Dynamic Economic Growth of Gambia

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Received: November 6, 2023
Accepted: November 22, 2023
Published: November 27, 2023
DOI: https://doi.org/10.59781/VRTU8686

Abstract

The study analyzes the economic growth of Gambia through factors such as trade openness, investment, and government spending by using a dynamic linear regression model. This study uses yearly data from 1980 to 2020 with a total sample of 41 years. The results show that government expenditure and FDI are significantly and positively related to economic growth, while trade openness, on the other hand, influences economic growth negatively in the Gambia. The Gambian government should increase its expenditure on productive sectors to improve the performance of the economic growth of the Gambia. It also needs to provide import substitute industries to encourage the dependence on local goods compared to external goods.

Keywords: economic growth; government expenditure; foreign direct investment; trade, GDP

1. Introduction

Economic growth is the most effective means of reducing poverty and raising living standards in emerging nations. Growth has the potential to create positive cycles of prosperity and opportunity. Policy development must include measures to encourage rapid and sustainable economic growth. This activity includes initiatives to improve labor markets, eliminate gender disparities, and boost financial inclusiveness. It is one of the essential methods for evaluating the economic performance of a nation (Tong & Qiu, 2020). According to classical theory, the economy's growth indicates a country has sound economic performance. Due to its capacity to represent and evaluate a country's economic progress, it is recognized as one of the most critical indicators. It demonstrates the extent to which economic activity may provide more income for society. It also raises people's living levels while satisfying increased demand for needs without decreasing living standards (Boldeanu & Constantinescu, 2015). The importance of government spending, trade, and foreign direct investment in the economic process is one crucial component
that has started to get much attention. Due to increasing and productive government spending, most industrialized nations enjoy high levels of investment and trade openness.

Developing countries fail to attain and maintain sustainable growth and development due to low government productive expenditure and inadequate infrastructure (particularly energy), which discourages FDI, and lessens openness to trade (Rahangmetan et al., 2022). One advantage of trade openness is that it integrates countries and economies globally. Trade liberalization promotes the transfer of resources from poor to developed economies and technological advancement. The development of communication and transportation has contributed to the rediscovery of global prospects and the identification of new global markets for exchanging products and services. According to Maswana (2020), foreign direct investment (FDI) in a host nation fosters economic growth by bolstering local resources, boosting output, altering the perception of economic output, and bringing people from different parts of the world closer together. Foreign direct investment can affect several aspects of a host country's economy, including production, the balance of payments, and market structure. However, the main benefit of FDI is bridging the technological gap between the foreign and host country, increasing the host country's productivity and growth (Moosa, 2002).

Public expenditure is an essential tool for a government to regulate the economy. Economists have long recognized its dual benefits in fostering economic growth. On the one hand, government spending is a factor that contributes to capital accumulation. Additionally, it is used to fill in the gaps left by a market economy, including those in public utilities, health care, social security, and other areas. Taxation, on the other hand, which is the only source of funding for government spending, immediately reduces taxpayer benefits (Guru, 2014). Because human capital is significant in driving economic growth, a lower level of citizen benefit is related to a lower economic growth rate. Determining how to spend public funds wisely has been challenging, considering the economy.

Furthermore, it is asserted that trade openness significantly contributes to product development. Mondal (2014) and Raghutla (2020) refer to international trade as the "engine of growth" in recognition of the vital role it plays in the development of economic growth. Various theories have emphasized that trade openness boosts economic growth, though some empirical evidence suggests otherwise. According to Romer (1993), increased openness to trade influences
the relationship between output and domestic product pricing. Ulaşan (2015), who discovered similar results, supported this argument with study findings demonstrating that reduced trade barriers are not associated with faster growth. Over the last century, economists have argued how international trade affects production and growth, with theoretical and empirical data supporting different claims. An analysis of historical data shows that trade openness and growth were not correlated during the interwar period; they negatively correlated a century ago and became significantly correlated only in recent decades. (Singh, T. 2010).

Another aspect that has become a substantial source of foreign exchange and outside resources for emerging countries is foreign direct investment (FDI). Despite continuing to make up a small, if any, portion of worldwide FDI distribution, it now accounts for a sizable portion of capital formation in the least developed nations. The economic effects of FDI on the host economy include increased employment, productivity, exports, and accelerated knowledge transfer. Increased FDI would help host nations with solid savings rates, trade openness, and technological progress.

The majority of studies show that FDI and trade openness have positive effects. However, the extent to which they impact depends on the country's capacity for absorption and degree of openness, including the level of human capital, infrastructure, financial and institutional development, and trade policies (Makki & Somwaru, 2004). Most of the previous research has yet to have a consensus on the effect of government spending on economic growth (Gupta et al., 2002). This study examines how government expenditure, investment, and trade openness affect economic growth in Gambia. This study uses a dynamic linear regression model to provide evidence on whether investment, trade openness, and government expenditure are associated with Gambia's economic growth from 1980 to 2020.

The Gambia has the fifth-smallest economy in SSA, accounting for 0.11 percent of the regional GDP. With a total size of 10,689 square kilometers (km2), it has arable soil and coastal and marine ecosystems, allowing tourism and agriculture to thrive. The country's export base is small (US$19.1 million in 2015), mainly consisting of groundnuts and fish. The national debt was $1,498 million in 2019, an increase of 108 million from the previous year. The nation's foreign debt has increased to 566 million dollars since 2009. In addition, the rate of government spending as a percentage of GDP has increased markedly over time. The number of people living in poverty
has increased to 150,000 over the past years, and today 48.6 percent of the population lives in poverty (World Bank, 2020).

Furthermore, the World Bank (2020) reports that the economy saw a significant drop in 2002 due to drought, and the government responded by implementing an expansionary fiscal policy and an accommodative monetary policy. Inflation surged from 5% in 2002 to 17% in 2003, and the national currency, the dalasi (GMD), dropped by 55%. The economic recovery from the 2002 crisis was quick, with the economy reaching a peak in 2008. The 2008-2010 era (2.9 percent growth rate) is one of the "two economic growth periods," defined as when GDP per capita growth was more than 2%, the other being 1968 and 1978. (Growth rate of 2.8%) According to the World Bank, both were significantly associated with development in the agricultural and service sectors, and both displayed significant volatility (2020). The 2014 Ebola pandemic and the 2016 political deadlock show how undiversified and extremely vulnerable the Gambian economy is to shocks like political instability and pandemics.

2. Literature Review

Economic growth is a tool for extending the economy through time. Since growth indicates a rise in output, it also accounts for each person's portion of that output or the rate of individual income growth. Additionally, the market value of all the completed products and services produced inside a nation's boundaries over a certain period is also considered when measuring economic growth. Growth should aim to raise society's well-being as much as possible and protect individual and national welfare.

The endogenous growth theory highlights that economies never reach a steady state since capital accumulation does not slow, but the pace of growth is primarily governed by the type of capital invested in a country. The government may boost the economy's productive potential by investing in physical infrastructure. The theory further argues that human capital and innovation are the primary monetary and economic growth sources. Most significantly, it makes the case that increased expenditures in human capital and speedier innovation are directly related to productivity gains.
On the other hand, Adam Smith and Thomas Malthus described economic growth in terms of the availability of fixed land and a growing population in the classical model. Smith investigated the relevance of labor division, technological improvements, and international trade. He claimed that saving was necessary for generating investment and distributing income, which he saw as drivers of economic growth. According to Samuelson and Nordhaus (1999), the Classical economic growth model neglected the reality that the technological revolution kept economic development moving forward in industrial countries by continually pushing the productive curve of labor forward. Classical economists are often regarded as 'pessimistic' in their prognosis for economic growth. Some criticize the theory because it ignores the efficient technical development that could contribute to an economy's smooth running. Technological advancements can reduce diminishing returns. The classical growth theory assumes that total wages do not rise above or below the subsistence level, and this model is inaccurate (Harris et al., 2007). Harris, D. J. (2007) states that total wages may rise above or fall below the subsistence level because of changes in the industrial structure and significant economic development. Additionally, the classical theory of growth does not consider the part trade unions play in determining wages.

Nonetheless, the Schumpeter theory introduces inventions crucial to the economy's expansion. The Schumpeterian production function can be written as:

\[ Q = f (k, r, l, u, v) \]  

Due to the availability of factors, the effect of land on the flow of commodities and services necessitates steady, continuous, and sluggish evolution. The impact of technological and social change calls for spontaneous, discontinuous change in the channels of output flow—Schumpeter distinguished two components in the dynamic evolution of economic growth and development. Even though the fundamental components of an evolutionary theory can be seen in the Schumpeter theory, Witt, U. (2016) agrees with Hodgson (1993: Chap. 10) in his opinion that Schumpeter's attempts to reconcile economic reasoning with comparative statics had failed to generate a coherent alternative to the neo-classical paradigm.

Like some economists, Schumpeter disapproved of government intervention because it impairs capitalistic behavior (Smithies, 1951). Government spending reduces savings, which raises interest rates. Less investment may be made in areas like housing and productive capacity, which comprise the facilities and infrastructure necessary to contribute to the output of the
economy (Haini & Wei Loon, 2021). The literature on FDI research is not particularly contentious since economists agree that FDI advances the receiving nation's technological development and, ultimately, its economic growth. Before domestic companies can take advantage of new technology introduced by international enterprises, they need to have a specific level of absorption ability.

FDI and trade are two different but related transactions crucial for economic growth. Both are important for facilitating the transfer of goods, services, and capital across borders. The productivity and supply-side benefits of trade openness on domestic output and, consequently, economic growth are documented in several literary works. Long-term trade opening may promote economic growth by disseminating technological know-how through importing high-tech goods and the knock-on effects of foreign direct investment. Dollar and Kraay (2003) found that economies with prominent institutions and a greater degree of openness grow more quickly. Santos-Paulino and Thirlwall (2004) looked at how trade liberalization affected the economic expansion of 22 emerging countries.

Furthermore, Rassekh (2007) concluded that low-income countries gain more from international trade. In contrast, Dufrenot et al. (2010) used a quintile regression model to consider factors that affect economic development, including trade terms, investment, inflation, budgetary balance, and population increase. According to their findings, developing nations profit more from trade openness than developed economies. Compared to 2020, when imports over quadrupled exports, The Gambia's trade balance dramatically improved in 2018 and 2019 (Trading Economics, 2022; AEO, 2022). Most (80%) of Gambia's exports are re-exported, indicating that the Gambian economy needs to diversify and create more. The global economic crisis caused by the covid 19 pandemic affects the Gambian economy just like any other country, but it does not change the fact that the Gambia's trade (export) needs to be improved. The pandemic even reveals how vulnerable the Gambian economy is because its reliance on other countries increased significantly during the pandemic while exports decreased dramatically. A country's currency value and trade balance, two critical factors in determining economic development, can be affected by importing more than it exports (Kalaitzi et al., 2022). Increasing investment, technical development, and increased imports are all said to contribute to economic growth by Kalaitzi et
al. (2022). Adopting new technologies and the volume of imports used as inputs for export-oriented production may increase due to economic progress, which may encourage export growth. Furthermore, research on the Gambia's economic development (Kouadio & Gakpa, 2022) found that investing in agriculture may not provide the desired benefits for poverty reduction, particularly in rural regions. As a result, public agricultural investment should be directed toward specific agriculture sub-sectors to ensure productive investment. Prioritizing investment areas is critical for the Gambia since the government relies heavily on tariff revenues to sustain its economic activities, and spending on non-productive sectors would hinder the country's growth ambitions.

3. Research Method

Data

Economic growth is significant not only for developed countries but also for developing countries. Hence, economic analysis is also essential to determine which variables are essential to economic growth, especially for the Gambia. In this study, we use secondary data from the Gambia Bureau of Statistics, UNCTAD, the global economy, the International Monetary Fund, and the World Bank. The study covers the period from 1980 to 2021.

Model

The impact of government spending, trade openness, and foreign direct investment on economic growth in the Gambia are examined using the dynamic ordinary least square approach. The Gambia Bureau of Statistics, UNCTAD, the world economy, the International Monetary, and the World Bank Fund are secondary statistics sources. Journals and other statistics sources from the internet are also utilized. OLS estimation adjusts for regressor serial correlation and endogeneity, yielding unbiased estimates of the long-run relationship (Gries & Redlin, 2020). The research will cover the years 1980 through 2020. After transforming the variables into logarithms, the model is designed as follows:

\[
\ln GDP_t = \beta_0 + \beta_1 \ln G_t + \beta_2 \ln FDI_t + \beta_3 \ln TRO_t + \beta_4 \ln GDP_{t-1} + \epsilon_t \]  

(2)
Where \( \ln GDP \) represents the log of the Gambian gross domestic product (GDP) while \( \ln G, \ln TRO, \ln FDI, \) and \( \ln GDP - 1 \) represent the log of government expenditure, log of trade openness, log of foreign direct investment, and lag of the dependent variable respectively. Furthermore, \( t \) represents the period from 1980 to 2020, whereas \( \beta_0 \) represents the constant, \( \beta_1 \) to \( \beta_4 \) are the coefficients of variables \( G, FDI, TRO, \) and lag of GDP.

4. Findings and Discussions

**Descriptive Statistic**

The summary statistics in Table 1 show that LGDP, which represents the log of GDP, has a maximum of 21.3 percent over the past 40 years and an FDI of 19 percent. The low FDI level can be attributed to low GDP and vice versa. With low GDP, there will be less development of the necessary infrastructure that can attract investors, while on the other hand, with low investment, the economy might not realize its full potential, and as such, the government will not be able to generate as much revenue as needed for its development spending.

<table>
<thead>
<tr>
<th></th>
<th>LGDP</th>
<th>LG</th>
<th>LTRADE</th>
<th>LFDI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>20.36428</td>
<td>4.459531</td>
<td>4.148604</td>
<td>16.49393</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>20.50465</td>
<td>4.503182</td>
<td>3.986592</td>
<td>16.98099</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>21.34818</td>
<td>5.093456</td>
<td>4.878896</td>
<td>19.06030</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>18.99357</td>
<td>3.533541</td>
<td>3.665844</td>
<td>12.50618</td>
</tr>
<tr>
<td><strong>Std. Dev.</strong></td>
<td>0.755063</td>
<td>0.412713</td>
<td>0.367243</td>
<td>1.759581</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Testing for.</th>
<th>Test Type</th>
<th>Statistic Value</th>
<th>P-Value</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Serial Correlation</td>
<td>LM Test</td>
<td>0.09</td>
<td>0.92</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>2.</td>
<td>Normality</td>
<td>Jarque-Bera</td>
<td>0.39</td>
<td>0.82</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>3.</td>
<td>Heteroscedasticity</td>
<td>BPS</td>
<td>1.66</td>
<td>0.17</td>
<td>Accept Ho</td>
</tr>
</tbody>
</table>
The results in Table 2 show no serial correlation in the data. Hence Ho should be accepted based on the statistically significant values obtained. Given the Jarque-Bera value (0.39) and probability value, Ho should be accepted (0.82). Finally, the results show that Ho is acceptable for the heteroscedasticity test, indicating that the data is homoscedastic.

**Estimated Results**

The estimated results of the dynamic OLS regression are presented in Table 4.3, the most effective model for examining the connection between the Gambia's economic development (GDP). Trade openness, foreign direct investment, and government expenditure, as the R-squared and Adjusted R-squared values, are 95 and 99 percent, respectively. The genuineness of the model is also demonstrated by the probability F-Statistics value (0.0000) and the Durbin-Watson stat (1.6).

Furthermore, the regression incorporates Naive forecasts, which assume that any observed values from the previous period/year are the projections for the current period/year. Hyndman and Athanasopoulos (2016) propose a naive technique for model comparison. Naive forecasting is one of the straightforward techniques repeatedly shown to be successful. Hence it should be used as the standard to compare models.

The coefficient values obtained from the regression results for foreign direct investment with a probability value of 0.0038, interpreting these values at a significance level of 5 percent (0.05), it can be implied that foreign direct investment has a positive and significant influence on the GDP growth of the Gambia. The positive coefficient value indicates that a one percent increase in FDI will increase the GDP of the Gambia by 0.10 percent (Holding other variables constant/ Ceteris Paribus). This result is consistent with Keynes’s theory which states that increased investment is the way to reduce unemployment. With reduced levels of unemployment, people's income will rise, which will inevitably affect aggregate demand, which leads to a rise in real GDP.

Furthermore, it can be deduced that government expenditure has a positive and substantial impact on the growth of the Gambia's GDP, given the coefficient value with a probability of 0.0159. The coefficient values indicate that if government spending increases by one percent, the GDP of the Gambia will increase by 0.27 percent (Holding other variables constant/ Ceteris
Paribus). The result theoretically is consistent with Keynes and Flavian (2019), that increased public spending improves people's livelihood by making every economic sector productive.

In contrast to other independent variables, trade openness shows a negative correlation (coefficient value of -0.420020) with the dependent variable (GDP). Trade openness has a significant impact empirically (probability value of 0.0121) but is negatively related to the GDP of the Gambia. From the results, if trade openness increases by one percent, the GDP of the Gambia will decrease by -0.42 percent. The Adam Smith and David Ricardo hypotheses are incongruent with this outcome which point out trade openness as a factor of economic growth. According to (Shahbaz et al., 2011; Daumal & Ozyurt, 2010; Ali et al., 2018), increased trade openness leads to economic growth. This research discovered a vital and beneficial link between trade openness and economic growth since it may raise the standard of living and expand the industrial sector.

On the other hand, Simorangkir (2006) and Gries & Redlin (2020) conducted a study in several low- or middle-income countries, and their findings revealed that trade openness harms domestic output and economic growth.

Table 3 Estimated Results (OLS)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LG</td>
<td>0.278623</td>
<td>0.109898</td>
<td>2.535290</td>
<td>0.0159</td>
</tr>
<tr>
<td>LTRADE</td>
<td>-0.420020</td>
<td>0.158704</td>
<td>-2.646567</td>
<td>0.0121</td>
</tr>
<tr>
<td>LFDI</td>
<td>0.102386</td>
<td>0.033026</td>
<td>3.100195</td>
<td>0.0038</td>
</tr>
<tr>
<td>C</td>
<td>9.844382</td>
<td>2.300909</td>
<td>4.278476</td>
<td>0.0001</td>
</tr>
<tr>
<td>LGDP(-1)</td>
<td>0.459259</td>
<td>0.114846</td>
<td>3.998900</td>
<td>0.0003</td>
</tr>
</tbody>
</table>

This finding demonstrates how developing economies lack diversity, resulting in low local production. Yankkaya et al. (2020) concluded that low-income countries could not achieve the
positive impacts of trade openness in the short term, meaning that low-income countries are more likely to benefit from international trade in the long rather than the short run.

The lag of GDP has a coefficient value of 0.459259 with a probability of 0.000. This result shows that the lagged dependent variable has a positive and significant effect, and as such, the value of future GDP could be forecasted by the value of GDP in the prior years.

5. Conclusion and Recommendation

This study examines the relationship between economic growth, trade openness, foreign direct investment, and government spending in the Gambia from 1980 to 2020. Because it is the most effective model for assessing this data without yielding biased estimates of the long-run connection, the study used the dynamic ordinary least squares approach. Government spending has been examined, and the result has shown a significant influence on economic growth in the Gambia. As a consequence, examining the regression data supports Keynes' and other hypotheses about the impact of government spending on economic development. Eventually, a rise in government investment across various industries would boost economic expansion.

Furthermore, foreign direct investment contributes to Gambia's economic growth. This finding is theatrically consistent with classical theories, and most recently (Zaman et al., 2021) all agree that FDI contributes significantly to economic growth. Through increased exports and access to international markets, FDI, particularly in LDCs, may offer much-needed foreign money for debt servicing and other development activities. According to the regression results, an increase in FDI will significantly help the Gambian economy flourish.

In contrast, trade openness and economic development are mutually exclusive. The regression results align with the claims made by several scholars, including Yankkaya et al. (2020) and Gries & Redlin (2020), that trade openness has a detrimental effect on economic growth in nations with underdeveloped financial systems. According to Calderón et al., one of the reasons why increasing trade openness does not support economic growth in LDCs is because of a lack of technology, managerial know-how, and competitive practices, as well as improved allocative efficiency, which are the channels through which increased trade volumes influence economic growth.
According to the study's results, the Gambian government should raise its spending to promote economic growth. To guarantee that government spending has the desired effect, this should be supplemented by hiring highly qualified public personnel and creating and executing policies. A stable political climate is another crucial element that the government must offer because, without it, people would be unproductive because there would be little or no economic activity, eventually leading to a recession.

In order to attract FDI, the government should establish solid and vibrant institutions that impact cross-border economic activity, law and order, financial liberalization, privatization policies, and efficient domestic financial systems. FDI will contribute to the transfer of technology, the development of human capital, and, most importantly, the Gambia's exporting capabilities.

The government must provide sufficient infrastructure, a communication network, and a reliable and cost-effective energy supply to increase efficiency and reduce corruption. The regression result demonstrates that higher trade openness lowers Gambia's economic growth. Hence, policies should be adopted to prevent the economy from becoming monopolistic. Furthermore, trade is a vital aspect of foreign direct investment. Thus the Gambia must adjust its trading pattern to optimize economic growth or increase FDI.

Finally, the government must also implement measures to promote exports, stimulate foreign direct investment, and reduce possible shocks in order to achieve economic growth. Finding practical solutions to these problems will need significant political and institutional shifts. Furthermore, rather than relying on grants or loans, the government should use local resources to increase income and wealth to secure long-term growth.

References


