4.066	.002
	Tax Revenue	7.137E-7	.000	.736	1.445	.174
	Govt. Expenditure	-5.128E-8	.000	-.118	-.233	.820

Dependent Variable: Infrastructural Development (Economic Development)

This analysis tests the second hypothesis, which posits that fiscal policy does not affect Ghana's economic development, represented by infrastructural development (INDF). The regression model used in this study yields an R-value of .632, indicating a moderate positive correlation between the fiscal policy variables (government expenditure and tax revenue) and infrastructural development. This suggests that changes in government expenditure and tax revenue are moderately associated with changes in INDF.

However, the R Square value is .399, meaning that only approximately 40% of the variation in infrastructural development can be explained by government expenditure and tax revenue changes. This is a significant proportion but less than what we observed in the GDP analysis, suggesting that while fiscal policy plays a role in economic development, other factors outside this model may also have a substantial influence. When we look at the regression coefficients, we see that the coefficient for tax revenue is 7.137-7, but with a p-value of .174, which is greater than the .05 level used for determining statistical significance. This means that while the tax revenue seems to have a positive relationship with infrastructural development, this relationship is not statistically significant, and therefore, we cannot reliably predict changes in INDF based on changes in tax revenue.

Similarly, the coefficient value for government expenditure is -5.128-8 (indicating a negative relationship) with a p-value of .820, well above the .05 threshold. This further implies that the relationship between government expenditure and infrastructural development, as per this model, is not statistically significant.Based on these findings, we fail to reject the null hypothesis for this specific model. This suggests that according to this model and based on the data from 2010-2019, fiscal policy (specifically government expenditure and tax revenue) may not have a statistically significant impact on Ghana's economic development (infrastructural development).

4.3 Tax revenue alone makes no significant impact on the Economic Growth of Ghana
Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.927[a]	.860	.849	1.363E7	1.764

a. Predictors: (Constant), Tax Revenue
b. Dependent Variable: GDP

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.490E6	5.507E6		-.997	.337
	Tax Revenue	7.363	.825	.927	8.924	.000

a. Dependent Variable: GDP

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4.4 Tax revenue contribution to the Economic Development of Ghana
Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.630ª	.396	.350	3.45150	2.198

a. Predictors: (Constant), Tax Revenue
b. Dependent Variable: Infrastructural Development (Economic Development)

Table 8: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta	t	Sig.
1 (Constant)	5.905	1.395		4.234	.001
Tax Revenue	6.105E-7	.000	.630	2.922	.012

a. Dependent Variable: Infrastructural Development

This analysis is for the fourth hypothesis, which postulates that tax revenue alone makes no significant contribution to the economic development of Ghana, represented by infrastructural development (INDF).
The regression model's R-value is .630, suggesting a moderate positive correlation between tax revenue and infrastructural development. This means that changes in tax revenue may be moderately associated with changes in INDF.

The R Square value is .396, indicating that approximately 40% of the variation in infrastructural development can be explained by changes in tax revenue. While this is a significant proportion, other factors not included in this model might also considerably influence INDF.The regression coefficient for tax revenue is 6.105E-7, with a p-value of .012, less than the .05 level used for determining statistical significance. This suggests that tax revenue has a positive, statistically significant relationship with infrastructural development. Based on this model and the data from 2010-2019, an increase in tax revenue can be expected to result in a corresponding increase in infrastructural development.

Given these findings, we reject the null hypothesis. This suggests that tax revenue alone significantly impacts Ghana's economic development, as represented by infrastructural development in this model. However, it's worth noting that while this model does find a significant relationship, the impact of tax revenue on economic development is likely to be complex and influenced by many other factors not captured in this model. Thus, further research is required to understand this relationship fully.

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

Drawing from the analyses of the four hypotheses, several key conclusions and implications can be distilled regarding the influence of fiscal policy on Ghana's economic growth and development. First, the data suggest a significant correlation between fiscal policy tools - government expenditure and tax revenue - and Ghana's economic growth, as represented by the GDP. A strong positive relationship was noted, with around 93% of the variation in GDP being attributed to shifts in these two fiscal elements. This clearly underscores fiscal policy's crucial role in steering the country's economic growth. Efficiently manoeuvring these policy levers could significantly stimulate Ghana's economic growth.

In contrast, when examining the influence of these fiscal policy instruments on economic development, represented here by infrastructural development, the impact appears less direct. Although a moderate positive relationship was noted, only about 40% of the fluctuations in infrastructural development could be explained by variations in government expenditure and tax revenue. Furthermore, the analysis failed to prove a statistically significant relationship between these elements, suggesting that these fiscal policy tools may not markedly influence infrastructural development in Ghana. Interestingly, a divergent picture emerges when considering the effect of tax revenue in isolation. The analysis pointed to a significant impact of tax revenue on infrastructural development. This finding signals the importance of effective tax policies and administration. An optimized tax collection and allocation system could be a key driver for infrastructural development in Ghana.

These conclusions are grounded in the data sourced from the fiscal periods between 2010-2019 and the specific regression models applied in this study. While the findings offer valuable insights, it is imperative to recognize that the economic landscape is multifaceted. Various factors not accounted for in these models may also significantly sway Ghana's economic growth and development. The implications of these findings for policymakers are twofold. First, the results underscore the need for sound fiscal policies to drive economic growth. Effective government expenditure and tax revenue management could foster a conducive environment for GDP growth. Second, while the impact of fiscal policy on infrastructural development seems less potent, this does not devalue its overall importance for wider economic development. Policymakers should seek to understand the other factors at play that influence infrastructural development beyond fiscal policy.

Thus it is suggested that firstly, according to Smith's principle of economic efficiency, taxes should not distort market outcomes. The finding that tax revenue and government expenditure significantly impact Ghana's GDP growth underlines the importance of implementing an efficient fiscal policy that aligns with this principle. Policymakers need to manage tax revenues and government spending judiciously to avoid distorting market forces. It might involve allocating funds towards productive sectors that yield high returns, thereby stimulating economic growth and identifying ways to diversify revenue sources to bolster fiscal resilience. The notion of non-distortion resonates with Smith's principle of efficiency, which emphasizes the importance of tax neutrality, where taxation should not influence the economic decisions of individuals and businesses.

Secondly, the principle of convenience highlights the importance of making taxation straightforward and uncomplicated for taxpayers. This principle is reflected in the recommendation to enhance tax collection efficiency in Ghana. Improving tax compliance, combating tax evasion and avoidance, broadening the tax base, and modernizing tax administration align with making taxation more convenient and manageable for the populace. A successful application of this principle could lead to increased tax revenues that, as this study suggests, can positively influence infrastructural development.

The principle of certainty underlines the importance of transparency in the tax system, which resonates with the recommendation for effective tax revenue allocation. Taxpayers should know where their taxes are being utilized, and a clear, transparent system for budgeting and expenditure can build trust and compliance, facilitating the efficient use of collected tax revenues. The fourth principle, fairness or ability-to-pay, implies that taxes should be levied on individuals based on their capacity to pay. This principle underlines the need for an equitable tax system in Ghana. Policymakers should ensure that tax reforms consider the income and wealth disparities within the country, thereby fostering a sense of fairness in the tax system, which could potentially improve tax compliance and, consequently, tax revenue.

Lastly, given that fiscal policy could explain only a portion of infrastructural development in Ghana, it points towards Smith's assertion that taxation is only part of the larger economic system. It is crucial also to consider factors outside the tax system and fiscal policy that could affect infrastructural development. Such a holistic approach might encourage private-sector investment, promote public-private partnerships, and enhance institutional capacity. This aligns with Smith's broad economic perspective that the economy is a function of a multitude of interacting variables. Adam Smith's principles of taxation provide timeless insights that remain relevant in shaping fiscal policies in contemporary economies. The policy recommendations derived from this study, while rooted in the context of Ghana, are ultimately a testament to the universality of Smith's principles. Continued research and evaluation are needed to ensure fiscal policies adapt accordingly and drive sustainable economic growth and development as economies evolve.

Thus, the significant effect of tax revenue alone on infrastructural development highlights the need for efficient tax policies. A concerted effort to enhance tax collection and ensure productive use could significantly support infrastructural advancement. Lastly, the nuanced outcomes from the study suggest a need for more comprehensive research. Understanding the dynamic interplay between fiscal policy and other factors influencing Ghana's economic growth and development could offer a more holistic view of the economic landscape and enable more effective strategies for advancement.

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