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**Financial Access, Governance and the Persistence of Inequality in Africa: Mechanisms and Policy instruments** [1]

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**Abstract**

The aim of this paper is to investigate policy instruments by which the persistence of inequality is affected through financial development channels in 48 African countries for the period 1996 – 2014. Financial dynamic channels of depth (money supply and liquid liabilities), efficiency (at banking and financial system levels), activity (from banking and financial system perspectives) and stability are used. Political ("voice and accountability" and political stability), economic (government effectiveness and regulation quality) and institutional (rule of law and corruption-control) governance policy instruments are also involved. The empirical evidence is based on the Generalised Method of Moments (GMM). The results show that financial depth and financial stability are the best channels of reducing inequality. Moreover, the relevance of these financial channels is significantly apparent when policy instruments are exclusively governance variables. The comparative relevance of governance dynamics in the persistence of inequality is discussed.  The study responds to two recent policy and scholarly challenges, notably: the persistence of inequality in Africa and the relevance of governance in addressing income inequality by means of financial access.

*Keywords*: Finance; Governance; Inequality; Modelling; Africa

*JEL Classification*: O16; O10; I30; C50; O55.

## 1. Introduction

The motivation of this study builds on three major trends in academic and policy circles, specifically: (i) the persistence of inequality in the world and particularly in Africa; (ii) the potential effect of good governance in mitigating inequality; (iii) challenges of access to financial services in Africa and (iv) gaps in the literature. These points are further engaged chronologically.

First, inequality can be seen as a sign of lack of mobility and income opportunities – reflecting a persistent disadvantage for a certain proportion of the society (Dabla-Norris *et al*., 2015). The 2017 Oxfam report on "*An Economy for the 99 percent*" has revealed that the gap between the poor and the rich is far greater than what one could have thought. In essence, findings from the report show that: the super-rich and big businesses are fuelling the inequality crisis by influencing politics with their power; lowering workers' wages and producer prices and avoiding taxes. The report has released that the eight richest persons in the world possess as much wealth as the 3.6 billion people who constitute the poorest half of humanity. Oxfam further shows in its analysis that "inequality of opportunity" is persistent over time because more than half of the world's billionaires have either inherited their wealth or accumulated it through industries (that are prone to cronyism and corruption).

The persistence of inequality in Africa is very alarming because the continent is host to seven of the ten most unequal countries in the world (World Bank, 2016). Accordingly, Africa is second after Latin America in terms of high inequality in the world (Klasen, 2016). Moreover, the challenge of poverty in Africa is well-known, with about a third of the world's poor living in the continent. Accordingly, high levels of inequality and poverty persist in Africa despite being one of the most dynamic regions of the last decade (UNDP, 2016; Asongu & le Roux, 2019).

Second, governance was the main theme of the 2017 African Economic Conference held at the United Nations Economic Commission for Africa, in Addis Ababa, Ethiopia. The theme of the conference was "*Governance for Structural Transformation*". The conclusion of the conference was unanimous for policy-makers, private sector leaders and civil societies who urged governments of African countries to strive for good governance as a top priority for development programmes in the continent. Hence, this study is timely because it investigates whether governance has a significant impact when complementing financial access to reduce the persistence of high income inequality in Africa.

Third, access to financial services in African countries is quite challenging and factors driving this concern are among others: physical access; affordability; eligibility based on collateral; moral hazard and adverse selection (Batuo & Kupukile, 2010). Moreover, in spite of the two decades of growth resurgence of the African continent (Asongu & Kodila-Tedika, 2017), the gap between the poor and the rich seems to remain high; especially in accessing financial services (Asongu *et al*, 2018a, 2018b; Kusi & Opoku-Mensah, 2018; Kusi et al., 2017; Muazu & Alagidede, 2017). Hence, policymakers in the region need to improve opportunities for financial inclusion which will subsequently contribute to the reduction of poverty and inequality.

Fourth, the extant contemporary literature has largely focused on direct and indirect relationships between finance and inclusive development (Li et al. 1998; Clarke et al. 2006; Beck et al. 2007; Batuo et al. 2010; Kim & Lin, 2011; Law et al. 2014; Chen & Kinkyo, 2016; Adams & Klobodu, 2016; Neaime & Gaysset, 2017; Meniago & Asongu, 2018). This literature has the shortcoming of not addressing policy concern of persistence in inequality. We argue that engaging the dimension of persistence in inequality is more relevant to policy in the light of the post-2015 sustainable development agenda. Moreover, introducing governance policy instruments in the modelling exercise informs policy markers on specific policy tools they can act upon to mitigate the persistence of inequality. Persistence in inequality is understood as "hysteresis in inequality": past inequality positively affects future inequality[2].

This study combines the aforementioned four strands to investigate how governance influences the persistence in inequality through financial development mechanisms. Accordingly, building on policy recommendations to put governance at the centre of Africa's development, it assesses how governance tools (discussed in the second strand) can be leveraged to address the challenging policy syndrome of inequality in Africa (covered in the first strand) through financial access channels (discussed in the third strand) in order to address a policy and scholarly gap in the finance-inequality literature (covered in the fourth strand).

The above positioning also extends a recent study on persistence in inequality in Africa which has failed to directly engage the notion of persistence in inequality in the modelling exercise.

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[2] In the paper, the notion of persistence is defined as the estimated lagged dependent variable that is within the acceptable range of convergence.

Shimeles and Nabassaga (2018) have investigated the reasons for the high persistence in inequality in Africa by employing Ordinary Least Squares and Instrumental Variables as empirical techniques. Unfortunately, while the conclusions articulate the notion of persistence in inequality, the concept is not captured by the static estimation techniques motivating the conclusions of the study. Whereas the principal motivation of the authors' research is to assess why inequality persists in Africa, the empirical methods are not designed to capture a persistent or hysteresis element of inequality. We argue that articulating on the persistence of inequality should be substantiated with an empirical exercise that has a variable which captures such persistence in inequality. The shortcoming is addressed in this study by employing the Generalized Method of Moments as empirical strategy in order to capture the persistence of inequality from the estimated lagged dependent variable. Compared to the static estimation approaches used by Shimeles and Nabassaga (2018), this dynamic empirical strategy also has the advantage of better controlling for endogeneity.

The rest of the paper is structured as follows. Section 2 presents stylized facts, conceptual clarification and theoretical underpinnings. Section 3 discusses the data and empirical method while empirical findings and the corresponding discussion are covered in Section 4. Implications for policy and future research directions are presented in Section 5.

## 2. Stylized facts, conceptual clarification, theoretical underpinnings and empirical literature

### 2.1. Stylized facts and conceptual clarification

The section is discussed in two main strands, notably: (i) stylized facts on recent trends in poverty and inequality and (ii) clarification of the conception of persistence. First, economic development literature has well-established that income inequality is a significant facilitating factor in transforming economic growth into poverty reduction (Fosu, 2015). In this strand, we complement the stylized facts on inequality discussed in the introduction with stylized facts on poverty. There is a prevalent opinion that the poverty situation in Sub-Saharan Africa has not considerably changed since the 1980s. Following this argument, Thorbecke (2013, p. i16) using data from the World Bank, claimed that, "*there was no progress in SSA where half of the population remained below the poverty line in 2005—the same level as in 1981*" compared to other regions of the world. However, this statement fails to reflect variation in poverty trend over time, although it is theoretically correct. Employing the same database as used in Thorbecke (2013), Fosu (2015) acknowledged that it is apparent that the performance

of Sub-Saharan Africa on poverty since the year 1981 has not been homogenous (or uniform). Notwithstanding, based on recent data (from World Bank 2014), the author showed that Sub-Saharan Africa has definitely reversed its progression since 1993 with the $1.25 poverty rate dropping by around 10 percentage points by 2010. The author further argued that this improvement seems to be relatively consistent until 2008 when a slight decline was noticeable, may be due to the global crisis (Fosu, 2013).

Second, a necessary condition for the establishment of persistence is convergence. Persistence is when past values influence future values whereas convergence is the capacity of countries with lower levels in a given development factor to catch-up with their counterparts with higher levels in the same factor. Hence, the modelling framework for persistence is consistent with the modelling framework of convergence. It is therefore important to clarify the concepts of unconditional (or absolute) and conditional convergences. Absolute or unconditional convergence is essentially based on common policies, initiatives and factors including, among others: common currency areas and economic communities (Narayan *et al*., 2011; Asongu, 2013). Absolute convergence does not take into account elements in the conditioning information set or control variables. In contrast, conditional convergence represents the type of convergence in which the country's long term equilibrium (or steady state) depends on fundamental and structural characteristics of each economy. Hence, conditional convergence can arise in case of cross-country differences in factors determining the dependent variable (in our case inequality). It follows that, conditional catch-up (or convergence) may be apparent if sampled countries are different in terms of structural and institutional characteristics exogenous to inequality (Asongu, 2013). By extension, absolute and conditional persistence can be computed drawing on insights from the convergence literature. Convergence has policy relevance because it can facilitate the adoption of common cross-country policies.

### 2.2. Theoretical underpinning

There are two main strands in the literature on finance and inequality. The first strand of empirical and theoretical literature has shown a significant effect of financial development on poverty and inequality reduction (see for instance, Beck et al., 2007, Batuo et al., 2010, Dabla-Norris et al., 2015). The next sub-Section engages more empirical literature. Consistent with the pro-poor financial development literature, Beck et al. (2007) found that financial development disproportionately enhances income of the poorest quintile and decreases

income inequality. Supporting the same argument, Batuo et al. (2010) analyzed a panel of 22 Sub-Saharan African countries for the period of 1990 and 2004 and found that income inequality drops as economies expand their financial sector. Dabla-Norris et al. (2015) advocated that greater financial inclusion can help in reducing income inequality if the focus is to reduce participation costs of the poor. Nevertheless, findings from these authors counteract those of Galor and Moav (2004) in the sense that focusing on relaxing borrowing constraints can benefit wealthy economic operators and increase income inequality, however, they further claimed that as new agents get credit access, inequality can decline. Hence, even though both findings are contradictory, the common denominator is the reduction of income inequality.

The second strand however predicts a non-linear relationship between inequality and financial development. For instance, Greenwood and Jovanovic (1990) supported a Kuznets or hump shape relationship with the distribution effects of financial development. The nexus depends on the level of economic development, such that: at the early stages of economic development, financial markets are only affordable by the rich, while at higher levels of the economic development, the benefits of financial development are more equally distributed across the population. More recently, Aslan et al. (2017) have used micro-level data to derive Gini coefficients of inequality for financial access. They have found that the inequality in access to finance is strongly similar to the Kuznets curve, that is: at a lower average intensity of access to finance, increase in financial inclusion is determined by an increase in the magnitude of the usage of financial services (by a small proportion of the population), thus worsening inequality in financial inclusion. However, at a certain threshold, increase in access to finance is mostly motivated by more agents getting access to financial services, which follows by a reduction in inequalities in financial inclusion.

## 3. Data and Estimation technique

### 3.1. Data Collection

The aim of this study is to investigate the policy instruments by which the persistence of high inequality is affected through financial development channels in 48 African countries for the period 1996 – 2014. To this end, we combine three sources of data, notably: (i) World Governance Indicators (WGI) of the World Bank for governance variables; (ii) the Financial Development and Structure Database (FDSD) of the World Bank for financial access variables and (iii) the Global Consumption and Income Project (GCIP) for inequality

variables. The periodicity is due to data availability constraints: (i) the starting year of governance variable is 1996; (ii) data for all countries are not available in the GCIP (i.e.: Eritrea; Equatorial Guinea; Libya; Somalia; South Sudan and Zimbabwe); (iii) South Sudan is missing in the FDSD since the country gained independence in the year 2011 and (iv) data for the Gambia is ending in the year 2013.

Financial development mechanisms are measured in terms of: *depth* (money supply and liquid liabilities), *efficiency* (at banking and financial system levels), *activity* (from banking and financial system perspectives) and *stability (z-score)*. These indicators which capture the main dimensions of the Financial Development and Structure Database (FDSD) of the World Bank have been employed in recent literature (see for instance Asongu et al., 2019; Tchamyou, 2019; Tchamyou et al., 2019). Moreover, several studies have analysed the macroeconomic impact of financial access as a multidimensional concept and not exclusively limited to the financial dynamic of *depth* (see for instance, Sahay et al., 2015; Dabla-Norris et al., 2015; and Han & Melecky, 2013).Inclusive indicators are measured with the common Gini coefficient (see Tchamyou, 2020).

As policy instruments, the six governance variables of the World Bank have been used. The definitions of governance variables are consistent with recent governance literature (Kaufmann et al., 2010; Akandi, 2015; Asongu & Nwachukwu, 2016; Asongu et al. 2018c; 2018d): (i) ***political governance*** (proxied with political stability/non violence and voice & accountability) is the election and replacement of political leaders; (ii) ***economic governance*** (measured with regulation quality and government effectiveness) is the formulation and implementation of policies that deliver public commodities and (iii) ***institutional governance*** (defined with corruption-control and the rule of law) is the respect by the State and citizens of institutions that govern interactions between them.

To estimate the nexus between financial access and income inequality, we use standard control variables broadly employed in the literature. We control for the lagged level of inequality in order to test for the persistence in inequality (similar to Beck et al., 2007; Neaime & Gaysset, 2017; Tchamyou et al., 2019). Consistent with the same authors, we control for schooling (primary school enrolment rate) as a determinant of human capital accumulation. A positive sign is expected because primary school enrolment has been established to engender more inclusive socioeconomic benefits when economies are at early stages of industrialization (Petrakis & Stamatakis, 2002; Asiedu, 2014). The current state of industrial development in Africa is such that primary education is not enough to get employed

with a decent job.   Inflation has been documented to be a significant determining factor of poverty (Dollar & Kray, 2002) and the anticipated sign on inequality is positive because higher inflation is more likely to hurt the poor, compared to the rich  (Easterly & Fischer, 2001). Remittances also affect inequality, with the effect most likely to be positive on the outcome variable if the proportion of those migrating to more developed countries is from the upper income bracket of society (Anyanwu, 2011; Meniago & Asongu, 2018).

Appendix 1 presents the definitions and sources of variables while Appendix 2 and Appendix 3 respectively disclose the descriptive statistics with sampled countries and the correlation matrix. The descriptive statistics has two main objectives: (i) first, the comparability of variables is apparent from the mean values and (ii) second, from the significant variability between indicators (based on the standard deviations); we can expect significant linkages to emerge from the estimations. The main objective of the correlation matrix is to control for concerns of multicollinearity in variables. High degrees of substitution are apparent from financial development dynamics and governance variables. In order to avoid inconsistent results owing to bias from multicollinearity, (i) each set of governance variables is used in distinct tables and (ii) financial development variables are not specified in the same regression model.

### 3.2. Estimation technique: Generalised Method of Moments

The empirical strategy is the Generalised Method of Moments (GMM). There are three main reasons for the choice of the underlying estimation technique. First, this estimation strategy has the advantage of dealing with endogeneity by controlling for (i) time invariant omitted variables and (ii) simultaneity (with the instrumentation process). Second, the number of cross sections (N=48) is higher than the number of time series in each cross section (T=19), therefore N>T. Third, our dataset is a panel data structure, which implies that cross-country differences are taken into account in the analysis. The specification comes from Roodman (2009a, 2009b): an extension of Arellano and Bover (1995) which controls for cross sectional dependence and restricts instrument proliferation (see Baltagi, 2008; Tchamyou & Asongu, 2017; Tchamyou, 2020). Additionally, we control for heteroscedasticity by using the *two-step* method instead of the *one-step* approach.

The summary of the standard GMM equations in levels (1) and in first difference (2) are as follows:

$$INC_{i,t} = \sigma_0 + \sigma_1 INC_{i,t-\tau} + \sigma_2 FD_{i,t} + \sum_{h=1}^{k} \delta_h W_{h,i,t-\tau} + \eta_i + \xi_t + \varepsilon_{i,t}$$

$$(1)$$

$$INC_{i,t} - INC_{i,t-\tau} = \sigma_1(INC_{i,t-\tau} - INC_{i,t-2\tau}) + \sigma_2(FD_{i,t} - FD_{i,t-\tau})$$
$$+ \sum_{h=1}^{k} \delta_h(W_{h,i,t-\tau} - W_{h,i,t-2\tau}) + (\xi_t - \xi_{t-\tau}) + (\varepsilon_{i,t} - \varepsilon_{i,t-\tau})$$

$$(2)$$

where, $INC_{i,t}$ is income inequality in country $i$ at period $t$; $FD_{i,t}$ is a financial mechanism in country $i$ at period $t$; $\sigma_0$ is a constant; $\tau$ represents the coefficient of auto-regression (which is equal to one in our case because one year is enough to capture past information); $W$ represents the vector of control variables , $\eta_i$ is the country-specific effects, $\xi_t$ is the time-specific constant and $\varepsilon_{i,t}$ the error term. It is essential to mention that instruments are not clearly disclosed in the presentation of equations. This is why the governance variables which are treated as strictly exogenous are not disclosed in Eq. (1) and Eq. (2).

**Identification, Simultaneity and Exclusion restrictions**

Identification; simultaneity and exclusion restrictions are characteristics of the GMM method which we can briefly discuss. The identification approach is consistent with Dewan and Ramaprasad (2014), Tchamyou and Asongu (2017) and Tchamyou et al. (2019). While the second and third studies have respectively used years and ICT (Information & Communication Technology) as strictly exogenous variables, we consider governance indicators as strictly exogenous, in line with the motivation of our study of assessing governance policy instruments by which inequality can be reduced through financial access mechanisms. Therefore, governance variables are independently adopted as strictly exogenous variables. The corresponding suspected or predetermined endogenous variables (financial access variables) represent the channels through which governance affects inclusive development notably via access to financial mechanisms. Thus, in the GMM estimations, the method used for governance (or *ivstyle*) is "iv (governance eq(diff))" while the method to analyse the suspected variables is the *gmmstyle*.

Concerning the exclusion restrictions, the strictly exogenous variables (i.e. governance and years) have an impact on the dependent variable (i.e. income inequality) only via the suspected endogenous variables (i.e. financial access). In addition, the statistical test with which to assess the validity of the exclusion restrictions is the Difference in Hansen Test for

the significance of instruments. In theory, for the dependent variable to be explained only through the endogenous explanatory variables, the null hypothesis should not be rejected for variables with strict exogeneity. Note should be taken to the fact that, in the instrumental variable approach, the rejection of the null hypothesis of the Sargan Over-identifying Restrictions test indicates that the dependent variable is not fully explained by instruments via the predetermined variables (Beck et al., 2003). On the other hand, the Difference in Hansen Test is the statistical test used to investigate whether governance variables are strictly exogenous in the GMM estimations.

## 4. Empirical results and Discussion

### 4.1. Presentation of Results: Finance, Inequality and Governance

Table 1, Table 2 and Table 3 respectively present results corresponding to conditional persistence of inequality based on political governance; conditional persistence of inequality based on economic governance; conditional persistence of inequality based on institutional governance.

The evaluation of persistence is based on the estimation of the lagged dependent variable. The higher the magnitude of this estimated coefficient, the higher the degree of persistence. It is essential to mention that for persistence to be established, the estimated lagged endogenous variable has to be within the interval of convergence (Asongu, 2018). The criterion for the convergence is that the absolute value of the lagged estimated dependent variable should be within the range of zero and one. Interested readers can find more details on this criterion in the catch-up literature (see Asongu, 2018; Asongu, 2013, p. 192; Fung, 2009, p. 58).

Accordingly, in the standard GMM technique, one is subtracted from the estimated coefficient (which is reported) in order to obtain $\beta$ ($\beta = a-1$). Within this framework, the information criteria relevant to assess the catch-up is established if $\beta < 0$. Otherwise, the estimated lagged outcome variable could be also reported and the alternative criterion "0 < absolute lagged value <1" used (see Prochniak & Witkowski, 2012a, p. 20; Prochniak & Witkowski, 2012b, p. 23). The concepts of persistence and convergence have been clarified. Nevertheless, the validity of the whole estimated model is a requirement for the convergence and the

persistence to be established. Thus, four main information criteria are employed to assess the validity of the GMM[3].

*"Insert Table 1 to Table 3 here"*

In light of the information criterion discussed above, the following results can be established from Table 1, conditional persistence of inequality based on political governance show that inequality is persistent. Moreover, when time invariant variables are combined with political governance variables in the definition and conception of strict exogeneity, the following becomes apparent. First, the effect of financial depth and financial stability on the Gini is significantly negative while the effect of financial efficiency is positive. Significant control variables have the expected signs. Accordingly, inflation increases inequality (Easterly & Fischer, 2001) while remittances also have a positive effect on inequality because those migrating from Africa are predominantly from the higher income bracket (Anyanwu, 2011; Meniago & Asongu, 2018).

After contrasting and comparing results from political governance and economic governance in Table 2, we can notice that only the negative effect of financial depth and the positive effect of financial efficiency on inequality are apparent. Results from Table 3 on institutional governance are consistent with those of Tables 1 and 2.

In order to further assess the relevance of instrumental variables, the governance variables are complemented with years or time invariant variables in the definition of strictly exogenous variables. This approach which is consistent with Tchamyou (2020) and Tchamyou et al. (2019) is theoretically justified by Roodman (2009b) with the argument that, it is unlikely for years to become endogenous after first difference. Unfortunately, when governance is complemented with these new sets of instruments, results from the financial channels are consistently insignificant. For lack of space the results are available upon request.

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[3] "*First, the null hypothesis of the second-order Arellano and Bond autocorrelation test (AR (2)) in difference for the absence of autocorrelation in the residuals should not be rejected. Second the Sargan and Hansen over-identification restrictions (OIR) tests should not be significant because their null hypotheses are the positions that instruments are valid or not correlated with the error terms. In essence, while the Sargan OIR test is not robust but not weakened by instruments, the Hansen OIR is robust but weakened by instruments. In order to restrict identification or limit the proliferation of instruments, we have ensured that instruments are lower than the number of cross-sections in most specifications. Third, the Difference in Hansen Test (DHT) for exogeneity of instruments is also employed to assess the validity of results from the Hansen OIR test. Fourth, a Fisher test for the joint validity of estimated coefficients is also provided*" (Asongu & De Moor, 2017, p.200).

## 4.2 Further discussion of results

The results can be further discussed in three main strands, notably: (i) financial depth and financial stability as best channels for mitigating inequality; (ii) the significance of financial channels when policy instruments are exclusively governance variables and (iii) the comparative relevance of governance dynamics in the persistence of inequality. The strands are substantiated chronologically.

First, it is also apparent that financial depth and financial stability are the best financial development channels through which inequality can be reduced by governance instruments. This evidence is specifically apparent for estimations in which governance indicators are exclusively used as instruments (i.e. estimations without time effects). The non-significance of the financial dynamics of allocation efficiency may be traceable to substantially documented concerns of surplus liquidity in African banks (Saxegaard, 2006; Fouda, 2009; Asongu, 2014a, 2014a; Asongu *et al.*, 2016). Hence the financial allocation efficiency measures are not significant channels in mitigating inequality because mobilised deposits are not substantially transformed into credit for households and economic operators. This explanation also extends to the insignificance of financial activity. It is important to note that financial activity (or credit access) is the numerator of the financial allocation efficiency ratio (i.e. ratio of financial credit to financial deposits).

Conversely, financial depth incorporates an informal financial sector that is not captured by formal financial measurement of financial allocation efficiency and financial activity. This is essentially because a great chunk of the money base (captured by financial depth) does not circulate in the formal financial sector in African countries. Hence, it is logical that the development of the informal financial sector (which is captured by financial depth) reduces inequality. This tendency is even more apparent because the informal financial sector is more associated with the low income bracket of society.

Concerning, financial stability, it is an important financial channel in reducing income inequality because macroeconomic stability consolidates the financial sector and the positive economic outlook needed for investment, economic growth, employment and poverty reduction. The findings are consistent with those of Naceur and Zhang (2016). Instead of using Z-scores (as in the present study), Naceur and Zhang (2016) have measured financial stability with the volatility of stock price and regulatory capital to risk-weighted assets. Conversely, the result run counter to Meniago and Asongu (2018) who have used the Z-score

measurement of financial stability to establish that there is a positive effect of financial stability on all the measures of income inequality used in this study. An implication of this difference is that employing policy variables as exogenous instruments, as opposed to time invariant instruments, can lead to findings with more logical and robust implications for policy.

Second, the findings have also shown that the employment of financial development channels is significant exclusively when governance indicators are exclusively used as policy instruments. This finding is consistent with the elucidation of the findings of Meniago and Asongu (2018) in the previous paragraph. Even when the governance policy instruments are complemented with the time invariant variables, the considered financial development channels are not significant. An implication for scholarly research is that blanket instruments based on time invariant variables should be avoided as much as possible in the modelling exercise. While Roodman (2009b) has justified the use of such instruments by the fact that they cannot be endogenous after first different, their usage should be adopted in line with problem statements motivating a line of inquiry. For instance, the title of this study informs the reader a priori that governance dynamics will be used as strictly exogenous variables.

Third, this discussion will be incomplete without insights into the comparative relevance of governance dynamics in the persistence of inequality. Accordingly, the estimated lagged values of inequality are compared across conditional persistence specifications. The following results are apparent on the basis of this comparison. (i) For financial depth, the increasing relevance of persistence is as follows: political governance, economic governance and institutional governance. It implies that institutional governance is more responsible for persistence in inequality compared to political governance, when the financial depth is considered as a financial mechanism by which inequality can be reduced. It further implies that with the same of policy action in political governance and institutional governance, political governance will lead to less persistence in inequality when the financial depth is considered. (ii) When financial allocation efficiency is considered, the increasing relevance of persistence is as follows: political governance, institutional governance and economic governance. (iii) Within the framework of financial activity, the increasing relevance of persistence is as follows: institutional governance, political governance and economic governance. (iv) Concerning financial stability, the increasing relevance of persistence is as follows: economic governance, institutional governance and political governance.

## 5. Concluding remarks and recommendations

This paper has investigated policy instruments by which the persistence of inequality is affected through financial development channels in 48 African countries for the period 1996 – 2014. Financial dynamic channels of depth (money supply and liquid liabilities), efficiency (at banking and financial system levels), activity (from banking and financial system perspectives) and stability are used. Political ("voice and accountability" and political stability), economic (government effectiveness and regulation quality) and institutional (rule of law and corruption-control) governance policy instruments are also involved. The empirical evidence is based on the Generalised Method of Moments (GMM). The results show that financial depth and financial stability are the best channels of reducing inequality. Moreover, the relevance of these financial channels is significantly apparent when policy instruments are exclusively governance variables.

The results have been discussed in terms of: (i) financial depth and financial stability as best channels in mitigating inequality; (ii) the significance of financial channels when policy instruments are exclusively governance variables and (iii) the comparative relevance of governance dynamics in the persistence of inequality.

As a caveat to this study, the modelling of conditional persistence is contingent on the variables adopted in the conditioning information set on the one hand and the adopted policy instruments on the other hand. Hence, the reporting of the finance-inequality nexuses established in this study should be complemented with adopted governance policy instruments. Moreover, in order to articulate the relevance of the policy instruments as much as possible, only three control variables have been adopted in the conditioning information set, in addition to the engaged financial development channels. The adoption of few control variables is not uncommon in because Bruno et al. (2012) in the modelling of convergence have used only two control variables.

Future studies can improve these findings by using alternative empirical strategies to examine how the findings withstand empirical scrutiny within country-specific settings. While country-specific effects are eliminated in the GMM modelling approach because of endogeniety concerns, country-specific findings are nonetheless relevant for more targeted implications.

**Table 1: Conditional Persistence of Inequality based on Political Governance**

**Dependent variable: Gini Index**

| | Financial Depth | | Financial Efficiency | | Financial Activity | | Fin. Stability |
| | Money Supply | Liquid Liabilities | Banking sys. Efficiency | Financial sys. Efficiency | Banking sys. Activity | Financial sys. Activity | |
| | M2(llgdp) | Fdgdp | BcBd | FcFd | Pcrob | Pcrobof | Z-score |
|---|---|---|---|---|---|---|---|
| Constant | **0.084*** | **0.069*** | **0.070*** | **0.071*** | **0.056*** | **0.057*** | **0.041*** |
| | (0.000) | (0.000) | (0.058) | (0.038) | (0.010) | (0.012) | (0.076) |
| Gini(-1) | **0.859*** | **0.877*** | **0.865*** | **0.866*** | **0.888*** | **0.885*** | **0.907*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Money Supply | **-0.000*** | --- | --- | --- | --- | --- | --- |
| | (0.001) | | | | | | |
| Liquid Liabilities | --- | **-0.000*** | --- | --- | --- | --- | --- |
| | | (0.003) | | | | | |
| Banking Sys. Efficiency | --- | --- | **0.000** | --- | --- | --- | --- |
| | | | (0.045) | | | | |
| Financial Sys. Efficiency | --- | --- | --- | **0.008*** | --- | --- | --- |
| | | | | (0.083) | | | |
| Banking Sys. Activity | --- | --- | --- | --- | 0.000 | --- | --- |
| | | | | | (0.716) | | |
| Financial Sys. Activity | --- | --- | --- | --- | --- | 0.000 | --- |
| | | | | | | (0.538) | |
| Financial Stability | --- | --- | --- | --- | --- | --- | **-0.000*** |
| | | | | | | | (0.001) |
| Inflation | 0.000 | 0.000 | 0.000 | **0.000*** | -0.000 | 0.000 | -0.000 |
| | (0.545) | (0.695) | (0.652) | (0.067) | (0.773) | (0.930) | (0.646) |
| PSE | 0.002 | 0.005 | -0.000 | -0.001 | 0.009 | 0.010 | 0.016 |
| | (0.767) | (0.428) | (0.991) | (0.972) | (0.351) | (0.324) | (0.106) |
| Remittances | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **0.000** |
| | (0.562) | (0.623) | (0.414) | (0.454) | (0.547) | (0.390) | (0.028) |
| Time Effects | No | No | No | No | No | No | No |
| AR(1) | **(0.137)** | **(0.134)** | **(0.139)** | **(0.135)** | **(0.131)** | **(0.131)** | **(0.137)** |
| AR(2) | **(0.324)** | **(0.318)** | **(0.321)** | **(0.322)** | **(0.312)** | **(0.312)** | **(0.303)** |
| Sargan OIR | **(0.199)** | **(0.152)** | **(0.113)** | **(0.205)** | **(0.029)** | **(0.042)** | **(0.567)** |
| Hansen OIR | **(0.790)** | **(0.791)** | **(0.747)** | **(0.730)** | **(0.539)** | **(0.474)** | **(0.487)** |
| DHT for instruments (a) GMM Instruments for levels | | | | | | | |
| H excluding group | **(0.454)** | **(0.489)** | **(0.410)** | **(0.417)** | **(0.203)** | **(0.185)** | **(0.139)** |
| Dif(null, H=exogenous) | **(0.858)** | **(0.834)** | **(0.838)** | **(0.811)** | **(0.807)** | **(0.751)** | **(0.848)** |
| (b) gmm (lagged values) H excluding group Dif(null, H=exogenous) | --- | --- | --- | --- | --- | --- | --- |
| (c) IV (Gov, eq (diff)) | | | | | | | |
| H excluding group | **(0.675)** | **(0.663)** | **(0.632)** | **(0.627)** | **(0.398)** | **(0.332)** | **(0.517)** |
| Dif(null, H=exogenous) | **(0.894)** | **(0.967)** | **(0.845)** | **(0.776)** | **(0.925)** | **(0.961)** | **(0.305)** |
| Fisher | **1106.846*** | **1121.480*** | **1529.062*** | **1824.478*** | **1422.752*** | **1363.355*** | **1685.628*** |
| Instruments | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Countries | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| Observations | 584 | 584 | 586 | 584 | 584 | 584 | 542 |

***,**,*: significance levels at 1%, 5% and 10% respectively. DHT: Difference in Hansen Test for Exogeneity of Instruments Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients and the Wald statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) & AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests.

**Table 2: Conditional Persistence of Inequality based on Economic Governance**

**Dependent variable: Gini Index**

| | Financial Depth | | Financial Efficiency | | Financial Activity | | Fin. Stability |
|---|---|---|---|---|---|---|---|
| | Money Supply | Liquid Liabilities | Banking sys. Efficiency | Financial sys. Efficiency | Banking sys. Activity | Financial sys. Activity | |
| | M2(llgdp) | Fdgdp | BcBd | FcFd | Pcrob | Pcrobof | Z-score |
| Constant | **0.079***** | **0.065***** | **0.052** | **0.055*** | **0.058***** | **0.060***** | **0.085***** |
| | (0.000) | (0.002) | (0.108) | (0.064) | (0.002) | (0.001) | (0.000) |
| Gini(-1) | **0.864***** | **0.881***** | **0.891***** | **0.890***** | **0.889***** | **0.885***** | **0.860***** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Money Supply | **-0.000***** | --- | --- | --- | --- | --- | --- |
| | (0.010) | | | | | | |
| Liquid Liabilities | --- | **-0.000***** | --- | --- | --- | --- | --- |
| | | (0.010) | | | | | |
| Banking Sys. Efficiency | --- | --- | **0.000*** | --- | --- | --- | --- |
| | | | (0.059) | | | | |
| Financial Sys. Efficiency | --- | --- | --- | 0.007 | --- | --- | --- |
| | | | | (0.126) | | | |
| Banking Sys. Activity | --- | --- | --- | --- | 0.000 | --- | --- |
| | | | | | (0.713) | | |
| Financial Sys. Activity | --- | --- | --- | --- | --- | 0.000 | --- |
| | | | | | | (0.449) | |
| Financial Stability | --- | --- | --- | --- | --- | --- | -0.000 |
| | | | | | | | (0.129) |
| Inflation | 0.000 | 0.000 | 0.000 | 0.000 | -0.000 | -0.000 | -0.000 |
| | (0.450) | (0.701) | (0.873) | (0.142) | (0.665) | (0.998) | (0.743) |
| PSE | 0.004 | 0.007 | 0.004 | 0.004 | 0.006 | 0.006 | -0.004 |
| | (0.625) | (0.455) | (0.792) | (0.782) | (0.470) | (0.492) | (0.563) |
| Remittances | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **0.000***** |
| | (0.796) | (0.741) | (0.602) | (0.689) | (0.365) | (0.228) | (0.002) |
| Time Effects | No | No | No | No | No | No | No |
| AR(1) | **(0.137)** | **(0.136)** | **(0.137)** | **(0.134)** | **(0.134)** | **(0.134)** | **(0.138)** |
| AR(2) | **(0.321)** | **(0.317)** | **(0.312)** | **(0.314)** | **(0.315)** | **(0.317)** | **(0.333)** |
| Sargan OIR | **(0.264)** | **(0.206)** | **(0.188)** | **(0.287)** | **(0.046)** | **(0.064)** | **(0.577)** |
| Hansen OIR | **(0.756)** | **(0.773)** | **(0.682)** | **(0.699)** | **(0.432)** | **(0.367)** | **(0.167)** |
| DHT for instruments (a) GMM Instruments for levels | | | | | | | |
| H excluding group | **(0.582)** | **(0.632)** | **(0.195)** | **(0.245)** | **(0.224)** | **(0.231)** | **(0.161)** |
| Dif(null, H=exogenous) | **(0.716)** | **(0.702)** | **(0.950)** | **(0.922)** | **(0.629)** | **(0.522)** | **(0.283)** |
| (b) gmm (lagged values) H excluding group Dif(null, H=exogenous) | --- | --- | --- | --- | --- | --- | --- |
| (c) IV (Gov, eq (diff)) | | | | | | | |
| H excluding group | **(0.663)** | **(0.674)** | **(0.607)** | **(0.618)** | **(0.408)** | **(0.337)** | **(0.466)** |
| Dif(null, H=exogenous) | **(0.750)** | **(0.793)** | **(0.630)** | **(0.663)** | **(0.418)** | **(0.431)** | **(0.025)** |
| Fisher | **1254.131***** | **1348.404***** | **2386.707***** | **2353.359***** | **1612.582***** | **1542.262***** | **2034.971***** |
| Instruments | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Countries | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| Observations | 584 | 584 | 586 | 584 | 584 | 584 | 542 |

***,**,*: significance levels at 1%, 5% and 10% respectively. DHT: Difference in Hansen Test for Exogeneity of Instruments Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients and the Wald statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) & AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests.

**Table 3: Conditional Persistence of Inequality based on Institutional Governance**

**Dependent variable: Gini Index**

| | Financial Depth Money Supply | Liquid Liabilities | Financial Efficiency Banking sys. Efficiency | Financial sys. Efficiency | Financial Activity Banking sys. Activity | Financial sys. Activity | Fin. Stability |
|---|---|---|---|---|---|---|---|
| | M2(llgdp) | Fdgdp | BcBd | FcFd | Pcrob | Pcrobof | Z-score |
| Constant | **0.072***** | **0.061***** | **0.049*** | **0.057**** | **0.058***** | **0.061***** | **0.057**** |
| | (0.001) | (0.004) | (0.096) | (0.027) | (0.001) | (0.001) | (0.014) |
| Gini(-1) | **0.875***** | **0.888***** | **0.891***** | **0.887***** | **0.887***** | **0.882***** | **0.890***** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Money Supply | **-0.000***** | --- | --- | --- | --- | --- | --- |
| | (0.002) | | | | | | |
| Liquid Liabilities | --- | **-0.000***** | --- | --- | --- | --- | --- |
| | | (0.002) | | | | | |
| Banking Sys. Efficiency | --- | --- | **0.000**** | --- | --- | --- | --- |
| | | | (0.022) | | | | |
| Financial Sys. Efficiency | --- | --- | --- | 0.007 | --- | --- | --- |
| | | | | (0.102) | | | |
| Banking Sys. Activity | --- | --- | --- | --- | 0.000 | --- | --- |
| | | | | | (0.757) | | |
| Financial Sys. Activity | --- | --- | --- | --- | --- | 0.000 | --- |
| | | | | | | (0.508) | |
| Financial Stability | --- | --- | --- | --- | --- | --- | **-0.000***** |
| | | | | | | | (0.002) |
| Inflation | 0.000 | 0.000 | 0.000 | **0.000*** | -0.000 | 0.000 | 0.000 |
| | (0.487) | (0.579) | (0.850) | (0.096) | (0.891) | (0.696) | (0.955) |
| PSE | 0.004 | 0.007 | 0.006 | 0.003 | 0.008 | 0.007 | 0.009 |
| | (0.666) | (0.435) | (0.639) | (0.817) | (0.395) | (0.443) | (0.357) |
| Remittances | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **0.000***** |
| | (0.608) | (0.691) | (0.708) | (0.734) | (0.424) | (0.276) | (0.004) |
| Time Effects | No | No | No | No | No | No | No |
| AR(1) | **(0.136)** | **(0.135)** | **(0.139)** | **(0.138)** | **(0.137)** | **(0.137)** | **(0.142)** |
| AR(2) | **(0.320)** | **(0.315)** | **(0.314)** | **(0.321)** | **(0.319)** | **(0.321)** | **(0.318)** |
| Sargan OIR | **(0.278)** | **(0.219)** | **(0.198)** | **(0.299)** | (0.046) | (0.064) | **(0.633)** |
| Hansen OIR | **(0.763)** | **(0.802)** | **(0.460)** | **(0.599)** | **(0.501)** | **(0.415)** | **(0.486)** |
| DHT for instruments (a) GMM Instruments for levels | | | | | | | |
| H excluding group | **(0.321)** | **(0.327)** | **(0.063)** | **(0.097)** | **(0.251)** | **(0.241)** | **(0.169)** |
| Dif(null, H=exogenous) | **(0.921)** | **(0.950)** | **(0.966)** | **(0.985)** | **(0.690)** | **(0.580)** | **(0.794)** |
| (b) gmm (lagged values) H excluding group Dif(null, H=exogenous) | --- | --- | --- | --- | --- | --- | --- |
| (c) IV (Gov, eq (diff)) | | | | | | | |
| H excluding group | **(0.666)** | **(0.684)** | **(0.619)** | **(0.629)** | **(0.412)** | **(0.340)** | **(0.493)** |
| Dif(null, H=exogenous) | **(0.774)** | **(0.926)** | **(0.136)** | **(0.322)** | **(0.654)** | **(0.600)** | **(0.351)** |
| Fisher | **1463.158***** | **1624.396***** | **1435.383***** | **2009.117***** | **2869.878***** | **2481.708***** | **1844.928***** |
| Instruments | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Countries | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| Observations | 584 | 584 | 586 | 584 | 584 | 584 | 542 |

\***,\*\*,\*: significance levels at 1%, 5% and 10% respectively. DHT: Difference in Hansen Test for Exogeneity of Instruments Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients and the Wald statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) & AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests.

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## Appendices

### Appendix 1: Definitions and Sources of variables

| Variables | Signs | Definitions | Sources |
|---|---|---|---|
| Income Inequality | Gini Index | "*The Gini index is a measurement of the income distribution of a country's residents*". | GCIP |
| Economic Financial Depth | M2 | Money Supply (% of GDP) | World Bank (FDSD) |
| Financial System Depth | Fdgdp | Liquid Liabilities (% of GDP) | World Bank (FDSD) |
| Banking System Efficiency | BcBd | Bank credit on Bank deposits | World Bank (FDSD) |
| Financial System Efficiency | FcFd | Financial credit on Financial deposits | World Bank (FDSD) |
| Banking System Activity | Pcrb | Private domestic credit from deposit banks (% of GDP) | World Bank (FDSD) |
| Financial System Activity | Pcrbof | Private domestic credit from financial institutions (% of GDP) | World Bank (FDSD) |
| Financial Stability | Z-score | Prediction of the likelihood that a bank might survive and not go bankrupt. | World Bank (FDSD) |
| Corruption Control | CC | "*Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5*" | World Bank (WGI) |
| Rule of Law | RL | "*Rule of Law (estimate): Captures perceptions of the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, the courts, as well as the likelihood of crime and violence*". | World Bank (WGI) |
| Regulation Quality | RQ | "*Regulation Quality (estimate): Measured as the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development*". | World Bank (WGI) |
| Political Stability/ No Violence | PS | "*Political Stability/ No Violence (estimate): Measured as the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional and violent means, including domestic violence and terrorism*". | World Bank (WGI) |
| Government Effectiveness | GE | "*Government Effectiveness (estimate): Measures the quality of public services, the quality and degree of independence from political pressures of the civil service, the quality of policy formulation and implementation, and the credibility of governments' commitments to such policies*". | World Bank (WGI) |
| Voice and Accountability | VA | "*Voice and Accountability (estimate): Measures the extent to which a country's citizens are able to participate in selecting* | World Bank (WGI) |

|  |  | | | | | |
|---|---|---|---|---|---|---|
|  |  | *their government and to enjoy freedom of expression, freedom of association, and a free media*". | | | | |
| Primary School Enrolment | PSE | School enrolment, primary (gross), gender parity index (GPI) | World Bank (WDI) | | | |
| Inflation | Infl | Consumer Price Index (annual %) | World Bank (WDI) | | | |
| Remittances | Remit | Remittance inflows to GDP (%) | World Bank (WDI) | | | |

WDI: World Bank Development Indicators. WGI: World Bank Governance Indicators. FDSD: Financial Development and Structure Database. GCIP: Global Consumption and Income Project.

## Appendix 2: Descriptive statistics and Presentation of Countries

### Panel A: Summary statistics

|  | Variables | Mean | S.D. | Min. | Max. | Obs. |
|---|---|---|---|---|---|---|
| Income Inequality | Gini Index | 0.588 | 0.041 | 0.488 | 0.868 | 911 |
| Financial Development | Economic Financial Depth (M2) | 32.680 | 21.779 | 4.129 | 108.899 | 861 |
|  | Financial System Depth (Fdgdp) | 26.272 | 20.610 | 1.691 | 97.823 | 862 |
|  | Banking System Efficiency (BcBd) | 71.340 | 29.189 | 13.754 | 186.716 | 876 |
|  | Financial System Efficiency (FcFd) | 0.756 | 0.391 | 0.138 | 2.607 | 862 |
|  | Banking System Activity (Pcrb) | 18.829 | 17.630 | 0.551 | 102.536 | 862 |
|  | Financial System Activity (Pcrbof) | 20.707 | 23.575 | 0.551 | 150.210 | 862 |
|  | Financial Stability (Z-score) | 10.474 | 8.434 | -12.025 | 89.932 | 782 |
| Governance | Corruption Control | -0.554 | 0.568 | -2.057 | 1.250 | 767 |
|  | Rule of Law | -0.632 | 0.624 | -2.230 | 1.057 | 768 |
|  | Regulatory Quality | -0.585 | 0.541 | -2.413 | 1.123 | 768 |
|  | Political Stability | -0.512 | 0.905 | -2.989 | 1.189 | 768 |
|  | Government Effectiveness | -0.659 | 0.599 | -1.982 | 1.036 | 767 |
|  | Voice and Accountability | -0.568 | 0.674 | -1.883 | 1.025 | 768 |
| Control variables | Inflation | 15.819 | 144.139 | -35.837 | 4145.107 | 873 |
|  | Remittances | 4.011 | 7.248 | 0.000 | 61.988 | 773 |
|  | Primary School Enrolment | 0.901 | 0.114 | 0.497 | 1.139 | 754 |

### Panel B: Presentation of countries

Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Central African Republic, Comoros, Congo Democratic Republic, Congo Republic, Côte d'Ivoire, Djibouti, Egypt, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Rwanda, Sao Tomé & Principe, Seychelles, South Africa, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia.

M2: Money Supply. Fdgdp: Financial deposits (liquid liabilities). BcBd: Bank credit on Bank deposits. FcFd: Financial credit on Financial deposits. Pcrb: Private domestic credit from deposit banks. Pcrbof: Private domestic credit from deposit banks and other financial institutions. Z-score: Probability of the Bank not to go bankrupt. S.D: Standard Deviation. Min: Minimum. Max: Maximum. Obs.: Observations.

# Appendix 3: Correlation matrix

| | Governance-Policy Instruments | | | | | | Financial Development Mechanisms | | | | | | | Control Variables | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | | | | Financial Depth | | Financial Efficiency | | Financial Activity | | Financial Stability | | | | |
| Gini-Inc | CC | RL | RQ | PS | GE | VA | M2 | Fdgdp | BcBd | FcFd | Prcb | Pcrbof | Z-score | Remit. | Infl. | PSE | |
| 1.000 | 0.260 | 0.160 | 0.262 | 0.252 | 0.173 | 0.234 | -0.230 | -0.205 | 0.104 | 0.089 | -0.103 | -0.082 | 0.022 | 0.105 | -0.019 | 0.109 | Gini-Inc |
| | 1.000 | 0.863 | 0.764 | 0.703 | 0.846 | 0.688 | 0.417 | 0.439 | -0.020 | -0.068 | 0.386 | 0.255 | 0.168 | 0.085 | -0.073 | 0.445 | CC |
| | | 1.000 | 0.841 | 0.777 | 0.891 | 0.749 | 0.479 | 0.505 | -0.041 | -0.098 | 0.435 | 0.286 | 0.197 | 0.096 | -0.094 | 0.525 | RL |
| | | | 1.000 | 0.644 | 0.869 | 0.666 | 0.373 | 0.402 | 0.065 | -0.027 | 0.389 | 0.244 | 0.175 | -0.065 | -0.102 | 0.445 | RQ |
| | | | | 1.000 | 0.650 | 0.704 | 0.271 | 0.303 | -0.027 | -0.043 | 0.275 | 0.200 | 0.045 | 0.100 | -0.104 | 0.357 | PS |
| | | | | | 1.000 | 0.673 | 0.415 | 0.432 | -0.026 | -0.106 | 0.398 | 0.243 | 0.221 | -0.021 | -0.040 | 0.495 | GE |
| | | | | | | 1.000 | 0.244 | 0.286 | 0.023 | 0.004 | 0.288 | 0.221 | 0.045 | 0.094 | -0.085 | 0.352 | VA |
| | | | | | | | 1.000 | 0.976 | 0.003 | 0.041 | 0.779 | 0.630 | 0.487 | 0.105 | -0.061 | 0.231 | M2 |
| | | | | | | | | 1.000 | 0.016 | 0.104 | 0.832 | 0.722 | 0.469 | 0.093 | -0.058 | 0.289 | Fdgdp |
| | | | | | | | | | 1.000 | 0.898 | 0.440 | 0.444 | 0.268 | -0.135 | -0.087 | -0.212 | BcBd |
| | | | | | | | | | | 1.000 | 0.512 | 0.656 | 0.283 | -0.149 | -0.069 | -0.190 | FcFd |
| | | | | | | | | | | | 1.000 | 0.927 | 0.518 | 0.008 | -0.057 | 0.242 | Prcb |
| | | | | | | | | | | | | 1.000 | 0.459 | -0.034 | -0.045 | 0.213 | Pcrbof |
| | | | | | | | | | | | | | 1.000 | -0.035 | -0.047 | 0.024 | Z-score |
| | | | | | | | | | | | | | | 1.000 | -0.023 | 0.221 | Remit. |
| | | | | | | | | | | | | | | | 1.000 | 0.046 | Infl. |
| | | | | | | | | | | | | | | | | 1.000 | PSE |

Gini-Inc: Gini of Income Inequality. CC: Corruption Control. RL: Rule of Law. RQ: Regulatory Quality. PS: Political Stability. GE: Government Effectiveness. VA: Voice & Accountability. M2: Money Supply. Fdgdp: Financial deposits (liquid liabilities). BcBd: Bank credit on Bank deposits. FcFd: Financial credit on Financial deposits. Prcb: Private domestic credit from deposit banks. Pcrbof: Private domestic credit from deposit banks and other financial institutions. Z-score: Probability of the Bank not to go bankrupt. PSE: Primary School Enrolment. Remit.: Remittances. Infl.: Inflation.