Research article

Does financial globalization contribute to financial development in developing countries? Evidence from Africa

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A B S T R A C T

This study used panel data from 33 African nations during a period from 2005-2019 to examine the relationship between financial globalization and financial development. Regressions with Driscoll-Kraay and panel-corrected standard errors, which account for cross-sectional dependence, were employed to analyze the link. The main findings of this study reveal the existence of a U-shaped relationship between financial globalization and financial development in Africa, suggesting that a lower level of financial globalization appears to have a negative influence on financial development. However, above a certain point, a growth in financial globalization is accompanied by an increase in financial development. In other words, countries with a lower (higher) level of financial globalization have experienced negative (positive) effects on their financial development. Trade openness, financial freedom, and investment freedom have also been found to be strongly and positively related to financial development. Based on the findings, African countries are advised to consider the appropriate timing prior to fully opening their capital accounts to international players in order to enjoy the benefits of financial globalization.

1. Introduction

Financial globalization is the fusion of a country’s domestic financial system with external financial markets and institutions (Schmukler, 2004a,b). Over the past three decades, experts and policymakers have become increasingly attracted to the connection between financial globalization and financial development due to its potential advantages for the economy and financial sector (Balcilar et al., 2019). It is generally assumed that countries with higher levels of financial globalization will also have more advanced financial systems. Financial globalization makes it possible for best practices and procedures to be disseminated globally, which can improve corporate governance, risk diversification, lower the cost of foreign transactions, and reduce information asymmetry (Kalemli-Ozcan et al., 2010; García, 2012).

Schmukler (2004) covered theoretical perspectives on the various ways that financial globalization can result in financial development. Financial globalization affects institutional effectiveness, financial development, and economic growth through the adoption of international accounting standards, the introduction of international financial intermediaries, improvements in corporate governance, advancements in technical capabilities, and strict market discipline (Schmukler, 2004a,b).

As a result, financial globalization can have both direct and indirect benefits for economies, including the financial industry (Kose et al., 2010; Yeyati and Williams, 2011). Even developing nations can profit from financial globalization, despite all its difficulties. The opportunity it creates for the development of their financial systems is one of its main advantages for developing nations (Schmukler, 2004a,b). However, due to contextual, national, or regional circumstances, it could be remarkably difficult for developing nations to reap the desired benefits. Besides, many developing nations are still struggling with various policy concerns, the timing, and the speed of deeper integration because they are still in the early stages of financial globalization (Kose et al., 2010).

Asongu and Lieven (2015) argued that increases in financial globalization have not brought increased investment and economic prosperity for developing nations, pointing out that developing nations that experienced economic prosperity in recent decades were those least reliant on capital inflows. It suggests that opening capital accounts by developing nations may not achieve the intended goals due to inefficiencies in domestic labor markets, domestic financial markets, and domestic capital market conditions (Wei, 2018). After all, financial globalization is not a primary factor that affects the financial and economic development of developing nations (Rodrik and Subramanian, 2009). Due to low social

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returns or low private appropriability, developing countries are more constrained by insufficient investment demand than the lack of access to capital (Rodrik and Subramanian, 2009). Furthermore, developing countries’ financial and economic development might be adversely affected by financial globalization because of the transmission of the financial crisis from developed regions (Wei, 2018). To mention one real-world example of such problems, developing countries faced uncertainty and a significant decline in capital inflows during the 2007–2009 financial crises (Kose et al., 2011; Balcilar et al., 2019).

Some empirical research were conducted in various countries (regions) contexts to support a theoretical viewpoint about the relationship between financial globalization and the development of the local financial sector. In light of this, studies by Law et al. (2014), Balcilar et al. (2019), Chinn and Ito (2005), Kose et al. (2010), García (2012), Muye and Muye (2017), and Özkok (2015) demonstrated a significant relationship between financial globalization and financial development. However, Asongu and Lieven (2015); Kose et al. (2011); Le et al. (2015); Kose et al. (2010); Mishkin (2009); and García (2012) underscored that the institutional quality, financial development, and governance issue threshold levels must be met for financial globalization to have a direct impact on financial development. Conversely, when the conditions are below the threshold levels, financial globalization may result in financial instability and unfavorable effects on financial development (Motelle and Biekpe, 2015; Kose et al., 2006).

To date, the crucial question of what level of financial globalization countries must reach before it has a direct influence on financial development remains unanswered. Even more puzzling is that there is no agreement among scholars over the existence of a meaningful connection between financial globalization and financial development (Kose et al., 2010). Therefore, as countries become more integrated than ever before, investigating the relationship between financial globalization and financial development will be of enormous importance to governments and regulatory bodies.

This study will add to the body of literature in three different ways. One, it tries to identify the threshold levels of financial globalization, which shows the level of financial globalization that starts to have a positive effect on financial development. The empirical studies in the area were unable to show the financial globalization threshold levels, except for Asongu and Lieven (2015). They failed to take into account the threshold level of financial globalization even though some of them did demonstrate the thresholds in institutional quality, financial development, and macroeconomic conditions. This study is also different from Asongu and Lieven (2015) in considering gross capital flows to proxy financial globalization, which provides less volatile and more sensible integration figures for financial globalization (Kose et al., 2010).

Two, this study is distinctive in that it takes into account the effects of investment freedom and financial freedom variables. Due to the growing financial opportunities that can foster competition and produce the most effective financial systems (Miller et al., 2021), it is crucial to analyze the effect of financial freedom. Likewise, because of the nature of cross-border investment (restrictions or freedoms) can influence capital inflows and outflows (Miller et al., 2021), the inclusion of investment freedom as a control variable is imperative. Three, there are no adequate studies that thoroughly examine how financial globalization affects the financial development of developing nations. Hence, this study will make a valuable contribution to the empirical literature by showing the threshold level of financial globalization in the link between financial globalization and financial development in the context of developing countries, specifically Africa.

The remainder of the paper is organized as follows. The literature review is presented in part 2. In part 3, data and methodology-related aspects are discussed. Moreover, part 4 is dedicated to results and discussion. Finally, the study’s conclusions and future policy recommendations are presented in part 5.

2. Brief review of literature

2.1. Theoretical review

The term “financial globalization” refers to cross-border economic transactions (Motelle and Biekpe, 2015). Financial globalization is crucial because it encourages and forces nations to adhere to international reporting and regulatory norms. It also facilitates the transfer of know-how and cutting-edge technologies from developed nations (Motelle and Biekpe, 2015). Financial globalization moreover allows risk diversification because local institutions can share risks with foreign institutions in local and international markets. The free flow of wealth across nations due to financial globalization can also facilitate the global mobilization and accumulation of savings. Furthermore, financial globalization can lower the cost of conducting international business and make it easier for the financial industry to interact with other industries globally (Gulcemal, 2021).

Generally, Balcilar et al. (2019) provided a detailed explanation of the six major advantages that globalization offers to nations with a globally connected economic system. First, it supports the development of the financial sector. Second, it facilitates the transfer of knowledge and technology to underdeveloped nations. Thirdly, capital mobility makes it possible to get capital at lower costs. Fourth, it encourages the accumulation of savings domestically. Fifth, it offers access to global markets, allowing for improved specialization in production. Sixth, because of increased pressure from global competition, there is an opportunity for changes in macroeconomic institutions and policies.

Similarly, Mishkin (2009) and Schmukler (2004a,b) argue that globalization can be a potent tool for stimulating institutional improvements in developing countries, which can result in financial advancement and economic expansion. There are two ways that financial globalization might support financial development in developing nations. One is that it can directly increase cash availability while lowering the cost of capital. Two, opening markets to foreign financial institutions promotes financial sector reforms and upgrades the financial infrastructure (Mishkin, 2009; Schmukler, 2004a,b). However, to reap the benefits of financial globalization in terms of enhancing financial and institutional development, the requirements related to the threshold levels of institutional quality, financial development, and macroeconomic stability must be met (Mishkin, 2009).

The crucial point that requires careful examination is that integration has implications, especially in developing nations (Oloyede et al., 2021). In other words, because financial uncertainty has been a feature of financial globalization, it might lead to financial instability for financially open nations (García, 2012). The adverse consequences are expected to be worse in developing countries because institutional quality and policy conditions in developing countries are not at their desirable states (Gulcemal, 2021).

The risk of a sharp reversal in capital flows during difficult times is the other challenge, which could lead to complex financial instability in domestic financial sectors (Motelle and Biekpe, 2015). Moreover, globalization poses risks that can be transmitted from other economies with destabilizing effects on the financial markets and ultimately economic growth (Balcilar et al., 2019). One example of the unfavorable effects of financial globalization due to risk transmission is the financial crisis that struck developing nations after the financial crisis in industrialized countries in 2008/2009. In conclusion, the development of the local financial sector may be positively or negatively impacted by financial globalization. Financial globalization may have a negative impact because of unfavorable institutional and macroeconomic factors, as well as the amount of capital outflows (Wei, 2018). However, depending on the favorable conditions of the factors, certain nations may experience a positive impact (Kose et al., 2010).
2.2. Empirical review

This part provides a review of some important empirical studies that examined the relationship between financial globalization and financial development. Balcilar et al. (2019) used panel data from 36 countries covering the years 1996–2016 to investigate the relationship between financial development and globalization. The augmented mean group (AMG) and common correlated effects mean group (CCEMG) econometric models were used. The analysis results showed that institutional improvements that support financial development are influenced by globalization. In a different study, Muye and Muye (2017) analyzed the long-term relationships among globalization, institutions, and financial development using the dynamic ordinary least squares (DOLS), the pooled mean group (PMG), and the fully modified OLS (FMOLS). The study's findings indicate that globalization, institutions, and financial development have positive long-term relationships across all three estimating approaches.

For their part, Chinn and Ito (2005) attempted to address the query of what is important for financial progress. Panel data from 108 countries was taken into account for the analysis, which covered the years 1980–2000. The results of the fixed effect regression model showed that, once a certain threshold for the general development of legal systems and institutional quality is reached, financial openness directly influences the development of equity markets. García (2012) used a dynamic panel data model to investigate the relationship between financial globalization and financial development in transition countries with the same goal in mind. The results showed that, while the process of development is unaffected by financial globalization, there is a positive association between globalization and the process of the financial system’s development.

Ozkok (2015) conducted research on the relationship between financial openness and financial development covering both developed and developing nations. The study's panel data analysis methodologies revealed that, while financial openness had a significant negative impact on the development of financial markets (bonds and stocks), it had a significant positive impact on the development of financial institutions. Likewise, employing the panel unit root and panel co-integration tests, Law et al. (2014) found that globalization has a negative impact on the growth of the banking sector and a direct impact on the growth of the stock markets in eight East Asian economies. However, a recent study by Gulcemal (2021) found no relationship between financial globalization and financial development. The study used the GMM estimator in order to forecast the effects of financial globalization, institutional quality, and economic growth on financial development in “fragile economies” during the period from 1995 to 2017.

Few empirical studies have specifically demonstrated the connection between financial development and financial globalization in African nations. In this regard, Asongu and Lieven (2015) used the interactive Generalized Method of Moments (GMM) model to analyze the link based on data gathered from 53 African countries over the period from 2000 to 2011. The results revealed that financial globalization had both negative and positive (the U-shaped model) impacts based on the levels of integration. When financial globalization was at lower levels, it had negative effects on financial development. However, when it reached the threshold levels, it had favorable effects. Similarly, Motelle and Biekpe (2015) looked into the connections between financial integration and stability in the Southern African development community. The question of whether increased financial integration leads to financial instability in domestic financial systems is investigated using the feasible generalized least squares (FGLS) method. The results showed that the Southern African development community experienced financial instability as a result of financial integration.

2.3. Gaps on empirical studies

The review of empirical literature shows that there is not enough empirical research that examines the connection between financial globalization and financial development. In this context, Law et al. (2014) assert that there is no sufficient evidence to support the claim that globalization promotes financial development, despite the focus on it recently in developing countries. Few studies specifically examine the situations of developing regions in general and Africa in particular. Also, there is a lack of consensus among scholars about the merits of financial globalization (Kose et al., 2010). To put it another way, the results of the empirical studies in the field are at odds with each other, with mixed results (García, 2012; Kose et al., 2010).

Additionally, most of the studies in the literature used FDI, which accounts for only a portion of all capital flows, to measure financial globalization. FDI also represents only one way of flow of capital to the host nations. Because portfolios, bonds, and other financial instruments are moving around the world like never before, the gross capital flows measure is more suitable to show the magnitude of the global flows of capital (García, 2012). Therefore, this study used gross capital flows as a measure of financial globalization in order to account for all capital flows, which is one key gap in the empirical literature. The study also minimizes, if not fills, the empirical research gap in the contexts of developing countries, African nations in particular.

3. Data and methodology

3.1. Types and sources of data

Panel data collected from 33 African nations between 2005 and 2019 was used in this study. Only the African countries that provide the required data are considered, while the rest are excluded. Also, most of the African nations, including those considered in this study, do not have data for the years before 2005. Hence, the time frame from 2005 to 2019 is taken into account. In other words, the time frame and incorporation of African countries in this study were purely dictated by the availability of data.

The data was collected by reviewing various secondary data resources. The World Bank (WB) data base provided data on financial development; financial globalization data was found from the International Monetary Fund (IMF) data pool; the United Nations Conference on Trade and Development (UNCTAD) provided data on trade openness; and finally, data about the two control variables (financial and investment freedom) was obtained from the Heritage Foundation data base.

3.2. Variables and their measurements

The scholarly researches support the idea that there is a strong connection between financial globalization and financial progress. Theoretically, financial globalization has a significant impact on the developments of local financial sectors (Yeyati and Williams, 2011; Kose et al., 2016; Mishkin, 2009). Similarly, empirical studies demonstrated the remarkable impact of financial globalization on financial development (Balcilar et al., 2019; Asongu and Lieven, 2015; Gulcemal, 2021). With regard to trade openness, Hafer (2013); Baltagi et al. (2009) and Taghizadeh-Hesary et al. (2019) empirically showed the significant relationship between trade openness and financial development. Likewise, Chortareas et al. (2012) and Sarpong-Kumankoma et al. (2019), based on empirical researches, concluded that financial freedom has a significant influence on financial sector’s performance. Finally, investment freedom has a significant connection with financial developments as empirically affirmed by Brikí (2020). In summary, these variables are carefully chosen as the theoretical and empirical postures depict them as important determining factors of financial development.
measurements might not be fully error-free, the de facto measure has been widely employed by numerous researchers. It is reasonable to use it because the volume of global capital flows is the primary indicator of financial globalization (García, 2012).

The de jure metrics of financial globalization, on the other hand, are more complex and have various shortcomings. The de jure measures cannot reflect the level of capital account openness, the degree of an economy’s actual integration with global capital markets, the level of capital controls' actual enforcement, or changes in that enforcement over time even when the restrictions on capital controls remain constant (Kose et al., 2010). In this study, the de facto measure, which is the quantity-based financial flow measure, is used to denote the financial globalization. In this study, the de facto measure, which is the quantity-based financial flow measure, is used to measure financial globalization. The gross capital flow ratio, i.e., the sum of capital inflows and outflows to GDP, is employed. This proxy is used because it incorporates two-way flows and is a less volatile and more logical measurement of financial globalization (Kose et al., 2010).

The broad money to GDP ratio was used to proxy financial development. The broad money to GDP ratio (M2/GDP) is the most regularly used measure of financial development (Musamali et al., 2014; Badeeb and Lean, 2017). Numerous empirical studies, including Moon (2017), Badeeb and Lean (2017), Musamali et al. (2014), Oloolade (2014), and Al-Jarrah et al. (2012), used this measure. Regarding the control explanatory variables, trade openness was measured by the import plus export to the GDP ratio.

3.3. Model specification

The following equation illustrates the broad model that links financial globalization and financial development.

\[
\ln FD_t = \alpha_0 + \beta_1 \ln FG_t + \beta_2 \ln TO_t + \beta_3 \ln IF_t + \beta_4 \ln FF_t + \epsilon_t
\]  

(1)

where; \(FD_t\) is the level of financial development of country i at time t; \(FG_t\), financial globalization of country i at time t; \(TO_t\), trade openness of country i at time t; \(IF_t\), Investment freedom of country i at time t; \(FF_t\) is Financial freedom of country i at time t; \(\beta_1-\beta_4\) represent the coefficients of the explanatory variables and \(\alpha_0\) is the constant term.

3.4. Econometric method

The equation given in (1) is estimated using two separate panel regression models in order to meet the study's goals. The Discroll and Kraay (1998) estimators with fixed effects regression make up the first model. To confirm the consistency of the estimates, the panel-corrected standard errors (PCSE) model is also used.

Discroll–Kraay estimators produce heteroskedasticity and autocorrelation consistent (HAC) standard errors (Hoechle, 2007). Additionally, it has excellent small-sample properties and is robust to a general form of cross-sectional dependence.

Consider the panel fixed regression model with cross-sectional units, \(i = 1, 2, 3...N\) and time period, \(t = 1, 2, 3\ldots\ldotsT\), as suggested by Hoechle (2007).

\[
Y_{it} = \alpha_i + \beta' X_{it} + \epsilon_{it}
\]  

(2)

where Y and X are dependent and independent variables, respectively; \(\alpha_i\) is referred to the fixed effect, \(\beta\) represents the unknown coefficients, and \(\epsilon_{it}\) is the error term. Here, the error terms in the model are allowed to be heteroskedastic, autocorrelated, and cross-sectionally dependent. As a result, the Discroll–Kraay estimator is chosen since it takes these methodological considerations into account to produce unbiased and efficient estimates. As per Hoechle (2007), the fixed effect (within) regression models with Driscoll and Kraay standard errors estimator are implemented in two steps. First, all variables \(z_{it} \in \{y_{it}, x_{it}\}\) are within-transformed as follows;

\[
Z_{it} = z_{it} - \bar{z}
\]

where; \(\bar{z} = T_t^{-1} \sum_{t=1}^{T} z_{it}\)

\[
\bar{z} = \left( \sum_{t=1}^{T} t \right)^{-1} \sum_{t=1}^{T} z_{it}
\]

The within-estimator corresponds to the OLS estimator of the following form.

\[
\tilde{Y}_{it} = \alpha_i + \beta' \tilde{X}_{it} + \tilde{\epsilon}_{it}
\]  

(3)

Then, in the second step, the transformed regression model in (3) will be estimated using the pooled OLS estimation with Driscoll–Kraay standard errors. After that, the asymptotic (robust) covariance matrix’s diagonal elements are square-rooted to get the Discroll–Kraay standard errors (Hoechle, 2007).

\[
V(\hat{\beta}) = (X'X)^{-1} \hat{\Sigma} (X'X)^{-1}
\]  

(4)

where, \(\hat{\Sigma} = (X'X)^{-1} \Sigma' X' X (X'X)^{-1}\).

The panel-corrected standard errors (PCSE) model is also employed in ensuring the robustness of the model estimates. In addition to being robust to unit heteroskedasticity, the PCSE model is also consistent against potential contemporaneous correlation across the units (Bailey and Katz, 2011). Besides, the panel corrected-standard errors model is superior to alternatives in terms of small sample quality and is advantageous in controlling for serial correlation (Franzese, 1996). To summarize, the pooled OLS with DK standard errors estimate and panel-corrected standard errors (PCSE) models are used to address heteroskedasticity, cross-sectional dependence, and correlation issues.

4. Results and discussion

4.1. Descriptive statistic

Table 1 provides a summary of the descriptive statistics for the study’s variables. The median, standard deviation, and minimum and maximum values are shown. All variables’ summary data is presented as log values.

Financial development, measured by the M2, has a mean of 3.5 and minimum and maximum values of 1.5 and 4.7, respectively. The gross capital flows as a proportion of GDP, which are used to measure financial globalization, show a mean of 0.99, a minimum of 0, and a maximum of 4.69. The mean (log values) of investment freedom is 3.8, with minimum and maximum values of 2.7 and 4.4, respectively. Comparable results were found for financial freedom, which showed a mean of 3.7, a minimum value of 3, and a maximum value of 4.2. The last statistic is trade openness, which has a mean of 3.5 and minimum and maximum values of 2.7 and 5.2, respectively.

| Variable | Obs | Mean  | Std. Dev. | Min | Max |
|----------|-----|-------|-----------|-----|-----|
| lnM2     | 495 | 3.453 | .578      | 1.510 | 4.650 |
| lnFlow   | 195 | .991  | .627      | 0   | 4.694 |
| lnIF     | 195 | 3.832 | .318      | 2.708 | 4.382 |
| lnFF     | 195 | 3.694 | .314      | 2.996 | 4.248 |
| lnTO     | 495 | 3.538 | .459      | 2.734 | 5.159 |

Source: Author’s Computation using STATA 15.
4.2. Cross-sectional dependency tests

The presence of cross-sectional correlation of errors in panel data is more likely to happen, and serious consequences will follow if we ignore the cross-sectional dependence issues. The interactions between the cross-sectional units and the existence or absence of common factors are the main causes of the cross-sectional correlations of errors (Chudik and Pesaran, 2013). Estimators that are based on the premise of cross-sectional independence may be inconsistent when observations depend across cross-sectional units (Hsiao et al., 2007). With this in mind, the Pesaran (2004) CD test was used to determine whether cross-section dependence existed across the African nations that the study took into account. The Pesaran (2004) CD test calculation formula is as follows:

\[ \sqrt{\frac{2T}{N(N-1)} \left( \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \rho_{ij} \right)} \sim (0, 1) \quad (5) \]

In the CD test, the null hypothesis is that cross-sectional independence exists (Pesaran, 2004). Table 2 presents the results of the CD testing.

The results in Table 2 demonstrate that the CD test proposed by Pesaran (2004) rejects the null hypothesis because all variables’ CD statistics are statistically significant at least at 1% level. To put it another way, the test statistics establish the existence of cross-sectional dependence in variables across the African countries under consideration (cross-section units).

4.3. The regression estimation results

The association between the explanatory factors and the explained variable was examined using the Daryaei and Haghighat (2017) estimator and correlated panels corrected standard errors (PCSEs) tests. Table 3 displays the regression test results.

Table 3 shows the findings of the Driscoll-Kraay estimating regression and panel correlated standard errors models in both linear and non-linear options. The outcomes from the two models are remarkably similar.

Financial globalization revealed a strong negative impact on financial development at a 1% significance level in the linear case. This finding suggests that when countries become more open in their financial accounts, their financial sector development will be negatively affected. The indirect link between financial globalization and financial development might be supported by the following theories: First, financial globalization increases bank competition and decreases interest rates, which may cause borrowers to end their relationships with banks, adversely affecting financial development (Nasreen et al., 2020). Second, the opening of a capital account may result in an increase in capital outflows, which could be bad for local financial development. Some scholars are critical of this concern and suggest that the key issue that needs solemn consideration prior to opening the capital account is the capital outflows, not the capital inflows (Stiglitz, 2000). For instance, $2 trillion in capital fled from 30 African nations between 1970 and 2018 (Ndikumana and Boyce, 2021).

Third, developing countries are commonly incapable of attaining one of financial globalization’s core risk-sharing benefits (Kose et al., 2009). As a result of the limitations on their risk-sharing, opening the capital accounts can actually increase the volatility of the local financial system. Fourth, as developing countries are more investment constrained than saving constrained (Rodrik and Subramanian, 2009), capital inflows may make the investment restriction on the private sector worse by raising the real exchange rate and reducing profitability. It thus restricts the economy’s potential for growth, notably in the financial industry. Finally, the result is consistent with Nasreen et al. (2020) and Shabanz et al. (2017). However, it is at odds with the findings of Ozkok (2015) and Balragi et al. (2009), which indicated that financial globalization had a positive impact on financial development.

On the other hand, non-linear (quadratic) relations’ results showed distinct outcomes from those of the linear model. At least at a 10% significance level, financial globalization will have a favorable impact on financial development in African countries that reach a threshold level of financial globalization (a gross capital flow of at least 1.26 times the country’s GDP). In other words, an increase in financial globalization will have a favorable impact on the growth of the local financial sector when countries become more open in their capital accounts and reach the threshold level or higher. The outcome is consistent with Asongu and Lieven (2015). It is clear from the results of the linear and non-linear models that opening the capital account is neither a blessing nor a curse. What matters the most are the conditions of the important factors and the timing of when to open the capital account to international players.

Concerning the control variable, both models have exposed that all three control variables, trade openness, financial freedom, and investment freedom, had a strongly significant positive impact on financial development at a 1% significant level. The positive impact of trade freedom on financial development implies that greater trade openness can help to improve the development of the local financial sector. This is because trade liberalization may create a competitive business environment and lower the mark-up over the costs for domestic firms, which

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Note: The list of the African countries included in this study is shown in Table 4 in the appendix.
directly influences the local financial system's development (Shahbaz et al., 2017). Also, as it encourages the better development of institutions, opening up local markets to foreign products can be a crucial foundation for financial development in developing nations (Shahbaz et al., 2017). From this, the theory that states trade openness is essential for realizing financial development (Rajan and Zingales, 2003; Taghizadeh-Hesary et al., 2019) is abundantly sensible. The outcome is in line with the empirical findings of Hafer (2013) and Baltagi et al. (2009).

Likewise, a direct effect of financial freedom shows that there is a greater prospect of nations' financial sectors doing better if there is greater financial freedom. In short, financial freedom indicates entities' efficiency and independence from the government's control and interference in the financial sector (Daryaei and Haghihat, 2017). Hence, a circumstance that allows for open financial intermediation can lead to the development of sophisticated financial systems that are effective and ensure the availability of diversified savings, credit, payment, and investment services (Miller et al., 2021). The finding of this study is in line with the findings of Chortareas et al. (2012) and Sarpong-Kumankoma et al. (2019).

Finally, similar to other control variables, investment freedom uncovered a significant positive effect on financial development. According to the findings, countries can profit from increased investment freedom by developing their financial sectors. Investment freedom provides maximum entrepreneurial opportunities and incentives for expanded economic activity, greater productivity, and job creation (Miller et al., 2021). Due to the needs for various financial arrangements, investment freedom affects the financial system's capacity to react in certain ways (Levine, 1997). The result contradicts the findings of Brikic (2020) and Tiwari (2011), as the former found an indirect link, while the latter found no significant influence of investment freedom on economic growth in the case of Asian countries.

5. Conclusions and policy directions

This study examines the relationship between financial globalization and financial development in African countries between 2005 and 2019. Based on the availability of data throughout the study period, 33 African nations were taken into consideration. Two suitable panel data models, the Daryaei and Haghihat (2017) estimator and the correlated panel corrected standard errors (PCSEs), were employed. These models were utilized in the study because they take concerns with cross-sectional dependency, autocorrelation, and heteroskedasticity into consideration.

The findings of the study for the two models are quite similar. In linear analyses, capital account openness (financial globalization) is demonstrated to have a significant negative influence on the financial development of African nations. Opening capital accounts may result in capital outflows rather than inflows to the region because Africa's institutional and macroeconomic variables are less favorable than those in other parts of the world. In this aspect, it makes sense that financial globalization has a negative impact on the financial development of African nations. On the contrary, the non-linear (U-shaped) model indicated that financial globalization had a fairly positive impact on financial development. It suggests that countries can see a favorable influence of financial globalization on the growth of their financial sector when they open up their capital accounts and are able to reach a threshold level of gross capital flow (capital flow of 1.26 times their respective GDP).

Concerning the control variables, all three (trade openness, financial freedom, and investment freedom) have shown a strongly significant and positive impact on financial development. As a result, it implies that trade openness and the economic freedom indices (financial and investment freedom) are among the key determinants impacting the growth of the local financial industry.

As every study has its own limitations, this study has the limitation of considering only 33 out of a total of 54 countries (according to the United Nations) because of data availability. The time period is from 2005 to 2019, which doesn't include the most recent years' data, again because of data availability. Because of this, it was not possible to see the implications of financial globalization in the most recent global destitute (the COVID-19 pandemic).

Finally, since the results of the study show the direct and indirect relationships between financial globalization and financial development, countries in the region are advised to take the potential negative and positive effects of financial globalization on financial development into account. Besides, the positive effects of financial globalization can be achieved only when it reaches the threshold level, which most of the countries in the region cannot attain because of factor conditions. Hence, prior to completely integrating globally, it is essential to understand how and when to open their capital accounts to international stakeholders.

Declarations

Author contribution statement

Mekuanent Tesega, MBA, MSc: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Data availability statement

None.

Declaration of interest’s statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.
Appendix

Table 4. List of African Countries considered in this study.

| Country          | Region          | Country          | Region          |
|------------------|-----------------|------------------|-----------------|
| Algeria          | Djibouti        | Liberia          | Seychelles      |
| Angola           | Egypt, Arab Rep. | Madagascar       | Sierra Leone    |
| Burkina Faso     | The Gambia      | Malawi           | South Africa    |
| Burundi          | Ghana           | Mali             | Tanzania        |
| Cabo Verde       | Guinea          | Mozambique       | Togo            |
| Cameroon         | Guinea-Bissau   | Namibia          | Tunisia         |
| Congo, Dem. Rep. | Kenya           | Niger            | Uganda          |
| Congo, Rep.      | Lesotho         | Senegal          | Zambia          |

Source: Author’s listing of considered nations using word table.

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