Received 10 November 2021
Revised 25 February 2022
2 May 2022
25 May 2022
Accepted 2 June 2022

Financial development and institutional quality among emerging economies

Rexford Abaidoo
University of Maryland Eastern Shore, Princess Anne, Maryland, USA, and
Elvis Kwame Agyapong
Ghana Institute of Management and Public Administration, Accra, Ghana

Abstract

Purpose – This study examines how institutional quality influences variability in financial development among economies in Sub-Saharan Africa (SSA).

Design/methodology/approach – Empirical estimations verifying various relationships are performed using the limited information maximum likelihood (LIML) estimation technique.

Findings – The results suggest that institutional quality enhances the pace of financial development among economies in the sub-region all things being equal. In a further micro-level analysis where components of institutional quality index are examined separately, the study's results suggest that effective governance, regulatory quality, rule of law and accountability tend to have a significant positive impact on financial sector development.

Research limitations/implications – Findings of the study suggest that policies geared towards improving governance and regulatory institutions can augment development of the financial sector among economies in SSA; governments and policymakers are therefore encouraged to resource noted institutions to play effective roles for the development of the financial sector.

Originality/value – Compared to related studies, this study reorients existing paradigm, which emphasizes the role of governance and institutional variables in the economic growth discourse. The authors' empirical inquiry rather focuses on how governance and institutional structures influence regional financial development dynamics. Specifically, this study differs from most macro-level studies found in literature because it examines the impact of hitherto unexamined governance and institutional variables on financial development among economies in SSA.

Keywords Financial development, Institutional quality, Limited information maximum likelihood, Macroeconomic uncertainty

Paper type Research paper

1. Introduction

In the annals of conditions responsible for economic growth, several variables and indicators have been identified to be essential in the creation of the conducive environment crucial for sustained economic growth and development. The development of the financial sector, according to the literature, is one of such factors with significant influence on the pace of economic growth. Orji *et al.* (2019), for instance, showed that financial development fosters economic growth through human capital channel. Apart from direct contributors of economic growth such as investments and consumption expenditures, exogenous factors such as the quality of governance, political stability and institutional effectiveness, among others, have

JEL Classification — G2, H11, K20, L5

Journal of Economics and Development
Vol. 24 No. 3, 2022
pp. 198-216
Emerald Publishing Limited
e-ISSN: 2632-5330
p-ISSN: 1859-0020
DOI 10.1108/JED-08-2021-0135

also been found to be integral in the economic growth discourse. Although governance and institutional variables have generally been perceived to have indirect causal influence on economic growth compared to variables such as investments, consumption expenditures, among others, importance of such exogenous variables in the economic growth discourse cannot be overstated. Good governance, stable political climate and effective institutions, for instance, provide the needed support in creating enabling environment critical for productive sectors of an economy. In this regard economies characterized by good governance, stable political climate and highly effective institutions may be characterized by appreciable growth and development all things being equal. However, economies beset with poor governance, political instability, weak institutions and regulatory structures may exhibit anemic growth (see Rajan and Zingales, 2006; Agbiboa, 2010; Assadzadeh and Pourqoly, 2013; Ogbuabor *et al.*, 2020). Political instability and weak judicial systems, for instance, have been found to be inimical to investment growth (see Papaioannou, 2009; Anyanwu, 2017; Wanjiru and Prime, 2020). Additionally, significant number of empirical studies have also shown that the type of governance (whether democracy or dictatorship/military rule) impacts economic performance (see Aziz and Sundarasen, 2015; Ghardallou and Sridi, 2020; Yu and Jong-A-Pin, 2020). This study, unlike studies reviewed above, is designed to reorient the political institution/system–economic growth nexus; we do so by rather examining how institutions of governance influence variability in the development of the financial sector of an economy.

Synopsis of the literature provided above and thorough review of existing studies suggest that most related studies predominantly focused on political institutional structures and the economic growth nexus; with no inquiry specifically examining the interactions (both direct and moderation) sought in this study. This rareness of specific study (gap) in the reviewed literature partly forms the basis for the current enquiry examining the nexus in question. Compared to the relationship reviewed above which dominate existing literature (governance, political climate, institutions-economic growth nexus), this study further draws motivation from the presumption that institutions of governance are not only critical to the economic growth process; they are also integral to operational performance of entities in a financial system and its overall development. Consequently, instead of macro-level associations pursued in most related studies focusing on the relationship between institutions of governance and the performance of the entire economy, this study adopts a different perspective. This perspective as already indicated rather reviews the extent to which institutions of governance influence variability in the development of the financial sector among economies in the Sub-Saharan African (SSA) region and how such interactions are moderated or otherwise by key variables or indicators of interest. This approach has the potential to unearth specific underlying interactions such as how regulatory quality specifically influences operations and performance of the financial sector. Conclusions from this interaction can then influence performance-enhancing policies among key stakeholders in the industry. Thus, apart from surmised contributions to existing literature based on the approach and nature of interaction sought, this study has significant strategic policy implications for stakeholders in the financial sector. In addition to the political institution–economic growth nexus, reviewed literature also features studies that have examined how other factors and conditions influence the development of the financial sector. These factors are mostly dominated by macroeconomic conditions. For instance, Ehigiamusoe *et al.* (2020) identified stable macroeconomic factors as core determinants of the development of the financial sector for West African economies. Ehigiamusoe *et al.* (2021) also found gross domestic product (GDP) to have a significant positive impact on financial development for a panel of 125 countries. Similarly, Ehigiamusoe and Samsurijan (2021) and Ehigiamusoe *et al.* (2021) focused on assessing the moderating impact of institutional quality and macroeconomic stability on finance–growth nexus and the role of inflation on financial development respectively. This succinct overview of the literature

further shows the spectrum of conditions or factors that explain some measure of variability in financial development. The current study contributes to this extant literature by examining how institution of governance, political and regulatory structures impact financial sector development and the moderating role of key hitherto unexamined indicators.

This study's approach is based on the presumption that the impact of quality of institutions of governance transcends the creation of desired enabling environment critical for macro-level growth and development. We theorize that such political institutions are also crucial in augmenting or constraining the performance of micro-sectors of an economy such as the financial sector; hence, the approach adopted in this study which verifies effects of such institutions. Prime objectives of this empirical inquiry are summarized in the following questions. To what extent do institutions of governance, political climate and institutional quality influence variability in financial development among emerging economies? If such relationships exist, are they moderated by macroeconomic shocks or adverse macroeconomic conditions? These fundamental questions largely define the scope of the empirical inquiries pursued in this study. Empirical approach adopted in this study has also been influenced by ongoing debate, which often attributes most macroeconomic challenges among emerging economies such as those in SSA to poor governance and weak institutional structures (see Berggren *et al.*, 2012; Assadzadeh and Pourqoly, 2013; Balutel, 2020). Compared to most advanced economies where the extent of financial development is mostly a function of macroeconomic dynamics and operational performance among financial institutions, we hypothesize that variability in financial development among emerging economies, especially those in SSA may be influenced by performance among institutions of governance, prevailing political climate and institutional effectiveness all things being equal. Institutional quality index examined in our inquiry is unique to this study because it is an author-constructed index using principal component analysis (PCA) process; additionally, some components of this index, which are later examined separately, are different compared to what can be found in the literature. Furthermore, instead of the contributions of the financial sector to economic growth, which dominates the literature (see Adeel-Farooq *et al.*, 2020; Maciejewski and Głodowska, 2020; Bayar *et al.*, 2021), this study rather focuses on financial development and the role of institutions of governances.

This study follows the holistic definition of a financial system presented by Rajan and Zingales (2001) and the World Bank, respectively. According to Rajan and Zingales (2001), financial system is made up of the banking system, capital market dynamics including share issues, the number of listed firms and market capitalization as well as activities of non-bank financial institutions. The World Bank, on the other hand, defines financial development as a process where financial institutions, markets and intermediaries provide ease of information, enforce arm's length transaction and ensure minimal transaction cost with the object of offering key financial sector functions in an economy. The development of the financial sector according to the World Bank involves efforts at ensuring expansion of the financial market and institutions access, stability, efficiency and depth. Guru and Yadav (2019) in this regard aver that financial development involves the growth in size, efficiency and stability of financial markets as well as access to the financial markets. In their inquiry, Guru and Yadav (2019) further identified factors including channeling savings to profitable investments, reduction of information and corporate governance cost, boosting technological innovation, assisting trading activities, enhancing diversification, promotion of hedging and risk alleviation as key features of a developed financial system. Institutional quality/effectiveness, on the other hand, is defined by variety of governance operational variables such as corruption control, government effectiveness, regulatory quality, rule of law and voice and accountability.

The study proceeds with a review of both theoretical and empirical literature in section 2. This is followed by the methodology adopted, including variable derivation processes in

section 3. The data and empirical analysis of the results of the various estimations and analysis of the post-estimation tests that verifies the robustness of the underlying model for the study are presented in section 4. The conclusion and policy recommendations are finally presented in section 5.

2. Literature review

2.1 Theoretical literature

In an earlier study, Fry (1989) identified the financial repression model by Mckinnon and Shaw as a key theory explaining financial development. According to Fry (1989), the Mckinnon–Shaw model avers that indiscriminate distortions of financial prices such as interest rate and foreign exchange rates result in the reduction of the real rate of growth and the size of the financial sector, retarding the development process of an economy. Fry (1989) concludes that the result of the Mckinnon–Shaw model is the implementation of financial liberalization programs by many emerging countries; attesting to the need for at least two essential elements in the discourse – macroeconomic stability and supervision/regulation of banks. This position implies that institutional quality and stability in key macroeconomic variables are critical elements in ensuring development of the financial sector. Beck *et al.* (2001), additionally, examined the determinants of financial development from the perspective of the prevailing legal framework. Beck *et al.* (2001) identified legal theories of financial development and argued that there are two channels through which legal systems influence the development of the financial sector – the political channel and the legal adaptability channel. Whilst the political channel emphasizes the power of the government in relation to the judiciary, the legal adaptability channel places importance on the capability of the legal framework in adapting to changing conditions (Beck *et al.*, 2001). These theories, thus, recognize the role of the legal system (an important institution) in the development of the financial sector.

Financial sector dynamics and its long-term development according to reviewed studies may be explained to some degree by the resource curse hypothesis. The resource curse hypothesis avers that countries endowed with natural resources are often associated with underdevelopment due to rent seeking tendencies of the few privileged in the society, weak governance and poor institutional structures. Studying this subject matter, Khan *et al.* (2019) concluded that natural resource rent has a negative influence on the development of the financial sector. The study further concluded that quality of institutions significantly moderate the nexus between natural resource rent and financial development. Khan *et al.* (2019) consequently argued that institutional quality is a critical prerequisite for the development of the financial sector. Similarly, for the African continent, Dwumfour and Ntow-Gyamfi (2018) examined the nexus between natural resources, financial development and institutional quality in the context of the natural resource curse hypothesis. Using Z-score to represent financial development, the resource curse hypothesis was confirmed for the SSA sub-region. Proxying financial development with credit score, Dwumfour and Ntow-Gyamfi (2018) found a positive relationship between resource rents and credit for the sub-region. The study further showed that quality of institutions can help in alleviating the adverse impact of resource rents on financial development.

2.2 Empirical literature

Empirical works on the determinants of financial development abound in the extant literature. Among key variables in the literature surmised to influence the pace of financial sector development include economic and non-economic factors with varied results depending on the scope and period of the study. Voghouei *et al.* (2011), for instance,

concluded from both theoretical and empirical research works that trade liberalization, financial liberalization, legal tradition and political economy promote the development of a financial system. In an earlier work based on 27 economies from the G-7, Europe, East Asia and Latin America, Law and Habibullah (2009) identified quality of institutions and real per capita income as factors playing significant role in boosting the development of the capital market and the banking industry. In a recent study on economies in Economic Community of West African States (ECOWAS), Aluko and Ibrahim (2020) concluded that there exists no evidence to suggest that institutions exert significant influence on the development of the financial sector using the Augmented Mean Group (AMG) estimation technique. Segregating institutions into its constituents, Aluko and Ibrahim (2020) found market-legitimization to be significant in promoting financial development. In contrast to the conclusions by Aluko and Ibrahim (2020), Khan *et al.* (2020a, b) found institutional quality to have a significant effect on the development of the financial sector. From a sample of 189 developing economies, Khan *et al.* (2020a, b) again verified the role of institutions in financial development. The results in this regard suggest that generally improved institutions boost financial development. Specifically, the study found that political stability, corruption control and regulatory quality have a positive effect on financial development. Anthony-Orji *et al.* (2019) also approached the subject matter by verifying the effect of financial stability and institutional quality on financial inclusion in the Nigerian economy from 1986 to 2013. Results from the study showed that both financial stability and institutional quality significantly affect financial inclusion in the long run; in the short run, however, financial stability was found to be insignificant in influencing financial inclusion. Raza *et al.* (2014) proxied credit to private sector for financial development in a study that examined the determinants of financial development from 1990 to 2012 using 27 developing and 30 developed countries. Raza *et al.* (2014) identified agriculture share of GDP, trade liberalization, population growth, government expenditure and index of democracy to be significant factors that affect development of the financial sector. Similarly, in a study on the Ghanaian economy from 1988 to 2010, Takyi and Obeng (2013) found trade openness and income per capita to positively influence financial development whilst inflation, interest rate and reserve requirement were found to negatively impact the development of the financial sector. Again, Nasreen *et al.* (2020) examined the determinants of financial development for European economies from 1989 to 2016. Nasreen *et al.* (2020) found that whilst institutional quality and economic growth promote financial sector development, globalization, on the other hand, impedes financial development. Khalfaoui (2015) approached the subject matter using data compiled from 23 developing countries and 15 developed countries from 1997 to 2013. According to the study, determinants of financial development can be categorized as banking and financial sector dynamics, human development and economic growth. Khalfaoui (2015) showed that economic stability, institutional and legal structures have a significant influence on financial sector growth for only developed countries. This conclusion highlights a gap in the literature; that is, whether institutional structures could significantly influence the development of the financial sector from a sample of developing economies in SSA.

In a study focusing on economies in West Africa Economic and Monetary Union, Djeri *et al.* (2020) verified the effect of institutional quality on financial development and concluded that institutions play a significant role on financial development. Law and Azman-Saini (2012) used the banking sector and stock market to represent financial development in a similar study using data from both developed and developing economies. The results from the study showed that improved institutional environment is essential in explaining financial development, specifically the banking sector. Law *et al.* (2015) studied the effect of globalization and institutional reforms on financial development among East Asian economies. Empirical results of the study revealed that institutional reforms support the development of the financial sector. Cherif and Dreger (2016) also identified institutional

conditions as influential in financial development for Middle East and North Africa (MENA) countries. Cherif and Dreger (2016) further found that corruption, and law and order were relevant in stock market development. This conclusion, among others, suggests that disaggregating institutional quality index into its sub-elements could be important in unearthing relevant specific interactions, which can be critical for tailored policies geared towards growth and the development of the financial sector. Le *et al.* (2016) approached the subject matter by focusing on countries in Asia and the Pacific from 1995 to 2011. Using the dynamic generalized method of moments (GMM) in a panel data made up of 26 countries, the study concluded that better governance and institutional quality enhances the development of the financial sector for developing countries whilst trade liberalization and economic growth were found to drive financial depth for developed countries in the region. Ali *et al.* (2022) examined the effect of financial inclusion and institutional quality on financial development, with emphasis on the moderation influence of institutional quality on the nexus between financial inclusion and financial development. Using data from 45 Organization of Islamic Cooperation (OIC) countries from 2000 to 2016, the results showed a significant positive effect between financial inclusion, institutional quality and financial development. The results further showed that institutional quality has a positive moderating effect on financial development. Tinta (2022) also highlighted the importance of institutional quality in the financial development and economic growth discourse for high-income and upper middle-income economies in a study that focused on the sub-region of SSA from 1980 to 2019.

Above summary of the related literature suggests that diverse attempts have been made in reviewing the subject matter in question with significantly different findings based on the scope and time frame of the study. Additionally, conclusions from various institutional variables employed in the studies reviewed further suggest that similar individual institutional variables may have significantly diverged impact on the various economies or sub-regional groupings around the globe. In light of these, this study pursues a different approach by examining the effect of a more holistic measure of institutional quality (a principal component analysis constructed index) and how individual elements in the index influence variability in the development of the financial sector among economies in SSA. Another distinguishing feature of our approach compared to some of the reviewed studies is the verification of the extent to which the relationship in question may be moderated or otherwise by specific macroeconomic conditions such as inflation uncertainty, macroeconomic uncertainty and prevailing inflation rate. Given these features, approach pursued in this study has the potential to augment existing studies reviewing the relationship in question.

3. Methodology

3.1 Data sources and description

The study employs data compiled from 29 economies in the sub-region of SSA from 2001 to 2018; the number of countries sampled and period chosen were driven mainly by the availability of data for the relevant variables the study seeks to examine. The sources of the data include the International Monetary Fund (IMF), the World Development Indicators (WDI), Global Financial Development (GFD), Heritage Foundation and World Governance Indicators (WGI) databases. Table 1 presents description of the various variables examined in this study and their respective sources.

3.2 Institutional quality index

This study employs six measures of governance as described by the World Bank in developing institutional quality index. In order to carry out a holistic verification of

Variable	Variable description	Source
Financial development index	The financial development index by the IMF is a holistic measure of growth in the financial sector. It measures the extent of advancement of financial institutions and the market in terms of depth, access, stability and efficiency	International Monetary Fund
Political stability	Measures the absence of the possibility of instability in the political environment, including terrorism and motivated violence	World Governance Indicators
Control of corruption	Corruption control represents the perceptions of the degree of control/prevention of public power is exercised for private gain, including both petty and grand forms of corruption	World Governance Indicators
Government effectiveness	It measures the quality of public services, the quality of the civil service and the degree of its independence from political pressures	World Governance Indicators
Rule of law	It represents the degree of confidence and abiding by the rules of society; it includes the quality of contract enforcement, property rights, the police, and the courts	World Governance Indicators
Regulatory quality	Measures the perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development	World Governance Indicators
Voice and accountability	Represents the perceptions of the degree of a country's citizens ability to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media	World Governance Indicators
Bank liquid reserves	Ratio of domestic currency holdings and deposits with the monetary authorities to claims on other governments, nonfinancial public enterprises, the private sector, and other banking institutions	World Development Index
Bank *Z*-score	Represents the risk profile of the banking system. Higher value indicates lower risk (stable industry) whilst lower value means higher risk	Global Financial Development
Financial freedom	It denotes the degree to which there exist independence of individuals and households in terms of income levels	Heritage Foundation
Broad money (local currency)	Represents the total value of currency outside banks in local currency	World Development Index
GDP (local currency)	Measures the total value of goods and service in local currency	World Development Index
GDP growth	Annual percentage growth rate of GDP at their market prices based on constant local currency	World Development Index
Inflation	Annual percentage change in the cost to a consumer for acquiring a basket of goods and services	World Development Index
Exchange rate	Measures the local currency units relative to the U.S. Dollar	World Development Index
Trade	It denotes the sum of exports and imports of goods and services in proportion to GDP	World Development Index
Foreign direct investment (net inflow)	It denotes the net inflows of investment to acquire a lasting management interest in an enterprise operating in an economy outside that of the investor	World Development Index
Domestic credit (all financial institutions)	It represents the proportion of credit facilities by financial institutions to the private sector as a percentage of GDP	Global Financial Development

Table 1.
Sources and description of variables

Source(s): Authors' compilation

institutional quality variables on financial development, we construct a composite index of these variables using PCA. These variables are indicators of equal scale that range from −2.5 to 2.5; where a higher value indicates improved institutional structure and vice versa. The PCA methodology is employed in generating weights for the construction of the index; this approach has received extensive application in the literature compared to alternatives such as assignment of equal weight or use of expert opinion. According to Sendhil *et al.* (2018), the PCA procedure produces valuable results, devoid of biasedness and does not suffer from the deficiencies of merely assigning equal weights. According to Abdi and Williams (2010), PCA technique analyzes data observations described by inter-correlated quantitative dependent variables with the goal of extracting significant information to denote a set of new orthogonal variables referred to as principal components. Bro and Smilde (2014) further alluded to the strength of the PCA procedure in empirical inquiry. Following notable studies, such as Ellul and Yerramilli (2013) and Ahamed and Mallick (2019), eigenvector with the highest contribution from each country in the data is denoted the weight for estimating the index. As already noted, the six variables used for the index construction are of equal scale. The index is therefore constructed without recourse to data normalization process, which is required for variables with different measurement scales. Institutional quality index is constructed in reference to equation (1) below.

$$InQ_{it} = \sum_{k}^{n} \left(\left(\gamma_{k,it} * \text{Ш}_{k,i} \right) \Big/ \sum_{k}^{n} \text{Ш}_{k,i} \right) \tag{1}$$

According to equation (1), the subscript i and t denote the countries ($i = 1,\ldots\ldots\ldots, 29$) and the years ($t = 2001, \ldots, 2018$), respectively. InQ is institutional quality index, γ_k is data point for institutional variable k and Ш_k is the PCA derived weight for variable k. Following the base variables used in calculating the index, a higher value indicates improved institutional structures and vice versa.

3.3 Macroeconomic uncertainty and inflation uncertainty

As indicated earlier, this study verifies the extent to which macroeconomic uncertainty and inflation uncertainty influence the relationship between institutional quality and financial development among economies in the sub-region. The two uncertainty variables are derived using an econometric procedure; the process generates datapoints for macroeconomic uncertainty and inflation uncertainty from GDP growth and inflation variables, respectively. We employ the Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model to derive the datapoints for both variables. GARCH process employed in this study takes a cue from notable research studies that used the procedure in respective studies and have confirmed its effectiveness. These works include Abaidoo and Agyapong (2021), Abaidoo and Anyigba (2020), Gö kbulut and Pekkaya (2014) and Asteriou and Price (2005), to mention but a few. GARCH is a statistical model for analyzing time series data in which the variance of the error term is serially autocorrelated. The process theorizes that the derivative of the lags of a variable denote its conditional variance; the variance of the stochastic term therefore captures the uncertainty data from the base variable. According to Abaidoo and Anyigba (2020), the GARCH framework captures fluctuations or volatility associated with a base variable as a measure of instability associated with the variable. The GARCH (1,1) equation used in deriving the data for macroeconomic uncertainty and inflation uncertainty variables is presented below.

$$\sigma_{p,t} = \omega + \varphi\delta^2_{p,t-1} \; + \delta\sigma_{p,t-1} \tag{2}$$

From equation (2), the subscript p represents either GDP growth or inflation rate whilst the subscript t denote the years starting from 2001 to 2018. σ_p refers to the volatility associated

with variable $\mathfrak{p}$, ω is the intercept, φ is the coefficient of the ARCH term and $\mathfrak{g}$ is the coefficient of the GARCH term.

3.4 Functional models

This subsection presents the functional forms of the models employed in achieving the set objectives of the study. First, we verify the effect of institutional quality on financial sector development among economies in the sub-region of SSA. We achieve this objective following equation (3) below.

$$FD_{it} = \alpha + \psi InQ_{it} + \sigma ZS_{it} + \gamma BLiq_{it} + \mathfrak{r}GDPG_{it} + \pi INFL_{it} + \lambda Flib_{it} + \mathfrak{V}Ff_{it} + \mathfrak{Y}Tlib_{it} + \vartheta FDI_{it} + \chi DCred_{it} + \mathfrak{d}MacU_{it} + \delta INFU_{it} + \varepsilon_{it} \quad (3)$$

The subscripts i and t follow the definitions per equation (1). FD refers to financial development index, whilst InQ denotes institutional quality index. The control variables ZS, Bliq, GDPG, INFL, Flib, Ff, Tlib, FDI, DCred, MacU and INFU refer to Z score, bank liquid reserves, GDP growth, inflation, financial liberalization, financial freedom, trade liberalization, foreign direct investment, domestic credit, macroeconomic uncertainty and inflation uncertainty, respectively. Again the symbol α is the intercept whilst $\psi, \sigma, \gamma, \mathfrak{r}, \pi, \lambda, \mathfrak{V}, \mathfrak{Y}, \vartheta, \chi, \mathfrak{d}$ and δ represent the coefficients of the explanatory variables in accordance to their order of appearance. The error term is represented in the equation by ε_{it}. To verify the effect of the individual institutional measures on financial development, we present equation (4).

$$FD_{it} = \alpha + \psi IQ_{k,it} + \sigma ZS_{it} + \gamma BLiq_{it} + \mathfrak{r}GDPG_{it} + \pi INFL_{it} + \lambda Flib_{it} + \mathfrak{V}Ff_{it} + \mathfrak{Y}Tlib_{it} + \vartheta FDI_{it} + \chi DCred_{it} + \mathfrak{d}MacU_{it} + \delta INFU_{it} + \varepsilon_{it} \quad (4)$$

According to equation (4), IQ_k represents institutional variable k (control of corruption, government effectiveness, political stability, rule of law, regulatory quality, voice and accountability). We also examine the moderating effect of key macroeconomic variables on the relationship between institutional quality and financial development in equation (5).

$$FD_{it} = \alpha + \psi InQ_{it} + \sigma ZS_{it} + \gamma BLiq_{it} + \mathfrak{r}GDPG_{it} + \pi INFL_{it} + \lambda Flib_{it} + \mathfrak{V}Ff_{it} + \mathfrak{Y}Tlib_{it} + \vartheta FDI_{it} + \chi DCred_{it} + \mathfrak{d}MacU_{it} + \delta INFU_{it} + \beta(MV_{x,it} * InQ_{it}) + \varepsilon_{it} \quad (5)$$

From the equation, MV_x denotes macroeconomic variable x, (x denotes macroeconomic uncertainty, inflation uncertainty or inflation). β denotes coefficient of the interaction between macroeconomic variable x and institutional quality index. The remaining symbols and variables in equations (4) and (5) follow the earlier designations per equation (3).

3.5 Model estimation technique

The study employs instrumental variable estimation methodology; specifically we use the limited information maximum likelihood (LIML) estimation technique for the estimations. The technique, according to Stock and Yogo (2005), provides robust results compared to estimations based on two-stage least squares. Kunitomo (1982) identifies the LIML as a consistent and asymptotically efficient estimator. According to Akashi and Kunitomo (2015) in a dynamic panel with endogenous variables as well as individual fixed effects, the LIML methodology gives consistent estimates and asymptomatic normality; thus, endogeneity is not injurious to LIML estimation. The efficiency of the LIML estimator has also been confirmed in the literature (see Kunitomo, 1982; Anderson *et al.*, 2009; Akashi and Kunitomo, 2015). The robustness of the framework is further examined by analyzing and interpreting

post-estimation results which is reported as part of the result of LIML framework. Such post-estimation results are carried out in order to satisfy the following conditions: that the instruments in our estimations are less than the endogenous variables (under-identification test); that the instruments do not correlate with the error term (over-identification test); and finally, a verification of whether the instruments fully define the endogenous variables (weak-identification test).

4. Data and empirical analysis

This section presents results of the empirical estimations. We begin with descriptive statistics highlighting key features of the various variables examined in the study in Table 2. The average financial development index over the study period stood at 0.16 with standard deviation of 0.11. This outcome indicates that there exists similarity in growth pattern among financial sectors among economies in the sub-region. The composite institutional quality index and its individual constituents (governance variables) show negative means with high standard deviations. This suggests that generally the sub-region is endemic with poor institutional structures with significant degree of disparity among the various countries in terms of quality of institutional structures. The results per Table 2 further indicate that over the study period, the sub-region recorded average GDP growth of 5%, with inflation rate of 6%. International trading was also significant over the period under study, recording an average of 69% of the value of GDP. Again, the sub-region also recorded an appreciable level of inflow of foreign direct investment, with an average of 30% of total value of GDP coming in for investment.

In Table 3, we analyze the results of the correlation matrix to verify the presence or otherwise of multicollinearity in the data. This is done by analyzing the correlation coefficients between each pair of the variables as shown in the table. We make reference to the maximum threshold of correlation coefficient of 0.85 as recommended by Elith *et al.* (2006). A careful analysis of the results indicate that apart from the correlation coefficients between the institutional quality variables, none of the coefficients between the other explanatory

Variable	Obs	Mean	Median	Std. Dev	Max	Min
Financial development	522	0.16	0.12	0.11	0.65	0.04
Institutional quality index	493	−0.48	−0.52	0.60	1.31	−1.76
Corruption control	493	−0.52	−0.64	0.64	1.22	−1.56
Gov't effectiveness	493	−0.62	−0.68	0.61	1.06	−1.77
Political stability	493	−0.40	−0.24	0.90	1.20	−2.67
Regulatory quality	493	−0.49	−0.51	0.53	1.13	−1.86
Rule of law	493	−0.54	−0.59	0.61	1.08	−1.81
Voice and accountability	493	−0.35	−0.29	0.69	1.00	−1.84
Bank *Z*-score	473	11.28	9.76	5.83	46.66	1.07
Bank liquid reserve	508	0.19	0.17	0.13	1.02	0.02
GDP growth	521	0.05	0.05	0.04	0.34	−0.30
Inflation	505	0.06	0.05	0.07	0.63	−0.10
Financial liberalization	519	0.32	0.24	0.21	1.15	0.05
Financial freedom	487	46.12	50.00	13.38	70.00	10.00
Trade liberalization	515	0.69	0.61	0.34	3.11	0.18
Foreign direct investment	520	0.30	0.26	0.27	1.03	−0.77
Domestic credit	494	0.23	0.14	0.29	1.60	0.00
Macroeconomic uncertainty	522	0.00	0.00	0.01	0.08	0.00
Inflation uncertainty	522	0.01	0.00	0.03	0.32	−0.01

Source(s): Authors' computation

Table 2.
Descriptive statistics

Table 3.
Pairwise correlation matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Financial development (1)	1																		
Institutional quality index (2)	0.61	1																	
Corruption control (3)	0.52	0.81	1																
Gov't effectiveness (4)	0.68	0.86	0.86	1															
Political stability (5)	0.27	0.64	0.72	0.66	1														
Regulatory quality (6)	0.66	0.84	0.82	0.92	0.64	1													
Rule of law (7)	0.58	0.84	0.90	0.91	0.78	0.88	1												
Voice and accountability (8)	0.61	0.79	0.71	0.75	0.63	0.73	0.81	1											
Bank *Z*-score (9)	0.37	0.15	0.05	0.22	−0.13	0.18	0.14	0.20	1										
Bank liquid reserve (10)	−0.22	0.02	0.04	−0.07	0.10	−0.11	−0.02	−0.13	−0.15	1									
GDP growth (11)	−0.12	0.00	−0.02	0.01	−0.05	−0.03	−0.04	−0.01	−0.10	0.03	1								
Inflation (12)	0.00	0.04	−0.02	0.01	−0.13	−0.04	−0.01	0.02	−0.08	0.19	0.02	1							
Financial liberalization (13)	0.78	0.61	0.61	0.70	0.46	0.69	0.70	0.66	0.33	−0.21	−0.15	−0.08	1						
Financial freedom (14)	0.38	0.49	0.48	0.62	0.36	0.62	0.52	0.45	0.23	0.06	−0.01	−0.09	0.41	1					
Trade liberalization (15)	0.24	0.22	0.38	0.23	0.40	0.25	0.37	0.35	−0.06	0.03	−0.04	−0.09	0.45	0.17	1				
Foreign direct investment (16)	0.10	0.21	0.24	0.19	0.13	0.20	0.24	0.15	0.06	0.15	−0.01	0.06	0.13	0.12	0.09	1			
Domestic credit (17)	0.94	0.57	0.49	0.64	0.29	0.64	0.55	0.57	0.33	−0.33	−0.13	−0.09	0.82	0.35	0.21	0.09	1		
Macroeconomic uncertainty (18)	−0.12	−0.18	−0.13	−0.21	−0.10	−0.21	−0.18	−0.13	−0.10	0.10	0.17	0.03	−0.15	−0.17	0.11	−0.10	−0.13	1	
Inflation uncertainty (19)	−0.14	−0.07	−0.09	−0.16	0.00	−0.14	−0.09	−0.01	−0.18	0.00	−0.06	0.22	−0.08	−0.27	−0.02	−0.14	−0.10	0.16	1

Source(s): Authors' computation

variables is in excess of 0.85. It must be noted that our models, as presented in their functional forms in section 3 do not estimate institutional quality variables together in one estimation. This minimizes the risk of analyzing spurious results emanating from multicollinearity issues.

The study proceeds with a presentation of the results verifying the effect of institutional quality on development of the financial sector in Table 4. Whilst column 1 focuses on the effect of institutional quality index, the remaining six columns focus on the impact of the individual institutional quality variables on financial development. In column 1, the results suggest that institutional quality has a significant positive impact on financial development at 1% alpha level. This implies that improvement in the quality of political institutions among economies in the sub-region facilitate development of the financial sector all things being equal. Improvement in quality of institutions means better policies, improved regulatory structures, effective governance, freedom of expression and property rights, improved legal framework and enhanced supervisory activities; these conditions generally help in enhancing vibrancy and growth of financial sector. Results in columns 3, 5, 6 and 7 further indicate that government effectiveness, regulatory quality, rule of law and voice and accountability individually exert a significant positive impact on the development of the financial sector. Positive impact of improved institutional quality variables on the development of the financial sector is consistent with theoretical postulations on the fundamental relationship between political institutions and financial development. These findings are consistent with the conclusions by Khan *et al.* (2020a, b), Djeri *et al.* (2020) and Cherif and Dreger (2016) but contrasts the findings from Aluko and Ibrahim (2020) and Khalfaoui (2015). The outcomes further highlight the importance of ensuring improved regulatory and governance structures among economies in the sub-region to foster development of the financial sector. In columns 2 and 4, however, reported results suggest that corruption control and political stability are insignificant in influencing financial development among economies in the sub-region over the study period. Ordinarily, we expected corruption control to have a positive impact on the development of the financial sector; however, it is important to point out that impact of such program (corruption control) hinges on its effectiveness. Most corruption control programs among economies in the sub-region have been woefully ineffective often due to intimidation and power play tactics from politicians, hence the reported results. Additionally, we anticipated that a stable political environment would augment the development of the financial sector since it creates the needed enabling environment for growth and development. However, reported results suggest that a stable political environment though necessary, may not be sufficient in fostering growth and development of the financial sector among economies in the sub-region. The results suggest that development of the financial sector among economies in the sub-region mostly benefits from macroeconomic environment characterized by effective governance, rule of law, efficient regulatory system and voice accountability and not just an economy devoid of conflict.

Among the control variables, the results as presented in Table 4 indicate that bank liquid reserves, inflation, trade liberalization and domestic credit exert a significant positive influence on financial development. Increased bank liquid reserves in relation to the total assets of banks generally improve the liquidity position of banks, leading to robustness of the banking industry. Relative rise in inflation could also be a derivative of increasing level of economic activities due to booming productive sectors of an economy, leading to significant growth in engagement of the financial sector, hence the reported result. Similarly, with increased value of international trading, the financial sector benefits immensely because the financial sector serves as the main channel of transactions in an economy. Additionally, growth in credit facilities from financial institutions to the private sector may result in increased productive activities, subsequently leading to development of the entire financial system. The results further suggest that foreign direct investment and inflation uncertainty

Table 4.
Institutional quality and financial development

Variable	(1) Effect of IQ on FD	(2) Effect of CC on FD	(3) Effect of GE on FD	(4) Effect of PS on FD	(5) Effect of RQ on FD	(6) Effect of RL on FD	(7) Effect of VA on FD
Institutional quality index	0.0196*** (4.16)						
Corruption control		0.00826 (1.30)					
Gov't effectiveness			0.0200*** (2.93)				
Political stability				−0.00509 (−1.03)			
Regulatory quality					0.0195** (2.44)		
Rule of law						0.0125* (1.93)	
Voice and accountability							0.0180*** (5.60)
Bank *Z*-score	0.000935 (0.66)	0.000213 (0.15)	−0.000704 (−0.51)	0.000304 (0.22)	−0.000136 (−0.10)	0.000298 (0.20)	−0.00101 (−0.75)
Bank liquid reserve	0.0539*** (3.31)	0.0601*** (3.74)	0.0572*** (3.77)	0.0705*** (3.95)	0.0631*** (4.11)	0.0607*** (3.73)	0.0643*** (4.26)
GDP growth	−0.00961 (−0.23)	0.00227 (0.05)	−0.0318 (−0.72)	0.0156 (0.35)	−0.0107 (−0.25)	−0.0000258 (−0.00)	−0.0289 (−0.65)
Inflation	0.170*** (4.47)	0.180*** (4.50)	0.162*** (3.96)	0.170*** (4.16)	0.175*** (4.42)	0.176*** (4.36)	0.161*** (3.97)
Financial liberalization	−0.0285 (−1.10)	−0.0147 (−0.52)	−0.0179 (−0.66)	0.000687 (0.02)	−0.0166 (−0.61)	−0.0256 (−0.81)	−0.0164 (−0.66)
Financial freedom	−0.00000733 (−0.05)	0.000145 (0.88)	−0.0000651 (−0.36)	0.000303* (1.77)	−0.0000428 (−0.24)	0.0000900 (0.55)	0.0000649 (0.39)
Trade liberalization	0.0260** (2.24)	0.0191* (1.81)	0.0189 (1.56)	0.0254*** (2.85)	0.0202* (1.67)	0.0202* (1.73)	0.0111 (0.97)
Foreign direct investment	−0.0117* (−1.71)	−0.00971 (−1.30)	−0.00979 (−1.35)	−0.00665 (−0.93)	−0.0103 (−1.42)	−0.0107 (−1.45)	−0.00962 (−1.37)
Domestic credit	0.342*** (24.41)	0.351*** (25.30)	0.343*** (24.84)	0.352*** (25.47)	0.344*** (24.40)	0.353*** (25.77)	0.347*** (24.76)
Macroeconomic uncertainty	0.0688 (0.31)	−0.0280 (−0.12)	0.153 (0.61)	−0.154 (−0.67)	0.0786 (0.33)	0.0252 (0.11)	0.100 (0.47)
Inflation uncertainty	−0.216*** (−3.91)	−0.214*** (−3.75)	−0.235*** (−3.90)	−0.183*** (−3.64)	−0.228*** (−3.94)	−0.218*** (−3.68)	−0.285*** (−4.71)
Constant	0.0498*** (2.73)	0.0415*** (2.68)	0.0753*** (3.90)	0.0144 (1.05)	0.0604*** (3.84)	0.0482*** (3.07)	0.0698*** (3.57)
Obs	377	377	377	377	377	377	377
F-Stat	220.9	216.8	235.9	228.9	226.3	221.8	215.8
R-Squared	0.904	0.897	0.894	0.898	0.897	0.898	0.893
Overidentification	0.422	1.371	2.346	0.487	2.063	1.859	0.536
Under identification	24.32	30.52	33.59	30.88	31.74	26.38	31.19
Weak identification	13.66	16.99	17.79	15.28	17.10	14.18	16.20

Note(s): $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. *t*-statistics in parentheses. FD = Financial Development, IQ = Institutional Quality, CC = Corruption Control, GE = Government Effectiveness, PS = Political Stability, RQ = Regulatory Quality, RL = Rule of Law, VA = Voice and Accountability
Source(s): Authors' computation

negatively influence financial development. This suggests that foreign direct investment may not necessarily support long-term development of the financial sector among economies in the sub-region. This outcome reflects the nature of operational focus of most of such investments and is consistent with evolving debate which suggests that most of such investments are orientated towards economic gains and subsequent repatriation of such profits without recourse to domestic growth and development. Thus, such incessant repatriation of profits may stifle the financial sector of critical capital resources, hence the reported outcome. Inflation uncertainty, on the other hand, poses a significant risk to investors and various stakeholders in an economy; planning and forecasting performance in times of conflicting signals on prices become herculean task for investors, which may lead to constrained investments, economic activities and the development of the financial sector.

In Table 5, we verify the moderating effect if any, of inflation uncertainty, macroeconomic uncertainty and inflationary conditions on the relationship between institutional quality and financial development. This follows a confirmation in Table 4 and indeed in column 1 of Table 5 that inflation and inflation uncertainty, respectively, have a positive and negative impact on financial development in the sub-region. Results as shown in columns 2, 3 and 4 indicate that inflation, macroeconomic uncertainty and inflation uncertainty have no significant moderating influence on the institutional quality-financial development nexus among economies in SSA. In other words, these macroeconomic conditions, though critical,

Variable	(1) Effect of IQ on FD	(2) Moderating role of INFL	(3) Moderating role of MacU	(4) Moderating role of INFU
Institutional quality index	0.0196*** (4.16)	0.0168*** (2.98)	0.0206*** (4.30)	0.0198*** (4.11)
Bank *Z*-score	0.000935 (0.66)	0.000859 (0.57)	0.000924 (0.65)	0.000912 (0.64)
Bank liquid reserve	0.0539*** (3.31)	0.0541*** (3.36)	0.0555*** (3.40)	0.0536*** (3.24)
GDP growth	−0.00961 (−0.23)	−0.0120 (−0.29)	−0.0121 (−0.29)	−0.00978 (−0.23)
Inflation	0.170*** (4.47)	0.195*** (2.90)	0.169*** (4.45)	0.168*** (4.12)
Financial liberalization	−0.0285 (−1.10)	−0.0246 (−0.97)	−0.0285 (−1.10)	−0.0285 (−1.10)
Financial freedom	−0.00000733 (−0.05)	−0.0000205 (−0.12)	−0.0000260 (−0.17)	−0.00000682 (−0.04)
Trade liberalization	0.0260** (2.24)	0.0245** (2.14)	0.0265** (2.28)	0.0261** (2.24)
Foreign direct investment	−0.0117* (−1.71)	−0.0117* (−1.70)	−0.0111 (−1.61)	−0.0116* (−1.67)
Domestic credit	0.342*** (24.41)	0.343*** (24.64)	0.342*** (24.56)	0.342*** (24.33)
Macroeconomic uncertainty	0.0688 (0.31)	0.0762 (0.34)	−0.802 (−0.73)	0.0724 (0.32)
Inflation uncertainty	−0.216*** (−3.91)	−0.214*** (−3.71)	−0.204*** (−3.55)	−0.245** (−2.08)
INFL*InQ		0.0381 (0.61)		
MacU*InQ			−0.724 (−0.87)	
INFU*InQ				−0.0432 (−0.28)
Constant	0.0498*** (2.73)	0.0493** (2.47)	0.0513*** (2.80)	0.0503*** (2.71)
Obs	377	377	377	377
F-Stat	220.9	210.4	208.8	201.9
R-squared	0.904	0.904	0.904	0.904
Over identification	0.422	0.647	0.430	0.415
Under identification	24.32	24.42	24.32	24.36
Weak identification	13.66	13.16	13.62	13.57

Note(s): $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. *t*-statistics in parentheses. FD = Financial Development, InQ = Institutional Quality Index, INFL = Inflation, MacU = Macroeconomic Uncertainty, INFU = Inflation Uncertainty

Source(s): Authors' computation

Table 5.
Moderating influence – institutional quality and financial development nexus

may not necessarily influence the dynamic relationship between institutional quality and financial development among economies in the sub-region over the time period examined. It also suggests that, for economies in the sub-region, macroeconomic shocks such as output growth uncertainty, inflation and inflation uncertainty may not necessarily hamper growth and development of the financial sector fueled by effective and efficient governance and institutional system. These outcomes highlight the need for highly effective institutions among economies in the sub-region that will help cushion some of the macroeconomic shocks.

Results presented in Tables 4 and 5 include post-estimation checks designed to validate estimated results and the various conclusions made. First, we reference the F-stats as reported in all the columns of both tables. The F-stats and the respective *R*-squared statistics for all columns indicate overall fitness of the estimations; that is, the explanatory variables significantly explain movement in pace of financial development among economies in SSA. Again, we verify whether the models' instruments are less than the endogenous variables by referring to the under-identification test statistics for each of the estimations. The results indicate significance of the test (p-value < 0.05) for all the columns in both tables; implying that the instruments are less than the endogenous variables in our estimations. The over-identification tests further confirm that the instruments for each of the estimations do not correlate with the error term. The null hypothesis for the test is that the instruments do not correlate with the error term. At the 5% alpha level, we fail to reject the null hypothesis and consequently declare that for each of the columns of both tables, the instruments do not correlate with the error term. Lastly, we analyze the results of the weak identification test in order to verify if the endogenous variables are fully defined by the instruments. The critical values at 10%, 15%, 20% and 25% are less than the weak identification test statistic as shown in all columns of the tables. The instruments can therefore be said to fully define the endogenous variables or are not weak. These post-estimation results thus give credence to the robustness of results and interpretations from the estimated models.

5. Conclusion and policy implications

As an important sector among economies all over the globe, the financial sector receives a great deal of attention by policymakers and regulators. To this end, the factors that engender the growth or otherwise of the sector continue to receive attention in empirical research. This study approached the subject matter by assessing the impact of institutional quality on development of the financial sector among economies in SSA; and the extent to which such relationship may be moderated by macroeconomic conditions such as inflation uncertainty, macroeconomic uncertainty and inflation. Data for the study were compiled from 29 economies in SSA from 2001 to 2018, and the analyses were carried out using the LIML technique.

The results conclude that institutional quality help in fostering the pace of financial development among economies in the sub-region all things being equal. Again, disaggregating the institutional quality index into its constituent variables further reveals that improved levels of governance (government effectiveness), regulatory quality, rule of law and voice and accountability are all critical in the development of the financial sector among economies in the sub-region. Effect of political stability and corruption control were however found to be insignificant in the development of the financial sector. Additionally, the study concludes that inflation, macroeconomic uncertainty and inflation uncertainty do not significantly moderate the direction and magnitude of influence institutional quality has on the development of the financial sector over the time period examined in the study.

Conclusions from the study provide significant implications for stakeholders in governance in the sub-region as well as researchers. First, findings of the study suggest that policies geared towards improving governance or political institutions, especially those

targeted at ensuring efficient and effective governance, improving the regulatory structures, ensuring equitable rule of law, promotion of free speech, media freedom and public accountability can augment development of the financial sector among economies in SSA. Governments and policymakers in the sub-region can take a cue from these findings and pursue measures that resource noted institutions for them to play the necessary supervisory roles in improving governance and subsequently, the development of the financial sector. Furthermore, this study's findings may provide a framework for future studies on regional specific financial development; and how different institutional and governmental structures may influence such dynamics. For instance, since quality of institutions may differ among economies in regional blocs across the globe, future research on a regional economic bloc such as South American economies may highlight relationships not detected in this study.

References

Abaidoo, R. and Agyapong, E. (2021), "Macroeconomic risk and political stability: perspectives from emerging and developing economies", *Global Business Review*. doi: 10.1177/09721509211047650.

Abaidoo, R. and Anyigba, H. (2020), "Bank performance variability and strands of inflationary conditions", *European Journal of Management and Business Economics*, Vol. 29 No. 3, pp. 235-253.

Abdi, H. and Williams, L.J. (2010), "Principal component analysis", *Wiley Interdisciplinary Reviews: Computational Statistics*, Vol. 2 No. 4, pp. 433-459.

Adeel-Farooq, R.M., Bakar, N.A.A. and Raji, J.O. (2020), "Financial sector development and economic growth: a co-integration analysis for ASEAN countries", *International Journal of Economic Policy in Emerging Economies*, Vol. 13 No. 3, pp. 195-208.

Agbiboa, D.E. (2010), "The corruption-underdevelopment nexus in Africa: which way Nigeria?", *The Journal of Social, Political, and Economic Studies*, Vol. 35 No. 4, p. 474.

Ahamed, M.M. and Mallick, S.K. (2019), "Is financial inclusion good for bank stability? International evidence", *Journal of Economic Behavior and Organization*, Vol. 157, pp. 403-427.

Akashi, K. and Kunitomo, N. (2015), "The limited information maximum likelihood approach to dynamic panel structural equation models", *Annals of the Institute of Statistical Mathematics*, Vol. 67 No. 1, pp. 39-73.

Ali, M., Nazir, M.I., Hashmi, S.H. and Ullah, W. (2022), "Financial inclusion, institutional quality and financial development: empirical evidence from OIC countries", *The Singapore Economic Review*, Vol. 67 No. 1, pp. 161-188.

Aluko, O.A. and Ibrahim, M. (2020), "Institutions and financial development in ECOWAS", *Journal of Sustainable Finance and Investment*, Vol. 11 No. 2, pp. 1-12.

Anderson, T.W., Kunitomo, N. and Matsushita, Y. (2009), "The Limited Information Maximum Likelihood Estimator as an Angle", CIRJE No. CIRJE-F-619, CIRJE, Faculty of Economics, University of Tokyo.

Anthony-Orji, O.I., Orji, A., Ogbuabor, J.E. and Nwosu, E.O. (2019), "Do financial stability and institutional quality have impact on financial inclusion in developing economies? A new evidence from Nigeria", *International Journal of Sustainable Economy*, Vol. 11 No. 1, pp. 18-40.

Anyanwu, J.C. (2017), "Foreign direct investment", In *Handbook of Globalisation and Development*, Edward Elgar Publishing, doi: 10.4337/9781783478651.00015.

Assadzadeh, A. and Pourqoly, J. (2013), "The relationship between foreign direct investment, institutional quality and poverty: case of MENA countries", *Journal of Economics, Business and Management*, Vol. 1 No. 2, pp. 161-165.

Asteriou, D. and Price, S. (2005), "Uncertainty, investment and economic growth: evidence from a dynamic panel", *Review of Development Economics*, Vol. 9 No. 2, pp. 277-288.

Aziz, M.N. and Sundarasen, S.D.D. (2015), "The impact of political regime and governance on ASEAN economic growth", *Journal of Southeast Asian Economies*, Vol. 32 No. 3, pp. 375-389.

Balutel, D. (2020), "Institutional quality and financial instability", *Journal of Public Administration, Finance and Law*, No. 17, pp. 154-162.

Bayar, Y., Borozan, D. and Gavriletea, M.D. (2021), "Banking sector stability and economic growth in post-transition European Union countries", *International Journal of Finance and Economics*, Vol. 26 No. 1, pp. 949-961.

Beck, T., Demirgüç-Kunt, A. and Levine, R. (2001), "Legal theories of financial development", *Oxford Review of Economic Policy*, Vol. 17 No. 4, pp. 483-501.

Berggren, N., Bergh, A. and Bjørnskov, C. (2012), "The growth effects of institutional instability", *Journal of Institutional Economics*, Vol. 8 No. 2, pp. 187-224.

Bro, R. and Smilde, A.K. (2014), "Principal component analysis", *Analytical Methods*, Vol. 6 No. 9, pp. 2812-2831.

Cherif, M. and Dreger, C. (2016), "Institutional determinants of financial development in MENA countries", *Review of Development Economics*, Vol. 20 No. 3, pp. 670-680.

Djeri, S., Du, L., Mamadou, M., Fania, N. and Bienvenu, G.Y.T. (2020), "Institutional quality and financial development in West Africa economic and monetary union", *Global Journal of Management and Business Research*, Vol. 20 No. 1-B, doi: 10.34257/GJMBRBVOL20IS1PG23.

Dwumfour, R.A. and Ntow-Gyamfi, M. (2018), "Natural resources, financial development and institutional quality in Africa: is there a resource curse?", *Resources Policy*, Vol. 59, pp. 411-426.

Ehigiamusoe, K.U. and Samsurijan, M.S. (2021), "What matters for finance-growth nexus? A critical survey of macroeconomic stability, institutions, financial and economic development", *International Journal of Finance and Economics*, Vol. 26 No. 4, pp. 5302-5320.

Ehigiamusoe, K.U., Lean, H.H. and Chan, J.H. (2020), "Influence of macroeconomic stability on financial development in developing economies: evidence from West African region", *The Singapore Economic Review*, Vol. 65 No. 4, pp. 837-856.

Ehigiamusoe, K.U., Guptan, V. and Narayanan, S. (2021), "Rethinking the impact of GDP on financial development: evidence from heterogeneous panels", *African Development Review*, Vol. 33 No. 1, pp. 1-13.

Ehigiamusoe, K.U., Narayanan, S. and Poon, W.C. (2021), "Revisiting the role of inflation in financial development: unveiling non-linear and moderating effects", *Asia-Pacific Journal of Business Administration*. doi: 10.1108/APJBA-04-2021-0171.

Elith, J., H. Graham C., Anderson, R.P., Dudík, M., Ferrier, S., Guisan, A. and Li, J. (2006), "Novel methods improve prediction of species' distributions from occurrence data", *Ecography*, Vol. 29 No. 2, pp. 129-151.

Ellul, A. and Yerramilli, V. (2013), "Stronger risk controls, lower risk: evidence from US bank holding companies", *The Journal of Finance*, Vol. 68 No. 5, pp. 1757-1803.

Fry, M.J. (1989), "Financial development: theories and recent experience", *Oxford Review of Economic Policy*, Vol. 5 No. 4, pp. 13-28.

Ghardallou, W. and Sridi, D. (2020), "Democracy and economic growth: a literature review", *Journal of the Knowledge Economy*, Vol. 11 No. 3, pp. 982-1002.

Gökbulut, R.I. and Pekkaya, M. (2014), "Estimating and forecasting volatility of financial markets using asymmetric GARCH models: an application on Turkish financial markets", *International Journal of Economics and Finance*, Vol. 6 No. 4, pp. 23-35.

Guru, B.K. and Yadav, I.S. (2019), "Financial development and economic growth: panel evidence from BRICS", *Journal of Economics, Finance and Administrative Science*, Vol. 24 No. 47, pp. 113-126.

Khalfaoui, H. (2015), "The determinants of financial development: empirical evidence from developed and developing countries", *Applied Economics and Finance*, Vol. 2 No. 4, pp. 1-9.

Khan, M.A., Khan, M.A., Abdulahi, M.E., Liaqat, I. and Shah, S.S.H. (2019), "Institutional quality and financial development: the United States perspective", *Journal of Multinational Financial Management*, Vol. 49, pp. 67-80.

Khan, H., Khan, S. and Zuojun, F. (2020a), "Institutional quality and financial development: evidence from developing and emerging economies", *Global Business Review*. doi: 10.1177/0972150919892366.

Khan, M.A., Kong, D., Xiang, J. and Zhang, J. (2020b), "Impact of institutional quality on financial development: cross-country evidence based on emerging and growth-leading economies", *Emerging Markets Finance and Trade*, Vol. 56 No. 15, pp. 3829-3845.

Kunitomo, N. (1982), "Asymptotic optimality of the limited information maximum likelihood estimator in large econometric models", *The Economic Studies Quarterly (Tokyo 1950)*, Vol. 32 No. 3, pp. 247-266.

Law, S.H. and Azman-Saini, W.N.W. (2012), "Institutional quality, governance, and financial development", *Economics of Governance*, Vol. 13 No. 3, pp. 217-236.

Law, S.H. and Habibullah, M.S. (2009), "The determinants of financial development: institutions, openness and financial liberalisation", *South African Journal of Economics*, Vol. 77 No. 1, pp. 45-58.

Law, S.H., Tan, H.B. and Azman-Saini, W.N.W. (2015), "Globalisation, institutional reforms and financial development in East Asian economies", *The World Economy*, Vol. 38 No. 2, pp. 379-398.

Le, T.H., Kim, J. and Lee, M. (2016), "Institutional quality, trade openness, and financial sector development in Asia: an empirical investigation", *Emerging Markets Finance and Trade*, Vol. 52 No. 5, pp. 1047-1059.

Maciejewski, M. and Głodowska, A. (2020), "Economic development versus the growing importance of the financial sector: global insight", *International Entrepreneurship Review*, Vol. 6 No. 3, pp. 77-90.

Nasreen, S., Mahalik, M.K., Shahbaz, M. and Abbas, Q. (2020), "How do financial globalization, institutions and economic growth impact financial sector development in European countries?", *Research in International Business and Finance*, Vol. 54, p. 101247.

Ogbuabor, J.E., Orji, A., Manasseh, C.O. and Anthony-Orji, O.I. (2020), "Institutional quality and growth in West Africa: what happened after the great recession?", *International Advances in Economic Research*, Vol. 26 No. 4, pp. 343-361.

Orji, A., Ogbuabor, J.E., Nwosu, E., Anthony-Orji, O.I. and Isaac, S.T. (2019), "Financial iDevelopment, human capital and economic growth in Nigeria: an empirical analysis", *Journal of Academic Research in Economics*, Vol. 11 No. 3, pp. 507-531.

Papaioannou, E. (2009), "What drives international financial flows? Politics, institutions and other determinants", *Journal of Development Economics*, Vol. 88 No. 2, pp. 269-281.

Rajan, R.G. and Zingales, L. (2001), "The influence of the financial revolution on the nature of firms", *American Economic Review*, Vol. 91 No. 2, pp. 206-211.

Rajan, R.G. and Zingales, L. (2006), "The persistence of underdevelopment: institutions, human capital, or constituencies?", CRSP Working Paper No. 613, CRSP.

Raza, S.H., Shahzadi, H. and Akram, M. (2014), "Exploring the determinants of financial development (using panel data on developed and developing countries)", *Journal of Finance and Economics*, Vol. 2 No. 5, pp. 166-172.

Sendhil, R., Jha, A., Kumar, A. and Singh, S. (2018), "Extent of vulnerability in wheat producing agro-ecologies of India: tracking from indicators of cross-section and multi-dimension data", *Ecological Indicators*, Vol. 89, pp. 771-780.

Stock, J.H. and Yogo, M. (2005), "Testing for weak instruments in linear IV regression", *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, Vol. 80 No. 4.2, p. 1.

Takyi, P.O. and Obeng, C.K. (2013), "Determinants of financial development in Ghana", *International Journal of Development and Sustainability*, Vol. 2 No. 4, pp. 2324-2336.

Tinta, A.A. (2022), "Financial development, ecological transition, and economic growth in Sub-Saharan African countries: the performing role of the quality of institutions and human capital", *Environmental Science and Pollution Research*, Vol. 29, pp. 37617-37632.

Voghouei, H., Azali, M. and Jamali, M.A. (2011), "A survey of the determinants of financial development", *Asian-Pacific Economic Literature*, Vol. 25 No. 2, pp. 1-20.

Wanjiru, R. and Prime, K.S. (2020), "Institutional capacity, trade and investment in African economies", *The Handbook of Global Trade Policy*, pp. 418-438.

Yu, S. and Jong-A-Pin, R. (2020), "Rich or alive? Political (in) stability, political leader selection and economic growth", *Journal of Comparative Economics*, Vol. 48 No. 3, pp. 561-577.

Corresponding author
Rexford Abaidoo can be contacted at: rabaidoo@umes.edu