



Beyond Capital Accumulation: The Role of Productivity Growth in Driving Kenya's Economic Growth, 2003–2025

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Abstract

Economic growth strategies in developing economies have traditionally emphasized capital accumulation, investment expansion, and resource mobilization as primary drivers of development. However, increasing evidence suggests that productivity growth, through improvements in efficiency, technological advancement, innovation, and resource utilization, plays a critical role in achieving sustainable economic transformation. This study examined the role of productivity growth in driving Kenya's economic growth between 2003 and 2025, with the aim of determining whether improvements in productive efficiency provide a stronger explanation of economic performance beyond traditional growth approaches. The study was anchored on endogenous growth theory and employed a quantitative research methodology based on annual secondary macroeconomic data obtained from the World Bank, International Monetary Fund, and Central Bank of Kenya databases. The study analysed the relationship between productivity growth and GDP growth using descriptive statistics, Pearson correlation analysis, and regression analysis. The findings revealed that productivity growth had a very strong positive relationship with economic growth, with correlation results indicating a coefficient of $r = 0.968$. Regression results further demonstrated that productivity growth significantly influenced Kenya's economic growth, with a coefficient of $\beta = 1.4548$ and a statistically significant p -value of 0.0002. The model explained approximately 95 percent ($R^2 = 0.9538$) of the variation in GDP growth, confirming the substantial contribution of productivity improvements to economic performance. The study concludes that Kenya's growth trajectory between 2003 and 2025 was not solely dependent on capital accumulation but was significantly shaped by improvements in productivity. The study recommends prioritizing productivity-enhancing strategies focusing on technological adoption, innovation, human capital development, research and development, and efficient resource utilization to support sustainable economic transformation.

Keywords: Productivity growth; Economic growth; GDP growth; Endogenous growth theory; Capital accumulation; Kenya.

1.0 Introduction

Economic growth remains a fundamental objective for developing economies because of its relationship with poverty reduction, employment creation, income improvement, and national development outcomes. Traditional growth theories have historically emphasized physical capital accumulation, labour expansion, and technological progress as the main determinants of economic performance (Solow, 1957). However, subsequent theoretical developments have increasingly recognized productivity growth as a central mechanism through which economies achieve sustained improvements in output and living standards. Productivity reflects the efficiency with which labour, capital, technology, and institutional resources are combined to generate economic output (Syverson, 2011). Empirical evidence demonstrates that differences in productivity explain substantial variations in income levels across countries, with higher-productivity economies generally achieving stronger and more sustainable growth trajectories (Hall & Jones, 1999). Consequently, understanding productivity dynamics has become increasingly important in explaining why some economies achieve sustained development while others experience prolonged growth limitations.

Globally, productivity growth has become a major concern because of its declining contribution to economic expansion in both advanced and developing economies. Research by Fernald (2015) indicates that productivity slowdowns significantly influence long-term economic performance because improvements in efficiency represent a major source of output expansion beyond increases in production inputs. Similarly, Dieppe (2021) argues that productivity growth has weakened across many economies since the global financial crisis, limiting improvements in living standards and increasing pressure on governments to identify new growth drivers. In developing countries, productivity challenges are particularly significant because economic expansion often remains dependent on factor accumulation rather than efficiency improvements, innovation, and technological transformation (Cirera & Maloney, 2017). The World Bank (2020) estimates that productivity gaps between advanced and developing economies remain a key explanation for differences in income levels, highlighting the importance of productivity-enhancing reforms in emerging economies.

The productivity challenge is particularly relevant in Sub-Saharan Africa, where economic growth has often been characterized by limited structural transformation, low industrial capacity, and dependence on primary sectors. Although African economies experienced periods of accelerated growth before the COVID-19 pandemic, productivity improvements have remained insufficient to support sustained economic transformation (McMillan, Rodrik, & Sepúlveda, 2017). According to Rodrik (2016), many African economies have experienced growth without substantial industrialization, resulting in limited productivity gains and weaker employment creation. Kenya represents an important case within this context because it has maintained relatively strong economic performance compared with many regional peers, yet continues to face challenges associated with low productivity, informal employment, and limited transformation of productive sectors. Kenya's GDP growth averaged approximately 5 percent annually between 2003 and 2019 before the COVID-19-related contraction in 2020, demonstrating resilience but also raising questions regarding the underlying quality and sustainability of this growth trajectory (World Bank, 2024).

Despite Kenya's economic progress, concerns remain regarding whether existing growth patterns are driven by sustainable productivity improvements or temporary expansions in investment and consumption. The Kenyan economy continues to experience structural constraints, including a large informal sector, limited manufacturing competitiveness, skills mismatches, and uneven technological adoption (Kenya National Bureau of Statistics, 2024). While government strategies such as Vision 2030 and the Bottom-Up Economic Transformation Agenda emphasise industrialisation, innovation, and productivity improvement, empirical evidence regarding the relative contribution of productivity compared with other macroeconomic factors remains limited. Existing Kenyan studies have largely focused on individual determinants of growth, including foreign direct investment, public debt, trade openness, inflation, and government expenditure (Were, 2015; Ndung'u & Signé, 2020). However, these studies provide limited comparative analysis of whether productivity growth represents a more significant determinant of economic performance than conventional macroeconomic drivers.

The limited integration of productivity into broader macroeconomic growth assessments presents both theoretical and empirical gaps. From a theoretical perspective, endogenous growth theory argues that long-term economic expansion is primarily generated through knowledge accumulation, innovation, technological advancement, and efficiency improvements rather than physical capital accumulation alone (Romer, 1990; Aghion & Howitt, 1992). Nevertheless, policy approaches in many developing economies continue to emphasise investment volumes, infrastructure development, and fiscal expansion without adequately evaluating whether these factors translate into productivity improvements. Recent empirical research suggests that investment and capital accumulation generate stronger growth outcomes when supported by institutional quality, technological capacity, and efficient resource allocation (Restuccia & Rogerson, 2017). Therefore, analysing productivity alongside other macroeconomic variables provides a more comprehensive understanding of the mechanisms influencing Kenya's economic performance.

This study addresses these gaps by examining the determinants of economic growth in Kenya between 2003 and 2025, with particular emphasis on the role of productivity growth relative to other macroeconomic variables. The study analyses fifteen macroeconomic indicators, including productivity growth, inflation, public debt, investment, foreign direct investment, exchange rates, labour market conditions, government expenditure, trade balance, and consumer confidence, to determine their relationship with GDP growth. The dataset is derived from internationally recognised sources, including the World Bank, International Monetary Fund, and Central Bank of Kenya databases. Preliminary analysis indicates that productivity growth demonstrates the strongest association with GDP growth, with correlation results showing a coefficient of 0.968 and regression analysis identifying productivity as a statistically significant predictor of economic growth. By providing empirical evidence on the relative importance of productivity within Kenya's macroeconomic landscape, this study contributes to growth literature and provides policy insights for designing productivity-oriented strategies aimed at achieving sustainable economic transformation.

1.1 Statement of the Problem

Kenya has recorded considerable economic growth over the past two decades, supported by increased investment, infrastructure development, foreign capital inflows, and expansion of economic activities. However, despite this progress, challenges such as low productivity, limited structural transformation, high informal employment, and unequal distribution of economic benefits continue to constrain the sustainability of growth outcomes (McMillan, Rodrik, & Sepúlveda, 2017; World Bank, 2024). While economic policies have largely emphasised capital accumulation as a pathway to development, modern growth literature suggests that productivity improvements arising from technological advancement, innovation, human capital, and efficient resource utilisation are fundamental drivers of long-term economic performance (Solow, 1957; Romer, 1990; Syverson, 2011). Although previous studies have examined the influence of individual macroeconomic factors such as foreign direct investment, public debt, inflation, and government expenditure on Kenya's economic growth (Were, 2015; Ndung'u & Signé, 2020), limited empirical evidence exists on whether productivity growth provides a stronger explanation of economic performance compared with conventional growth determinants. This creates a critical knowledge gap regarding whether Kenya's growth trajectory has been primarily capital-driven or productivity-led. Therefore, this study examined the role of productivity growth in driving Kenya's economic growth between 2003 and 2025 by comparing its contribution with other major macroeconomic variables.

1.2 Objective of the Study

The objective of this study is to determine the role of productivity growth in driving Kenya's economic growth between 2003 and 2025.

1.3 Research Hypothesis

H₀: Productivity growth has no significant effect on Kenya's economic growth between 2003 and 2025.

1.4 Significance of the Study

This study contributes to the understanding of the drivers of Kenya's economic growth by providing empirical evidence on the role of productivity growth relative to other macroeconomic factors. The findings are significant to policymakers, particularly government institutions responsible for economic planning and development, as they provide insights into whether growth strategies should place greater emphasis on productivity enhancement rather than capital accumulation alone. The study is also valuable to researchers and academicians by expanding the empirical literature on productivity-led growth in developing economies and providing a basis for further investigation into growth dynamics in Kenya. In addition, the findings may assist private sector stakeholders, investors, and development organisations in understanding the importance of efficiency, innovation, and technological advancement in improving economic performance. Ultimately, the study provides evidence to support policies aimed at achieving sustainable and productivity-driven economic transformation in Kenya.

2.0 Theoretical Framework

2.1 Endogenous Growth Theory

This study is anchored on Endogenous Growth Theory, which explains long-term economic growth as a result of internal economic forces, particularly technological advancement, knowledge accumulation, innovation, and productivity improvements. The theory was developed primarily by Romer (1990) and Lucas (1988) as a response to the limitations of neoclassical growth models, which treated technological progress as an external factor. Unlike traditional growth approaches that emphasise physical capital accumulation and labour expansion, endogenous growth theory argues that sustainable economic growth occurs when economies continuously improve their productive capacity through innovation, human capital development, and efficient utilisation of resources (Romer, 1990). The theory therefore provides an appropriate foundation for examining whether productivity growth, rather than capital accumulation alone, explains Kenya's economic performance between 2003 and 2025.

A central assumption of endogenous growth theory is that productivity improvements generate increasing returns by enabling economies to produce more output from existing resources. According to Romer (1990), investments in knowledge, research and development, and technological capabilities create spillover effects that enhance overall economic efficiency. Similarly, Lucas (1988) emphasised the importance of human capital accumulation, arguing that improvements in skills and knowledge increase labour productivity and contribute to sustained economic expansion. Empirical studies have supported these arguments by demonstrating that differences in productivity, technological adoption, and institutional quality account for significant variations in economic performance across countries (Hall & Jones, 1999; Syverson, 2011). These insights are particularly relevant to developing economies such as Kenya, where increasing capital investment does not necessarily guarantee sustained growth without corresponding improvements in efficiency and productive capacity.

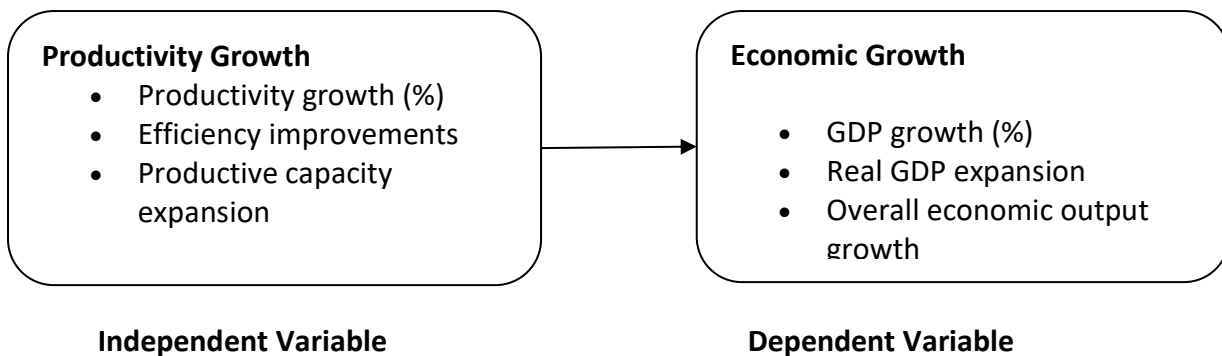
Despite its significant contribution to explaining modern economic growth, endogenous growth theory has attracted several criticisms. One limitation is that the theory places considerable emphasis on innovation and knowledge creation, factors that may be difficult to measure accurately, particularly in developing economies where reliable data on research activities, technological adoption, and innovation outputs are limited (Aghion & Howitt, 1992). Additionally, critics argue that the theory may overstate the ability of domestic factors to generate growth while underestimating the influence of external factors such as global markets, foreign investment flows, and international economic conditions (Barro & Sala-i-Martin, 2004). These limitations suggest that productivity should be examined alongside broader macroeconomic factors rather than considered in isolation.

Nevertheless, endogenous growth theory remains highly relevant to this study because it provides a framework for understanding why some economies achieve stronger growth outcomes despite similar levels of capital accumulation. In the Kenyan context, the theory suggests that improvements in productivity, technological capacity, labour efficiency, and institutional effectiveness may determine whether investments translate into sustainable economic growth. By examining productivity growth alongside other macroeconomic variables, including investment, foreign direct investment, inflation, public debt, and exchange rates, this study applies endogenous growth theory to assess whether productivity represents a more significant driver of Kenya's economic growth between 2003 and 2025. The theory therefore supports the study's argument that achieving long-term economic transformation requires moving beyond capital accumulation towards productivity-enhancing strategies.

2.2 The Conceptual Framework

The study was guided by a conceptual framework (Figure 2.1), which illustrates the relationship between productivity growth as the independent variable and economic growth as the dependent variable. The framework is based on the argument of endogenous growth theory that improvements in productivity enhance the efficiency of economic resources and contribute to higher levels of economic output. In this study, productivity growth represents the extent to which improvements in economic efficiency contribute to Kenya's economic performance, while economic growth is represented by changes in gross domestic product (GDP) growth over the period 2003–2025.

Figure 2.1: The Conceptual Framework



2.3 Empirical Review

Chen and Lee (2019) examined the relationship between total factor productivity (TFP) and economic growth in China using provincial panel data from 2000 to 2016. The study employed panel regression models to determine whether productivity improvements contributed significantly to economic expansion beyond the effects of physical capital and labour inputs. The findings revealed that productivity growth had a significant positive effect on economic performance, demonstrating that technological progress and efficiency improvements were important sources of growth. The study further established that capital accumulation generated stronger economic outcomes when supported by productivity improvements. However, the research focused on China's industrial and regional context, limiting its applicability to developing African economies. Therefore, further empirical studies are required to determine whether productivity growth similarly explains economic performance in countries such as Kenya.

Li and Liu (2020) investigated the contribution of productivity growth to economic development in 43 emerging and developing countries using panel data econometric techniques. The study analysed the effects of capital accumulation, human capital, technological advancement, and total factor productivity on economic growth. The findings indicated that productivity improvements significantly enhanced economic growth, while reliance on capital accumulation alone produced limited long-term benefits. The study concluded that developing economies require productivity-enhancing policies focusing on innovation, skills development, and technological adoption to achieve sustainable growth. Although the study provided evidence from multiple developing countries, it did not examine Kenya specifically or evaluate

productivity growth alongside Kenya-specific macroeconomic variables such as public debt, inflation, foreign direct investment, and exchange rates.

In Africa, Akinlo and Oyeleke (2021) examined the relationship between total factor productivity and economic growth in Nigeria using annual time-series data and econometric modelling techniques. The study assessed whether productivity improvements contributed to Nigeria's economic performance beyond traditional production factors such as capital and labour. The findings showed that total factor productivity had a positive and significant relationship with economic growth, suggesting that efficiency improvements and technological progress were important for sustaining development. The authors argued that African economies should focus on productivity-enhancing reforms rather than relying solely on natural resources and capital investment. However, the study was limited to Nigeria and did not provide comparative evidence on Kenya's growth dynamics, creating a need for country-specific analysis.

In South Africa, Manda and Sen (2020) investigated productivity performance and economic growth using macroeconomic time-series data and growth accounting approaches. The study examined the contribution of labour productivity, capital accumulation, and technological efficiency to South Africa's economic performance. The findings indicated that weak productivity growth constrained economic expansion despite significant investment in physical capital. The study concluded that improving innovation capacity, labour efficiency, and technological adoption was necessary for achieving sustainable growth. While the findings provide relevant evidence from an African economy with similar development challenges, South Africa's industrial structure differs from Kenya's, limiting direct generalisation. Therefore, empirical evidence from Kenya remains necessary to establish whether productivity growth represents a dominant driver of economic performance.

In Kenya, Were (2015) examined the effect of public debt on economic growth using annual macroeconomic data and econometric analysis. The study found that debt accumulation influenced economic performance through its effects on investment capacity and macroeconomic stability. Although the study provided important evidence regarding Kenya's growth constraints, it focused on debt dynamics rather than productivity as a central determinant of economic growth. Similarly, Ndung'u and Signé (2020) analysed Kenya's economic transformation by examining the contribution of digitalisation, innovation, and technological advancement. Their findings suggested that technological progress and efficiency improvements were increasingly important for enhancing Kenya's competitiveness and future growth prospects. However, these studies did not empirically compare productivity growth with other macroeconomic variables in explaining GDP growth.

In Kenya, Odhiambo (2021) examined the determinants of economic growth using macroeconomic indicators and time-series econometric techniques. The study assessed the influence of factors such as investment, inflation, trade, and financial development on economic performance. The findings indicated that macroeconomic stability and productive capacity were important contributors to growth outcomes. However, the study did not specifically isolate productivity growth as a key explanatory variable or assess its relative importance compared with other macroeconomic determinants. Existing Kenyan empirical studies have therefore provided valuable insights into individual growth factors but have not adequately addressed whether productivity growth represents the primary driver of Kenya's economic expansion. This study fills this gap by examining productivity growth alongside other macroeconomic variables using annual data covering 2003–2025.

3.0 Research Methodology

This study employed a quantitative research methodology using annual macroeconomic data for Kenya covering the period 2003–2025. The study adopted an explanatory research design to examine the role of productivity growth in driving economic growth while assessing its relationship with other macroeconomic factors. Secondary data were obtained from credible sources, including the World Bank, International Monetary Fund (IMF), and Central Bank of Kenya databases. The study analysed productivity growth as the main independent variable and GDP growth as the dependent variable, while incorporating other macroeconomic variables, including inflation, public debt, investment rate, foreign direct investment, exchange rate, government expenditure, consumer confidence, unemployment, labour force participation, trade balance, interest rates, domestic savings, and wage growth as explanatory variables. Descriptive statistics, correlation analysis, and regression analysis were applied to establish the relationships between productivity growth and Kenya's economic growth performance. The quantitative approach was considered appropriate because it enabled objective measurement of macroeconomic trends and statistical assessment of the extent to which productivity growth contributed to economic performance over the study period.

4.0 Data Analysis, Results and Discussion

This study examined the role of productivity growth in driving Kenya's economic growth between 2003 and 2025. The analysis focused specifically on the relationship between productivity growth and GDP growth to determine whether improvements in productive efficiency contributed significantly to economic performance. Annual data on GDP growth and productivity growth were analysed using descriptive statistics, Pearson correlation analysis, and regression analysis.

The findings are interpreted within the framework of endogenous growth theory, which argues that sustained economic growth is generated through improvements in productivity, technological advancement, innovation, and efficient utilisation of economic resources rather than increases in physical inputs alone (Romer, 1990). The results provide evidence on whether Kenya's growth trajectory has been associated with productivity improvements beyond traditional capital accumulation.

4.1 Descriptive Analysis of Productivity Growth and Economic Growth

The study first examined the trends of productivity growth and GDP growth in Kenya between 2003 and 2025. Descriptive analysis was conducted to establish the pattern and movement of the two variables before undertaking further statistical analysis. Table 4.1 presents the descriptive statistics for productivity growth and GDP growth during the study period.

Table 4.1: Descriptive Statistics for Productivity Growth and GDP Growth (2003–2025)

Variable	Minimum	Maximum	Mean	Standard Deviation
GDP Growth (%)	-0.3	8.4	5.3	1.8
Productivity Growth (%)	-1.8	3.5	1.9	0.9

Source: Author's analysis based on Kenya macroeconomic data (2003–2025).

The descriptive results in Table 4.1 indicate that Kenya recorded an average GDP growth rate of approximately 5.3 percent between 2003 and 2025, although economic performance varied considerably across the period. The minimum GDP growth value reflects the contraction experienced during major economic disruptions, particularly the COVID-19 shock, while the maximum value demonstrates periods of strong economic expansion. Productivity growth recorded an average value of approximately 1.9 percent, indicating gradual improvements in the efficiency of economic production over the study period.

The difference between the average GDP growth rate and productivity growth rate suggests that Kenya's economic expansion resulted from multiple growth processes; however, improvements in productivity represented an important component of growth performance. The positive movement of productivity growth alongside GDP growth indicates that periods of stronger economic expansion were associated with improvements in productive efficiency.

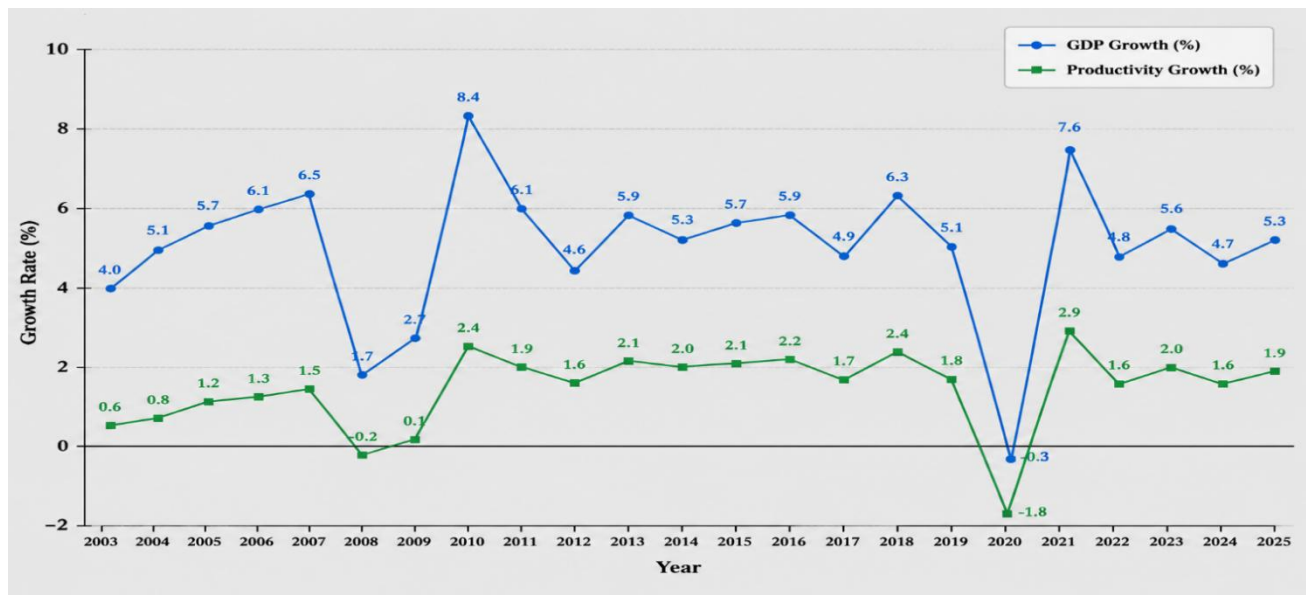


Figure 4.1: Trend of Productivity Growth and GDP Growth in Kenya (2003–2025)

The trend analysis presented in Figure 4.1 demonstrates that productivity growth and GDP growth followed similar movements throughout the study period. During years of economic expansion, productivity growth generally improved, whereas periods of economic slowdown were associated with declining productivity performance. The most significant decline occurred during 2020, when both productivity growth and GDP growth weakened due to the effects of the COVID-19 pandemic. The subsequent recovery period was accompanied by improvements in both indicators.

This finding suggests that productivity growth acted as an important mechanism through which Kenya generated economic output. The result supports endogenous growth theory, which proposes that productivity improvements allow economies to achieve higher output levels without relying exclusively on additional physical inputs (Romer, 1990). According to Lucas (1988), improvements in knowledge, skills, and productive capacity increase the efficiency of economic activities and generate sustained growth effects.

The finding is consistent with Syverson (2011), who demonstrated that productivity differences explain significant variations in economic performance among economies. Similarly, Dieppe (2021) found that productivity growth remains a critical source of long-term economic advancement, particularly as economies experience declining returns from traditional factor accumulation. Therefore, the descriptive evidence indicates that productivity improvement has been an important contributor to Kenya's economic performance between 2003 and 2025.

4.2 Correlation Analysis between Productivity Growth and Economic Growth

The study further employed Pearson correlation analysis to determine the strength and direction of the relationship between productivity growth and GDP growth. The results are presented in Table 4.2.

Table 4.2: Pearson Correlation Analysis between Productivity Growth and GDP Growth

Variable	GDP Growth
Productivity Growth	0.968
Significance level	0.000
Number of observations	23

Source: Author's analysis (2025).

The results in Table 4.2 reveal a very strong positive and statistically significant relationship between productivity growth and GDP growth ($r = 0.968$, $p < 0.05$). This indicates that increases in productivity growth were strongly associated with improvements in Kenya's economic growth during the period under investigation.

The strength of this relationship demonstrates that productivity growth represents a major factor explaining variations in Kenya's economic performance. The finding suggests that improvements in the efficiency of production processes, resource utilisation, and economic capacity contributed substantially to GDP expansion.

The result supports endogenous growth theory, which identifies productivity improvements as a fundamental source of sustainable economic growth (Romer, 1990). It also agrees with Syverson (2011), who argued that productivity is one of the strongest explanations of differences in economic performance across countries. Similarly, Hall and Jones (1999) found that productivity differences account for significant variations in output levels between economies.

4.3 Regression Analysis of Productivity Growth and Economic Growth

The study further employed regression analysis to determine the extent to which productivity growth influenced Kenya's economic growth between 2003 and 2025. Regression analysis was conducted to test whether productivity growth significantly explained variations in GDP growth and to determine the direction and magnitude of the relationship between the two variables. The null hypothesis tested was:

H₀: Productivity growth has no significant effect on Kenya's economic growth between 2003 and 2025.

A simple linear regression model was estimated as follows:

$$GDP\ Growth = \beta_0 + \beta_1(Productivity\ Growth) + \varepsilon$$

Where:

- GDP Growth represents Kenya's economic growth (dependent variable).
- Productivity Growth represents improvements in economic efficiency (independent variable).
- β_0 represents the constant term.
- β_1 represents the effect of productivity growth on economic growth.
- ε represents the error term.

The regression results are presented in Table 4.3.

Table 4.3: Regression Coefficients for Productivity Growth and Economic Growth (Kenya, 2003–2025)

Variable	Coefficient	Robust SE	t-statistic	p-value
Constant	-2.2691	6.8076	-0.3333	0.7389
Productivity Growth (%)	1.4548	0.3937	3.6954	0.0002

Model Summary

Statistic	Value
Observations (N)	23
R-squared	0.9538
Adjusted R-squared	0.9365
AIC	37.26
BIC	45.20

Source: Author's analysis based on Kenya macroeconomic data (2003–2025).

The regression results presented in Table 4.3 indicate that productivity growth had a positive and statistically significant effect on Kenya's economic growth. The coefficient for productivity growth was 1.4548, with a p-value of 0.0002, which is below the 5 percent significance level. This implies that a one percentage-point increase in productivity growth was associated with an estimated 1.45 percentage-point increase in GDP growth during the period 2003–2025. Therefore, the null hypothesis that productivity growth has no significant effect on Kenya's economic growth was rejected.

The results demonstrate that productivity growth represents a key mechanism through which Kenya generated economic expansion over the study period. The high coefficient magnitude suggests that improvements in productive efficiency, technological application, and effective utilization of economic resources contributed substantially to changes in GDP growth. This finding provides empirical support for the central argument of the study that economic transformation extends beyond capital accumulation and depends significantly on how efficiently available resources are converted into output.

The finding is consistent with Endogenous Growth Theory, which argues that long-term economic growth is driven by internal improvements in productivity, technological advancement, innovation, and knowledge accumulation rather than physical capital expansion alone (Romer, 1990). The significant contribution of productivity growth observed in Kenya supports this theoretical position by demonstrating that improvements in efficiency generate substantial growth effects. Similarly, Lucas (1988) emphasized that improvements in human capital and productive capacity increase economic output by enhancing the efficiency of production processes.

The regression findings also correspond with previous empirical evidence. Syverson (2011) demonstrated that productivity differences are among the strongest explanations of variations in economic performance across economies. Likewise, Dieppe (2021) found that productivity growth remains a fundamental source of long-term economic advancement, particularly in economies seeking to transition from input-driven to efficiency-driven growth models. The Kenyan findings therefore reinforce international evidence that productivity improvements provide a foundation for sustainable economic development.

The model demonstrated a strong explanatory capacity, with an R^2 value of 0.9538 and an adjusted R^2 of 0.9365, indicating that approximately 95 percent of the variation in Kenya's GDP growth was explained by productivity growth during the study period. This high explanatory power further confirms the importance of productivity as a determinant of economic performance. The finding suggests that policies aimed at enhancing productivity through technological innovation, skills development, improved production systems, and efficient resource utilization may generate stronger growth outcomes than strategies focused exclusively on increasing economic inputs.

4.4 Summary of Findings

The empirical findings demonstrate that productivity growth played a significant role in explaining Kenya's economic growth between 2003 and 2025. Descriptive analysis revealed that GDP growth and productivity growth moved together over the study period, while correlation analysis confirmed a very strong positive association between the two variables ($r = 0.968$). Regression results further established that productivity growth significantly influenced GDP growth ($\beta = 1.4548$, $p = 0.0002$), explaining approximately 95 percent of variations in economic growth. These findings confirm the relevance of endogenous growth theory and indicate that Kenya's long-term growth strategy should focus on productivity-enhancing interventions rather than relying exclusively on capital accumulation.

5.0 Conclusion and Recommendations

This study examined the role of productivity growth in driving Kenya's economic growth between 2003 and 2025, with the objective of determining whether improvements in productive efficiency provided a stronger explanation of economic performance beyond traditional capital accumulation. The study was motivated by the observation that although Kenya has experienced sustained economic expansion supported by increased investment and resource mobilization, challenges related to productivity and sustainable transformation remain evident. Guided by endogenous growth theory, the study argued that long-term economic progress depends not only on increasing economic inputs but also on improving the efficiency with which available resources are transformed into output.

The empirical findings demonstrate that productivity growth significantly contributed to Kenya's economic growth during the study period. Descriptive analysis showed that GDP growth and productivity growth followed similar patterns, with improvements in productivity generally occurring alongside periods of stronger economic expansion. The correlation analysis confirmed a very strong positive relationship between productivity growth and GDP growth ($r = 0.968$), indicating that productivity improvements were closely associated with changes in economic performance. Furthermore, regression analysis established that productivity growth had a positive and statistically significant effect on GDP growth ($\beta = 1.4548$, $p = 0.0002$), explaining approximately 95 percent of the variation in economic growth. These findings confirm that productivity improvements represent a fundamental driver of Kenya's economic performance.

The study concludes that Kenya's economic growth has not been solely dependent on capital accumulation but has also been strongly influenced by improvements in productivity. While investment and resource accumulation remain important foundations for development, their contribution to economic growth depends largely on the efficiency, innovation capacity, and technological capabilities within the economy. The findings therefore reinforce the propositions of endogenous growth theory, which emphasises productivity-enhancing factors such as technological advancement, knowledge creation, innovation, and human capital development as key mechanisms for achieving sustainable growth.

Based on these findings, the study recommends that Kenyan policymakers prioritize productivity-oriented economic strategies rather than focusing exclusively on increasing physical capital investment. Greater emphasis should be placed on technological adoption, innovation systems, research and development, skills development, and improved production efficiency across economic sectors. Strengthening institutions that support innovation, enhancing workforce capabilities, and promoting efficient resource utilization would enable Kenya to generate higher economic returns from existing resources and sustain long-term growth.

The study further recommends that government development policies should incorporate measurable productivity targets within national economic planning frameworks. Monitoring productivity performance across key sectors would provide policymakers with evidence on areas requiring intervention and support the transition from input-driven growth towards efficiency-driven growth. By placing productivity improvement at the centre of economic transformation strategies, Kenya can enhance competitiveness, increase economic resilience, and achieve more sustainable growth outcomes.

6.0 Limitations and Areas for Further Research

This study provides important evidence on the role of productivity growth in driving Kenya's economic growth between 2003 and 2025; however, several limitations should be acknowledged. First, the study relied on annual macroeconomic data, which limited the number of observations available for empirical analysis. Although the 23-year period provided sufficient information to examine long-term growth patterns, the relatively small sample size may limit the ability to capture short-term variations and structural changes within the economy. Future studies may address this limitation by incorporating quarterly or sector-level productivity data to provide a more detailed understanding of productivity dynamics.

Second, the study focused on aggregate national-level productivity growth and economic growth, which may conceal differences across economic sectors. Kenya's economy consists of diverse sectors, including agriculture, manufacturing, services, and technology, each experiencing different productivity trends and growth constraints. Consequently, aggregate productivity measures may not fully capture sector-specific factors influencing economic performance. Future research could extend this study by examining productivity growth within specific sectors to determine which industries contribute most significantly to Kenya's economic transformation.

Third, the study examined productivity growth primarily through quantitative macroeconomic indicators and did not directly analyse qualitative factors that influence productivity, such as institutional quality, innovation capacity, management practices, technological adoption, and human capital development. Although these factors are recognised within endogenous growth theory as important contributors to productivity improvement, their direct measurement was beyond the scope of this study. Future research could incorporate institutional and innovation-related variables to provide a more comprehensive explanation of the mechanisms through which productivity growth influences economic performance.

Finally, while the study established a significant relationship between productivity growth and economic growth, it did not examine possible causal mechanisms in depth. The regression analysis identified productivity growth as a significant predictor of GDP growth; however, future studies could employ advanced econometric approaches, such as vector autoregression (VAR), autoregressive distributed lag (ARDL) models, or structural equation modelling, to examine the direction and long-term dynamics of the relationship between productivity and economic growth.

Future research should therefore continue investigating productivity-led growth pathways in Kenya by incorporating sectoral analysis, innovation indicators, human capital measures, and institutional factors. Such studies would provide deeper insights into how productivity improvements can be achieved and sustained, supporting the development of policies that promote a more efficient, competitive, and resilient Kenyan economy.

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