

Institutional Factors and Financial Inclusion in West Africa

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Abstract

Using data from the World Bank Global Findex database and World Governance Index (WGI) this paper examines the impact of institutional factors on financial inclusion in the West African region. With the aid of panel data regression, the results show that political stability and absence of violence is the institutional factor that significantly influences financial inclusion in the region. These results hold up the argument for West African countries to birth policies and institutions that deliberately enhance financial inclusion. The study suggests that existing levels of Regulatory quality, Control of corruption, Voice and accountability, Rule of law and Effectiveness of Governance fail to impact financial inclusion within the region. It is recommended that policy makers in the West African sub region not only intentionally enact tailored financial inclusion policies but also monitor the implementation to ensure impact on financial inclusion for the excluded or underserved.

Keywords:

Financial Inclusion;
Institutional factors;
Panel data
regression

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Background to the Study

In recent years, financial inclusion has been of growing interest to global leaders and policy makers due to its role in social and economic development. Financial inclusion which can loosely be described as access and use of formal financial services decreases income inequality, smoothens consumption, increases the number of business owners and increases average income especially among the poorest members of society (Beck, Demirgüç-Kunt and Levin, 2007; Bruhn and Love, 2014; Cicchiello, Kazemikhasragh, Monferrá and Girón, 2021; Dupas and Robinson, 2013).

Over the last two decades' world leaders have adopted policies aimed at enhancing financial inclusion in their clime while researchers have sought to understand, measure and identify factors which promote the concept. Extant literature indicates that factors such as level of income, education, financial literacy, gender (Chu Khanh, Nguyen, and Truong, 2019; Fungáčová and Weill, 2014; Sarma and Pais, 2011) access and proximity to bank branches, costs and documentation (Allen, Demirguc-Kunt, Klapper, Maria and Martinez, 2016), telephony (Chinoda and Kwenda, 2019) and rule of law (Park and Mercado, 2015) are associated with financial inclusion. Others yet point to an interaction between social and demographic factors as enablers of financial inclusion (Kabakova and Plaksenkov, 2018).

Globally, measures by the academia and policy makers have promoted inclusive finance however; the progress across regions remains uneven. World bank data in 2017 indicate that only a little over 40% of Africans have an account thus making it home to most of the 1.7 billion people still excluded from financial services world-wide (Demirguc-Kunt, Klapper, Singer, Ansar and Hess, 2018). This pales in comparison to the 90% average achieved by high-income countries and average of 70% in continents like Europe and Asia. Although Sub-Saharan Africa adopted financial technology compared to other regions, statistics show that the West African sub-region still lags behind with only about 23% of adults in West Africa having formal accounts (Soumaré, Tchana and Kengne, 2016). The situation has not changed much as data from the region following the recent Covid-19 crises which generally made mobile money more attractive still shows that only one in every four West African adults has a mobile money account (Barajas, Beck, Belhaj and Naceur, 2020). It becomes quite worrisome when we compare the mobile account penetration rate of East African countries like Kenya (72.9%) with that of West African countries such as Ghana's 38.9% or Nigeria's 5.6% (Demirguc-Kunt et al., 2018).

So, what factors could be responsible for such differentials even within Sub-Saharan African countries? In emerging but sparse financial inclusion literature from the region, socio-economic factors such as level of income, literacy level, age, gender, distance to financial institutions and urbanization, lack of documentation, trust in formal financial institutions have been identified as factors influencing financial inclusion in West Africa (Akudugu, 2013; Soumaré et al., 2016). Other literature emanating from countries within the region also find that secondary school education (Ozili, 2020), GDP, credit, broad money and internet use (Okoroafor, Adeniji and Awe, 2018) are all significant determinants of financial inclusion in some West African economies.

Recent studies indicate that institutions play an all-important role in economic development (Muriu, 2020) however, a review of extant literature on financial inclusion in the West African sub-region show that not much has been done to investigate the relationship between institutional factors and financial inclusion within the sub-region. This leaves much to be desired especially as available research indicates that the quality of institutions in developing regions like West Africa is responsible for the poor level of national development (Nganje, 2015).

This study is motivated to fill this gap by examining the relationship between institutional factors and financial inclusion in West Africa. This would be achieved by investigating to what extent institutional factors such as Regulatory quality, Control of corruption, Political stability and absence of violence, Voice and accountability, Rule of law and Government effectiveness influence financial inclusion in West Africa. This study would contribute to the emerging body of knowledge on the impact of institutional factors on financial inclusion while providing policy makers and other stakeholders reliable information that would help drive inclusive finance in West Africa. The rest of the study is organised as follows. Section 2 would cover the literature review, section 3 is dedicated to methodology and model specification while section 4 would show results, discuss findings and make recommendations.

Literature Review

Conceptual review of financial inclusion

This section examines the concept of financial inclusion, the theory underpinning the study and provides an overview of the related literature. Heightened interests in the concept have thrown up numerous definitions. The World bank summarily defines financial inclusion as the proportion of individuals and firms that use financial services (World Bank, 2014). Broadly speaking, the Central Bank of Nigeria holds that financial inclusion means having access to a broad range of formal financial services that meet the needs of the users at an affordable cost (Central Bank of Nigeria, 2018). Additionally, a popular definition opines that Financial inclusion is ensuring not just access but ease of access, availability and usage of the formal financial system for every economic agent of the economy to enable them save, make payments and access credit and insurance (Sarma and Pais, 2011). A review of these definitions highlights several terms such as: a wide range of products; not limited to payments, savings, credit, insurance and pension products as well as the three dimensions of financial inclusion; access, use and quality as seen in literature (Triki and Faye, 2013). This study conceptualized financial inclusion as the proportion of individuals who have easy access to formal financial services, such as payments, savings, credit, insurance and pensions at an affordable cost.

The growth of financial inclusion in West Africa

In May 1975, West African countries established the Economic Community of West African States (ECOWAS) to facilitate regional trade and transactions across the border of member countries (Zagaris, 1978). In 1993 the sixteen members of ECOWAS revised its

treaty creating associated institutions which include two monetary zones. The West African Economic and Monetary Union (WAEMU) and the West African Monetary Zone (WAMZ).

Eight French speaking countries, Benin, Burkina Faso, Cote d'Ivoire, Mali, Niger, Senegal, Togo and Guinea-Bissau are members of WAEMU while WAMZ is made up of mainly English-speaking countries; The Gambia, Ghana, Nigeria, Sierra Leone, Guinea and Liberia. Cabo Verde is free to join whichever monetary union it deems fit (Bah, 2017). Although aimed at fostering integration and single currency across West Africa, these monetary bodies have been part of the institutions enabling financial inclusion across the region.

The BCEAO is the central bank for the eight member countries of WAEMU. These countries share one Central bank, one currency (CFA) and one monetary policy. In 2016 the BCEAO developed a regional strategy for financial inclusion aimed at promoting access of financial services to its vulnerable population. It set a 5-year time frame (2016-2020) to achieve its target of 75 % financial inclusion in the region. Its strategies included enhanced supervision across legal and regulatory frameworks especially with regards to mobile banking, strengthening the micro finance sector, supporting innovations that engender inclusion for particularly vulnerable groups like women, the rural poor and youth, promoting financial education and customer protection services as well as actively supporting policies that promote financial inclusion (BCEAO, 2017; Gourène and Mendy, 2017).

According to the IMF, BCEAO's focus on Micro finance, e-banking and bank services has noticeably improved access to basic financial services for underserved populations. For instance, the number of e-money transactions and volumes increased significantly and bank accounts ownership grew from 13 to 15% of the adult population in the region (IMF, 2022). However, despite these inroads for financial inclusion in WAEMU, inclusivity is still quite low in the region.

The situation in the WAMZ is not very exciting either. In addition to a lack of cohesive policy framework, WAMZ members face a couple of challenges when it comes to enabling financial inclusion in the region. The financial systems of many member states are unsophisticated and small in comparison with their Gross Domestic Product (GDP). It is dominated by the banking sector, which accounts for over 75 percent of total financial sector assets in the Zone. Foreign banks and local banks have cross-border presence within the Zone. The presence of these numerous foreign and strong indigenous banks ought to encourage competition; leading to a reduction in the cost of funds, increased branch network, better and cheaper access to credit, enhancements in alternative banking outlets and consequently improved financial inclusion in the zone. Sadly, even with the numerous reforms, interest rates indicate that the cost of borrowing is still high with minimal convergence of rates across the zone. This has far reaching implications for access to and affordability of credit in the Region (WAMI, 2016).

Non-bank financial institutions such as microfinance institutions, insurance companies, finance houses and collective investment schemes among others have remained small players in the financial sector. Additionally, the development of securities markets which should attract institutional investors and bridge infrastructure financing gaps varies greatly among member States. For instance, only Ghana and Nigeria have vibrant stock exchanges. The Gambia, Guinea and Liberia do not have stock markets while Sierra Leone Stock Exchange has less than 5 companies listed since 2007 when it commenced operations. Again, while pension and insurance sectors are steadily emerging and making remarkable strides in other climes including some African nations, pension and insurance penetration remain very low (less than 2 percent) for member states of the sub region. (Olawejaju and Msomi, 2021; WAMI, 2016).

In pursuit of a cohesive policy, the governments of WAMZ created the West African Monetary Institute (WAMI), to facilitate the creation of the West African Central Bank (WACB) and the introduction of a common currency for the region. It also sought and secured a grant in 2008 from the African Development Fund (ADF) towards the development of the payment systems in The Gambia, Guinea, Sierra Leone and Liberia (African Development Fund [ADF], 2010). This was to ensure that the payment systems across the zone could be integrated. In spite of these strides, levels of formal financial Services within the zone remain low in comparison with other countries in sub-Saharan Africa. Furthermore, WAMZ's rural population which are mainly into agriculture and small and medium scale enterprises still have constraints accessing financial services (WAMI, 2016).

Concept of Institutional Factors

Institutional factors could be individual habits, routines, customs, traditions, social norms and values which guide interpersonal relationships or more formal rules, laws or constitutions that shape a society (Decuir-Viruez, 2003; North, 1991). Extant literature on developing economies have considered institutional factors to include level of corruption, political stability, regulatory and enforcement institutions and availability of reliable information (Demetriades and Fielding, 2009; Toroyan and Anayiotos, 2009), overall quality of governance, enforcement of legal rights for creditors, quality of accounting and political stability, property rights (Djankov, McLiesh and Shleifer 2007; Roe and Siegel, 2011).

In explaining the role of institutional factors, (Goldstein & Turner, 2004) noted that government policies create strong institutions which would enforce and sustain good macroeconomic policies and engender confidence in the economy while weaker structures would produce the opposite effect and distort private sector decisions to lend to government or businesses. For the purpose of this study, institutional factors are conceptualized as regulatory quality, rule of law, voice and accountability, political stability, government effectiveness and control of corruption. The measurements of Institutional factors adopted in this work; as well as their definitions are all from Kaufmann, Kraay and Mastruzzi (2011)'s study on World Governance Index.

The definitions of these concepts would help give context to the empirical results.

- a. Regulatory quality measures the ability of the government to develop and execute strategies targeted at private sector development. This is achieved via sound institutions with ensure conformity with government's policies.
- b. Control of corruption measures the extent to which those in authority manipulate public power and resources for the benefit of themselves and those connected to them.
- c. Voice and accountability measures lack of coercion among the citizens as they express their preferences. This covers formal channels such as freedom of the media or an individual's freedom of expression, association and participation in selecting those in governance.
- d. Political stability and absence of Violence like the name suggests, measures the likelihood that the government will be undermined or taken over by unlawful or violent means. This may include political violence and terrorism.
- e. Rule of Law is perhaps one of the most critical part of this index as it measures the extent to which stakeholders believe in and obey the rules of society. It measures in particular contract enforcement by law enforcement agencies. This has far reaching implications for level of crime and violence within the society.
- f. Government Effectiveness measures the strength of the public and civil service as well as their autonomy from political influences.

Theoretical Framework

Institutional theory was originally propounded by Meyer and Rowan (1977) where they stated that organizations were organisms that adapted to the formal structures around them (Tolbert and Zucker, 1999). One major proponent of the institutional theory defines institutions as human constraints that provide guidance for political, economic and social interaction. He explained that there are informal constraints and formal rules (constitutions, laws, property rights) crafted by human beings to create order (North, 1991). This implies that institutions exert influence within a society via these formal rules and organizations conform to these rules in a bid for legitimacy (DiMaggio and Powell, 1983).

Financial inclusion doesn't occur in a vacuum. The access to finance, quality of financial services, and how they are accessed and used are all determined within the institutional and infrastructural context available. An increasing number of studies confirm that access to formal financial services and harnessing its attendant benefits are based on factors such as the quality of regulation, government effectiveness and rule of law within the supervisory framework that guides that society. (Ajide, 2017; Beck, Demirguc-Kunt, Levine and Maksimovic 2000; Huang, 2010; Mehrotra and Yetman, 2015; Park and Mercado, 2015). Prior studies have also identified that financial inclusion and development is influenced by other institutional factors such as voice and accountability, control of corruption and absence of violence (Mouselli, Aljazaerli and Sirop, 2016; Triki

and Faye, 2013). This gives credence to the argument that institutional factors could determine the levels of financial inclusion within a society.

Empirical Review and Hypothesis Development

Regulatory Quality and financial Inclusion

Extant literature on the relationship between institutional factors and financial inclusion are few thus this section will also review literature on the relationship between institutional factors and various phenomena related to financial inclusion. For instance, La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997), investigated how institutional factors such as legal rules and their enforcement may determine levels of external finance. They argued that the large differences in the size of capital markets of countries; even when such countries are equally wealthy can be attributed to factors such as enforcement of investor protection. Using Ordinary Least square to analyse archival data from a sample of 49 countries, the study establishes a relationship between weaker investor's protection measured by legal rules, quality of their enforcement and less developed capital market in the countries examined. These results hold true for both debt and equity markets.

Still on policies and their enforcement, Agyemang, Gatsi and Ansong (2018) scrutinised the relationship between institutional structures and level of financial markets development in Africa. With data from 40 economies and the aid of a 2 step GMM estimator the study finds that the presence of stronger institutional structures enhances both the ease of access to loans and availability of venture capital. These two variables served as proxies for financial market development in this study, making it quite relevant to financial inclusion. It is also a unique addition to existing literature as many studies use stock market or banking variables when measuring financial market development. The results from Ghura, Kpodar and Singh, (2009), a study focused on financial development in CFA franc zone also show similar results.

Since there are empirical findings establishing a relationship between regulatory quality and financial deepening, a similar relationship is expected between regulatory quality and financial inclusion. However, a more recent study, (Muriu, 2020), which tried to identify the institutional characteristics which determine ownership of accounts, failed to establish a relationship between regulatory quality and financial inclusion. We therefore hypothesize that:

H1: There is a positive relationship between Regulatory quality and financial inclusion.

Control of Corruption and Financial Inclusion

Mouselli et al. (2016) examined the relationship between corruption and stock market development using data from the Corruption Perception Index (CPI) and British Petroleum Statistical Review (2014) on six members of the Gulf Corporation. Data was analysed with the aid of OLS regressions and the study found that corruption has a

positive impact on stock market development as it greases the wheels of the economy. The results however varied from a priori expectations. This may be because the sample size of six members of the Gulf Cooperation Council (GCC) may be small to draw generalized conclusions about corruption and stock market development. However, the results from both Adams and Klobodu (2016) and Ajide (2017) confirmed that control of corruption reduced income inequality and positively influenced number of bank branches (a proxy for financial inclusion) respectively. Thus, we hypothesise:

H2: There is a positive relationship between Control of Corruption and Financial Inclusion.

Political Stability and absence of violence and financial Inclusion

In its seminal work on financial inclusion in Africa, Triki & Faye (2013), stated that poverty rates are higher in countries that experience cycles of violence. They also maintain that such fragile communities experience low financial sector development and limited financial inclusion. With panel data techniques and data from Global index, Eldomiaty et al., (2020) confirms this position. They state that several measures of governance including political stability have a positive and significant effect on the four measures of financial inclusion used in their study.

Although Muriu, (2020), failed to establish a relationship between political stability and financial inclusion, the results from Aaberge, Liu and Zhu, (2017) brought an unexpected contribution to the discuss. In their study of household savings in Beijing, they found a temporary increase in savings among urban households during political instability. We therefore hypothesize.

H3: There is a positive relationship between Political stability and absence of violence and Financial Inclusion.

Voice and accountability and financial Inclusion

In a study of emerging and developing economies between 1970-2014, Williams (2019) established that democratic institutions reduce the diminishing effect of credit market deepening on economic growth. Other studies on the relationship between voice and accountability and financial inclusion show divergent views. For instance, while Eldomiaty, Hammam & El Bakry, (2020) confirm that voice and accountability positively and significantly influence financial inclusion across the four proxies used in the study, Ajide, (2017) states that voice and accountability negatively influenced financial inclusion. The proxy used was ATM per 100,000 adults. Thus, we hypothesize that:

H4: There is a positive relationship between Voice and Accountability and Financial Inclusion

Rule of Law and financial Inclusion

Park and Mercado's (2015) study on developing Asian economies sought to identify

country specific factors affecting the degree of financial inclusion for 37 Asian economies. Results of the regression models applied on archival data show that rule of law, particularly enforcement of financial contracts and financial regulatory oversight broaden financial inclusion. This is in tandem with Muriu (2020). We therefore hypothesize that:

H5: There is a positive relationship between Rule of Law and Financial Inclusion

Government Effectiveness and financial Inclusion

Another well cited paper Chinn and Ito (2006), looked into the relationship between capital control, institutions, and financial development, with particular focus on equity markets. The study, with the aid of 2 step least square method, analysed panel data for 108 countries drawn from World Bank and IMF over a 30-year period (1970-2000). It reported that higher levels of financial openness spur equity market development only if the legal systems and institutions operate at a certain level of efficiency. Interestingly, the results also show that finance-related legal/institutional variables do not enhance the effect of capital account opening as strongly as the general legal/institutional variables. Results from Eldomiaty et al., (2020) also agree that government effectiveness is a determinant of financial inclusion in their study of world economies. We therefore hypothesize that:

H6: There is a positive relationship between Government effectiveness and Financial Inclusion

Research Method

This section defines the empirical examinations to determine the impact of institutional factors on the levels of inclusive finance in the West African sub-region. It presents the data and methodology adopted for the study. The research design is quantitative. The population of the study is the 16 countries in West Africa however the sample size is restricted to the 11 countries whose data are available on Global index for the years 2011 - 2021.

Data

The Data is sourced from the Global index database and the Worldwide Governance Indicators (WGI). Data for financial inclusion is extracted from the Global Index for 2011, 2014, 2017 and 2021. Averages are drawn from respondents to the database for persons who own an account, save or borrow from a financial institution.

Data from the Worldwide Governance Indicators (WGI) database is used to measure the proxies for institutional factors. The range of measure is from -2.5 to +2.5 and the higher the score, the better the governance for the period reviewed. There are six aggregate indicators and they are based on 30 underlying data sources reporting the perceptions of governance of a large number of survey respondents and expert assessments worldwide (Kaufmann et al., 2011). The six indices are Regulatory Quality, Rule of Law, Control of Corruption, Voice and Accountability, Political Stability and Governance Effectiveness.

The eleven countries (11) countries that make up the sample as well as the eleven-year period covered (2011- 2021) is based on availability of data.

Tests of Assumption

Several pre-analysis tests were done to ensure that the results are reliable. Skewness & kurtosis as well as multicollinearity tests were used to ensure that data is normal and there were no redundant variables. Panel regression was employed for data analysis.

Normality

Parametric statistics assume that the sample from which the data is drawn has a normal distribution, without substantial outliers, highly skewed or highly kurtotic variables (Osborne & Waters, 2002). Normality tests can be done using either graphical or statistical approach.

Fig1.

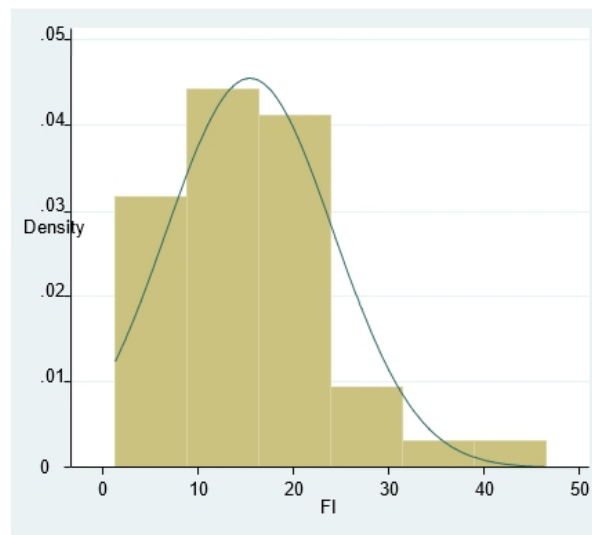


Table 1: Statistical Schedule for normality

RESULTS	
Sample	2011 - 2021
Observations	41
Skewness	0.9125
Kurtosis	0.1270
Probability (Chi(2))	0.2871

Source: Author's computation using Stata 14

In this study we used the numeric approach because of its power of point estimate. The results of the Skewness and Kurtosis tests are presented in table 1. The rule of thumb is

that if the P-value of the Chi2 is greater than the level of significance (0.05), accept that the data is normal; otherwise, data is not normally distributed. For this study, the p-value of the skewness and kurtosis test is 0.2871, which is higher than .05 significant level, therefore it is normally distributed and suitable for Panel regression analysis.

George & Mallery (2010) suggest that when the values of skewness and kurtosis are within the range of ± 2 then it can be concluded that the data came from a population with normal distribution. Looking at Table 1, the values of skewness and kurtosis are within the stated range thus reconfirming that no significant departure from normality was found.

Multicollinearity

To test for multicollinearity, the Variance Inflation Factor as well as its reciprocal (Tolerance) are computed. The Variance inflation Factor (VIF) formula is given as:

$$VIF_k = \frac{1}{1 - R_k^2}$$

R_k^2 = the squared multiple correlation for predicting the k th predictor from all other predictors (Gujarati & Porter, 2009).

Table 2: Multicollinearity Results

Variable	VIF	1/VIF
RL	5.42	0.2
GE	4.57	0.2
CC	4.26	0.2
RQ	3.90	0.3
VA	2.69	0.4
PS	1.59	0.6
Mean VIF	3.74	

Although there is no set rule of thumb on numerical values to compare the VIF, it is generally accepted that if any VIF exceeds 10, there is reason for at least some concern and that tolerance values should not be less than 0.10 (Akinwande, Dikko & Agboola, 2015; Gujarati & Porter, 2009). Table 3 shows the result of the multicollinearity and it indicates that there is no multicollinearity among the independent variables. VIF value is below 10 and Tolerance values are all above 0.1

Model Estimation

The model is formulated as follows:

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$$FI_{it} = \beta_0 + \beta_1 RQ_{it} + \beta_2 CC_{it} + \beta_3 PS_{it} + \beta_4 VA_{it} + \beta_5 RL_{it} + \beta_6 GE_{it} + v_i + u_t + w_{it}$$

Where:

- FI_{it} = Financial Inclusion of country i at time t
- RQ_{it} = Regulatory quality of country i at time t
- CC_{it} = Control of corruption of country i at time t
- PS_{it} = Political stability and absence of violence of country i at time t
- VA_{it} = Voice and Accountability of country i at time t
- RL_{it} = Rule of Law of country i at time t
- GE_{it} = Government effectiveness of country i at time t
- β_{0r} = constant terms
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9,$ and β_{10} = coefficients of independent variables
- v_i = error term for country
- u_t = error term for time
- w_{it} = composite error term
- $i = (1, 2, \dots, 11)$
- $t = (2011, 2012, \dots, 2021)$

Results

This section estimated the relationship between Institutional Factors and Financial Inclusion

$$FI_{it} = \beta_0 + \beta_1 RQ_{it} + \beta_2 CC_{it} + \beta_3 PS_{it} + \beta_4 VA_{it} + \beta_5 RL_{it} + \beta_6 GE_{it} + v_i + u_t + w_{it}$$

Table 3: Results of Pooled, Fixed and Random Regression Estimates
Dependent variable: FI_{it}

Note: * ** *** show significance at 1%, 5% and 10% respectively

	Expected Sign	Panel A Pooled coefficient	P-value	Panel B Fixed coefficient	P-value	Panel C Random coefficient	P-value
RQ_{it}	+	-7.29	0.395	-15.59	0.070	-11.06	0.122
CC_{it}	+	-0.86	0.902	2.45	0.719	4.11	0.514
PS_{it}	+	-3.88	0.056	-8.48	0.009**	-5.65	0.009**
VA_{it}	+	4.63	0.289	8.97	0.126	6.62	0.148
RL_{it}	+	2.49	0.781	-9.74	0.290	-3.67	0.660
GE_{it}	+	8.43	0.230	12.86	0.092	10.34	0.128
CONSTANT		16.20	0.000	7.29	0.205	13.78	0.000
R^2		0.1821		0.0718		0.1568	
N		41		41		41	
F^*		1.26	0.3008	3.51	0.0123	17.65	0.0072
Breusch and Pagan Lagrangian			9.08	P-Value (0.0013)			

The Breusch and Pagan Lagrangian Multiplier test indicated that a panel effect exists in the models ($p=0.0013$). Further analysis, specifically the Hausman test was therefore required to decide between the random and fixed effect models. The Hausman

specification test in the table showed that the random effect model is a better estimator than the fixed effect model with a chi square value of 1.29 and a p-value (0.9722). This is higher than the 0.05 significance level. The result of the random effect is therefore adopted for testing of the formulated hypotheses.

The random effect estimates indicate that the R^2 is 15.68 % meaning that a 15.68% change in the dependent variable; financial inclusion (FI) is caused by the combined changes or influences of the independent variables. Overall, the institutional factors are not good determinants of financial inclusion in West Africa. The results indicate that the only Institutional factor that matters for financial inclusion is Political stability and Absence of violence (PS) ($t=-2.60, P=.009$).

The regression was testing six hypotheses which are restated below:

- a. **H1:** There is a positive relationship between Regulatory quality and financial inclusion in West Africa. Regulatory quality is negatively related to financial inclusion. The results show that the relationship is negative but statistically insignificant ($\beta = -11.06, t=-1.55, p> 0.05$). Therefore, the hypothesis is not supported. This means that existing levels of Regulatory quality do not matter for financial inclusion in West Africa.
- b. **H2:** There is a positive relationship between Control of corruption and financial inclusion in West Africa. The results indicate that the relationship between Control of corruption and financial inclusion is positive but statistically insignificant ($\beta=-4.113293, t=0.65, p> 0.05$). The hypothesis is therefore not supported thus control of corruption has no significant influence on financial inclusion.
- c. **H3:** There is a positive relationship between Political stability and absence of violence and financial inclusion in West Africa. Political stability is negatively related to financial inclusion thus the hypothesis is not supported. The results indicate that the relationship is negative and statistically significant ($\beta= -5.64933, t=-2.6, p <0.05$). This suggests that Political stability and violence matters for financial inclusion in West Africa.
- d. **H4:** There is a positive relationship between Voice and accountability and financial inclusion in West Africa. Voice and accountability is positively related to financial inclusion however the results show that the relationship is positive but statistically insignificant ($\beta = 6.6214, t=1.45, p>0.05$) thus the hypothesis is not supported. This indicates that an increase in levels of voice and accountability does not significantly influence financial inclusion in West Africa.
- e. **H5:** There is a positive relationship between Rule of Law and financial inclusion in West Africa. The relationship between Rule of Law and financial inclusion is negative but statistically insignificant ($\beta = -3.6723, t=-0.44, p> 0.05$). Our hypothesis is not supported. This indicates that an increase in Rule of law does not matter for financial inclusion in West Africa.
- f. **H6:** There is a positive relationship between Government effectiveness and

financial inclusion in West Africa. Government effectiveness is positively related to financial inclusion but statistically insignificant ($\beta = 10.34005$, $t=1.52$, $p > 0.05$). This does not support the hypothesis; thus, we accept that Government effectiveness has no significant influence on financial inclusion.

Conclusion and Recommendations

Although levels of financial inclusion all over the world have been steadily growing, it has not done so at the same rate globally. Africa, particularly West Africa has been one of the regions with obvious but inexplicable gaps. This paper sought to determine the impact of institutional factors on financial Inclusion within the region. Empirical literature on this relationship is sparse and just developing. Data for 11 West African countries for the period 2011-2021 was collected from the World Governance Index and the Global index databases. Regression models were estimated using pooled and panel data techniques.

The results show that institutional factors are not a strong determinant of financial inclusion within the sub region as only Political stability and absence of violence significantly influence financial inclusion. Interestingly, the results imply an inverse relationship and that every additional unit of political stability would influence financial inclusion negatively. These findings are consistent with Campos & Nugent, (2002) and Aaberge et al.,(2017). Though the study findings are confounding, they can be explained. Political instability and absence of violence is a construct covering everything from political tension to war and full blown terrorism. The noticed growth in financial inclusion could be the people's reaction to tension in the region. Similar to the situation in Aaberge et al., (2017), there may be a desire to save more to protect oneself from shocks in the system due to the existing political situation. Thus, the people have come to terms with the political tension and have adopted a coping mechanism. This coping mechanism may not be sustainable in the long run.

These results have strong implications for policy makers in the West African sub region. They show that existing levels of institutional variables fail to influence financial inclusion. It implies that there is a gap in the formulation and execution of financial inclusion policies. They also confirm that levels of financial inclusion in the region would improve with strong public institutions that are free from political control. Furthermore, there is a need to address the growing insecurity before it swallows whatever gains have been made in the region.

We therefore recommend that existing policies must be intentional about growing inclusion and where adopted from some other clime, they must be tested to ensure that they are not negatively impacting financial inclusion in the region. There is also need to adequately monitor the implementation of the financial inclusion programmes. These programmes, home grown or copied must put into consideration the peculiarities of insecurity and corruption within the region as reflected in the data and results.

References

- Aaberge, R., Liu, K., & Zhu, Y. (2017). Political uncertainty and household savings. *Journal of Comparative Economics*, 45(1), 154–170. <https://doi.org/10.1016/j.jce.2015.12.011>
- Adams, S., & Klobodu, E. K. M. (2016). Financial development, control of corruption and income inequality. *International Review of Applied Economics*, 30(6), 790–808. <https://doi.org/10.1080/02692171.2016.1208740>
- African Development Fund. (2010). *The West African monetary zone (WAMZ) payments system development project: Project appraisal report*, Retrieved from: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2019AEO/REO_2019_-_West_africa.pdf
- Agyemang, O. S., Gatsi, J. G., & Ansong, A. (2018). Institutional structures and financial market development in Africa, *Cogent Economics and Finance*, 6(1), 1–15. <https://doi.org/10.1080/23322039.2018.1488342>
- Ajide, K. B. (2017). Determinants of financial inclusion in Sub-Saharan Africa countries: Does Institutional infrastructure matter?, *CBN Journal of Applied Statistics*, 8(2), 69–89.
- Akinwande, M., Dikko, H., & Agboola, S. (2015). Variance inflation factor: As a condition for the Inclusion of suppressor variable(s) in regression analysis, *Open Journal of Statistics*, 5(1), 754–767. <https://doi.org/10.4236/ojs.2015.57075>
- Akudugu, M. A. (2013). The determinants of financial inclusion in Western Africa: Insights from Ghana, *Research Journal of Finance and Accounting*, 4(8), 1-9.
- Allen, F., Demirguc-Kunt, A., Klapper, L., Maria, S., & Martinez, P. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts, *Journal of Financial Intermediation*, 27, 1–30. <https://doi.org/10.1016/j.jfi.2015.12.003>
- Bah, E. (2017). *An examination into the quality of regional trade institutions: The economic community of West African States (ECOWAS)*, (Doctoral dissertation, University of Bradford, England). Retrieved from: <https://bradscholars.brad.ac.uk/handle/10454/16848>
- Banque Centrale des États de l'Afrique de l'Ouest. (2017). *Stratégie régional d'inclusion financière dans l'UEMOA. 17 Note d'Information N2/2017*, Retrieved from <https://www.bceao.int/fr/publications/ndeg2-strategie-regionale-dinclusion-financiere-dans-luemoa>

- Barajas, A., Beck, T., Belhaj, M., & Naceur, S. (2020). *Financial Inclusion: What Have We Learned So Far? What Do We Have to Learn?* (IMF Working Papers No. 20/157), Retrieved from: <https://www.imf.org/en/Publications/WP/Issues/2020/08/07/Financial-Inclusion-What-Have-We-Learned-So-Far-What-Do-We-Have-to-Learn-49660>
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor, *Journal of Economic Growth*, 12(1), 27–49. <https://doi.org/10.1007/s10887-007-9010-6>
- Beck, T., Demirguc-Kunt, A., Levine, R., & Maksimovic, V. (2000). *Financial structure and economic development: Firm, industry and country evidence* (Policy Research Working Papers No. 2423). Retrieved from: <http://hdl.handle.net/10986/19809>
- Bruhn, M., & Love, I. (2014). The real impact of improved access to finance: Evidence from Mexico, *Journal of Finance*, 69(3), 1347–1376. <https://doi.org/10.1111/jofi.12091>
- Campos, N. F., & Nugent, J. B. (2002). Who is afraid of political instability? *Journal of Development Economics*, 67(1), 157–172.
- Central Bank of Nigeria. (2018). *National financial inclusion strategy (Revised) Financial inclusion in Nigeria*, Retrieved from: <https://www.cbn.gov.ng/out/2019/ccd/national%20financial%20inclusion%20strategy.pdf>
- Chinn, M., & Ito, H. (2006). What matters for financial development? Capital controls, institutions, and interactions, *Journal of Development Economics*, 8(1), 163–192. <https://doi.org/10.1016/j.jdeveco.2005.05.010>
- Chinoda, T., & Kwenda, F. (2019). Do mobile phones, economic growth, bank competition and stability matter for financial inclusion in Africa?, *Cogent Economics and Finance*, 7(1). <https://doi.org/10.1080/23322039.2019.1622180>
- Chu-Khanh, L., Nguyen, M. P., & Truong, H. (2019). Determinants of financial inclusion: New evidence from panel data analysis, *SSRN Electronic Journal*, 1-8. <https://doi.org/10.2139/ssrn.3346911>
- Cicchello, A. F., Kazemikhasragh, A., Monferrá, S., & Girón, A. (2021). Financial inclusion and development in the least developed countries in Asia and Africa, *Journal of Innovation and Entrepreneurship*, 10(1), 1–13. <https://doi.org/10.1186/S13731-021-00190-4/TABLES/3>
- Decuir-Viruez, L. (2003). *Institutional factors in the economic growth of Mexico: ERSA Conference papers 03.*, Retrieved from <https://ideas.repec.org/p/wiw/wiwrsa/ersa03p264.html>

- Demetriades, P., & Fielding, D. (2009). Information, institutions and banking sector development in West Africa, *Economic Enquiry*, 50(3), 739–753.
- Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The global finindex database 2017: Measuring Financial Inclusion and the Fintech Revolution*. In *The Global Finindex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*. The World Bank. <https://doi.org/10.1596/978-1-4648-1259-0>
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields, *American Sociological Review*, 48(2), 147. <https://doi.org/10.2307/2095101>
- Djankov, S., McLiesh, C., & Shleifer, A. (2007). Private credit in 129 countries, *Journal of Financial Economics*, 84(2), 299–329. <https://doi.org/10.1016/j.jfineco.2006.03.004>
- Dupas, P., & Robinson, J. (2013). Why don't the poor save more? Evidence from health savings experiments. *American Economic Review*, 103(4), 1138–1171. <https://doi.org/10.1257/aer.103.4.1138>
- Eldomiaty, T., Hammam, R., & El Bakry, R. (2020). Institutional determinants of financial inclusion: evidence from world economies, *International Journal of Development Issues*, 19(2), 217–228. <https://doi.org/10.1108/IJDI-08-2019-0147>
- Fungáčová, Z., & Weill, L. (2014). Understanding financial inclusion in China, *China Economic Review*, 34(7), 196–206. <https://doi.org/10.1016/j.chieco.2014.12.004>
- George, D., & Mallery, P. (2010). *SPSS for Windows step by Step: A simple guide and reference 17.0 update: 17 (10th ed.)*. Pearson.
- Ghura, D., Kpodar, K., & Singh, R. J. (2009). *Financial deepening in the CFA Franc Zone: The role of institutions*, (IMF Working Papers No. 09(113)). <https://doi.org/10.5089/9781451872606.001>
- Goldstein, M., & Turner, P. (2004). *Controlling currency mismatches in emerging markets*. (1st ed., Vol 1). Columbia University Press
- Gourène, G., & Mendy, P. (2017). *Financial Inclusion and economic growth in WAEMU: A multiscale heterogeneity panel causality approach*, University Library of Munich, Germany, 09(October), 1–10. <https://doi.org/10.4236/tel.2019.93033>
- Gujarati, D., & Porter, D. (2009). *Basic econometrics (The McGraw-Hill Education. (ed.) 5th Editio)*, McGraw-Hill/Irwin.

- Huang, Y. (2010). Political Institutions and financial development: An Empirical Study. *World Development*, 38(12), 1667–1677. <https://doi.org/10.1016/j.worlddev.2010.04.001>
- IMF. (2022). *West African economic and monetary union (Report No. 22/67)*, Washington DC
- Kabakova, O., & Plaksenkov, E. (2018). Analysis of factors affecting financial inclusion: Ecosystem view, *Journal of Business Research*, 89(1), 198–205. <https://doi.org/10.1016/j.jbusres.2018.01.066>
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues, *Hague Journal on the Rule of Law*, 3(2), 220–246. <https://doi.org/10.1017/S1876404511200046>
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal determinants of external finance, *Journal of Finance*, 52(3), 1131–1150. <https://doi.org/10.1111/j.1540-6261.1997.tb02727.x>
- Mehrotra, A., & Yetman, J. (2015). Financial inclusion - issues for central banks. *BIS Quarterly Review*, 1, 86-93.
- Mouselli, S., Aljazaerli, M., & Sirop, R. (2016). Corruption and stock market development: New evidence from GCC countries, *Business: Theory and Practice*, 17(2), 117–127.
- Muriu, P. W. (2020). *Role of Institutional quality in promoting financial inclusion (AERC Research Paper 384)*, African Economic Research Consortium.
- Nganje, F. (2015). *Moving beyond Africa's crisis of institutions*, (Occasional Paper 222). South African Institute of International Affairs.
- North, D. C. (1991). Institutions. *Journal of Economic Perspectives*, 5(1), 97–112. <https://doi.org/10.1257/jep.5.1.97>
- Okoroafor, D., Adeniji, O., & Awe, E. (2018). Empirical analysis of the determinants of financial inclusion in Nigeria: 1990 - 2016, *Journal of Finance and Economics*, 6(1), 19–25. <https://doi.org/10.12691/jfe-6-1-3>
- Olarewaju, O., & Msomi, T. (2021). Determinants of insurance penetration in West African countries: A panel auto regressive distributed lag approach, *Journal of Risk and Financial Management*. <https://doi.org/10.3390/jrfm14080350>
- Osborne, J., & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test, *Practical Assessment, Research, and Evaluation*, 8(2), 1–6. <https://doi.org/10.7275/r222-hv23>

- Park, C.-Y., & Mercado, R. V. (2015). *Financial inclusion, poverty, and income inequality in developing Asia*, ADB Working Paper No.426). Asian Development Bank
- Roe, M. J., & Siegel, J. I. (2011). Political instability: Effects on financial development, roots in the severity of economic inequality, *Journal of Comparative Economics*, 39(3), 279–309. <https://doi.org/10.1016/j.jce.2011.02.001>
- Sarma, M., & Pais, J. (2011). Financial inclusion and development, *Journal of International Development*, 23(5), 613–628. <https://doi.org/10.1002/jid.1698>
- Soumaré, I., Tchana, F., & Kengne, T. (2016). Analysis of the determinants of financial inclusion in Central and West Africa, *Transnational Corporations Review*, 8(4), 231–249. <https://doi.org/10.1080/19186444.2016.1265763>
- Tolbert, P. S., & Zucker, L. G. (1999). The institutionalization of institutional theory. In S. Clegg & C. Hardy (Eds.), *Studying Organization: Theory & Method* (169–184). SAGE Publications, thousand Oakes, New delhi.
- Toroyan, H., & Anayiotos, G. C. (2009). *Institutional factors and financial sector development: Evidence from sub-saharan Africa*, (IMF Working Papers No. 09/258), <https://doi.org/10.5089/9781451874044.001>
- Triki, T., & Faye, I. (2013). *Financial inclusion in Africa: African development bank*, Retrieved from: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Financial_Inclusion_in_Africa.pdf
- West African Monetary Institute. (2016). *Financial intergration in the West African monetary Zone: A stocktake of the journey so far*. (WAMI Occasional Paper No.10), Retrieved from : http://www.wami-imao.org/sites/default/files/OccassionalPapers/Financial_Integration_June_2016_English.pdf
- Williams, K. (2019). Do political institutions improve the diminishing effect of financial deepening on growth? evidence from developing countries, *Journal of Economics and Business*, 103, 13–24. <https://doi.org/10.1016/j.jeconbus.2018.11.003>
- World Bank. (2014). Digital savings: The key to women's financial inclusion, *Financial Inclusion*, 1–203. <https://doi.org/10.1596/978-0-8213-9985-9>
- Zagaris, B. (1978). The economic community of West African States (ECOWAS): An analysis and prospects¹, *Case Western Reserve Journal of International Law*, 10(1), 93–122