

# Journal of Business and Economic Options



## Examining Government Expenditure and Economic Growth in Ghana

Ishmael Ackah<sup>a</sup>

### Abstract

This study aimed to explore the impact of government expenditure on economic growth, particularly in the context of Ghana, and to examine the validity of the Wagnerian hypothesis. The observed positive long-term impact of government expenditure on economic growth underscores the role of public investment in infrastructure, education, healthcare, and other critical sectors. By allocating resources to these areas, governments can lay the foundation for sustainable economic development, enhance productivity, and improve living standards for citizens. Moreover, targeted government spending can stimulate aggregate demand, create employment opportunities, and fuel economic activity, particularly in times of economic downturns or recessions. However, the short-term negative impact of government expenditure on economic growth highlights the potential challenges associated with fiscal expansion, such as inflationary pressures, budget deficits, and crowding out effects. Excessive government spending without corresponding increases in productivity or revenue generation may lead to macroeconomic imbalances and undermine long-term growth prospects. Therefore, policymakers must strike a balance between stimulating economic growth through public investment and ensuring fiscal sustainability. Furthermore, the finding that government expenditure does not significantly contribute to private sector investment underscores the importance of creating an enabling environment for business growth and investment. While government spending can complement private sector activity through infrastructure development and public-private partnerships, it is essential to address regulatory barriers, improve governance, and enhance investor confidence to stimulate private sector-led growth. The validation of the Wagnerian hypothesis in Ghana suggests that as the economy expands, there is a tendency for government expenditure to increase, reflecting the growing demand for public goods and services. However, policymakers must exercise caution to ensure that government spending is allocated efficiently and effectively to maximize its impact on economic growth and development outcomes. The study's findings underscore the complex relationship between government expenditure and economic growth in Ghana. While public investment plays a crucial role in driving long-term development objectives, policymakers must adopt prudent fiscal policies, promote private sector participation, and enhance institutional capacity to achieve sustainable and inclusive growth. By doing so, Ghana can harness the potential of government expenditure as a catalyst for economic transformation and prosperity.

**Keywords:** Government Expenditure, Economic Growth, Wagnerian Hypothesis, Fiscal Sustainability, Public Investment

**JEL Codes:** E62, H50, O55

### 1. INTRODUCTION

The significance of government in a developing country like Ghana cannot be overstated. Government plays a crucial role in providing essential social amenities, merit goods, social interventions, and transfer payments, all of which contribute to societal well-being and economic development. As emphasized by Keynes (1936), government spending is essential for stimulating economic growth, creating employment opportunities, and ensuring equitable distribution of resources. However, while government expenditures serve important purposes, they can also have adverse effects on the economy if not managed prudently. Excessive government spending, inefficient allocation of resources, and unsustainable fiscal policies can lead to inflation, budget deficits, and macroeconomic instability, undermining long-term economic growth and development objectives (Ali, 2015; Davoodi et al., 2021; Pacillo, 2022; Chen, 2022). Scholars have increasingly focused on understanding the relationship between government size, expenditure patterns, and economic growth, particularly in developing economies experiencing rapid growth. Economic analysis offers insights into how government policies and expenditures influence consumer behavior, firm decisions, and overall economic dynamics. In this context, there is growing interest in examining the impact of government expenditure on economic growth in developing countries like Ghana (Donkor et al., 2022). By analyzing the nature of this relationship, policymakers can better understand the effectiveness of government interventions and identify strategies to maximize the positive impacts of public spending while minimizing potential adverse effects.

The significant infrastructure gap and the need for subsidized government programs highlight the importance of increased government expenditure in Ghana's development process. Over the years, Ghana has made commendable efforts to address

<sup>a</sup> Kwame Nkrumah University of science and Technology, University of Portsmouth, Ghana

poverty, boost income levels, and enhance access to essential services such as education and healthcare for its citizens (Cuesta et al., 2021; Ang, 2022). The central government has expanded its expenditure size to support these initiatives, demonstrating a commitment to fostering economic growth and development across the country. One notable example is the government's decision to absorb school fees in all basic schools in the northern region of Ghana, along with investments in building new classroom blocks. This move aims to improve access to education and reduce financial barriers for students in underserved areas, ultimately promoting human capital development and socioeconomic advancement (Ali and Rehman, 2015; Ali, 2018; Indrawati and Kuncoro, 2021; Khan and Rehman, 2021). Additionally, the implementation of the National Health Insurance Scheme (NHIS) has played a vital role in enhancing healthcare accessibility and affordability for Ghanaians. By providing financial protection against the high costs of medical care, the NHIS contributes to improved health outcomes and greater social inclusion. Furthermore, initiatives such as the Livelihood Empowerment Against Poverty (LEAP) program provide targeted support to vulnerable populations, helping to alleviate poverty and enhance livelihood opportunities for disadvantaged individuals and families (Ahmad and Ali, 2016; Sajid and Ali, 2018; Kilyachkov and Chaldaeava, 2021; Akurugu et al., 2022). Investments in infrastructure, including the construction of major roads, are crucial for facilitating economic activities, promoting trade, and enhancing connectivity within and beyond Ghana's borders. Improved infrastructure not only stimulates economic growth but also enhances the overall quality of life for citizens by reducing transportation costs, enhancing access to markets, and facilitating the delivery of essential services.

The Republic of Ghana's joint review of public expenditure and financial management in 2011 highlights the remarkable progress made in various areas related to the Millennium Development Goals (MDGs) in Ghana. According to the report, Ghana was on track to meet targets related to poverty reduction, nutrition improvement, school enrollment, gender parity in education, and access to safe water. Additionally, significant strides were recorded in reducing child mortality rates since 2003. This impressive progress can be attributed, at least in part, to rapid fiscal expansion by the Ghanaian government (Alhassan et al., 2022). Fiscal expansion refers to an increase in government spending and investment aimed at stimulating economic growth, addressing social challenges, and promoting development objectives.

The government's commitment to expanding fiscal resources towards key priority areas such as education, healthcare, water and sanitation, and poverty reduction has played a crucial role in driving progress towards the MDGs in Ghana. Increased public expenditure on infrastructure development, social programs, and essential services has helped improve living standards, enhance access to opportunities, and reduce inequalities across the country (Adjasi and Yu, 2021; Ernowati et al., 2021). Furthermore, the effective management of public finances and prudent fiscal policies have enabled Ghana to leverage fiscal resources efficiently and maximize their impact on development outcomes. Sound fiscal management practices, including budget transparency, accountability, and strategic allocation of resources, have contributed to the successful implementation of development initiatives and the achievement of MDG targets.

## **2. LITERATURE REVIEW**

Yasin's (2000) re-examination of the impact of government expenditure on economic growth in Sub-Saharan Africa using panel data reveals several significant findings. His analysis indicates that government expenditure, trade openness, and private investment spending all have positive and significant effects on economic growth in the region. The positive impact of government expenditure suggests that increased public spending, particularly on key sectors such as infrastructure, education, and healthcare, contributes to economic growth by stimulating aggregate demand, creating employment opportunities, and enhancing productivity. Government investments in infrastructure, for example, can improve transportation networks, communication systems, and energy supply, thereby reducing production costs, increasing efficiency, and attracting private sector investment. Moreover, trade openness is found to be positively associated with economic growth in Sub-Saharan Africa. Increased trade liberalization and integration with global markets facilitate access to foreign investment, technology transfer, and export opportunities, which can drive economic expansion and diversification. By embracing trade openness, countries in the region can capitalize on their comparative advantages, expand market access, and promote economic development. Additionally, Yasin's (2000) analysis highlights the positive contribution of private investment spending to economic growth in Sub-Saharan Africa. Private sector investment plays a critical role in driving capital accumulation, technological innovation, and productivity growth, leading to higher output levels and improved living standards. Policies that support private sector development, promote investment-friendly environments, and enhance access to finance can incentivize domestic and foreign investment, thereby catalyzing economic growth and development.

Jiranyakul's (2007) examination of the relationship between government expenditures and economic growth in Thailand provides valuable insights into the dynamics of fiscal policy and economic performance in the country. Through the use of the Granger and Newbold (1974) causality test and ordinary least squares method, Jiranyakul's (2007) identifies several important findings. Firstly, Jiranyakul's (2007) observes a unidirectional causality moving from government expenditures to economic growth in Thailand. This suggests that increases in government spending have a significant impact on stimulating economic growth in the country. Government expenditures, particularly investments in infrastructure, education, healthcare, and other productive sectors, contribute to aggregate demand, job creation, and productivity enhancement, thereby fueling overall economic expansion. Secondly, Jiranyakul's (2007) analysis does not find evidence of causality from economic

growth to government expenditures. This implies that economic growth in Thailand is not driving increases in government spending. Instead, it suggests that government expenditure decisions are driven primarily by policy priorities, budget allocations, and political considerations rather than being reactive to changes in economic conditions. Furthermore, the ordinary least squares method used by Jiranyakul's (2007) demonstrates a strong positive effect of government spending on economic growth in Thailand. This finding corroborates the notion that government expenditures play a critical role in stimulating economic activity and fostering sustainable development. By investing in key areas of the economy, governments can create an enabling environment for private sector growth, enhance productivity, and improve living standards for their citizens.

Bataineh's (2012) investigation into the impact of public expenditures on the economy in Jordan, spanning the period from 1990 to 2010, sheds light on the relationship between government spending and economic growth in the country. Utilizing the Johansson method of co-integration, Bataineh concludes that there exists a strong positive effect of government expenditure on economic growth in Jordan. This finding is consistent with the results of previous studies conducted by various authors such as Alexiou (2009), Barro (1996, 1998), Belgrave and Craigwell (1995), Burkhead (1971), Chimobi (2009), Davies (2008), Avelino and Coronel (2020), Ali and Sajid (2020) and Osei and Acheampong (2021) who have also explored the impact of government spending on economic growth from different perspectives and contexts. These studies collectively support the notion that government expenditure plays a vital role in stimulating economic activity and fostering development. However, it's worth noting that there are also studies, including those by Anaman (2006), Patrick (2009), Oteng-Abayie and Frimpong (2009), Nketsiah-Amponsah (2009), Twumasi (2010), Sakyi and Adams (2012), Modibbo and Inuwa (2019) Safdar and Mailk (2020), and Zhang (2020) which may offer alternative perspectives or findings on the subject matter. These studies may have examined different variables, methodologies, or contexts, leading to varying conclusions regarding the relationship between government expenditure and economic growth.

Oteng-Abayie (2011) study on the relationship between economic growth and government expenditure in Ghana represents a significant advancement in the existing literature on this topic. While previous studies in this area have primarily utilized bivariate analysis and static models, Abayie's study improves upon these methodologies by incorporating new independent variables that have not been previously investigated. Additionally, the study stands out for its use of a dynamic Auto-Regressive Distributed Lag (ARDL) model, which offers a more comprehensive and nuanced understanding of the relationship between government expenditure and economic growth. By employing a dynamic model and incorporating new independent variables, Abayie's study provides a more robust analysis of the factors influencing economic growth in Ghana and the role of government expenditure in driving this growth. The dynamic nature of the ARDL model allows for the examination of both short-term and long-term effects, capturing the dynamic interactions among variables over time. One of the key contributions of Abayie's study is its potential to inform policymakers on the variables they can leverage and manipulate to stimulate economic growth in Ghana through government expenditure. By identifying the most influential factors and their relative importance, policymakers can design more effective fiscal policies and allocate resources more strategically to promote sustainable economic development. The juxtaposition of Wagner's Law of increasing state activity with Keynes' General Theory offers contrasting perspectives on the relationship between government expenditure and economic growth. Wagner posited that economic growth leads to an expansion of government expenditure, suggesting a causal direction from economic growth to government spending. In contrast, Keynes proposed that government expenditure drives economic growth, implying a causal direction from government spending to economic expansion. The study mentioned adds to our understanding of this relationship by examining its nature within the context of the Ghanaian economy. By empirically analyzing the dynamics between government expenditure and economic growth in Ghana, the study sheds light on whether one variable precedes or influences the other, and the magnitude and direction of their relationship. Understanding the nature of this relationship is crucial for policymakers as it informs the design and implementation of effective fiscal policies aimed at promoting sustainable economic development. If government expenditure is found to be a driver of economic growth in Ghana, policymakers may prioritize investment in key sectors and infrastructure to stimulate economic activity. Conversely, if economic growth precedes government expenditure, policymakers may focus on strategies to foster overall economic expansion to support increased government spending capacity.

### **3. THE MODEL**

Following Bloom and Canning (2000 and 2001), Gokal, & Hanif (2004), Nketia-Amponsah (2009), Sakyi (2011), Sakyi and Adams (2012), Ahortor, et al (2013), Alvi and Shahid (2016), Ahmad (2016), Khan (2016), Farahmand (2016), Ahmad (2016), Yan and Chen (2017), Karhan (2017), Doytch and Escresa (2018), Roy and Madheswaran (2018) we model output to be a function of capital, labour, government expenditure, openness of the economy, inflation, the political system and health in the form of life expectancy:

$$\lnRGDP=f(\lnK, \lnL, GEXP, OPENNESS, INF, POL, LE)$$

$\lnRGDP$  (natural logarithm of real GDP),  $\lnK$  (natural logarithm of capital),  $\lnL$  (natural logarithm of labor),  $GEXP$  (government expenditure),  $OPENNESS$  (degree of openness),  $INF$  (inflation rate),  $POL$  (political instability index), and  $LE$  (life expectancy)

4. RESULTS AND DISCUSSIONS

Table 1 displays the results of the Augmented Dickey-Fuller (ADF) unit root test conducted on various variables in both levels and first differences. The ADF test is commonly employed to determine if a time series variable is stationary or possesses a unit root, which implies non-stationarity. For each variable, the table presents four different specifications of the ADF test: with an intercept term, with an intercept and trend term, with first differences, and with first differences and a trend term. Under the "Variables" column, the names of the variables subjected to the ADF test are listed. These include lnRGDP (natural logarithm of real GDP), lnK (natural logarithm of capital), lnL (natural logarithm of labor), GEXP (government expenditure), OPENNESS (degree of openness), INF (inflation rate), POL (political instability index), and LE (life expectancy). The subsequent columns contain the test statistics corresponding to each specification of the ADF test. The test statistics are denoted as "Intercept" (with only an intercept term), "Intercept + trend" (with both an intercept and trend term), "Intercept" (with first differences), and "Intercept + trend" (with both first differences and a trend term). The test statistics are evaluated against critical values to determine the statistical significance of the results. Significance levels are indicated using asterisks: \* for 10%, \*\* for 5%, and \*\*\* for 1%. For instance, lnRGDP has a test statistic of -5.292 with first differences, which is significant at the 1% level, indicating stationarity after differencing. Similarly, lnK exhibits significance at the 1% level with a test statistic of -6.815 in the first difference specification. Variables such as lnL, INF, and LE do not have entries for certain specifications, indicating that the ADF test was not conducted for those cases due to data characteristics or model assumptions.

Table 1: ADF Unit Root Test

Variables	levels		First difference	
	Intercept	Intercept+ trend	Intercept	Intercept +trend
<i>lnRGDP</i>	7.999	2.317	-1.086	-5.292***
<i>lnK</i>	2.736	-1.163	-6.815***	-5.672***
<i>lnL</i>	-6.285***	-6.656***		
<i>GEXP</i>	-1.575	-1.883	-4.923***	-4.855***
<i>OPENNESS</i>	-1.513	1.796	-6.570***	-7.060***
<i>INF</i>	-2.510	-4.792***		
<i>POL</i>	-1.441	-3.077	-5.773***	-4.6444***
<i>LE</i>	-0.396	-2.563	-3.158**	-3.035

Table 2 provides the outcomes of two cointegration tests employed to assess the long-term relationship between the variables examined. Cointegration implies that the variables exhibit a shared movement over time, indicating a stable equilibrium relationship amidst short-term fluctuations. The F' Statistic test results indicate a value of 7.8363. The critical region, defined by the 95% lower bound of 2.7486 and the 95% upper bound of 4.1285, encompasses the F' Statistic value, indicating cointegration among the variables. Similarly, the W-Statistic test yields a value of 62.6907. Like the F' Statistic test, the 95% lower bound of 21.9888 and the 95% upper bound of 33.0280 envelop the W-Statistic value, suggesting cointegration among the variables.

Table 2: Cointegration tests

F' Statistic	95% Lower Bound	95% Upper Bound	Cointegration Status
7.8363**	2.7486,	4.1285	Cointegrated
W-Statistic	21.9888	33.0280	Cointegrated
62.6907			

Table 3 presents the estimated long-run coefficients derived from a regression analysis with the dependent variable being the natural logarithm of RGDP (Real Gross Domestic Product). These coefficients indicate the influence of various regressors on RGDP over the long term. The coefficient for lnK (Natural Logarithm of Capital) is estimated at 0.086 with a standard error of 0.021. This suggests that a one-unit increase in the natural logarithm of capital is associated with an approximately 0.086-unit increase in RGDP, holding other variables constant. This coefficient is statistically significant at the 0.05 level. Similarly, lnL (Natural Logarithm of Labor) exhibits a coefficient of 0.136 with a standard error of 0.031. This implies that a one-unit increase in the natural logarithm of labor leads to a 0.136-unit increase in RGDP, assuming other factors remain constant. The coefficient is statistically significant at the 0.01 level. GEXP (Government Expenditure) is associated with a coefficient of 0.010 and a standard error of 0.003. This indicates that a one-unit increase in government expenditure contributes to a 0.010-unit increase in RGDP, holding other variables constant. The coefficient is statistically significant at the 0.01 level. On the other hand, the coefficient for OPENNESS is -0.004 with a standard error of 0.080, suggesting that openness does not have a statistically significant effect on RGDP, as the coefficient's p-value exceeds 0.05.

The coefficient for INF (Inflation Rate) is -0.002 with a standard error of 0.000. This implies that a one-unit increase in the inflation rate leads to a 0.002-unit decrease in RGDP. The coefficient is statistically significant at the 0.01 level. POL (Political Stability Index) exhibits a coefficient of 0.003 with a standard error of 0.003. This suggests that political stability does not have a statistically significant effect on RGDP, as the coefficient's p-value exceeds 0.05. Lastly, the coefficient for LE (Life Expectancy) is 0.044 with a standard error of 0.006. This indicates that a one-unit increase in life expectancy results in a 0.044-unit increase in RGDP. The coefficient is statistically significant at the 0.05 level. The intercept term (CONSTANT) has a coefficient of 16.555 with a standard error of 0.333, representing the value of RGDP when all independent variables are zero. The coefficient is statistically significant at the 0.05 level.

**Table 3: Estimated Long Run Coefficients**

Dependent variable: lnRGDP				
Regressors	Coefficient	Standard Error	T-Ratio	Probability value
lnK	0.086***	(0.021)	4.006	0.001
lnL	0.136***	0.031	4.440	0.000
GEXP	0.010***	0.003	3.534	0.002
OPENNESS	-0.004	0.080	-0.053	0.958
INF	-0.002***	0.000	-3.907	0.001
POL	0.003	0.003	1.138	0.267
LE	0.044***	0.006	7.490	0.000
CONSTANT	16.555***	0.333	49.750	0.000

Table 4 displays the short-run error correction representation of the regression model with lnRGDP as the dependent variable. This representation helps to understand the adjustments made by the variables in the short term to maintain equilibrium in the long run. The coefficient for  $\Delta \ln K$  (Change in the Natural Logarithm of Capital) is estimated at 0.039 with a standard error of 0.013. This indicates that a one-unit increase in the change of the natural logarithm of capital leads to a 0.039-unit increase in lnRGDP in the short term. The coefficient is statistically significant at the 0.01 level. Similarly,  $\Delta \ln L$  (Change in the Natural Logarithm of Labor) exhibits a coefficient of 0.037 with a standard error of 0.010. This suggests that a one-unit increase in the change of the natural logarithm of labor contributes to a 0.037-unit increase in lnRGDP in the short term. The coefficient is statistically significant at the 0.001 level. The coefficient for  $\Delta GEXP$  (Change in Government Expenditure) is -0.003 with a standard error of 0.002. This implies that a one-unit increase in the change of government expenditure results in a 0.003-unit decrease in lnRGDP in the short term. Although the coefficient is negative, it is not statistically significant at the conventional levels ( $p > 0.05$ ). Similarly,  $\Delta OPENNESS$  (Change in Openness) has a coefficient of -0.003 with a standard error of 0.056. This suggests that changes in openness do not have a statistically significant effect on lnRGDP in the short term, as the coefficient's p-value exceeds 0.05. The coefficient for  $\Delta INF$  (Change in Inflation Rate) is -0.001 with a standard error of 0.000. This implies that a one-unit increase in the change of the inflation rate leads to a 0.001-unit decrease in lnRGDP in the short term. The coefficient is statistically significant at the 0.01 level.  $\Delta POL$  (Change in Political Stability Index) exhibits a coefficient of 0.002 with a standard error of 0.002. This suggests that changes in political stability do not have a statistically significant effect on lnRGDP in the short term, as the coefficient's p-value exceeds 0.05. Lastly, the coefficient for  $\Delta LE$  (Change in Life Expectancy) is 0.141 with a standard error of 0.046. This indicates that a one-unit increase in the change of life expectancy results in a 0.141-unit increase in lnRGDP in the short term. The coefficient is statistically significant at the 0.005 level. The term  $ecm(-1)$  represents the coefficient of the error correction term lagged by one period. Its coefficient is -0.703 with a standard error of 0.143, indicating the speed of adjustment towards long-run equilibrium. The coefficient is statistically significant at the 0.01 level, suggesting that deviations from equilibrium are corrected by approximately 0.703 units in the short run.

**Table 4: Short Run Error Correction Representation**

Dependent variable: lnRGDP 39				
Regressors	Coefficient	Standard Error	T-Ratio	Probability value
$\Delta \ln K$	0.039***	0.013	3.015	0.006
$\Delta \ln L$	0.037***	0.010	3.780	0.001
$\Delta GEXP$	-0.003	0.002	-1.655	0.110
$\Delta OPENNESS$	-0.003	0.056	-0.054	0.958
$\Delta INF$	-0.001***	0.000	-3.020	0.005
$\Delta POL$	0.002	0.002	1.081	0.289
$\Delta LE$	0.141***	0.046	3.075	0.005
$ecm(-1)$	-0.703***	0.143	-4.905	0.000

## 5. CONCLUSIONS

The observation that government expenditure has been increasing in Ghana while economic growth has stagnated raises important questions about the effectiveness of fiscal policy and its impact on economic outcomes. Specifically, it prompts an examination of whether government expenditure is contributing to or hindering economic growth in the country. The study aims to investigate the impact of government expenditure on economic growth in Ghana and to assess whether the observed trends align more closely with Wagner's hypothesis or Keynesian theory regarding the role of government spending in stimulating economic activity. Wagner's hypothesis suggests that as an economy develops, government expenditure tends to increase relative to GDP, driven by rising public demand for goods and services such as education, healthcare, and infrastructure. According to Wagner, this expansion of government spending can act as a catalyst for economic growth, as it stimulates aggregate demand, creates employment opportunities, and fosters investment in productive sectors of the economy. In contrast, Keynesian theory emphasizes the role of government expenditure as a countercyclical tool to address fluctuations in aggregate demand and stabilize the economy. Keynes argued that during periods of economic downturns or recessions, governments should increase spending to stimulate demand and boost economic activity. Conversely, during periods of economic expansion, governments should reduce spending to prevent overheating and inflationary pressures. By analyzing empirical data and employing econometric techniques, the study aims to provide insights into the dynamics of government expenditure and economic growth in Ghana, informing policymakers and guiding future fiscal policy decisions. The study's conclusion that total government expenditure has a positive long-run effect on growth in Ghana contradicts the Wagnerian hypothesis and challenges the Keynesian view regarding the impact of government spending on economic growth. This finding suggests that increased government expenditure in Ghana has contributed to fostering economic growth over the long term. Furthermore, the study suggests that government expenditure in Ghana may not necessarily lead to increased private investment, indicating potential limitations in crowding-in effects or complementarity between public and private investment in the country's context. While the study provides valuable insights, it also acknowledges certain limitations. One such limitation is the use of aggregated data, which may not capture the nuances and heterogeneity within different components of government expenditure. The recommendation for future research to utilize disaggregated data reflects a recognition of the need for a more detailed and nuanced analysis to better understand the relationship between government expenditure and economic growth in Ghana. Overall, the study contributes to the ongoing discourse on fiscal policy and economic growth in Ghana by providing empirical evidence and insights into the impact of government expenditure. By challenging conventional hypotheses and suggesting avenues for further research, the study contributes to a deeper understanding of the dynamics at play and informs future policymaking efforts aimed at promoting sustainable economic development in Ghana.

## REFERENCES

- Adjasi, C. K., & Yu, D. (2021). Investigating South Africa's Economic Growth: The Role of Financial Sector Development. *Journal of Business and Economic Options*, 8(2).
- Ahmad, K. (2016). Addressing Demographic Challenges: Strategies for Sustainable Economic Growth in Pakistan. *Journal of Business and Economic Options*, 3(2), 22-32.
- Ahmad, K., and Ali, A. (2016). Rising Population and Food Insecurity Linkages in Pakistan: Testing Malthusian Population Growth Theory. *International Journal of Economics and Empirical Research (IJEER)* 4 (1), 1-8.
- Ahmed, F. A. (2016). Exploring the Environmental Kuznets Curve: Economic Growth and CO2 Emissions Dynamics. *Journal of Business and Economic Options*, 3(3), 67-76.
- Ahortor, C. R. K., Adenekan, A. and Ohemeng, W. (2013). "An estimate of inflation threshold in the WAMZ: The case of Ghana and Nigeria. *Journal of Monetary and Economic Integration*, 11(2), 30-40.
- Akurugu, S., Damba, O. T., & Mohammed, A. R. (2022). Effect of social protection programmes on household food security: a case of the Livelihood Empowerment Against Poverty (LEAP) programme in the Tolon District of Ghana. *SN Social Sciences*, 3(1), 6.
- Al Bataineh, I. M. (2012). "The impact of government expenditures on economic growth in Jordan. *Interdisciplinary Journal of contemporary research in business*, 4( 6), 334-34.
- Alexiou C. (2009). Government Spending and Economic Growth: Econometric Evidence from the South Eastern Europe (SEE). *Journal of Economic and Social Research*, 11(1), 1-16.
- Alhassan, H., Kwakwa, P. A., & Donkoh, S. A. (2022). The interrelationships among financial development, economic growth and environmental sustainability: evidence from Ghana. *Environmental Science and Pollution Research*, 29(24), 37057-37070.
- Ali, A. (2015). *The impact of macroeconomic instability on social progress: an empirical analysis of Pakistan* (Doctoral dissertation, National College of Business Administration & Economics Lahore).
- Ali, A. (2018). Issue of income inequality under the perceptive of macroeconomic instability. *Pakistan Economic and Social Review*, 56(1), 121-155.
- Ali, A. (2022). Foreign Debt, Financial Stability, Exchange Rate Volatility and Economic Growth in South Asian Countries. *Journal of Business and Economic Options*, 9(4).

- Ali, A., & Rehman, H. U. (2015). Macroeconomic instability and its impact on gross domestic product: an empirical analysis of Pakistan. *Pakistan Economic and Social Review*, 285-316.
- Ali, A., & Sajid, A. (2020). Towards Inclusive Growth: Financial Sector Dynamics and Poverty Reduction in Pakistan. *Journal of Business and Economic Options*, 7(1).
- Alvi, A. A., & Shahid, U. (2016). Revitalizing the Pakistan Textile Industry: Strategies for Growth and Competitiveness. *Journal of Business and Economic Options*, 3(1), 15-21.
- Anaman, A. K. (2006). What factors have influenced economic growth in Ghana?" *ISSER Ghana Policy Analysis Vol.2 No.2 ISSN 0855-2460*,
- Ang, S. H. (2022). Exploring the Dynamics of GDP Growth and Unemployment Rates in Asian Economies: A Longitudinal Analysis. *Journal of Business and Economic Options*, 9(2).
- Avelino, G., & Coronel, D. A. (2020). Macroeconomic Determinants of Economic Growth in Developing Countries: A Cross-Sectional Analysis. *Journal of Business and Economic Options*, 7(3).
- Barro, R. (1989). A Cross - Country Study of Growth, Saving and Government", *NBER Working Paper No. 2855*
- Barro, R. J. (1996). Determinants of economic growth: A cross-country empirical study," NBER Working Paper 5698.
- Barro,R.J. (1998). Government Spending in a Simple Model of Endogenous Growth. *Journal Of Political Economy*, 98, 5(2), 103-125.
- Belgrave, A. & Craigwell, R. (1995). *The impact of government expenditure on economic growth in Barbados: A disaggregated Approach*, Central Bank of Barbados Research DPT.
- Bloom, D. & Canning D. (2000). The health and wealth of nations", *Science* 287:1207.09.
- Bloom, D. Canning D, (2001). The Health and Poverty of Nations: From Theory to Practice. Paper presented at the Pan American Health Organization.
- Burkhead, J. and Minor, J. (1971). Public Expenditure *Aldine, Chicago, 1971, p. 295 – 296*
- Chen, S. (2022). Dynamics of GDP Growth and Unemployment: Evidence from Developed and Developing Asian Countries. *Journal of Business and Economic Options*, 9(3).
- Chimobi, P. O. (2009). Government expenditure and national income: A Causality Test for Nigeria, *European Journal of Economic and Political Studies*, 40(1), 40-55.
- Cuesta, J., Devereux, S., Abdulai, A. G., Gupte, J., Ragno, L. P., Roelen, K., ... & Spadafora, T. (2021). Urban social assistance: Evidence, challenges and the way forward, with application to Ghana. *Development Policy Review*, 39(3), 360-380.
- Davies, A. (2008). Human development and the optimal size of government. *Journal of Socioeconomics* 12(2), 130-36.
- Davoodi, H. R., Montiel, P. J., & Ter-Martirosyan, A. (2021). Macroeconomic stability and inclusive growth.
- Donkor, M., Kong, Y., Manu, E. K., Ntarmah, A. H., & Appiah-Twum, F. (2022). Economic growth and environmental quality: analysis of government expenditure and the causal effect. *International Journal of Environmental Research and Public Health*, 19(17), 10629.
- Doytch, N., & Escresa, L. (2018). Aviation-Led Growth: Empirical Evidence from the Philippine. *Journal of Business and Economic Options*, 5(2), 29-33.
- Ernawati, E., Tajuddin, T., & Nur, S. (2021). Does government expenditure affect regional inclusive growth? An experience of implementing village fund policy in Indonesia. *Economies*, 9(4), 164.
- Farahmand, N. F.- hi. (2016). Strategic Planning and Innovation: Driving Growth and Sustainability in Organizations. *Journal of Business and Economic Options*, 3(3), 58-66.
- Ghana Poverty Reduction Strategy II Annual Progress Report (2007).
- Gokal, V. & Hanif, S. (2004), "Relationship between inflation and economic growth", Working Paper 2004/04 Economics Department Reserve Bank of Fiji Suva Fiji.
- Granger, C.W.J. & Newbold, P. (1974). Spurious Regression, Econometrics. *Journal of Econometrics*,60(1), 111-120.
- Indrawati, S. M., & Kuncoro, A. (2021). Improving competitiveness through vocational and higher education: Indonesia's vision for human capital development in 2019–2024. *Bulletin of Indonesian Economic Studies*, 57(1), 29-59.
- Jiranyakul, K. (2007). The Relation between Government Expenditures and Economic Growth in Thailand. National Institute of Development Administration, *working Paper 2007 MPRA Paper No. 46070*
- Karhan, G. (2017). Investing in Research and Development for Technological Innovation: A Strategy for Turkey's Economic Growth. *Journal of Business and Economic Options*, 4(4), 65-71.
- Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*, published by Harcourt, Brace and Company, and printed in the U.S.A. by the Polygraphic Company of America, New York; First Published: Macmillan Cambridge University Press, for Royal Economic Society in 1936.
- Khan, M. N. (2016). Institutional Governance, Population Dynamics, and Economic Growth: Insights from a Global Panel. *Journal of Business and Economic Options*, 3(2), 33-45.
- Khan, M. Z. U., & Rehman, F. (2021). Interconnectedness of Economic Variables: Insights from Pakistan's Endogenous Growth Model. *Journal of Business and Economic Options*, 8(4).

- Kilyachkov, N., & Chaldaeva, L. (2021). Modeling Economic Cycles: Exploring the Dynamics of Global GDP Growth Rates. *Journal of Business and Economic Options*, 8(4).
- Modibbo, H., & Inuwa, N. (2019). Health Outcomes and Economic Growth Nexus: Evidence from Nigeria. *Journal of Business and Economic Options*, 6(1).
- Nketia-Amponsah, E. (2009). Public spending and economic growth: evidence from Ghana (1970–2004), *Development Southern Africa* 26 (3), 333-340.
- Osei, V., & Acheampong, J. (2021). Factor-Based Approaches for Improved Economic Forecasting: Insights from Ghana's GDP Growth. *Journal of Business and Economic Options*, 8(1).
- Oteng- Abayie (2011). Government Expenditure and Economic Growth in five ECOWAS Countries: A Panel Econometric Estimation. *Journal of Economic Theory*, 5(1), 11-14.
- Oteng- Abayie and rimpong (2009) Size of Government Expenditure and Economic Growth in three WAMZ Countries, *Business Review, Cambridge*, 13(2) , 175, 2009.
- Oteng-Abayie, E. F., Amanor, K., & Frimpong, J. M. (2011). The measurement and determinants of economic efficiency of microfinance institutions in Ghana: A stochastic frontier approach. *African Review of Economics and Finance*, 2(2), 149-166.
- Pacillo, G. (2022). Urbanization, Economic Growth, and Equity in Sri Lanka: Trends, Patterns, and Policy Implications. *Journal of Business and Economic Options*, 9(3).
- Patrick, E. (2009), "Macroeconomic Determinants of Economic Growth in Ghana (1970-2007)", an unpublished Mphil thesis at the Economics department of KNUST.
- Republic of Ghana joint review of public expenditure and financial management October 2011
- Roy, S., & Madheswaran, S. (2018). The Nexus between Financial Sector Development and Economic Growth: Evidence from Asian Countries. *Journal of Business and Economic Options*, 5(4), 55-61.
- Safdar, Z., & Malik, R. (2020). Unraveling the Interplay Between External Debt and Economic Growth: Insights from Pakistan's Macroeconomic Landscape. *Journal of Business and Economic Options*, 7(1).
- Sajid, A., & Ali, A. (2018). Inclusive Growth and Macroeconomic Situations in South Asia: An Empirical Analysis. *Bulletin of Business and Economics (BBE)*, 7(3), 97-109.
- Sakyi, D. (2011). Trade openness, foreign aid and economic growth in post-liberalization Ghana: An application of ARDL bounds test. *Journal of Economics and International Finance*. 3(3), 146-156.
- Sakyi, D. and Adams, S. (2012). Democracy, Government Spending and economic growth: The case of Ghana, 1960-2008. *The Journal of applied Economic Research*, 361.
- Twumasi (2010). Economic growth and fiscal variables an ARDL approach", Department of Economics KNUST. Various Government of Ghana budgets
- Wagner, Adolph, (1863). *Grundlegung der Politischen Ökonomie*
- World Bank, (2011). world economic indicators Ghana country data 2011.
- Yan, K., & Chen, J. (2017). Human Capital Dynamics and Economic Growth: A Panel Data Analysis of Eleven Countries. *Journal of Business and Economic Options*, 4(2), 28-37.
- Yasin, M. (2000). Public Spending and Economic Growth: Empirical Investigation of Sub-Saharan Africa. *South-western Economic Review*, 4(1), 1-10.
- Zhang, W. B. (2020). Integrated Analysis of Economic Growth and Land Prices: A Two-Sector Model Approach. *Journal of Business and Economic Options*, 7(1).