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GOVERNMENT EXPENDITURE ON ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM GHANA

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Original Article

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Abstract

In free market finance, the government plays an essential role. The government really does a lot for an economy. When markets can't solve problems on their own, governments must step in to offer public goods, address externalities, and enforce competition. The issue for every economy that wants its government to fulfill its function is finding the right size of government (total expenditures by the government as a percentage of GDP) to promote long-term prosperity. Government spending in Ghana has increased over the previous two decades, according to data on fiscal behavior, but GDP growth has lagged behind. Using a time series data analysis, this study aimed to shed new empirical light on the connection between government size and economic growth in Ghana, as well as identify the optimal threshold level at which government final consumption may contribute to rapid development. The research found that higher levels of government spending contributed directly to economic expansion. The analysis concluded that a threshold of 0.114% for government spending was optimal for promoting growth in the economy. Therefore, the study urges fiscal discipline and control to maintain the optimal level of government spending, which would have a multiplier effect on other parts of the economy and prevent crowding out.

Keywords: ***Economy; Economic Growth; Fiscal Behaviour; Fiscal Discipline; GDP***

Introduction

Governments are required in free market economies [1]. The government affects every economy. First, markets fail, requiring government intervention to provide public goods, regulate externalities, and maintain healthy competition [2]. The acceptance of government size and function is growing. Meanwhile, in Ghana, government measures stabilize and strengthen the economy because consumers and producers follow government signals.

Ghanaian ministerial nominations have drawn widespread criticism. The public's use of ministers as a proxy for government size may harm government spending and economic growth. According to scholars, the term "size of government" does not refer to a government's ministerial count. However, experts agree that government spending directly affects economic growth, justifying the public's reaction [3].

The public's response suggests they care about government size and economic growth. However, Ghana lacks statistics on how government expenditure affects economic growth, prompting this inquiry.

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Ghana's diverse economy makes the government's role distinctive. The public sector scale justifies a study into effective income collection and spending allocation mechanisms. Second, the government struggles to allocate economic resources fairly and efficiently due to their magnitude. Several models have examined government expansion.

Wagner's law is exemplified. The researchers wanted to understand how bigger governments affect GDP growth in Ghana. This paper has three goals. This paper aims to evaluate the expansion and contraction of the Ghanaian government, analyze the impact of government spending on GDP growth, and determine the optimal threshold for government spending.

Literature Review

Several theories have examined economic development and government spending. No single theory has answered all questions concerning how government spending influences economic growth. Economists have disputed government spending and economic growth. Here are some of the key arguments: They'll discuss this research's main hypotheses.

The Classical Growth Theory

Many consider classical economics to be the foundation of modern economics. Adam Smith, David Ricardo, Thomas Malthus, and John Stuart Mills designed it [4]. Adam Smith and Thomas Malthus stressed the economic value of land. Adam Smith explained economic progress using "that original state of things," a hypothetical ideal age before land appropriation and capital stock [5]. However, Adam Smith made these statements prior to the discovery of money and the widespread ownership of land. Due to Adam Smith's cheap and abundant land, settlers migrated onto more land as the population developed, like in the American West. Without capital, the country's output grows in proportion to its population. Due to the absence of deductions for land and investment values, wages serve as the sole source of national income. Since production expands with the workforce, real wages stay consistent.

Population growth will exhaust all the land. This makes it impossible to maintain a sustainable ratio of land, labour, and production, forcing unemployed people into already-worked fields. To share, rents rise.

Population and GDP have risen. Productivity growth should lag population growth. The law of diminishing returns means more workers per unit of land, which means less land per worker.

Rising labour expenses relative to land costs lead to a decrease in marginal production, thereby lowering real pay rates. Due to population pressures, Malthus believed the economy would eventually support employees. When wages are high, populations grow, but when they are low, death rates rise, and fewer people survive. Wages must exceed subsistence to preserve population balance [6].

According to late eighteenth- and early nineteenth-century economist Thomas Malthus, new technologies temporarily improve national production. According to this growth hypothesis, the minimum wage increases with real GDP per worker. Thus, the population and potential workers have risen. More job seekers have been pursuing lower wages, resulting in a typical household income that is now below subsistence levels. This meagre wealth has restricted economic and population growth. If the average real income per worker exceeds subsistence, the hypothesis predicts a population surge. A higher standard of living raises the birth rate and life expectancy. As the population rises, capital per worker and production per worker fall, lowering real wages to the subsistence level and driving the population to collapse as it adjusts to the new standard of living [7].

The Neoclassical Growth Theory

Adam Smith and Malthus neglected technological advancement and fixed asset investment as drivers of economic growth. Manufacturing was unimpeded by land availability. Iron and steel created stronger machines and faster locomotives; factories consolidated groups of workers into massive corporations; railways connected the world; and power-driven machinery increased production.

The Nobel Prize-winning economist Robert Solow claims to have invented the "neo-classical" growth model almost four decades ago [8]. Capital investment boosts GDP growth temporarily, according to the Solow model [8]. This approach simply uses capital and labour to create a single, standardized product. Economic considerations affect population growth, but external causes determine labour growth. Under the assumption that the economy is competitive and always has full employment, researchers may study prospective production expansion. This paradigm prioritizes fresh capital and technology for economic progress.

If technological progress stagnates, capital will dominate economic growth. Capital serves as a durable good that facilitates the creation of other items. Capital items include factories, residences, computers, and machines. Stockpiles are complete and in progress.

The widespread use of computers and communication systems in banking, as well as tractors and irrigation systems in agriculture, demonstrate capital deepening, or an increase in capital per employee, in economic development [9]. Societies' heavy investment in capital goods has raised worker capital per field. This has increased worker productivity in agriculture, transportation, and banking.

This model also illustrates that investing early in physical assets lowers the capital return for a given technology. The completion of the highest-yielding investment projects first results in lower returns for those that follow. Technical development differences across countries may explain most growth rate differences. The neoclassical approach considers productivity gains "exogenous" to capital investment.

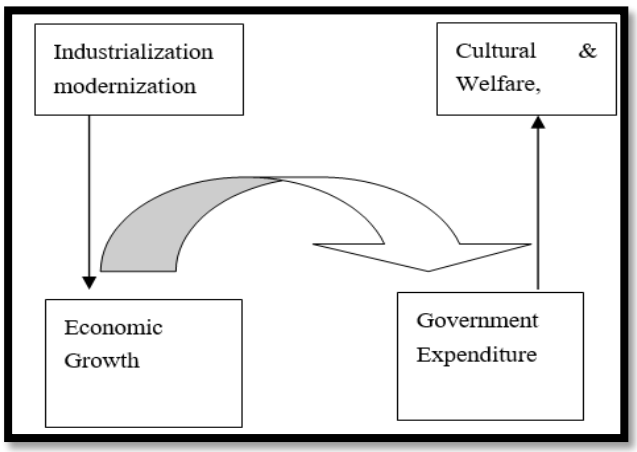
Wagner's law

Two main schools of thought include Wagner's law, proposed by a 19th-century German professor, Adolf Wagner, and Keynesian theories, proposed by a 20th-century British economist, John Maynard Keynes. Adolf Wagner discovered Wagner's law, which linked government involvement to economic growth [10]. Wagner's law's three main drivers caused government expansion.

Industrialization and modernization have boosted government spending on law and order and contractual enforcement. Second, the income elastic theory of consumption predicts higher "cultural and welfare" expenditures as real income rises. Wagner suggested the public sector may better serve educational and cultural requirements than the private sector [10].

Third, the government had to take over natural monopolies like the railways due to their high operating costs and the private sector's incapacity to attract investment capital to grow them. He also argues that the private sector cannot manage these operations. Wagner's rule—also known as "the law of expanding state activity"—states that income-elastic demand for government products and services exists. Due to "pressure for social progress" and infrastructure needs, Wagner's law suggests that government spending rises with a strong economy (see figure 1 below).

Figure 1: Wagner's Law's Recursive Progression



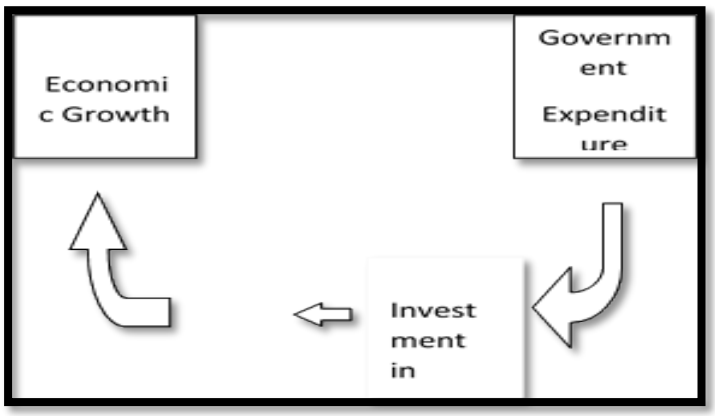
Source: Wagner et al. [11]

Keynesian economics explains government spending and growth. This theory states that government spending increases GDP growth through a "multiplier effect," creating more jobs, profits, and private investment. Government expenditures boost aggregate demand and production. Understanding this phenomenon necessitates knowing the expenditure multiplier.

Therefore, it's important to understand the spending multiplier. Thus, to calculate the expenditure multiplier, follow the procedures below. According to the Keynesian framework, tax cuts may encourage private investment for economic growth. Government expenditure multiplies economic growth through job creation and other means. As usual, these efforts should boost economic growth rather than compete. This rule prevents crowding out discourse. This rule allows government spending on education, healthcare, infrastructure, social security, justice, externalities, pleasure markets, and more.

Thus, stability has encouraged return-driven investment. Thus, they can sketch the Keynesian circular flow (see figure 2 below).

Figure 2: The Repetition of Keynesian Opinions



Source: Jesús Muñoz-Bandala [12]

Empirical Review

Any government wants to expand because it boosts GDP and living standards. Government spending does not directly affect economic growth. According to scholars, governments spend a lot of society's resources, so this research should focus on the correlation between the two. Government services include justice, healthcare, education, defense, public utilities, and physical infrastructure. This study relies on several previous studies that examined the relationship between governance and development from diverse perspectives.

The percentage of GDP spent on public services is a popular indicator of government size. Despite major hurdles, the present research does not provide enough information to create a complete theory about government size and economic growth. Government expenditure can boost or hurt economic growth, depending on the study. This paper does not support or oppose the studies. It seeks to learn how governmental budgetary policies affect Ghana's economic growth and development. The investigation covers 1992–2016 in Ghana's unique socio-economic and political context.

Numerous studies on government size and economic development provide intriguing but contradictory results. There is an inverted U-shaped relationship between government spending and economic progress [13]. Government spending above a specific threshold hurts GDP. Scholars, policymakers, and government officials must determine the optimal government level to support economic growth, estimated at 20% of GDP [13].

Government spending, as a percentage of GDP, can help explain Ghana's economic growth. Government spending may have influenced Ghana's economic growth, accounting for other factors.

Empirical research reveals that government expenditure affects economic growth depending on the inequalities between developing and developed countries, as well as the variables of quantity (i.e., government size) and quality (i.e., institution efficacy). People widely accept that increasing public spending, particularly in emerging nations, boosts the economy. Government expenditure affects economic growth more in emerging nations than in developed nations, all else being equal.

Empirical research reveals that government expenditure affects economic growth depending on the inequalities between developing and developed countries, as well as the variables of quantity (i.e., government size) and quality (i.e., institution efficacy). People widely accept that increasing public spending, particularly in emerging nations, boosts the economy. Government expenditure affects economic growth more in emerging nations than in developed nations, all else being equal. Smaller economies spend more of their GDP on projects with a higher chance of success. Government expenditure typically hurts economic progress in underdeveloped nations. This is due to government inefficiency, the crowding-out consequences of fiscal policies, including high taxation and domestic borrowing, an excessive tax burden, and government spending financed by excessive borrowing or printing money.

The public sector's efficiency is more important than government involvement in regulating or easing the impact of government expenditure on economic growth [14]. The authors emphasize public sector quality, defined as the qualities and configurations of public sector enterprises, and show that government expenditure and economic growth are non-linear and dependent on public sector quality. The analysis shows that larger governments only hurt economic growth when the public sector is poor. If public-sector institutions perform well, government growth can boost economic growth or have no effect. Government investment boosts economic growth and development, but corruption, rent-seeking, dishonesty, and abuse of authority weaken institutions. Government spending affects economic growth through institutional frameworks [14].

Durden and Elledge's national, regional, and local studies on the phenomenon yielded conflicting results [15]. Regional data, together with national statistics, may be useful for assessing the relationship between government spending and economic growth. Meltzer and Richard's previous research reveals that federal or national governance, budget and taxation regimes, and institutional arrangements have no relative effect on government expansion [15]. As shown by indisputable statistics, government expenditure's effect on growth in different nations depends on several characteristics and may not match initial estimates.

This paper analyses government size, quality, and economic progress in broad developed and developing countries using both quantity (size) and quality (institutional efficiency) lines of study. Prioritizing fiscal and institutional issues is crucial for developing nations with modest yet expanding economies, often plagued by corruption, rent-seeking, excessive taxation, and high borrowing, to reap the benefits of government spending. Ghana must prioritize these concerns.

This study seeks to improve public sector institutions and government expenditure trends to promote sustained progress [14].

Methodology

Theoretical Framework

The neoclassical production function serves as the theoretical framework for my investigation, as shown in,

Figure 3: the rate of economic expansion

$$Y = f\ (K, L, A). \ldots\ldots (3.1)$$

Source: Collected by author

Figure 3 show that where Y denotes the rate of economic expansion, K stands for capital, L for labour, Y for production, and A is a measure of technological advancement.

The economic and social success of a country depends heavily on its ability to adapt to new technologies and scientific discoveries. To promote economic development and social welfare, governments invest in intangible assets like education and basic research in innovation, science, and technology. The development of new technologies calls for educated and competent labour forces. New and better goods and services, as well as more effective methods of organising production, are both sparked by investments in education. This means that investment levels might climb steadily over time, which in turn could boost a country's GDP growth rate. Therefore, we can regularly implement new ideas at minimal cost, eliminating the need for costly R&D, and freely share information across industries, national boundaries, educational systems, and corporate boundaries. Such overflows may reduce the impact of scarce capital on economic expansion.

The investment in health care technology transfer has a significant impact on population growth. Because of improvements in healthcare, more babies are surviving to reproduce, and, in turn, more adults are living to work and further educate themselves, propelling economic development.

Figure 4: Cobb- Douglas function

$$A = g(GE, Trade, inflation, population\ growth)$$

$$\ldots\ldots (3.1.1)$$

$$Y = f\{K, L, g(GE, Trade, inflation). \ldots\ldots (3.1.2)$$

$$Y = f(K, L, GE, Trade, inflation). \ldots\ldots (3.1.3)$$

Source: Collected by author

They assume a Cobb- Douglas function,

Figure 5: Cobb- Douglas function

$$Y = \beta KtaLt1 - \alpha GEt\gamma Tt\theta INFt\mu\epsilon\varepsilon t. \ldots (3.1.4)$$

Source: Collected by author

Figure 4 &5 show that Y is the nominal GDP expansion rate, GE is government final consumption, T is trade openness, and INF is the GDP inflation deflator.

Independent sample means did not distribute normally, according to a normality test. Therefore, we applied a logarithmic transformation to the data. (Refer to figure 6)

Figure 6: Logarithmic transformation to the data

$$InYT = In\beta + \ + (1 - \alpha)\, InL + \gamma InGE + \theta InT + \mu InINF + \varepsilon t \ldots\ldots\ldots (3.1.5)$$

Source: Collected by author

Model Specification

Model 1

They first used a linear regression model to determine the individual contributions to GDP growth from factors including capital creation, population growth, general government final consumption, trade openness, and inflation. (Refer to figure 7).

Figure 7: GDP growth

$$InYT = In\beta + \alpha InK + (1 - \alpha)\, InL + \gamma InGE + \theta InT + \mu InINF + \varepsilon t$$

Source: Collected by author

Model 2

The study employed the annual percentage growth rate as the response variable, while the explanatory variables included the ratio of government final consumption expenditure to GDP, the inflation rate as the GDP deflator, gross capital formation as a measure of investment to output, the degree of openness to trade, and the rate of population growth. The World Bank's World Development Indicators (WDI) time series data over a 37-year period [15] determines the allocation of government funds in Ghana.

Model 2 was specified as: Figure 8

Figure 8: GDP Moddle

$$GDPt = Ct + \beta 1GEt\,(GEt \leq \mu) + \beta 2GEt\,(GEt > \mu) + \eta Xt + \pi t$$

Source: Collected by author

The constant term, Ct, an erroneous phrase that appears in the remainder, measures the value of economic growth when all other variables remain constant. The variable GE, which represents the government's share of GDP's final consumption, represents the threshold value that the parameter sets. When the input between brackets evaluates to true, the indicator functions I (.) returns 1, and otherwise returns 0. The variables in the vector Xt are inflation, capital creation, trade openness, government spending, and population growth. We denote the coefficient of the Xt vector variable as follows. We selected the aforementioned model specification because of its flexibility in accommodating both exogenous independent and exogenous threshold variables.

Data source and Data Type

We used the World Development Index (WDI) as a secondary data source [15]. The research drew on 37 years' worth of time series data, from 1980 to 2016. We included information on GDP growth, capital expenditures, inflation, economic freedom, and population increase.

Variable Description

Causal inferences propose that an independent variable affects a dependent variable. In this study, government spending, capital creation, inflation rate, openness to trade, and population growth were independent variables, with economic growth as the dependent variable.

According to the World Development Indicators (WDI), general government final consumption expenditure is defined as all government spending on goods and services, including individual remuneration [15]. Government capital does not include military spending. The public sector often invests a percentage of GDP to measure the size of the government.

The World Development Indicators used market prices adjusted for constant local currency [15]. To account for inflation, all statistics are in 2010 US dollars. We calculate a nation's GDP by adding up the tax revenue from domestically produced products and services, minus any subsidies not included in the price. This approach excludes natural resource degradation and manufactured asset depreciation.

The investment-to-output ratio was replaced by gross capital creation. According to the World Development Indicators (WDI), gross capital creation (formerly gross domestic investment) includes fixed asset purchases and net inventory changes [15]. Fixed assets include residential and institutional buildings, roadways, and trains. Fixed asset investments include buying a building or machinery. To meet fluctuating demand and avoid "work in progress" delays, companies keep finished and incomplete product stocks. According to the 1993 System of National Accounts (SNA), capital creation is defined as asset acquisition net of disposals.

The World Development Indicators (WDI) suggest substituting the economy's inflation rate with the GDP implicit deflator's annual expansion percentage [15]. The implicit GDP deflator is the ratio of GDP in current local currency to GDP in constant local currency.

Trade Openness

According to the World Bank Group's World Development Indicators (WDI), trade openness is defined as the total of imports and exports as a proportion of GDP [15].

Population Growth

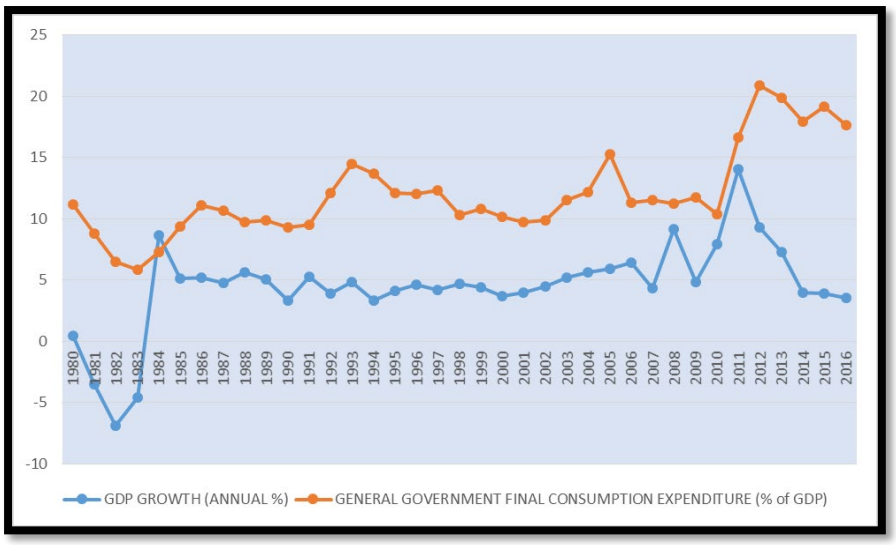
Population growth is WDI's compound annual rate of increase (CAGR) of a country's midyear population from year t-1 to year t, represented as a percentage [15]. The "de facto population definition" counts residents regardless of paperwork.

Results & Discussion

The study's objective was to look at the link between real GDP growth and governmental expenditure in Ghana. We also examine other factors that influence economic growth in Ghana, such as the GDP deflator inflation rate, the GDP gross capital creation percentage, the GDP growth rate, and the GDP openness to trade. Chapter 3 presents the calculated model's results. Regression analyzes government expenditure and GDP growth in Ghana, presenting the results of hypothesis testing, model description, statistical significance, and trend analysis. Since they translated all the data into percentages and ratios to GDP, they had to adjust everything by 1.

Comparison of the Rates of Growth of Government Spending and Gross Domestic Product

Figure 3: Real GDP Growth Rate and Government Spending Growth Rate Trends



Source: Magdalena & Suhatman [16]

Figure 9 shows that GDP grows at the same rate as government expenditure [16]. Between 1980 and 1983, government expenditure fell in tandem with real GDP growth. After a huge increase in government spending in 1983–1984, real GDP growth stayed constant over the next decade despite small changes in government spending. Figure 1 shows that annual government spending increases precede real GDP changes in the same direction, supporting the hypothesis that government spending drags real GDP along.

Figure 3 indicates that government spending does not always affect economic growth or decline. Since 1986, real GDP has grown while government expenditure has barely increased. This discrepancy suggests that other factors moderate government spending's effect on economic growth. This literature review examines public sector efficiency and structure, particularly in emerging nations like Ghana.

Between 1984 and 1987, the PNDC government increased spending on ERP and SAP. ERP aims to enhance output. More than half of the $4.2 billion the government has spent rehabilitating infrastructure comes from donors. Ghana's revitalized export economy, which includes cocoa, minerals, and wood processing, has driven real GDP growth for several years.

Ghana resumed economic investment in 1988 and continued through 1991. The government has allocated $85 million for its Program of Action to Mitigate the Social Costs of Adjustment (PAMSCAD). Over a two-year period, the program aimed to create 40,000 jobs and enhance the social infrastructure in both rural and urban areas. PAMSCAD increased government spending but slowed GDP growth.

Ghana's government expenditure rose five percent between 1992 and 1994. The 1990 privatization initiative diversified certain state-owned industries. As a result, the government generated substantial profits. Government economic growth and spending increased. In 1992, the administration prioritized liberalizing the administrative system, overhauling the banking sector, and reviving state reforms. Public health and education were important long-term investments. Economic growth also slowed by 0.58 percent.

The government changed drastically afterward. Because it couldn't pay its mounting debt, the government joined the Highly Indebted Poor Country (HIPC) program in 1995–1997 at donor organizations' request. Government spending rose by 2%. In 2001, the NPP government joined the IMF's Highly Indebted Poor Country (HIPC)

program, which lasted until 2008. After the government stopped supporting infrastructure projects, this plan reduced Ghana's debt, but its economic benefits faded.

2004–2008 is Ghana's HIPC participation. The goal is to free up funds for debt reduction with the IMF and other donors. Government spending rose roughly 16% between 2004 and 2008. As Ghana entered the second phase of the HIPC program, the IMF debt reduction was huge.

The government sold Ghana Telecom (GT) to Vodafone Ghana at year's end. Ghana's private sector took the lead after three oil discoveries. Government spending has increased by 3%.

The 2009 single-spine compensation plan may explain the steeper slope. When the economy grows, greater government employment means more expenditure.

The last Ghanaian president provided free school uniforms and 23 million exercise books to low-income children in 2011. This program supported domestic textile manufacturing to boost school enrolment and help the sector. Government spending increased, supporting the economy.

From 2011 through 2016, a power shortage hampered economic growth and affected corporate and household customers. Businesses need generators. Graphic Online (January 2017) indicates that over 76% of rural and urban residents had clean water in 2015. From 2013 to 2016, the government expanded infrastructure spending, including road building. This shows how government spending and economic growth have fluctuated over time.

Regression Results

Model 1 used linear regression to identify the parameters most correlated with real GDP growth. The study predicted gross capital formation, population growth, final government consumption, trade openness, and GDP deflator inflation.

We subjected the second model to a threshold regression analysis to determine if the government's final consumption as a percentage of GDP (the dependent variable) had a non-linear relationship with real GDP growth, inflation (as indicated by the GDP deflator), population growth, and trade openness. The model's significance was assessed using the F-statistic and variance. We also performed the Durbin-Watson autocorrelation test.

Summary of linear and non-linear regression findings are shown in Table 1.

Table 1: Threshold Estimation Outcomes from Linear and Non-Linear Models

Variables	Linear regression	Std Error	Non-Linear regression	Std Error
	Model 1		Model 2	
LNGE[b]	-	-	1.071052***	0.345131
LNGE[a]	-	-	0.674953***	0.242275
LNGE	0.139419	0.255671	0.1142886	-
LNK	0.287462	0.239172	0.347651**	0.153454
LNL	2.897317	2.978015	6.392493**	2.562086
LNT	-0.001090	0.080799	-0.011005	0.049447
LNINF	-0.067865	0.042126	-0.080238**	0.033339
CONSTANT	0.921897***	0.105215	0.741751***	0.098296
r^2	0.423333	-	0.530949	-
aDJR[2]	0.330322	-	0.437139	-
F-stat	4.551442	-	5.659821	-

pROB (F-STAT)	0.003156	-	0.000501	-
Source from Eviews (Compiled by author)				
a. Dependent Variable: Real GDP Growth % (LNGRGDP)				
b. Independent Variables: Government Expenditure (% GDP), gross capital formation (% of GDP), population growth (annual %), trade openness, inflation GDP deflator.				
c. Threshold variable: Government Expenditure (% GDP)				
d. ***, ** indicates significance at 1% and 5% respectively.				
e. The optimal threshold level below and above government expenditure as a percentage of gdp respectively is LNGE<0.1142886 and 0.1142886<=LNGE				

Source: Dong et al [17]

Results from Hypothesis Tested

We tested all hypotheses at 1% and 5% statistical significance. Both models had five significant factors (1% and 5%).

Table 1 shows linear and non-linear threshold regression estimates. The first and fourth columns exhibit independent linear regression variable coefficients and non-linear model coefficients. Columns 3 and 5 include the two models' standard errors.

The Durbin-Watson test yielded 1.41. The research's independent variables have no positive correlation or autocorrelation. The model's error component was also independent of the independent variables.

Model 1

When the independent variables and error term are zero, the linear regression model represents the dependent variable as the constant term (0.921897). Numbers rarely converge to zero. This value starts the regression line. At 1%, the linear model constant term was significant.

The government's GDP coefficient for final consumption was 0.139419. It was not statistically significant. The government adds thirteen cents to its final consumption budget for every dollar of real GDP growth (economic expansion). This supports the idea that government expenditure at all levels drives real GDP growth. Real GDP growth (economic expansion) significantly correlates with gross capital formation. Gross capital formation was 0.287462, below statistical significance. Gross capital formation increases real GDP growth by 0.28 percentage points, provided all other variables remain constant.

Working-age population growth boosts real GDP growth. Population growth was 2.897317, which is non-significant. 1% population growth boosts real GDP growth by 2.89% after controlling for other factors.

Additionally, there was an inverse relationship between the degree of interaction and economic growth. Trade was -0.001090. Trade openness has no effect on real GDP growth (economic growth).

The predicted inflation coefficient of 0.04 implies that a 1% increase in inflation would reduce economic growth or real GDP growth by $0.04.

The five independent variables—government expenditure (% of GDP), gross capital creation (%), population growth (annual%), trade openness, and inflation GDP deflator—have an R2 value of 0.423, according to the study. These variables explain 42% of Ghana's real GDP growth volatility. The model appears to explain variables well.

Model 2

Table 1 shows Model 2's threshold variable: general government final consumption spending (% of GDP). Government spending is acceptable at 1.301% of GDP. The problem statement does not suggest a correlation between cabinet ministers and government size. Government size determines a nation's GDP potential. The GDP has risen by 13% due to an increase in government official spending. Some scholars recommend spending 11%–25% of GDP. Other scholars, however, analyzed data from 20 European countries and found that 16% of GDP was the best.

Table 1 shows that both excessive and insufficient government spending affect real GDP growth. The coefficient for general government final consumption expenditure is positive and statistically significant at the 1% level for both high and low GE categories (2 = 0.67; s.e. = 0.24). Government expenditure as a percentage of GDP increases economic growth by one percentage point when the government reaches a particular size. Government expenditure, as a percentage of GDP, decreases growth by 0.67% at every percentage point.

The GDP deflator, population growth, trade openness, and gross capital creation have shown that inflation is not statistically significant and has a negative effect. Inflation has slowed real GDP growth by -0.08 percentage points per percentage point.

The positive and statistically significant percentage change in gross capital formation at 5% shows that investment increased from 1980 to 2016. The study shows how the gross capital creation coefficient may affect economic growth under constant inflation, trade openness, and population growth. Specifically, a 1% increase in capital formation could boost economic growth by 0.27 USD per year. Investment activity forecasts were confirmed. Both developed and developing nations found capital formation to be constructive and statistically significant.

Thirdly, the data was insufficient to prove that unrestricted trade promotes economic progress. Trade liberalization correlated slightly negatively with GDP growth. Real GDP rose 5%, proving statistical significance. Trade openness increases by 1%, which reduces real GDP growth by 0.01%.

The study found a weak positive link between population growth and economic development.

Conclusion: government spending boosts economic growth. Government spending boosted GDP. Assuming constant inflation, gross capital formation, trade openness, and population growth, a 1 percent increase in government expenditure increases GDP by 0.38 percent.

Future Scope

Summary of Major Findings

Studies show that the government's GDP share allocated to final consumption increased economic growth. Government final consumption as a percentage of GDP positively correlates with GDP growth, controlling for inflation, gross capital formation, trade openness, and population growth. A 1% rise in government final consumption as a percentage of GDP boosts GDP growth by 0.14%.

We used a threshold regression model to examine the non-linear link between government size, as measured by government final consumption's proportion of GDP, and real GDP growth across 37 time series. The analysis found that 0.114% of government expenditures promote GDP growth the most. Table 1 shows a non-linear link between GDP growth and government final consumption as a percentage of GDP. The curve has uphill and downward sloping sections.

We studied population growth, trade openness, gross capital creation, and the GDP deflator. There is a slight negative correlation between inflation and GDP growth. Economic growth decelerates by 0.08 percentage points for every one percentage point increase in inflation, according to estimates.

Gross capital formation increased significantly from 1980 to 2016. Gross capitalization has been rising by 0.34 percent annually. According to the coefficient of capital formation, a one-percentage-point increase in gross capital formation boosts economic growth by 0.34 percent.

Trade openness and GDP growth. A 1% increase in trade openness decreases economic development by 0.011 percentage points, keeping all other variables constant. Finally, a larger population had a small positive impact on the economy.

Conclusion

In Ghana's 1980–2016 study, final consumer expenditure was substituted for government size as a percentage of GDP. We also assessed the impact of government spending at various levels on economic growth.

Even after controlling for inflation, capital formation, trade liberalization, and demographic shifts, government spending was correlated with GDP growth. Even if government expenditure did not predict the growth rate, the study's optimistic expectations held true.

A threshold regression model using 37 time series found a non-linear relationship between government size and economic growth. According to the report, government expenditure on GDP should be 1.301%. Table 1 shows the non-linear relationship between government spending and economic growth. The curve's inflection point, where the slope turns negative, is ideal.

We used World Bank International Finance Statistics for the estimation. The study doesn't prove data quality or dependability. This may affect the research. Correlation studies cannot prove causality. There might not be a causal relationship between government expenditures and economic growth. Finally, certain statistics may be outdated and inaccurately represent the market or economy.

Recommendations of the Study

The study's policy recommendations follow its basic conclusions:

Government expenditures boost the economy. Government expenditure at or below 0.114% of GDP boosts real GDP (economic growth) the most.

Coordinating consumer expenditure across government branches prevents "crowding out" government investment. Openness and accountability around government expenditure in diverse sectors of the economy should prevent government officials from diverting public funds to their own accounts.

If the government monitors contracts, it can avoid overestimating project costs. Thus, economic growth has significantly improved public investment.

The Bank of Ghana must keep prices stable to support economic growth. Financial market instability and uncertainty have lessened the need to maintain an inflation rate below 10%, thereby benefiting Ghanaian investment.

Finally, a country's economy thrives when it prioritizes its comparative advantage over all other factors. The report proposes expanding trade with neighbouring nations and the rest of the world. Ghana could expand processed product exports and encourage its citizens to buy locally created goods. This has resulted in favourable trading conditions, restoring the country's commercial position.

Conflict of Interest

The authors affirm that they do not have any conflicting objectives.

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