A G D I Working Paper

WP/17/040

Dynamic Openness and Finance in Africa

Forthcoming: The Journal of International Trade and Economic Development

Simplice A. Asongu
African Governance and Development Institute,
P.O. Box 8413,Yaoundé, Cameroon
E-mails: asongusimplice@yahoo.com
/ asongus@afridev.org
&
Department of Economics and Management,
Faculty of Social and Management Science,
University of Buea, P.O. Box 63, Buea, Cameroon

Jules R. Minkoua N.
Department of Economics and Management,
Faculty of Social and Management Science,
University of Buea, P.O. Box 63, Buea, Cameroon
&
Faculty of Economics and Management
University of Yaounde II-Soa
P.O. Box 1365, Yaounde, Cameroon
E-mail: minkouarene@yahoo.fr

Research Department

Dynamic Openness and Finance in Africa

Simplice A. Asongu & Jules R. Minkoua N.

January 2017

Abstract

This study assesses dynamics of openness and finance in Africa by integrating financial development dynamics of depth, activity and size in the assessment of how financial, trade, institutional, political and other openness policies (of second generation structural and institutional reforms) have affected financial development. The empirical evidence is based on Generalized Method of Moments with data from 28 African countries for the period 1996-2010. The following findings are established. (i) While the *de jure* (KAOPEN) indicator of financial openness improves financial depth, the *de facto* (FDI) measurement decreases it, with the effect of the latter measure positive on financial size. (ii) Whereas trade openness improves financial depth, its effect on financial activity and size is negative. (iii) Institutional openness has a positive effect on financial dynamics of depth and activity, while its effect on financial size is negative. (iv) Political openness and economic freedom are detrimental to financial depth and activity. Justifications for these nexuses are discussed.

JEL Classification: E50; G20; O16; O17; O55
Keywords: Banking; Trade; Institutions; Politics; Africa

1. Introduction

Mechanisms that have facilitated the recent financial crisis and global economic meltdown have resurfaced concerns (in developing countries) about the positive ambitions of globalization and its implications for growth and volatility (Asongu, 2014a; Kumi et al., 2017). In fact the crises have brought renewed interest in the heated debate on the advantages of openness policies and their implications for financial development. The issue is particularly tensed in developing countries because according to theoretical postulation, the benefits of

liberalization (especially financial openness) are expected to be higher in these countries (Kose et al., 2011). Accordingly, from a theoretical perspective openness should ease the efficient allocation of resources, promote international risk-sharing, and facilitate institutional and political reforms, *inter alia*. For instance, as many emerging markets and developing economies (which had to grapple with surges in capital flows earlier in the last decade) are now experiencing a sharp reversal of the flows, many analysts are consistent with the position that the global financial crisis has dramatically unraveled the downsides of openness (Price & Elu, 2014; Batuo & Asongu, 2015; Motelle & Biekpe, 2015).

The course of the current pattern on openness policies was set in the 1980s with growing cross border financial flows among industrial countries as well as among developing economies. This was facilitated by the liberalization of capital controls in many of these countries because it was highly anticipated that increased cross-border flows would bring more benefits in terms of better capital allocation and improved possibilities of international risk sharing. Accordingly, many economic analysts and policy makers have suggested that these benefits ought to be high for developing countries that have more volatile income growth and relatively scarce capital (Kose et al., 2006). The narrative on positive effects of openness policies was seriously tarnished by a spade of currency and financial crises in the late 1980s and 1990s. Whereas the debate over the positive gains from trade openness has led to some form of consensus among academics and practitioners (Kose et al., 2006), that on other openness policies (capital, political and institutional) has intensified and become even more polarized (Montinola & Jackman, 2002; Sung, 2004; Keefer, 2007; Back & Hadenius, 2008).

Motivated by the goal of giving impetus to economic growth and improving financial development, many African countries embarked on a chain of structural and policy reforms in the 1980s and 1990s (Janine & Elbadawi, 1992). The first generation of reforms consisted of policies that consisted of *inter alia*: reducing direct government intervention in bank credit decisions, abolishing explicit control on the pricing and allocation of credit, relaxing of control on international capital movements and, allowing of interests rates to be market- determined. The second generation of reforms targeted structural and institutional constraints, notably: improvements in the legal, regulatory, supervisory and institutional environments, restoration of bank soundness and rehabilitation of financial infrastructure (Batuo et al., 2010). Unfortunately, while a substantial bulk of the literature has assessed financial gains of the reforms (Cho, 1986; Arestis et al., 2002; Batuo & Kupukile, 2010), not

all the dimensions identified by the Financial Development and Structure Database (FDSD) of the World Bank (WB) have been considered (Batuo & Asongu, 2015)[1].

In the light of the above, this study has a twofold contribution to the literature. First, it complements existing literature by employing the missing financial development dimensions identified by the FDSD of the WB. Second, by adopting a plethora of openness indicators (financial, trade, institutional, political…etc), we present a more dynamic picture of the linkages between openness policies and financial development.

The rest of the paper is organized as follows. The theoretical and empirical literature is covered in Section 2. Section 3 discusses the data and methodology. The empirical analysis and discussion of results are presented in Section 4 while Section 5 concludes.

2. Openness, financial development and economic Development: theory and evidence

There is a substantial bulk of theoretical and empirical literature that has investigated linkages between openness, financial progress and economic development. Consistent with Batuo and Asongu (2015), the principal fundamental underlying financial liberalization is based on a hypothetical connection between financial development and economic prosperity. Accordingly, it is theoretically anticipated that openness policies will enhance financial development that will eventually lead to a reduction in income inequality and poverty (Odhiambo, 2009, 2011, 2010a, 2010b, 2013). Seminal contributions on the imperative of openness for financial development (and ultimately economic growth and poverty reduction) can be traced to the contributions of Shaw (1973) and McKinnon (1973) who advocated that openness policies would stifle repression (i.e. financial, economic, political and institutional) which was a cause of poor growth performance from developing countries. In essence, the theoretical underpinning assumes that more openness policies will increase both domestic and foreign investments that are necessary for domestic financial development, employment, economic growth, public income (needed for social amenities) and reduction of poverty and inequality by means of employment and redistributive public spending. The bulk of literature on the link between the underlying nexuses has been premised on the discussed theoretical underpinning (see Reinhart & Loannis, 2008; Galbis, 1993; Galor & Zeira, 1993; Mckinnon & Pill, 1999; Kaminsky & Reinhart, 1999; Demirguc-kunt & Detragiache, 2000; Hellmann et al., 2000; Batuo et al., 2010; Assefa & Mollick, 2016; Nyasha & Odhiambo, 2016). In what

[1] Also see the bulk of recent literature on financial development that has failed to incorporate various dimensions of the FDSD of the World Bank (Fowowe, 2014: Asongu, 2012, 2015; Daniel, 2017; Chikalipah, 2017; Wale & Makina, 2017; Osah & Kyobe, 2017; Bocher et al., 2017; Chapoto & Aboagye, 2017; Oben & Sakyi, 2017; Iyke & Odhiambo, 2017).

follows, we articulate the specific features openness notably: financial liberalisation, trade liberalisation and institutional/political liberalisation. The specifics are substantiated in chronological order.

First, with regard to financial openness, the decision on whether to move to an open economic account (from a closed economic account) has been the subject of much heated debated in the literature (see Asongu, 2017). Consistent with Asongu and De Moor (2017), there are two main positions on the importance of capital account openness when it comes to understanding its implications for developing countries. (i) The first position on "allocation efficiency" fundamentally builds on the positive claims on efficient allocation of capital advocated by the neoclassical growth model (Solow, 1956). In the light of this model, the efficient allocation of international resources is facilitated by capital account liberalization. Accordingly, the process of capital account liberalization enables the flow of capital resources (which are abundant in rich countries and where the return of capital is low) to capital-scarce poor countries (which are rich in labour and where the return of capital is high). The documented positive externalities from capital account openness include, *inter alia*: decreased cost of capital, enhanced investment and inclusive growth that are essential in improving living standards (Fischer, 1998; Obstfeld, 1998; Summers, 2000). It is therefore on the bases of these theoretical advantages that over the past three decades, many developing nations have justified the need to open their capital accounts.

(ii) The second position in the literature simply acknowledges the justification for allocation efficiency as a disguised attempt to extend the rewards from international trade in commodities to international trade in assets. With respect to this strand, the assumption of allocation efficiency can withstand scrutiny only and only if developing countries (with the exception of free capital movements) do not experience macroeconomic volatilities. In the light of the fact that volatilities and distortions were experienced by developing countries during the recent global financial crises, proponents in this strand have advocated that the practical realities of capital account liberalization do not converge with the corresponding hypothetical advantages advanced by the contending strand (see Rodrik, 1998; Rodrik & Subramanian, 2009). Rodrik (1998) with a provocative title (i.e. "Who Needs Capital-Account Convertibility?") has concluded that there is no apparent relationship connecting capital account openness to the rate of investment and economic prosperity in developing countries. He goes on further to infer that the cost of financial globalization is obviously dismal for developing countries whereas the benefits from capital account liberalization are not easy to establish. Rodrik and Subramanian (2009) conclude that with the recent financial

crises, doubts have increasingly been raised about the rewards of financial engineering. These narratives should be balanced with recent evidence that financial globalization uncertainty is favorable to domestic financial development (see Asongu et al., 2017).

Second, the dimension of trade openness is fundamentally traceable to the underpinnings of the Hecksher-Ohlin (HO) theory which predicts that openness to trade will engender more specialisation and rise in income levels for participating countries, owing to positive externalities from comparative advantages, notably: enhanced rational global allocation of production (Batuo & Asongu, 2015). According to the narrative, with trade liberalisation, countries will switch production to efficient labour-intensive exports, from inefficient capital-intensive import substitutes. In spite of these theoretical positions, the empirical literature on the relevance of trade openness on development outcomes has documented results that run counter to the expected theoretical benefits (Wood, 1995; Bourguignon & Morrison, 1998; Alarcon & McKinley, 1998; Savvides; 1998).

Third, there are hypothetical time and level benefits associated with institutional and political liberalisations. (i) The *time* and *level* hypothetical benefits of political and institutional openness have been tested independently to examine the existence of nonlinear nexuses. Concerning the *level* hypothesis, it has been found using continuous measures of political regimes that development is highest in strongly democratic states, medium in strongly authoritarian regimes and least in states that are partially democratized. From varying empirical specifications, the *level* oriented nonlinearity has been qualified as either U-shaped (Montinola & Jackman, 2002), S-shaped (Sung, 2004), or J-shaped (Back & Hadenius, 2008). Consistent with the *time of exposure* hypothesis, Keefer (2007) has demonstrated that younger democracies produce worse institutions than their older counterparts[2]. (ii) Since developing countries have a more volatile output than advanced industrial countries, it has been argued that the former countries (which completely opened-up their capital accounts) have been more vulnerable to crises, relative to than their industrial counterparts (Kose et al., 2011; Henry, 2007).

The above narratives point to the fact that the nexus between openness and development outcomes is still open to debate because there is no definite consensus in

[2] A substantial bulk of qualitative literature provides exhaustive case studies on how institutional quality decreases with political openness. This is the case with many developing countries in Africa (Lemarchand, 1972; Asongu, 2014b), Southeast Asia (Scott, 1972), India (Wade, 1985) and Turkey (Sayari, 1977). It is also the case of post-communist Russia (Varsee, 1997) and many Latin American countries after waves of democratization (Weyland, 1998). This contradictory nexus between democracy and institutional quality has been confirmed in quantitative studies (Harris-White & White, 1996; Sung, 2004).

scholarly and policy circles. In what follows, we contribute to this debate by employing a multitude of openness and financial development variables.

3. Data and Methodology

3.1 Data

We investigate a sample of 28 African countries with annual data from African Development Indicators (ADI) of the World Bank, Chinn and Ito (2002), Gwartney et al. (2011) and the FDSD for the period 1996 to 2010. Limitations to the number of countries and periodicity of analysis have a twofold justification: (i) constraints in data availability on institutional quality and (ii) the motivation of capturing the effects of second generation financial reforms that targeted institutional and structural constraints.

In line with recent financial development literature (Asongu, 2016), we use financial dynamics of depth, activity and size. We provide three justifications for these financial measures in appreciating second generation reforms. First, the reforms were also intended to promote the creation of bank accounts so that a considerable chunk of the monetary base could transit via formal financial institutions (financial depth) in order to enhance monetary policy efficiency. Second, the reforms sought to improve financial activity by means of granting credit (financial activity), given the substantially documented issues of surplus liquidity in African financial institutions (Saxegaard, 2006; Fouda, 2009). Third, a corollary of the two objectives above is the improvement of overall financial size. As presented in Appendix 3: financial depth is measured both from overall economic and financial system perspectives, financial activity is appreciated at the banking system and financial system levels while financial size is measured only at the financial system perspective.

Consistent with Batuo and Asongu (2015), we distinguish among five types of openness policies: financial, trade, institutional, political and other liberalizations. First, financial openness is measured by: *de jure* capital account openness (KAPOPEN) developed by Chinn and Ito (2002) and *de facto* capital account openness (foreign direct investment: FDI). KAOPEN is the first principal component of four binary variables in the International Monetary Fund's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) and it takes higher values for financial regimes that are more open. We are motivated to add subtlety to the analysis by complementing KAOPEN with FDI because of the following reasons. (i) The former may not capture the actual ebb and flow of cross-border capital and its effect (Aizenman et al., 2009). (ii) The private sector often circumvents capital account restrictions, nullifying the expected effect of regulatory capital controls

(Edwards, 1999). (iii) More recently China's *de facto* openness, despite its *de jure* closure has been subject to much discussion in research circles (Prasad & Wei, 2007; Aizenman & Glick, 2009; Shah & Patnaik, 2009).

Second, trade openness is measured by trade and exports. Whereas the former is the sum of imports and exports of commodities as a % of GDP, the latter only consists of commodity exports on GDP. Third, institutional openness is the first principal component of six good governance indicators, namely: corruption-control, government effectiveness, rule of law, regulation quality, political stability and voice & accountability. Fourth, political openness is proxied with the Democracy index. Fifth, other openness measures include: "freedom to trade" and economic freedom (Gwartney et al., 2011). "Freedom to trade internationally" is an index denoting: taxes on international trade (international trade tax revenues as % of trade sector, mean tariff rate and standard deviation of tariff rates), regulatory trade barriers (non tariff trade barriers and compliance cost of exporting and importing), size of trade sector relative to expected, black market exchange rates and international market capital controls ("foreign ownership /investment" restrictions and capital controls). "Economic freedom" broadly indicates: freedom to trade internationally, legal structure and security of property rights, access to sound money, size of government (expenditures, taxes and enterprises) and, regulation of credit, labor and business.

Consistent with Asongu (2014a), control variables include: inflation, government expenditure, economic prosperity (or GDP growth), human development, foreign aid and population growth. We expect inflation to decrease financial development while economic prosperity and population growth should improve it. Human development should also improve financial development, while the effects of government expenditure and development assistance are contingent on the quality of institutions. Accordingly, government expenditure and development assistance destined for financial sector development may be tainted with corrupt practices. These control variables are consistent with recent financial development literature (Banya, R. & Biekpe, 2017; Biekpe, 2011; Osabuohein & Efobi, 2013; Owosu & Odhiambo, 2014; Nyasha & Odhiambo, 2015a, 2015b; Adjasi & Biekpe, 2006; Gossel & Biekpe, 2014).

The summary statistics (with presentation of countries), correlation analysis (depicting nexuses among key variables used in the study) and variables' definitions are presented in the appendices. The "summary statistics" (see Appendix 1) of the variables used in the panel regressions shows that there is quite some variation in the data utilized so that one should be confident that reasonable estimated linkages would emerge. The purpose of the correlation

matrix (which is available upon request) is to mitigate issues resulting from multicollinearity. From an initial assessment of the correlation coefficients, there do not appear to be any disturbing issues in terms of the relationships to be estimated. Appendix 2 shows the definitions and corresponding sources of the variables.

3.2 Methodology

3.2.1 Principal Component Analysis (PCA)

Owing to the substantially high correlation among government quality indicators, it is logical to criticize the redundancy of some information. Accordingly, we use principal component analysis (PCA) to reduce the dimensions of government-effectiveness, rule of law, regulation quality, corruption-control, voice & accountability and political stability. PCA is a statistical technique that is widely used to reduce a larger set of correlated variables into a smaller set of uncorrelated variables called principal components (PCs) that account for most of the information in the original data set (Tchamyou, 2016). The criteria applied to determine how many common factors to retain are from Kaiser (1974) and Jolliffe (2002). Hence, only PCs with an eigenvalue greater than one are retained. As presented in Table 1 below, the first PC is appropriate since it has an eigenvalue of 4.705 and represents about 78.4% of information in the institutional indicators combined. The first PC will hence represent the institutional openness index (*Instidex*).

Table 1: Principal Component Analysis (PCA) for Institutional Index (Instidex)

Principal Components	Component Matrix(Loadings)						Proportion	Cumulative Proportion	Eigen Value
	V & A	R.L	R.Q	G.E	PS	CC			
First P.C	0.369	0.435	0.412	0.425	0.388	0.416	0.784	0.784	4.705
Second P.C	-0.690	0.103	0.258	0.436	-0.453	0.227	0.083	0.867	0.499
Third P.C	-0.591	0.187	-0.299	-0.051	0.724	0.002	0.054	0.922	0.327

P.C: Principal Component. V& A: Voice & Accountability. R.L: Rule of Law. R.Q: Regulation Quality. G.E: Government Effectiveness. PS: Political Stability. CC: Control of Corruption.

4.2.2 Estimation technique

Dynamic panel data estimation has a number of advantages and one principal downside in comparison to cross-country analysis (Demirgüç-Kunt & Levine, 2008). On the positive side: (i) it makes use of both time-series and cross sectional variations in the data and; (ii) in cross-country regressions, the unobserved country-specific effect is part of the error term such that correlations between the error term and the exogenous variables results in biased estimated coefficients. Moreover, in cross-country regressions, if the lagged endogenous variable is included among the explanatory variables, the country-specific effect

is certainly correlated with the regressors. A measure of controlling for the presence of the unobserved country-specific effect is to take the first difference the regression equation in order to eliminate the country-specific effect and then use instrumental variables to control for endogeneity. Hence, tackling the endogeneity concern is another positive side of dynamic panel data analysis. Uncontrolled endogeneity can substantially bias estimates and lead to unhealthy policy recommendations due to misleading inferences. The issue of endogeneity is addressed by a dynamic panel data analysis with the use of lagged values of exogenous variables as instruments.

On the other hand, the main disadvantage of a dynamic panel data analysis is the use of data averages or shorter time spans. Consequently, the estimated results depict short-term effects and not long-run impacts, which should be kept in mind when interpreting and discussing estimated results. The redeeming feature however is that, the use of average data mitigates short-run disturbances that may loom substantially large. For robustness purposes we use both two-year and three-year non overlapping intervals (NOI).

The dynamic panel regression model is as follows:

$$FD_{i,t} = \sigma_0 + \sigma_1 FD_{i,t-1} + \sigma_2 F_{i,t} + \sigma_3 T_{i,t} + \sigma_4 I_{i,t} + \sigma_5 P_{i,t} + \sigma_6 O_{i,t} + \sigma_y W_{i,t} + \eta_i + \xi_t + \varepsilon_{i,t} \quad (1)$$

where 't' stands for the period and 'i' represents a country. FD is financial development; F, financial openness (KAOPEN and FDI); T, trade openness (trade and exports); I, institutional openness (Instidex); P, political openness (democracy) and O, other openness indicators (economic freedom and freedom to trade). $W_{i,t}$ is a vector of control variables (inflation, human development, economic prosperity, government expenditure, foreign aid and population growth)[3] with $6 < y < 13$, η_i is a country-specific effect, ξ_t is a time-specific constant and $\varepsilon_{i,t}$ an error term.

The estimated coefficients from Eq. (1) will be unbiased if and only if the explaining variables exhibit strict exogeneity. However, this is unfortunately not the case for the following reasons. First, while the exogenous variables may have a substantial effect on financial development, the reverse effect could also be applicable. Second, the regressors can be correlated with the error term. Third, country- and time-specific effects are likely to also be correlated with other variables in the model. This is often the case when the lagged dependent variable is included in the equations. In order to tackle the above issues of endogenous regressors, a way of dealing with the problem of the correlation between the individual

[3] The expected signs of the control variables have already been discussed in the Data section.

specific-effects and the lagged dependent variables involves eliminating the individual effects by first differencing. Hence, Eq. (1) becomes:

$$FD_{i,t} - FD_{i,t-1} = \sigma_1(FD_{i,t-1} - FD_{i,t-2}) + \sigma_2(F_{i,t} - F_{i,t-1}) + \sigma_3(T_{i,t} - T_{i,t-1}) + \sigma_4(I_{i,t} - I_{i,t-1})$$
$$+ \sigma_5(P_{i,t} - P_{i,t-1}) + \sigma_6(O_{i,t} - O_{i,t-1}) + \sigma_y(W_{i,t} - W_{i,t-1}) + (\xi_t - \xi_{t-1}) + (\varepsilon_{i,t} - \varepsilon_{i,t-1}) \qquad (2)$$

Despite the elimination of country-specific effects by first differencing, Eq. (2) still presents an important issue. Estimation by Ordinary Least Squares (OLS) is still biased because there remains a correlation between the lagged endogenous independent variable and the error term. To the address this second concern, we estimate the regression in differences jointly with the regression in levels using the Generalized Method of Moments (GMM) estimation. The estimation approach uses lagged levels of the regressors as instruments in the difference equation and lagged differences of the regressors as instruments in the level equation. Hence, all the orthogonal conditions between the lagged dependent variables and the error term are exploited. Between the *difference* GMM estimator (Arellano & Bond, 1991) and the *system* GMM estimator (Arellano & Bover, 1995; Blundell & Bond, 1998), we adopt the latter in accordance with Bond et al. (2001, pp. 3-4)[4].

We use the *two-step* GMM in specifying the dynamic panel system estimation because it corrects the residuals for heteroscedasticity. The residuals are considered to be homoscedastic in the *one-step* approach. In addition, it is important to note that the estimation depends on the hypothesis that the lagged values of the dependent variable and other independent variables are valid instruments in the regression. In the case where the error terms of the level equation are not autocorrelated, the first-order autocorrelation of the differenced residuals should be significant while the second-order autocorrelation (*AR(2)*) should not be. The validity of the instruments is assessed with the Sargan over-identifying restrictions (OIR) test. In summary, the main arguments for using the system GMM estimation are that: it does not eliminate cross-country variation, it mitigates potential biases of the *difference* estimator in small samples and, it can control for the potential endogeneity of all regressors.

[4] "*We also demonstrate that more plausible results can be achieved using a system GMM estimator suggested by Arellano & Bover (1995) and Blundell & Bond (1998). The system estimator exploits an assumption about the initial conditions to obtain moment conditions that remain informative even for persistent series, and it has been shown to perform well in simulations. The necessary restrictions on the initial conditions are potentially consistent with standard growth frameworks, and appear to be both valid and highly informative in our empirical application. Hence we recommend this system GMM estimator for consideration in subsequent empirical growth research*". Bond et al. (2001, pp. 3-4).

4. Presentation and discussion of results

4.1 Presentation of results

The findings in Table 2 summarize results for financial depth (Table 3), financial activity (Table 4) and financial size (Table 5). From the summary, the following conclusions could be drawn. First, while the *de jure* (KAOPEN) measurement of financial openness improves financial depth, the *de facto* (FDI) measurement decreases it. However the effect of the latter measure is positive for financial size[5]. Second, whereas trade openness also improves financial depth, its effects on financial activity and size are negative. Third, institutional openness has a positive effect on financial dynamics of depth and activity, while its effect on financial size is negative. Fourth, political openness and economic freedom are detrimental to financial dynamics of depth and activity. Five, most of the significant control variables have expected signs: inflation decreases financial development, while government expenditure and economic prosperity increase it, for the most part (Asongu, 2011).

Table 2: Summary of the results

		Scope and positioning of the current paper					**Baseline study (Asongu, 2013a)**	
		Financial Depth		Financial Activity		Fin. Size	Financial Efficiency	
		M2gdp	LLgdp	Pcrb	Pcrbof	Dbacba	BcBd	FcFd
Financial	Kaopen	+	+	na	na	na	-	-
	FDI	na	-	na	na	+	-	-
Trade	Trade	+	na	na	na	-	na	na
	Exports	na	na	-	-	na	+	na
Institutional	Instidex	+	na	na	+	-	na	+
Political	Democracy	-	na	na	-	na	na	na
Freedom of Trade		na	na	na	na	na	-	+
Economic freedom		-	-	na	-	na	+	+

M2gdp: Overall economic financial depth. LLgdp: Financial system depth. BcBd: Banking system efficiency. FcFd: Financial system efficiency. Pcrb: Banking system activity. Pcrbof: Financial system activity. Dbacba: Financial system size. Instidex: first principal component of good governance indicators. Fin: Financial.

[5]The two financial openness measures differ principally from the view that, KAOPEN measures *de jure* capital openness by accounting for regulatory restrictions on capital account transactions, whereas FDI is capital account openness. Therefore, KAOPEN tends to increase as capital markets are more liberalized. Hence, with FDI, KAOPEN increases.

Table 3: Two-step System GMM estimates for financial depth

		Dependent variable: Financial Depth							
		Two Year Non Overlapping Intervals				Three Year Non Overlapping Intervals			
		Money Supply		Liquid Liabilities		Money Supply		Liquid Liabilities	
constant		0.014	**0.302****	0.091	0.060	**0.537*****	**0.491*****	-0.051	**0.423*****
		(0.136)	**(2.335)**	(0.870)	(0.324)	**(3.873)**	**(3.056)**	(-1.134)	**(2.866)**
Finance_1		**1.180*****	**0.960*****	**1.073*****	**1.015*****	**1.099*****	**1.114*****	**1.184*****	**1.091*****
		(18.86)	**(10.44)**	**(12.87)**	**(5.393)**	**(11.40)**	**(6.835)**	**(9.552)**	**(8.672)**
Financial Openness	Kaopen	0.001	**0.018****	0.008	0.007	**0.031*****	**0.028****	0.002	**0.027****
		(0.359)	**(2.194)**	(1.109)	(0.807)	**(3.176)**	**(2.470)**	(0.381)	**(2.248)**
	FDI	---	-0.001	---	---	-0.0006	-0.0002	**-0.003****	-0.001
			(-0.298)			(-0.263)	(-0.087)	**(-1.974)**	(-0.790)
Trade Openness	Trade	**0.0004****	0.0004	---	0.0002	0.0003	---	0.0003	---
		(2.132)	(1.375)		(0.835)	(1.112)		(1.384)	
	Exports	---	---	---	---	---	0.0005	---	0.0007
							(0.552)		(0.786)
Institutional &Political Openness	Instidex	---	0.006	**0.009***	0.006	0.004	0.001	-0.0009	0.003
			(1.001)	**(1.652)**	(0.756)	(0.769)	(0.198)	(-0.154)	(0.674)
	Demo	---	-0.002	**-0.002***	**-0.001***	---	---	---	---
			(-1.534)	**(-1.764)**	**(-1.773)**				
Freedom of Trade		---	---	---	-0.010	---	---	---	---
					(-0.691)				
Economic Freedom		**-0.026***	**-0.043****	-0.016	---	**-0.08*****	**-0.07*****	---	**-0.067*****
		(-1.696)	**(-1.972)**	(-1.210)		**(-3.892)**	**(-3.248)**		**(-2.639)**
Inflation		**-0.0006***	**-0.001****	**-0.001*****	**-0.001***	**-0.002****	**-0.002***	**-0.003****	-0.003
		(-1.795)	**(-2.335)**	**(-3.333)**	**(-1.708)**	**(-2.128)**	**(-1.763)**	**(-2.175)**	(-0.876)
Government Expenditure		0.0005	-0.0002	0.0003	0.0001	**-0.001****	**-0.001****	-0.0002	-0.0009
		(1.095)	(-0.492)	(1.233)	(0.359)	**(-2.379)**	**(-2.352)**	(-0.533)	(-1.290)
Human Development		---	0.0001	-0.0004	-0.000	-0.0001	-0.0002	---	0.0008
			(0.171)	(-1.038)	(-0.060)	(-0.169)	(-0.338)		(0.769)
Economic Prosperity		-0.000	-0.001	**-0.003*****	**-0.003*****	---	---	---	---
		(-0.004)	(-0.821)	**(-3.690)**	**(-2.641)**				
Foreign Aid		---	---	0.0001	0.0001	---	---	**0.004***	---
				(0.081)	(0.073)			**(1.813)**	
Population Growth Rate		**0.039*****	---	0.017	0.010	---	---	---	---
		(3.001)		(1.495)	(0.490)				
Test for AR(2) errors		-1.738*	**-0.744**	**-1.096**	**-1.085**	**-0.657**	**-0.805**	**-0.777**	**-0.717**
		[0.082]	**[0.456]**	**[0.2727]**	**[0.277]**	**[0.510]**	**[0.420]**	**[0.436]**	**[0.472]**
Sargan OIR test		**8.791**	**2.871**	**5.728**	**5.621**	**3.880**	**4.393**	**8.599**	**6.331**
		[0.998]	**[1.000]**	**[1.000]**	**[1.000]**	**[0.867]**	**[0.820]**	**[0.377]**	**[0.610]**
Wald(joint) test		**1207*****	**9947*****	**18330*****	**58577*****	**1612*****	**1238*****	**1624*****	**5543*****
		[0.000]	**[0.000]**	**[0.0000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**
Number of Observations		97	75	84	84	51	51	68	53

*;**;***: significance levels of 10%, 5% and 1% respectively. Z-statistics in parentheses. [ ]: P-values. Instidex: Institutional index. FDI: Foreign Direct Investment. Demo: Democracy. OIR: Overidentifying Restrictions.

Table 4: Two-step System GMM estimates for financial activity

		Dependent variable: Financial Activity(A)							
		Two Year Non Overlapping Intervals				Three Year Non Overlapping Intervals			
		Banking System A		Financial System A		Banking System A		Financial System A	
constant		0.064	0.0001	0.168	0.143	**0.021***	0.030	**0.153****	**0.144****
		(14.80)	(0.001)	(25.19)	(1.089)	**(1.937)**	(0.542)	**(2.055)**	**(1.991)**
Finance_1		**1.153*****	**1.059*****	**1.152*****	**1.106*****	**1.073*****	**1.066*****	**1.142*****	**1.139*****
		(14.80)	**(6.418)**	**(25.19)**	**(22.94)**	**(21.81)**	**(23.83)**	**(29.05)**	**(29.59)**
	Kaopen	0.001	0.002	0.007	0.002	-0.004	-0.003	0.004	0.004
Financial		(0.231)	(0.388)	(0.710)	(0.355)	(-0.897)	(-0.659)	(0.531)	(0.541)
Openness	FDI	0.001	0.0008	0.0007	-0.0004	-0.001	0.0002	0.0008	0.0008
		(0.607)	(0.312)	(0.321)	(-0.251)	(-0.597)	(0.090)	(0.584)	(0.563)
	Trade	---	0.000	---	-0.000	-0.0002	---	-0.0002	---
Trade Openness			(0.175)		(-0.072)	(-1.630)		(-1.103)	
	Exports	**-0.0004****	---	-0.0003	---	---	**-0.0006****	---	-0.0004
		(-2.063)		(-0.939)			**(-2.077)**		(-1.126)
	Instidex	0.002	---	-0.0005	---	**0.009*****	**0.011****	**0.007***	**0.008***
Institutional		(0.527)		(-0.076)		**(3.156)**	**(2.335)**	**(1.702)**	**(1.734)**
Openness	Demo	-0.001	0.0003	-0.0003	0.0006	**-0.003****	**-0.003****	-0.002	**-0.002***
		(-1.157)	(0.471)	(-0.140)	(0.288)	**(-2.106)**	**(-2.189)**	(-1.493)	**(-1.742)**
Freedom of Trade		---	-0.0001	---	-0.025	---	---	---	---
			(-0.009)		(-1.132)				
Economic Freedom		-0.010	---	-0.027	---	---	0.001	**-0.024***	**-0.023***
		(-0.537)		(-1.250)			(0.116)	**(-1.952)**	**(-1.828)**
Inflation		-0.000	-0.0004	-0.000	0.0002	---	---	---	---
		(-0.095)	(-1.064)	(-0.001)	(0.170)				
Government Expenditure		0.0002	-0.000	0.0003	0.0003	---	---	---	---
		(0.996)	(-0.047)	(0.804)	(0.514)				
Human Development		---	-0.0003	---	---	---	---	---	---
			(-0.183)						
Economic Prosperity		---	-0.0006	-0.0006	---	**0.002*****	---	**0.002****	**0.002****
			(-0.524)	(-0.431)		**(2.900)**		**(2.465)**	**(2.247)**
Population Growth Rate		---	0.001	---	---	---	---	---	---
			(0.048)						
Test for AR(2) errors		**-1.002**	**-0.528**	**-1.042**	**-1.123**	**-0.914**	**-0.962**	**-0.258**	**-0.295**
		[0.315]	**[0.597]**	**[0.297]**	**[0.261]**	**[0.360]**	**[0.336]**	**[0.796]**	**[0.767]**
Sargan OIR test		**8.808**	**4.895**	**8.748**	**14.123**	**8.749**	**7.053**	**8.135**	**8.061**
		[0.998]	**[1.000]**	**[0.998]**	**[0.959]**	**[0.363]**	**[0.530]**	**[0.420]**	**[0.427]**
Wald(joint) test		**1743*****	**22330*****	**2134*****	**2893*****	**1751*****	**2767*****	**2700*****	**2551*****
		[0.000]	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**
Number of Observations		92	78	92	92	86	80	80	80

*;**;***: significance levels of 10%, 5% and 1% respectively. Z-statistics in parentheses. [ ]: P-values. Instidex: Institutional index. FDI: Foreign Direct Investment. Demo: Democracy. OIR: Overidentifying Restrictions.

Table 5: Two-step System GMM estimates for financial size

		Dependent variable: Financial Size							
		Two Year Non Overlapping Intervals Financial Size				Three Year Non Overlapping Intervals Financial Size			
constant		-0.004	-0.004	-0.047	-0.215	-0.144	-0.115	-0.146	0.206
		(-0.025)	(-0.026)	(-0.239)	(-0.717)	(-0.881)	(-0.726)	(-0.984)	(0.993)
Finance_1		**0.983*** **	**0.887*** **	**0.995*** **	**1.091*** **	**1.308*** **	**1.216*** **	**1.287*** **	**1.233*** **
		(5.440)	**(5.601)**	**(7.237)**	**(6.623)**	**(6.078)**	**(5.632)**	**(6.253)**	**(5.994)**
	Kaopen	-0.004	-0.004	0.001	-0.0006	0.010	0.011	0.010	0.023
Financial		(-0.379)	(-0.415)	(0.175)	(-0.068)	(0.964)	(1.099)	(1.015)	(0.959)
Openness	FDI	0.005	0.002	0.001	0.002	**0.007****	0.005	**0.007****	0.004
		(0.815)	(0.456)	(0.482)	(0.619)	**(2.003)**	(1.627)	**(2.226)**	(0.782)
	Trade	-0.0002	---	0.000	---	**-0.001*** **	---	**-0.0009***	
Trade Openness		(-0.267)		(0.058)		**(-2.735)**		**(-1.732)**	
	Exports	---	0.0007	---	0.0002	---	-0.001	---	-0.001
			(0.703)		(0.636)		(-0.844)		(-1.202)
	Instidex	---	---	---	-0.006	**-0.018*** **	**-0.020***	**-0.021****	**-0.020***
Institutional					(-0.600)	**(-2.653)**	**(-1.819)**	**(-2.201)**	**(-1.916)**
Openness	Demo	0.001	0.001	-0.0009	-0.0008	---	0.001	0.002	0.002
		(0.679)	(0.794)	(-0.422)	(-0.233)		(0.417)	(0.542)	(0.691)
Freedom of Trade		0.008	---	0.006	---	---	---	---	---
		(0.448)		(0.352)					
Economic Freedom		---	0.014	---	0.018	---	---	---	-0.052
			(0.392)		(0.499)				(-1.382)
Inflation		---	---	0.0003	0.0005	-0.0007	-0.003	-0.002	-0.0009
				(0.242)	(0.263)	(-0.299)	(-1.118)	(-0.683)	(-0.249)
Government Expenditure		---	---	**0.002****	0.0007	**0.004*** **	**0.003*** **	**0.004****	**0.003*** **
				(2.096)	(0.452)	**(2.773)**	**(2.633)**	**(2.460)**	**(3.082)**
Economic Prosperity		---	---	---	---	---	0.004	0.002	0.002
							(1.028)	(0.499)	(0.532)
Foreign Aid		---	---	0.003	**0.005***	---	---	---	---
				(1.098)	**(1.804)**				
Test for AR(2) errors		**-1.174**	**-0.916**	**-0.452**	**0.685**	**-1.097**	**-1.050**	**-1.159**	**-0.696**
		[0.240]	**[0.359]**	**[0.650]**	**[0.492]**	**[0.272]**	**[0.293]**	**[0.246]**	**[0.486]**
Sargan OIR test		**21.220**	**21.041**	**9.494**	**8.602**	**8.210**	**8.928**	**8.516**	**6.569**
		[0.680]	**[0.690]**	**[0.997]**	**[0.999]**	**[0.413]**	**[0.348]**	**[0.384]**	**[0.583]**
Wald(joint) test		**365.7*** **	**293.6*** **	**15257*** **	**4453*** **	**158.21*** **	**313.8*** **	**182.6*** **	**767.11*** **
		[0.000]	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**	**[0.000]**
Number of Observations		116	115	87	87	66	66	66	59

*;**;***: significance levels of 10%, 5% and 1% respectively. Z-statistics in parentheses. [ ]: P-values. Instidex: Institutional index. FDI: Foreign Direct Investment. Demo: Democracy. OIR: Overidentifying Restrictions.

4.2 Further discussion of results

This section further discusses the results. First, the positive effect of the *de jure* (KAOPEN) indicator (of financial openness) throws more light on the debate over the Chinese financial openness policy that has recently been subject to much discussion in academic and policy-making circles[6]. Hence, China's *de facto* openness despite its *de jure* closure may be a policy that targets less financial inefficiency and more financial activity, at the cost of financial depth. This trade-off is logical because financial depth may not necessarily reflect genuine financial development in developing countries where a great chunk of the monetary base does not transit through the banking sector. Hence, an increase in financial depth may simply reflect an extensive use of currency outside the formal banking sector.

[6] See Prasad and Wei (2007), Aizenman and Glick (2009) and Shah and Patnaik (2009).

Second, increases in trade openness activities (in terms of growing imports and exports) will logically have a positive effect on financial depth by increasing the velocity of money. However the negative incidence of exports on domestic financial activity could be due to the fact that a substantial portion of agricultural export activities are not formally financed by credit from formal financial institutions. This is the case in most rural areas where non-formal and informal financial channels are used to finance the production of cash crops.

Third, apart from a small exception (i.e. financial size), the positive effect of institutional openness on financial development is broadly consistent with the significant role of institutional adjustments for financial development in second generation openness reforms.

Fourth, the negative effect of political openness on financial development is broadly consistent with Asongu (2011). The *time* and *level* hypothetical benefits of democracy (discussed in the introduction) have been confirmed in the literature. Asongu (2014b) has concluded that democracy in Africa has important effects on the degree of competition for public offices but less significant effects in comparison with autocracy on policies of financial development. This essentially because, democracies in the continent are young (*time hypothesis)* and weak (*level hypothesis*). Hence, in order for African democracies to reap any government quality benefits, once democracies are initiated, they should be accelerated to edge the appeals of autocracy. This African evidence is in line with broader literature on the *level* (Montinola & Jackman, 2002; Sung, 2004; Back & Hadenius, 2008) and '*time of exposure*' (Keefer, 2007) schools of thought pertaining to the benefits of political openness documented in Southeast Asia (Scott, 1972), India (Wade, 1985), Turkey (Sayari, 1977), post communist Russia (Varsee, 1997), Latin America (Weyland, 1998) and, confirmed in a substantial bulk of quantitative studies (Harris-White & White, 1996; Sung, 2004).

Fifth, we notice that "economic freedom" is detrimental to financial development dynamics of depth and activity. This could be explained from the fact that the substantial weight of its legal structure component is inclined to facilitating financial allocation efficiency (financial activity/financial depth) than to improving the independent components of financial efficiency.

5. Conclusion and future research directions

This study has assessed dynamics of openness and finance in Africa by integrating financial development dynamics of depth, activity and size in the assessment of how financial, trade, institutional, political and other openness policies (of second generation structural and institutional reforms) have affected financial development. The empirical evidence is based

on Generalized Method of Moments with data from 28 African countries for the period 1996-2010. The following findings have been established. (i) While the *de jure* (KAOPEN) indicator of financial openness improves financial depth, the *de facto* (FDI) measurement decreases it, with the effect of the latter measure positive on financial size. (ii) Whereas trade openness improves financial depth, its effect on financial activity and size is negative. (iii) Institutional openness has a positive effect on financial dynamics of depth and activity, while its effect on financial size is negative. (iv) Political openness and economic freedom are detrimental to financial depth and activity. Justifications for these nexuses have been discussed.

Future studies can improve the extant literature by assessing how the established findings withstand empirical scrutiny from country-specific settings. Moreover, assessing how openness modulates the effect of information sharing offices on financial development is worthwhile. This recommendation is timely given the recent introduction of information sharing offices that are designed to reduce information asymmetry for more financial access in the continent (Tchamyou & Asongu, 2017; Triki & Gajigo, 2014).

Appendices

Appendix 1: Summary statistics and presentation of countries

Panel A: Summary Statistics

		Mean	S.D	Min	Max	Obser.
Financial Depth	Money Supply (M2)	0.322	0.219	0.076	1.141	360
	Liquidity Liabilities (Fdgdp)	0.260	0.207	0.037	0.948	363
Financial Activity	Banking System Activity (Pcrb)	0.203	0.190	0.019	0.869	363
	Financial System Activity (Pcrbof)	0.237	0.279	0.019	1.739	363
Financial Size	Financial Size (Dbacba)	0.720	0.233	0.085	1.350	363
Financial Openness	De jure (KAOPEN)	-0.505	1.278	-1.843	2.477	392
	De facto (FDI)	2.777	4.252	-8.629	36.114	346
Trade Openness	Trade	68.687	29.967	21.574	187.68	401
	Exports	30.245	14.618	5.820	69.032	401
Institutional &	Institutional Index (*Instidex*)	0.088	2.152	-4.569	5.233	320
Political Openness	Democracy	3.263	3.959	-8.000	10.000	224
Other Openness	Freedom to Trade	6.060	0.917	3.400	8.100	250
	Economic Freedom	6.118	0.632	4.710	7.820	250
	Inflation	7.239	9.496	-100.00	46.561	395
	Government Expenditure	4.304	10.670	-34.882	61.364	298
Control Variables	Human Development	1.913	8.0128	0.204	47.486	341
	Economic Prosperity	4.273	3.710	-16.740	27.462	420
	Foreign Aid	9.447	8.946	-0.251	54.785	392
	Domestic Investment	19.227	9.370	-23.763	76.693	216
	Population growth	2.275	0.741	0.042	4.146	420

Panel B: Presentation of Countries (28)

Botswana, Cameroon, Ivory Coast, Egypt, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Nigeria, Senegal, Sierra Leone, South Africa, Tanzania, Tunisia, Uganda, Zambia, Niger, Mali, Guinea, Burkina Faso, Burundi, Central African Republic.

S.D: Standard Deviation. Min: Minimum. Max: Maximum. Obser: Observations.

Appendix 2: Definitions of variables

Variables	Signs	Definitions of variables	Sources
		Financial Dependent Variables	
Financial system Depth	M2	Money Supply (% of GDP)	FDSD (World Bank)
Banking System Depth	Fdgdp	Liquid Liabilities (% of GDP)	FDSD (World Bank)
Banking System Activity	Pcrb	Private domestic credit by deposit banks (% of GDP)	FDSD (World Bank)
Financial System Activity	Pcrbof	Private domestic credit by deposit banks and other financial institutions (% of GDP)	FDSD (World Bank)
Financial System Size	Dbacba	Deposit bank assets on (Deposit bank assets plus Central bank assets)	FDSD (World Bank)
		Independent Openness Variables	
Financial Openness 1	KAOPEN	De Jure Capital Openness	Chinn & Ito (2002)
Financial Openness 2	FDI	Foregin Direct Investment (% of GDP)	WDI (World Bank)
Trade Openness 1	Trade	Imports + Exports of Commodities (% of GDP)	WDI (World Bank)
Trade Openness 2	Export	Exports of Good & Services (% of GDP)	WDI (World Bank)
Institutional Openness	Instidex	1st Principal Component of: RL; RQ; CC;V&A; PS; GE	P.C Analysis
Political Openness	Demo	Institutionalized Democracy (Estimate)	WDI (World Bank)
Trade Freedom	TFree	Freedom of Trade Index	Gwartney et al. (2011). Economic Freedom Dataset
Economic Freedom	EcoFree	Economic Freedom Index	
		Control Variables	
Inflation	Inflation	Consumer Price Index (Annual %)	WDI (World Bank)
Government Expenditure	GE	Government Final Expenditure (% of GDP)	WDI (World Bank)
Human Development	IHDI	Inequality adjusted Human Development Index	WDI (World Bank)
Economic Prosperity	GDPg	GDP growth rate (annual %)	WDI (World Bank)
Foreign-Aid	NODA	Net Official Development Assistance (% of GDP)	WDI (World Bank)
Domestic Investment	D.I	Gross Domestic Investment (% of GDP)	WDI (World Bank)
Population Growth	Popg	Population Growth Rate (annual %)	WDI (World Bank)

WDI: World Bank Development Indicators. GDP: Gross Domestic Product. PC: Principal Component. FDSD: Financial Development and Structure Database. PC: Principal Component. RL: Rule of Law. RQ: Regulation Quality. CC: Corruption-Control. V&A: Voice & Accountability. PS: Political Stability. GE: Government Effectiveness.

References

Adjasi, C.K. D., & Biekpe, N. B., (2006). "Stock Market Development and Economic Growth: The Case of Selected African Countries", *African Development Review*, 18(1), pp. 144–161.

Aizenman, J., Chinn, M. D., & Ito, H., (2009). "Surfing the waves of globalization: Asia and Financial Globalisation in the Context of the Trilemma", *Asian Development Bank Working Paper Series* No. 180, Manila.

Aizenman, J., Glick, R., (2009). "Sterilization, Monetary Policy, and Global Financial Integration", *Review of International Economics*, 17(4), pp. 777-801.

Alarcon-Gonzalez, D. & McKinley, T. (1999). "The adverse effects of structural adjustment on working women in Mexico", *Latin American Perspectives*, 26(3), pp. 103-117.

Arellano, M., & Bond, S., (1991). "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations", *The Review of Economic Studies*, 58(2), pp. 277-297.

Arellano, M., & Bover, O., (1995). "Another look at the instrumental variable estimation of error-components models", *Journal of Econometrics*, 68(1), pp. 29-51.

Arestis, P., Demetriades, P. O., Fattouh, B., & Mouratidis, K., (2002). "The impact of financial liberalisation policies on financial development: evidence from developing countries", *International Journal of Finance and Economics*, 7(2), pp. 109-121.

Assefa, T. A., & Mollick, A. V., (2016). "Financial Development and Economic Growth in Africa", *Journal of African Business*, 18(3), pp. 320-339.

Asongu, S. A., (2011). "Why do French civil-law countries have higher levels of financial efficiency?", *Journal of Advanced Research in Law and Economics*, 2(2), pp. 94-108.

Asongu, S.A., (2012). "Government quality determinants of stock market performance in African countries", *Journal of African Business*, 13(3), pp. 183-199.

Asongu, S. A., (2014a). "Financial development dynamic thresholds of financial globalization: evidence from Africa", *Journal of Economic Studies*, 41(2), pp. 166-195.

Asongu, S. A., (2014b). "Finance and Democracy in Africa", *Institutions and Economies*, 6(3), pp. 92-116.

Asongu, S. A., (2015). "Liberalisation and Financial Sector Competition: A Critical Contribution to the Empirics with an African Assessment", *South African Journal of Economics*, 83(3), pp. 425–451.

Asongu, S., (2016). "New empirics of monetary policy dynamics: evidence from the CFA franc zones", *African Journal of Economic and Management Studies*, 7(2), pp. 164-204.

Asongu, S. A., (2017). "Assessing marginal, threshold, and net effects of financial globalisation on financial development in Africa", *Journal of Multinational Financial Management*, 40(June), pp. 103-114.

Asongu, S. A, & De Moor, L., (2017). "Financial Globalisation Dynamic Thresholds for Financial Development: Evidence from Africa", *European Journal of Development Research*, 29(1), pp. 192–212.

Asongu, S. A., Koomson, I., & Tchamyou, V., S., (2017). "Financial globalisation uncertainty/instability is good for financial development", *Research in International Business and Finance*, 41(October), pp. 280-291.

Back, H., & Hadenius, A., (2008). "Democracy and State Capacity: Exploring a J-Shaped Relationship." *Governance,* 21 (1), pp. 1–24.

Banya, R. & Biekpe, N. (2017). "Banking Efficiency and its determinants in selected Frontier African Markets", *Economic Change and Restructuring*. DOI: DOI: 10.1007/s10644-016-9200-3.

Batuo, M. E., & Asongu, S. A., (2015). "The Impact of liberalization policies on income inequality in African countries", *Journal of Economic Studies*, 42(1), pp. 68-100.

Batuo, M. E., Guidi, F., & Kupukile, M., (2010, August). "Financial Development and Income Inequality: Evidence from African countries", African Development Bank, Tunis.

Batuo, M. E., & Kupukile, M., (2010). "How can economic and political liberalization improve financial development in African countries?", *Journal of Financial Economic Policy*, 2(1), pp. 35-59.

Berggren, N., & Bergström, F. (1999). "A constitutional analysis of selectivity in economic policy making" makt utan motvikt, Om Demokrati Och Konstitutionalism, pp. 155-188.

Biekpe, N., (2011). "The Competitiveness of Commercial Banks in Ghana", *African Development Review*, 23(1), pp. 75–87.

Blundell, R., & Bond, S., (1998). "Initial conditions and moment restrictions in dynamic panel data models", *Journal of Econometrics*, 87(1), pp. 115-143.

Bocher, F. T., Alemu, B. A., & Kelbore, Z. G., (2017). "Does access to credit improve household welfare? Evidence from Ethiopia using endogenous regime switching regression", *African Journal of Economic and Management Studies*, 8(1), pp. 51-65.

Bond, S., Hoeffler, A., & Tample, J., (2001). "GMM Estimation of Empirical Growth Models", University of Oxford, Oxford.

Bourguignon, F., & Morrison, C., (1998). "Inequality and development: the role of dualism", *Journal of Development Economics*, 57(2), pp. 233-257.

Chapoto, T., & Aboagye, A. Q. Q., (2017). "African innovations in harnessing farmer assets as collateral", *African Journal of Economic and Management Studies*, 8(1), pp. 66-75.

Chikalipah, S., (2017). "What determines financial inclusion in Sub-Saharan Africa?" *African Journal of Economic and Management Studies*, 8(1), pp. 2-7.

Chinn, M. D., & Ito, H., (2002). "Capital Account Liberalization, Institutions and Financial Development: Cross Country Evidence", *NBER Working Paper, No. 8967*, Cambridge, MA: National Bureau of Economic Research.

Cho, Y. J., (1986). "Inefficiencies of financial liberalization in the absence of well-functioning equity markets". *Journal of Money, Credit and Banking*, 18 (2), pp. 191-199.

Daniel, A., (2017). "Introduction to the financial services in Africa special issue", *African Journal of Economic and Management Studies*, 8(1), pp. 2-7.

Demirguc, A., & Detragiache, E. (2000). "Monitoring banking sector fragility: a multivariate logit approach", *World Bank Economic Review*, 14(2), pp. 287-307.

Demirgüç-Kunt, A., & Levine, R., (2008). "Finance, Financial Sector Policies, and Long-Run Growth", *World Bank Policy Research Working Paper* No. 4469, Washington, DC: The World Bank.

Edwards, S., (1999). "How effective are capital controls?" *Journal of Economic Perspectives*, 13(4), pp. 65–84.

Fischer, S., (1998). "Capital Account Liberalization and the Role of the IMF", in "Should the IMF Pursue Capital-Account Convertibility?", Essays in International Finance, Department of Economics, Princeton University, 207, pp. 1-10.

Fouda, O., J., P., (2009). "La surliquidité des banques en zone franc : Comment expliquer le paradoxe de la CEMAC ? ", *Revue Africaine de l'Intégration*, 3(2), pp. 43-97.

Fowowe, B., (2014). "Law and Finance Revisited: Evidence from African Countries", *South African Journal of Economics*, 82(2), pp. 193–208.

Gaibis, V. (1993). "High real interest rates under financial liberalisation: is there a problem?" *Working Paper* No. 7, IMF, Washington D.C

Galor, O., & Zeira, J. (1993). "Income distribution and macroeconomics", *Review of Economic Studies*, 60(1), pp. 35-52.

Gossel, S. J., & Biekpe, N., (2014). "Economic growth, trade and capital flows: A causal analysis of post-liberalised South Africa." *The Journal of International Trade & Economic Development*, 23(6), pp. 815-836.

Gwartney, J., Hall, J., & Lawson, R., (2011). "2011 Economic Freedom Dataset", Economic Freedom Network.

Harris-White, B. & White, G., (1996), *Liberalization and New Forms of Corruption*. Brighton: Institute of Development Studies.

Hellman, T.F., Murdoch, K., & Stiglitz, J.E. (2000). "Liberalization, moral hazard in banking and prudential regulation: are capital requirements enough?", *American Economic Review*, 90(1), pp. 147-165.

Henry, P. B., (2007). "Capital Account Liberalization: Theory, Evidence and Speculation", *Journal of Economic Literature*, 45(4), pp. 887-935.

Iyke, B., N., & Odiambo, N. M., (2017). "Foreign exchange markets and the purchasing power parity theory: Evidence from two Southern African countries", *African Journal of Economic and Management Studies*, 8(1), pp. 89-102.

Janine, A., & Elbadawi, I. A., (1992). "Parallel Markets, the foreign Exchange Auction, and Exchange Rate Unification in Zambia", *World Bank Policy Working Paper* No. 909, The World Bank, Washington.

Jolliffe, I. T., (2002). *Principal Component Analysis*(2nd Ed.), New York: Springer.

Kaiser, H. F., (1974). "An index of factorial simplicity". *Psychometrika,* 39(1), pp. 31–36.

Keefer, P., (2007). "Clientelism, Credibility, and the Policy Choices of Young Democracies", *American Journal of Political Science* 51 (4), pp. 804–821.

Kose, M. A., Prasad, E. S., & Taylor, A. D., (2011). "Threshold in the process of international financial integration", *Journal of International Money and Finance*, 30(1), pp. 147-179.

Kose, M. A., Prasad, E. S., & Rogoff, K., Wei, S. J., (2006). "Financial globalization: a reappraisal", *IMF Staff Papers*, 56(1), pp. 8-62.

Kumi, E., Ibrahim, M., & Yeboah, T., (2017). "Aid, Aid Volatility and Sectoral Growth in Sub-Saharan Africa: Does Finance Matter?", *Journal of African Business*, 18(4), pp. 435-456.

Lemarchand, R. (1972). "Political Clientelism and Ethnicity in Tropical Africa: Competing Solidarities in Nation-Building," *American Political Science Review*, 66(1), pp. 68-85.

McKinnon, R., (1973). Money and Capital in Economic Development. Brookings Institution Press, Washington DC.

Montinola, G. R., & Jackman, R. W. (2002). "Sources of Corruption: A Cross Country Study." *British Journal of Political Science*, 32(1), pp. 147–170.

Motelle, S., & Biekpe, N., (2015). "Financial integration and stability in the Southern African development community", *Journal of Economics and Business*, 79(May-June, 2015), pp. 100-117.

Nyasha, S., & Odhiambo, N. M. (2015a). "Do banks and stock market spur economic growth? Kenya's experience", *International Journal of Sustainable Economy*, 7(1), pp. 54-65.

Nyasha, S., & Odhiambo, N. M. (2015b). "The Impact of Banks and Stock Market Development on Economic Growth in South Africa: An ARDL-bounds Testing Approach ", *Contemporary Economics*, 9(1), pp. 93-108.

Nyasha, S., & Odhiambo, N. M. (2016). "Banks, Stock Market Development and Economic Growth in Kenya: An Empirical Investigation", *Journal of African Business*, 17(1), pp. 1-23.

Obeng, S. K., & Sakyi, D., (2017). "Macroeconomic determinants of interest rate spreads in Ghana", *African Journal of Economic and Management Studies*, 8(1), pp. 76-88.

Obstfeld, M., & Taylor, A. M., (2005). "Global Capital Markets Integration, Crisis and Growth", Cambridge University, New York.

Odhiambo, N. M., (2013). "Is financial development pro-poor or pro-rich? Empirical evidence from Tanzania", *Journal of Development Effectiveness*, 5(4), pp. 489-500. 139.

Odhiambo, N. M., (2011). "Growth, Employment and Poverty in South Africa: In Search of a Trickle-Down Effect", *Journal of Income Distribution*, 20(1), pp. 49-62. 140.

Odhiambo, N. M., (2010a). "Financial deepening and poverty reduction in Zambia: an empirical investigation", *International Journal of Social Economics*, 37(1), pp. 41-53. 141.

Odhiambo, N. M., (2010a). "Is financial development a spur to poverty reduction? Kenya's experience", *Journal of Economic Studies*, 37(3), pp. 343-353. 142.

Odhiambo, N. M., (2009). "Finance-growth-poverty nexus in South Africa: A dynamic causality linkage", *Journal of Behavioral and Experimental Economics*, 38(2), pp. 320-325.

Osabuohien, E. S., & Efobi, E. R., (2013). "Africa's Money in Africa", *South African Journal of Economics*, 81(2), pp. 292-306.

Osah, O., & Kyobe, M., (2017). "Predicting user continuance intention towards M-pesa in Kenya", *African Journal of Economic and Management Studies*, 8(1), pp. 36-50.

Owusu, E. L., & Odhiambo, N. M., (2014). "Stock market development and economic growth in Ghana: an ARDL-bounds testing approach", *Applied Economics Letters*, 21(4), pp. 229-234.

Prasad, E.S., & Wei. S. J., (2007). "China's Approach to Capital Inflows: Patterns and Possible Explanations". In S. Edwards ed., *Capital Controls and Capital Flows in Emerging Economies: Policies, Practices, and Consequences.* Chicago: University of Chicago Press.

Price, G. N., & Elu, J. U., (2014). "Does regional currency integration ameliorate macroeconomic shocks in sub-Saharan Africa? The case of the 2008-2009 global financial crisis", *Journal of Economic Studies*, 41(5), pp. 737-750.

Reinhart, C., & Ioannis, T., (2008). "Before and after financial liberalization", *MPRA Paper* No. 6986, *Munich Personal RePEc Archive*, Munich.

Rodrik, D., (1998). "Who Needs Capital-Account Convertibility?" Essays in International Finance, No. 207 (Princeton, New Jersey: Princeton University).

Rodrik, D., & Subramanian, A., (2009) "Why did financial globalization disappoint?" IMF Staff Papers, 56(1), pp. 112-138.

Saxegaard, M., (2006). "Excess liquidity and effectiveness of monetary policy: evidence from sub-Saharan Africa", *IMF Working Paper* 06/115, Washington.

Sayari, S., (1977). *Political Patronage in Turkey*, in E. Gellner and J. Waterbury (eds.), *Patons* and Clients in Mediterranean Societies, London: Duckworth, pp. 103-113.

Savvides, A. (1998). "Trade policy and income inequality: new evidence", *Economics Letters*, 61(3,) pp. 365-372.

Scott, J. C., (1972). *Comparative Political Corruption*, Englewood Cliffs, NJ: Prentice-Hall.

Shah, A., & Patnaik, I., (2009). "Asia Confronts the Impossible Trinity." Mimeo, NIPFP-DEA.

Shaw, E., (1973). *Financial Deepening in Economic Development*, New York: Oxford University Press.

Solow R. M. (1956). "A contribution to the theory of economic growth", *Quarterly Journal of Economics*, 70(1), 65-94.

Summers, L. H., (2000). “International Financial Crises: Causes, Prevention and Cures”, *American Economic Review*, 90(2), pp. 1-16.

Sung, H. E., (2004). “Democracy and political corruption: a cross-national comparison.” *Crime, Law and Social Change* 41(2), pp.179–193.

Tchamyou, S. V., (2016). “The role of knowledge economy in African business”, *Journal of the Knowledge Economy*, DOI: DOI: 10.1007/s13132-016-0417-1.

Tchamyou, V. S., & Asongu, S. A., (2017). Information Sharing and Financial Sector Development in Africa”, *Journal of African Business*, 18(1), pp. 24-49.

Triki, T., & Gajigo, O., (2014). “Credit Bureaus and Registries and Access to Finance: New Evidence from 42 African Countries”, *Journal of African Development*, 16(2), pp.73-101.

Varese, F., (1997). “The Transition to the Market and Corruption in Post-socialist Russia”, *Political Studies*, 45(3), pp. 579–96.

Wade, R., (1985). “The Market for Public Office: Why the Indian State is not better at Development.” *World Development*, 13(4), pp. 467–97.

Wale, L.E., & Makina, D., (2017). “Account ownership and use of financial services among individuals: Evidence from selected Sub-Saharan African economies”, *African Journal of Economic and Management Studies*, 8(1), pp. 19-35.

Weyland, K., (1998). “The Politics of Corruption in Latin America”. *Journal of Democracy*, 9 (2), pp. 108-121.

Wood, A. (1995). “How trade hurt unskilled workers”, *Journal of Economic Perspectives*, 9(3), pp. 57-80.