Exploring the Drivers of Economic Growth in Sub-Saharan Africa: The Interactive Effect of Globalization and Financial Development

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Abstract

This study investigates how globalization and financial development interactively stimulate economic growth in Sub-Saharan Africa (SSA). The author employs annual data spanning from 2000 to 2017 for 30 Sub-Saharan African countries and applies the generalized method of moments (GMM) technique. The results show that while globalization significantly reduces economic growth, the impact of financial development on growth is positive when examined independently. With the interactive effect of globalization and financial development, a positive and statistically significant impact is documented. The study further reveals that trade openness significantly enhances growth while inflation inhibits growth. In light of the findings, the author presents key policy recommendations.

Keywords: Globalization, Financial development, Economic growth, Sub-Saharan Africa

JEL Classification: F43, F62, G20

1.0 Introduction

In enhancing sustainable development, recognizing the growth dynamics over time is a matter of utmost importance for any country in the world. Governments and policymakers will face challenges in policy implementation if they fail to fully comprehend the spectrum of economic growth. Likewise, understanding the drivers of growth will aid in creating effective strategies for enhancing welfare and poverty eradication which are vital for growth.

In the literature, numerous studies have examined the effect of different factors on economic growth. In particular, globalization has been noted as a key element affecting growth.

Globalization may either promote or deteriorate growth. For its benefits, globalization allows access to global finance, the creation of new business prospects, the rise in investment activities, technological transfer, and the enhancement of labour efficiency and working conditions. For the negative consequences, globalization leads to the flagging of global capital market stability, loss of cultural coherence, and weakened national economic liberty (Mutascu & Fleischer, 2011). The impact of globalization on economic growth has been empirically documented in the literature (see Rao et al., 2011; Chang et al., 2013; Egbetunde & Akinlo, 2015; Elsherif, 2016; Olimpia & Stela, 2017; Savrul & İncekara, 2017; Zerrin & Dumrul, 2018; Santiago et al., 2020).

Aside from globalization, the effect of financial development on economic growth has also received considerable attention (Alshammary, 2014; Rahman et al., 2015; Durusu-Ciftci et al., 2017; Bist, 2018; Asteriou & Spanos, 2019; Guru & Yadav, 2019; Olayungbo & Quadri, 2019; Matei, 2020; Hussain et al., 2021). Most academics have argued that financial development is critical for economic growth since it encourages business growth, investments, and capital accumulation (Ahmad et al., 2020).

In both developed and developing economies, the simultaneous effect of globalization and financial development on economic growth appears to be controversial. As a result, the debate over whether globalization and financial development support economic growth remains relatively unclear and requires more empirical research. This study, therefore, seeks to contribute to the debate on how globalization and financial development influence growth in the context of Sub-Saharan Africa (SSA).

This study contributes to the current body of literature in a number of ways. To begin, the author is not aware of any study that simultaneously examined the impact of globalization and financial development on economic growth in Sub-Saharan Africa (SSA). Second, in addition to the individual impact of globalization and financial development, the paper

examines how they interactively influence growth. Finally, the study applies the generalized method of moments technique to address the problem of endogeneity and simultaneity bias.

The rest of the study is structured as follows. Section 2 outlines the literature review. In section 3, the methodology is highlighted. Section 4 discusses the findings and Section 5 concludes the study with recommendations.

2.0 Literature Review

This section is subdivided into two sections: the globalization-economic growth nexus and the finance-growth nexus.

2.1 Globalization and Economic Growth Nexus

Various definitions and interpretations of globalization have been outlined by various authors and academics. Globalization, in general, indicates the integration of nations into the international economy, increasing interactions among people, transfer of information and technology, and the confluence of national cultures (Chang et al., 2015). Globalization is expected to help countries in a number of ways, including easing bilateral trade, facilitating import and export of goods and services, transfer of labour, and managerial skills. In this context, several studies have examined the influence of globalization on different aspects of the economy including economic growth. For instance, Chang et al. (2013) examined the effect of globalization together with export energy on economic growth in a panel of five South Caucasus countries over the period 1990-2009. Applying the bias-corrected least square dummy variable model, the results show that globalization enhances economic growth. Elsherif (2016) assessed how globalization affects the economic conditions of countries in the MENA region with panel data covering the period 2001–2014. Classifying the countries into Gulf Cooperation Council (GCC) and non- Gulf Cooperation Council (non-GCC), the study found that economic conditions worsen in response to a rise in globalization in the sampled countries. Whereas a significant effect was established in the GCC countries,

the study revealed an insignificant effect of globalization on growth in the non-GCC. Olimpia and Stela (2017) analyzed the link between globalization and economic growth in Romania for the period 1990-2013. Employing different forms of globalization and other control factors, the results show a positive significant relationship between overall globalization and economic growth. Zerrin & Dumrul (2018) examined the impact of globalization on economic growth in Turkey covering the period from 1980 to 2015. Using different measures of globalization, the study applied the fully modified ordinary least squares cointegration test. The results indicated that economic and social globalization in their overall forms significantly increase economic growth while political globalization negatively affects economic growth. Santiago et al. (2020) looked into the impact of globalization and economic freedom on the economic growth of 24 developing countries from Latin America and the Caribbean for the period1995-2015. The authors established that overall globalization and its economic and social dimensions positively influence economic growth in the long-run.

2.2 Financial Development and Economic Growth Nexus

Schumpeter (1911) was one of the first researchers to recognize the link between finance and economic growth, and this has been a contentious issue in both developed and developing countries over the last decades. According to Schumpeter (1911), an effective financial sector is required in order to foster real sector growth, which in turn leads to an economic boom. This concept is explored in detail under the heading "supply-leading hypothesis." Through the use of optimal resource allocation, the theory explains how financial development leads to greater economic growth. At the empirical front, several works have examined whether the “supply-leading hypothesis” holds or not. That is, whether financial development explains economic growth. Anwar and Nguyen (2011) for example, examined the nexus between financial development and economic growth in Vietnam over the years 1997 to 2006. Using

alternative measures of financial development, the study established a strong positive link between financial development and economic growth. Iheanacho (2016) empirically analyzed the impact of financial intermediary development on economic growth in Nigeria with data spanning 1981–2011. Employing the auto-regressive distributed lag (ARDL) approach to co-integration analysis, the findings revealed an insignificant negative effect of financial intermediary development on economic growth in the long-run. In the short-run, however, the study found a significantly negative relationship between financial intermediary development and economic growth. Bist (2018) examined the long-run relationship between financial development and economic growth in 16 selected low-income countries for the years 1995 to 2014. Applying the fully modified and dynamic OLS techniques, the findings established a significant positive effect of financial development on economic growth. In the BRICS countries, Guru and Yadav (2019) investigated the link between financial development and economic growth over the period 1993-2014 employing banking sector and stock market development indicators as measures of financial development. The findings indicated that banking sector indicators in the presence of turnover ratio positively and significantly influence economic growth. The results also established that in presence of all banking sector development indicators, the value of shares traded (an indicator of stock market development) has a significant positive effect on growth. Hussain et al. (2021) investigated the influence of financial development on economic progress in Pakistan during the period 1975-2018. Using the ARDL technique, the findings reported a significant positive long-run effect of financial development on economic progress.

From the literature review, the effect of globalization and financial development is inconclusive given the mixed findings. To the best of the researcher's knowledge, none of the studies have considered how globalization and the level of financial development interactively affect economic growth. Thus, the aim of this study.

3.0 Methodology

3.1 Data

The study uses data from 30 Sub-Saharan African nations spanning the years 2000 to 2017. The World Development Indicators of the World Bank and the KOF Globalization Index served as the main data sources. The period of study is dictated by data availability.

3.2 Measurement of Variables

Economic growth (EG) which is the dependent variable is measured by GDP per capita growth (annual percentage). Globalization (GLO) is proxied by the KOF overall globalization index. Financial development (FIND) is an index constructed using three sub-indicators of financial development. The sub-indicators include variables that constitute access to financial services, financial sector depth, and efficiency of the financial sector. The study controls for the effect of government expenditure, trade openness, and inflation. Government expenditure (GEXP) is the general government final consumption expenditure (% of GDP). Trade openness (TOP) is measured by the sum of imports and exports as a percentage of GDP. Inflation (INF) is proxied by consumer prices (annual percentages).

3.3 Model Specification

The study employs a panel approach where the basic model is specified as:

$$Y_{it} = \alpha + \beta' X_{it} + v_{it} + \varepsilon_{it} \qquad (1)$$

The cross-sectional dimension is denoted by *i* and the time dimension is signified by *t*. *Y* and *X* show the dependent and independent variables respectively. β is the coefficients of the independent factors. α is the constant and the error term is ε. $_V$ indicates the unobserved country characteristics.

In this study, two equations are estimated. Initially, the researcher looks at the direct influence of globalization and financial development on economic growth and then estimates

the interactive effect of globalization and financial development in the second equation. In this context, equation (1) may be extended to incorporate the variables as follows.

$$EG_{it} = \alpha_0 + \beta_1 GLO_{it} + \beta_2 FIND_{it} + \beta_3 GEXP_{it} + \beta_4 TOP_{it} + \beta_5 INF_{it} + v_{it} + \varepsilon_{it} \quad (2)$$

$$EG_{it} = \alpha_0 + \beta_1 GLO_{it} + \beta_2 FIND_{it} + \beta_3 GEXP_{it} + \beta_4 TOP_{it} + \beta_5 INF_{it} + \beta_6 GLO*FIND_{it}\, v_{it} + \varepsilon_{it} \quad (3)$$

To estimate the models, the researcher applies Arellano and Bond's (1991) dynamic generalized method of moments (GMM) technique, which has been further refined by Blundell and Bond (1998). The GMM method lessens the problem of endogeneity and it is probably more suited to panel analysis with fewer observations. The dynamic model takes the following form where the lag of the dependent factor (economic growth) by a period is introduced:

$$Y_{it} = \alpha Y_{it-1} + \beta' X_{it} + v_i + \varepsilon_{it} \quad (4)$$

The Arellano–Bond (AR) tests and the Hansen J statistic are used to assess any possible autocorrelation and the instruments' validity in the study.

4.0 Empirical Results

4.1 Descriptive Statistics

Table 1 illustrates the descriptive statistics of all the variables. It shows the average, minimum, maximum, and standard deviation values of the variables. Economic growth shows an average of 2.18% with a standard deviation of 5.23%. The mean of globalization is 48.47. Financial development has an average value of 0.00 with a maximum and minimum values of 4.80 and -1.99 respectively. The standard deviation value of trade openness shows higher volatility.

Table 1. Descriptive Statistics

	EG	GLO	FIND	GEXP	TOP	INF
Mean	2.181870	48.47415	1.27E-16	14.39566	75.79401	5.938084
Maximum	56.78820	72.66128	4.802529	47.19156	225.0231	37.14221
Minimum	-36.20319	29.25958	-1.999189	0.951747	19.10080	-8.974740
Std. Dev.	5.232008	8.592945	1.300081	6.027889	36.46830	6.634971
Observations	540	540	540	540	540	540

4.2 Correlation Analysis

In Table 2, the correlation analysis is outlined. Kennedy (2003) recommends that for variables to be free from multicollinearity, the correlation coefficients should not be greater than 0. 80. Given this benchmark, we argue that our variables show weak correlation, hence the absence of multicollinearity. The Variance Inflation Factor (VIF) analysis was further used to test for multicollinearity, as recommended by Gujarati (2003). When the VIF is greater than 10 and the tolerance value is less than 0.10, multicollinearity is possible. Table 2 findings, on the other hand, show that there is no multicollinearity among the variables. The VIF values are all less than 10, and tolerance values are greater than 0.10.

Table 2. Correlation and Multicollinearity Analysis

	GLO	FIND	GEXP	TOP	INF
GLO	1.000				
FIND	0.753	1.000			
GEXP	0.274	0.420	1.000		
TOP	0.298	0.392	0.407	1.000	
INF	0.009	-0.088	-0.188	-0.043	1.000
VIF	2.34	2.70	1.37	1.29	1.05
Tolerance	0.426	0.370	0.729	0.773	0.953

4.3 Regression Results

This section discusses the findings of the impact of globalization and financial development on economic growth in SSA. Table 3 presents the system GMM estimation results. From the results, the Arellano–Bond test suggests that there is no second-order autocorrelation. The Hansen test confirms the validity of the instruments in the study.

Table 3. GMM Regression Results

Variables	(1)	(2)
EG_{t-1}	0.272***	0.269***
	(0.030)	(0.049)
GLO	-0.315***	-0.197**
	(0.071)	(0.081)
FIND	1.104***	-7.896**
	(0.381)	(3.362)
GEXP	-0.124	0.012
	(0.122)	(0.139)
TOP	0.151***	0.141***
	(0.026)	(0.051)
INF	-0.136***	-0.133***
	(0.033)	(0.042)
GLO*FIND		0.155**
		(0.065)
Diagnostics		
Wald-test χ^2	448.310	225.966
(Pro.> χ^2)	0.000	0.000
Arellano–Bond AR(2) test	-0.0005	-0.737
(*p*-value)	[0.999]	[0.461]
Hansen test	27.852	25.359
(*p*-value)	[0.315]	[0.332]

Notes: ** and *** denote significance at 5 and 1% respectively. Values in ( ) and [ ] are standard errors and *p*–values respectively.

The GMM estimates show that the lag value of economic growth is positive and significant, suggesting that economic growth has a self-reinforcing effect. The findings indicate that globalization has a significant negative effect on economic growth. This suggests that countries in Sub-Saharan Africa benefit less in opening up to the global economy. In terms of financial globalization, this can be attributed to the weak financial markets of Sub-Saharan African countries and frequent fluctuation in the currencies of most countries in the region. Financial development independently has a positive significant impact on economic growth. Given the components of financial development, the study argues that the increase in depth of the financial sector, access to financial services, and the efficiency of the financial sector

contribute significantly to economic growth in Sub-Saharan Africa. The results conform with prior studies (Anwar & Nguyen, 2011; Bist, 2018; Hussain et al., 2021). From model 2, the interactive effect of globalization and financial development on economic growth is positive and statistically significant. This demonstrates that globalization coupled with a well-developed financial sector boost economic growth in Sub-Saharan Africa. The results show that government expenditure has an insignificant effect on growth. Trade openness indicates a positive significant effect on economic growth. This implies that openness to trade is vital for growth. The result depicts that trade liberalization increases export growth which aids economic growth. The finding is also consistent with previous studies (see Sakyi et al., 2015; Hye et al., 2016; Keho, 2017) and validates the trade-led growth hypothesis that trade expansion enhances economic output. The study shows that inflation has a significant negative influence on economic growth, meaning that growth is hampered when inflation rises. Given the surrounding uncertainties, domestic macroeconomic instability discourages investors from committing their investable capital to the local market. Investable resources are also redirected to consumption during inflationary periods, resulting in lower domestic output. This result is in line with the finding of Yakubu et al. (2021).

5.0 Conclusion and Policy Implications

The impact of globalization and financial development on economic growth is a subject of debate in the extant literature. Whereas some prior studies found a positive effect of these variables on growth, some have documented a negative effect. Other studies too have evidenced no relationship. The mixed results might be attributed to analytical framework and country-specific characteristics. This study contributes to the existing debate on the relationship between globalization, financial development, and growth in the context of Sub-Saharan Africa over the period 2000-2017. Applying the system generalized method of moments technique, the results show that while globalization significantly reduces economic

growth, the impact of financial development on growth is positive when examined independently. With the interactive effect of globalization and financial development, a positive and statistically significant impact is documented. The study further reveals that trade openness significantly enhances growth while inflation inhibits growth.

The findings present some policy implications. The study recommends that efficient policies must be enacted to mitigate the negative effects of globalization on growth. Specifically, policies towards building a strong domestic economy to reduce the over-reliance on other economies for development. Given that financial development independently and through its interaction with globalization enhances growth, strengthening the domestic financial markets will not only boost output but will also reduce the negative consequences of globalization on growth. Likewise, trade liberalization is crucial for sustainable growth in Sub-Saharan Africa. Finally, governments must implement effective measures to manage inflation at an appropriate level. This will aid in both immediate and long-term economic prosperity.

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