

Financial Crimes and Financial Inclusion: The Role of Institutional Governance Quality

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Abstract

Policy makers have appreciated pivotal role of financial inclusion in improving social cohesion and poverty alleviation. Thus, policies are evolved to advance frontiers of financial inclusion but the increasing level of global financial crimes seems to be impending tides of progress. This study used panel data to investigate the effect of institutional factors on dynamic and causal relationship between financial crime and financial inclusion. The study found evidence of causality between financial crime and financial inclusion. It was also established that institutional factors have significant effect on the relationship between financial crime and financial inclusion. Thus, this study recommends that financial regulators should continue to strengthen their economies anti-money laundering and corruption fighting strategies by way of strengthening enforcement of existing legal frameworks, and also exploring international collaborations.

Keywords: Crimes, Financial, Inclusion, Institutional

1.0 Introduction

The importance of financial inclusion has been highly acknowledged by economies as veritable instrument for capital formation. The importance of financial inclusion is not only viewed from prism of capital formation, but also embraced as economic strategy for facilitating transfer of wealth. Thus, governments are evolving policy measures aimed at attracting citizens into dragnet of formal financial system. Arun and Kamath (2015) viewed financial inclusion as a

situation where people have access to financial services and products of good quality which are affordable and convenient with dignity for all clients. Also, financial inclusion is seen as providing access to an adequate range of safe, convenient and affordable financial services to the disadvantaged and other vulnerable groups, including low income, rural and undocumented persons, who are under served or excluded from the formal financial sector.

Additionally, it is about making a broader range of financial services available to individuals who currently only have access to basic financial products. Financial inclusion can also be defined as ensuring access to financial services at an affordable cost in a fair and transparent manner. Financial inclusion, henceforth, (FI) is conceived as the process of broadening the accessibility of financial services for households and firms. Alternatively, Aduda and Kalunda (2012) defined FI broadly as the process of availing an array of required financial services, at a fair price, at the right place, from and time and without any form of discrimination to all members of the society.

Financial inclusion could be influenced by varying factors that may be financial or non-financial. Therefore, people interpret information embedded in such factors to make decisions accordingly. One of such factors that may affect financial inclusion is the level of economic and financial crimes incidences in the financial system. Dobrowolski and Sułkowski (2020) noted that constituents of economic and financial crimes include money laundering, corruption, cybercrime, fraud, drug trafficking and terrorism financing. Despite laudable economic policies, evolving monitoring frameworks and structural reforms, financial

crimes have become clog in wheels of achieving set goals. Economic and financial crimes have constituted a great challenge bedeviling firms, financial system and countries economic engagements. Financial crimes do not only result in financial lost but could also lead to multiplier consequences on deterioration of economy credibility and integrity, which can lead to public distrust. Economic and financial crimes pose threat to investors, creditors and employees, and reputation of companies due to financial losses associated with such crimes (Craja et al. 2020). This distrust may culminate in sending negative signal to economic agents and result in financial exclusion.

Banks provide access to financial services such as savings, payment and credit services through branches and recently through technological enabled services carried out by agents. But these banks are profit oriented organisation that take decision considering cost and benefit analysis. Thus, most of the platforms for providing these financial services are largely found in urban areas with high profit propensity. In contrast, coverage of rural areas tend to be less profitable but expensive to operate. Hence, these could result in financial exclusion of people with limited or no access to bank services. Technological innovations that present

opportunities for expanding access to financial services have boosted financial inclusion agenda. These innovations cover a range of activities, including offering credit, processing payments, issuing currencies and managing assets, to mention a few. Despite the expansion of accessibility to financial services, there is large percentage of population that is still financially excluded. Financial inclusion makes it possible for individuals to save for the future, invest in education, train their children, and launch businesses which contribute to poverty reduction and economic growth (Bruhn & Love, 2014; Ozili, 2018).

Financial crimes assumed a disturbing trend in recent times despite varying mechanisms being developed to prevent and detect economic and financial crimes, criminal minded elements have continued to evolve sophisticated channels to perpetuate economic and financial crimes. Financial crimes affect financial inclusion through channels related to human, social and institutional factors, which can create climate of insecurity resulting to additional cost. Despite the threat of high incidences of economic and financial crimes, the secrecy, illegality and indirect damages characterizing it has made assessing the real losses difficult. Furthermore, financial inclusion is relatively

an emerging area in the financial literature. Thus, there seems to be limited empirical literature that explored the links between financial inclusion and other socio-economic factors. Studies on financial inclusion largely focused on the determinants of financial inclusion and its effects on income inequality and poverty reduction. Thus, this study becomes imperative in order to explore the effect of institutional quality on the relationship between financial crimes and financial inclusion. To this end, this study hypothesizes that institutional quality has no significant relationship with financial crimes and financial inclusion.

2.0 Literature Review

Mohammed, Samuel, Solomon and Amarh (2022) assessed the effect of anti-money laundering regulations on banking sector stability in Africa. The study used panel data of 51 African countries over the period of 2012 to 2019. The study used two-staged Generalised Moment Method (GMM) for estimation and established that AML regulations significantly and positively affected stability of banking sectors in African countries. This suggests that if there was high effectiveness or low effectiveness of the AML regulations, it would still have a positive impact on the stability of the banking sector of the country. Malakouti (2020)

analysed the relationship between counter-terrorism financing regulations and financial inclusion and established that financial exclusion is a focal point which results in ineffective counter-terrorism measures that are caused mostly by the banking system. The financial exclusion also leads to counter-productive counter-terrorism financing through a low risk-appetite, de-risking, de-banking, financial exclusion, and using unregulated or less regulated and supervised financial systems.

Yousaf (2021) assessed the effect of institutional legal and political factors on financial inclusion. The study used data collected for 64 former colonies in Africa, using 2SLS, DOLS and FMOLS. After the analysis, it established that legal and political institutions significantly affect the degree of FI across countries. In another development, Bakari, Idi and Ibrahim (2018) explored how institutions affected the degree of financial inclusion. Although the study is limited to African countries, Eldomiaty, Hammam and El Bakry (2020) found that institutions impact certain level of FI across other countries. This can further be proved by Alber (2019) who found that per capita GDP, GDP growth and interest rates were significant factors of FI in 145 countries.

Barik and Lenka. (2022) examined the impacts of financial inclusion on corruption control in selected upper-middle and lower-middle income countries. Using cross-country annual data from 2004 to 2018, the study applied fixed effect, random effect, panel corrected standard errors, feasible general least square and 2SLS (two-stage least square regression) models to evaluate the impacts of financial inclusion on control of corruption across all samples from upper-middle and lower-middle income countries. Findings proved that upper-middle income (UMI) countries demonstrated that a basic level of financial inclusion has no impact on corruption control, whereas higher intensification of financial inclusion beyond the basic level positively impacts on it. Similarly, the findings from lower-middle-income (LMI) countries indicated that financial inclusion up to a certain threshold level helps to control corruption, whereas financial inclusion above the threshold level negatively impacts the control of corruption. Sharma and Paramati (2020) conducted an empirical study on 140 sample countries to know the impact of financial sector development on the control of corruption. Their findings depicted that the development of the financial sector plays a significant role to control the growth of corruption across the

full sample countries, low- and lower-middle-income countries and upper-middle and high income countries. Ajide (2020) assessed the effect of financial inclusion on corruption control in African countries for the period of 2005–2016. The study established that financial inclusion intensified the control of corruption. However, it has a negative impact on the control of corruption because of weak institutional factors present in African countries.

2.1. Theoretical Framework

The theoretical foundation of the study is anchored on the ‘sand the wheels’ theory. This theory holds that the presence of corruption can adversely affect the financial sector development (Cooray & Schneider, 2018). It further asserted that inadequate supervisory frameworks, insider trading, large-scale regulation and the absence of transparency, can lead to corruption practices which further impede the financial sector’s development (Song et al., 2021). This suggests that in the context of financial inclusion, it can result in the problem of adverse selection and moral hazard (Cooray & Schneider, 2018); the financial resources are diverted that leads to inefficient allocation of money. Again, due to lack of transparency and supervision in the system, misallocation of financial resources raises the

volume of non-performing assets which further damages the financial stability of the country.

3.0 Research Methodology

To examine the role of institutional quality on the effect of financial crimes on financial inclusion, a sample of 103 developing economies over the period 2012 to 2020 was taken. The choice of countries for this study was largely influenced by availability of data. To establish the effect of financial crimes on FDI inflow, the study applied Autoregressive Distributed Lag (ARDL) model employed by Pesaran, Shin and Smith (1996) and Pesaran, Shinb and Smith (2001) for estimation. The stationary properties of the data used in the study indicate that they are stationary at level I (0) and first difference I(1). Thus, the estimation technique is appropriate as it can be employed to estimate explanatory variables that are stationary at either levels I (0) or first difference I (1) as noted by Pesaran, Shin and Smith (2001). The ARDL co-integration technique (bound test) is conducted to enable the co-integration relationship to be estimated by the ordinary least square (OLS) after determining the lag order of the model. The model can also be applied to estimate both the long run and short run parameters of the models when co-integration exists. Pesaran and Shin (1995)

and Pesaran *et al.* (2001) noted that the ARDL models tend to yield consistent estimates of the long run coefficients that are asymptotically normal regardless of whether the underlying regressors are purely $I(0)$, purely $I(1)$, or combination of both. This suggests that the ARDL avoids the pre-testing of variables to identify the order of integration of the underlying variables. Additionally, the ARDL method avoids the larger number of specification to be made in the standard cointegration test.

Financial inclusion was employed as the dependent variable drawn from Global Findex database, while the explanatory variables institutional quality is represented by Worldwide Governance Indicators

(Control of Corruption, Political Stability and Absence of Violence and Regulatory Quality) developed by Kaufmann *et al.* (1999). Other measures of Worldwide Governance Indicators were not used in this study due to multicollinearity problem. Financial crimes are measured by Basel AML composite index Basel Anti-Money Laundering (AML) Index, which was published by the Basel Institute on Governance (Basel Institute). The study controlled size of economies measured by log of Gross Domestic Product (GDP) and sourced data from World Bank's World Development Indicators (WDI) data base (World Bank, 2020). The model of estimation is expressed in functional linear form as:

$$FIN_t = f(AML, CCRP_t, PSTAB_t, REGQ_t, LGDP) \dots \dots \dots (1)$$

Post estimation diagnostic test for stability of the model test based on CUSUM and CUSUM of Square were conducted. The

ARDL model which is transformed into natural logarithmic is specified, thus:

$$\begin{aligned} \Delta FIN_{t-1} = & \alpha_0 + \beta_1 FIN_{t-1} + \beta_2 AML_{t-1} + \beta_3 CCRP_{t-1} + \beta_4 PSTAB_{t-1} + \beta_5 REGQ_{t-1} \\ & + \beta_6 LGDP_{t-1} + \sum_p \beta_7 \Delta LFIN_{t-1} + \sum_p \beta_8 \Delta AML_{t-1} + \sum_p \beta_9 \Delta CCRP_{t-1} \\ & + \sum_p \beta_{10} \Delta PSTAB_{t-1} + \sum_p \beta_{11} REGQ_{t-1} + \sum_p \beta_{12} \Delta LGDP_{t-1} + \varepsilon_{it} \end{aligned}$$

Where:

FIN: Financial Inclusion Index
AML: Basel Anti-Money Laundering (AML) Index
CCRP: Control of Corruption
PSTAB: Political Stability and Absence of Violence

REGQ: Regulatory Quality

LGDP: Log of Gross Domestic Product

Δ = represents the first difference operator

ε_{it} = Vector of the error term

To determine existence or otherwise of co-integration in the variables, bound test was conducted. According to Pesaran et al. (2001), the regressors are assumed to be integrated in order zero $I(0)$ or are integrated in order one $I(1)$. The decision criteria is that if the F-statistic is less than $I(0)$ bound, the null hypothesis (no co-integration) cannot be rejected. Conversely if the F-statistics

exceeds the $I(1)$ bound the null hypothesis is rejected.

4.0 Results and Discussion of Findings

The results of descriptive statistics, serial correlation, co-integration, and stability are presented in this section. The result of descriptive statistics shows the mean, standard deviation, skewness, and kurtosis statistics of the coefficients.

Table 1: Descriptive Statistics

	FIN	AML	LGDP	CCRP	PSTAB	REGQ
Mean	21.6562	5.4934	25.1597	19.1337	49.5122	57.9431
Median	21.5346	5.4600	24.8717	8.9615	47.8673	60.1896
Maximum	26.9605	8.4937	30.5406	1289.1465	99.5238	100.0000
Minimum	13.9398	1.7787	19.9658	6.0894	0.0000	0.0000
Std. Dev.	2.1195	1.1271	2.1035	110.9330	27.2199	27.0477
Skewness	-0.0436	0.0342	-0.0160	10.8668	0.0971	-0.2729
Kurtosis	2.9443	2.7169	2.7591	119.1917	1.8722	2.0558
Obs.	824	824	824	824	824	824

The result of descriptive statistics depicted in Table 1 showed the highest standard deviation exists in CCRP and indicates that it

has highest variability. The result also showed FIN, LGDP and REGQ are negatively skewed.

Table 2: Correlation Matrix

	AML	LGDP	CCRP	PSTAB	REGQ
AML	1				
LGDP	-0.0824	1			
CCRP	0.1147	-0.0631	1		
PSTAB	-0.0302	-0.0072	-0.0230	1	
REGQ	-0.0938	0.0523	-0.0858	0.7250	1

The correlation matrix shown in the Table 2 indicated that the highest correlation exists between REGQ and PSTAB with a value of 0.7250. This indicates multi-collinearity problem does not exist among the independent variables as all the values are

below the threshold of 0.8 for existence of high multi-collinearity problem between independent variables as suggested by Rumsey (2007). Thus, variables employed in the study are statistically appropriate for inclusion in the model used for estimation

Tables 3: Augmented Dickey-Fuller (ADF) Unit Root Tests

Variable	t-Statistic	Order of Integration
FIN	-3.6524	I(0)
AML	-2.2365	I(0)
LGDP	-6.3122	I(1)
CCRP	-3.4251	I(1)
PSTAB	-6.4635	I(0)
REGQ	-5.5243	I(1)

Source: Extracts from E-views Output

The time series properties of the variables for existence of unit root were examined using Augmented Dickey-Fuller (ADF) and P unit root test. The results of the ADF tests as

shown in Table 3 indicated that all the variables used in the study are integrated in order I(0) and I(1), that is stationary at levels and first difference.

Table 4: ARDL bounds test for Co-integration

ARDL Bounds Test		
F-statistic 3.9754 AIC (Lag 1)		
Bounds Significance Level	I(0) Bound	I(1) Bound
10%	2.487	3.557
5%	2.897	3.275
2.50%	3.287	3.527
1%	3.777	3.970

Source: Extracts from E-views Output

The results for the ARDL bounds test for co-integration as illustrated in Table 4 showed the F-statistics of 3.9754 is higher than the I (1) upper bound value of 3.275 at 0.05 level of significance. Thus, there is co-integration

relationship between the variables estimated. Thus, the Error Correction Model (ECM) was specified. The result of lag length criteria test using AIC indicates a lag of 1 is appropriate.

Table 5: Results of Long-run estimation using ARDL approach

Variable	Coefficient	t-Statistic	Prob.
AML	-0.1707	-2.2848	0.0225
LGDP	0.8290	19.5137	0.0000
CCRP	-0.0002	-0.2725	0.0253
PSTAB	-0.0093	-1.3583	0.0147
REGQ	0.0004	0.0694	0.0447
C	2.1724	1.7860	0.0544

The long-run ARDL estimation results in Table 5 for establishing the effect of institutional quality on the interactive effect of financial crimes on financial inclusion indicated that AML, CCRP and PSTAB

significantly negatively affects FIN. Conversely, the long-run estimates show long run positive significant of LGDP and REGQ on FIN.

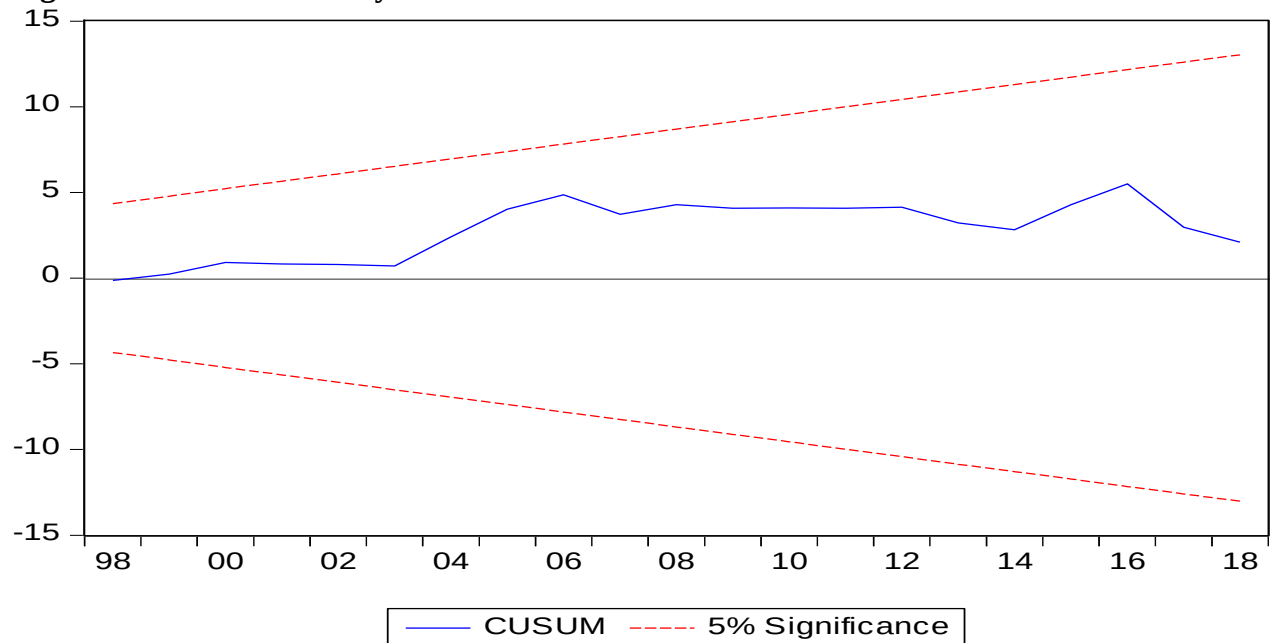
Table 6: Results of Short-run ECM Estimation

Variable	Coefficient	t-Statistic	Prob.
D(AML)	-0.1621	-5.0929	0.0000
D(AML(-1))	-0.0636	-2.2708	0.0234
D(LGDP)	0.8067	27.2162	0.0000
D(LGDP(-1))	0.1423	3.6299	0.0003
D(CCRP)	-0.0001	-0.2724	0.7854
D(PSTAB)	-0.0032	-1.9564	0.0507
D(PSTAB(-1))	0.0020	1.7294	0.0841
D(REGQ)	0.0036	2.0865	0.0372
ECM(-1)	-0.3723	-12.4251	0.0000

The Result of short-run estimation in Table 6 indicated that the outcomes did not differ from the long-run estimation as AML, CCRP and PSTAB are statistically negatively significant. Thus, these suggest that the variables lead to decrease in FIN. Furthermore, the negative coefficient of the error correction term (ECM) indicated that 37

percent deviation from the long-run equilibrium level of financial crimes to financial inclusion is corrected for annually. The result of post estimation model stability test using CUSUM indicates it lies within the 5 percent significance level as presented in figure 1. Thus, the model used for the study is stable and can be applied for estimation.

Figure 1: Result of Stability test



Source: Extracts from E-views Output

5.0 Conclusion and Recommendations

The study examined the effect of public debt management strategies on Nigeria debt profile for the period 2012-2020, using the Autoregressive Distributed Lag (ARDL) model for estimation. In the study, financial inclusion was measured by financial inclusion composite index, while institutional quality is represented by control of corruption, political stability and absence of violence and regulatory quality. Financial crimes are measured by Basel AML composite index Basel Anti-Money Laundering (AML) Index, while the control variable size of economies was measured by

log of Gross Domestic Product (GDP). The long-run estimation reported AML, CCRP and PSTAB significantly negatively effects on FIN. Conversely, the result showed that LGDP and REGQ positive significant affected FIN. The result further indicated that institutional quality has significant effect on the relationship between financial crimes and financial inclusion. Thus, it is recommended that financial regulators should continue to strengthen their economies and anti-money laundering and corruption fighting strategies by way of strengthening the enforcement of existing legal frameworks, and also exploring international collaborations.

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