

WHICH DIMENSION OF INSTITUTIONAL QUALITY MATTERS FOR BANK PERFORMANCE IN WEST AFRICA?

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ABSTRACT: *While considering many bank-specific and macroeconomic factors that have been identified both in theory and empirics as determinants of bank performance. The study further accounts for the role of institutional environment to strengthening our understanding of the probable factors responsible for banking system in West Africa. Utilizing two step system GMM panel technique, the study empirically shows that the impact of institutional environment either in its whole composite forms or when disaggregated into economic, political, and institutional components are sensitive to the measure of bank performance under consideration. Banking system in West Africa precisely tends to respond more favourable to institutional factors when bank performance is evaluated via net interest margin (NIM).*

KEYWORDS: Bank Performance; Institutional Environment, Bank Specific-Factors, System-GMM; West Africa

INTRODUCTION

There is no gainsaying that the catalytic role of finance in the process of growth and development has been well established both theoretically and empirically in the development and finance literature. This is particularly premised on the performance of banks and capital markets whose principal statutory function centres on allocating resources from surplus to deficit ends. This supposed primary intermediary function as it has been argued, can be dislocated in the absence of right institutions. According to North (1990), the right institutions are essential since it constitutes “the rules of the game in a society, or, more formally, humanly devised constraints that shape human intervention”. The most critical of these institutions are those that allocate capital to its most productive uses. This is so because such institutions help establish and maintain strong property rights, an effective legal system, and a sound and efficient financial system (see Mishkin, 2009).

Unlike the developed countries, central to financial systems in developing African economies are the activities of the banking institutions, owing to the thinly developed capital markets. In light of the dominant position of banks in African financial landscape on the one hand, and being one of the key drivers of the region’s economic growth on the other hand, thus making the need to further explore factors that could affect its performance (either positive or negative) imperative. Institutions as it were in Africa have remained a stumbling block to Africa’s growth process for decades. Apart from problems like endemic disease, tropical location, landlockedness and many other factors that have been evoked to explain Africa’s economic troubles (Sach & Warner, 1997), poor institutional frameworks of which bad governance forms the core, has been equally acknowledged, to be among the most decisive (World Bank, 1989). It is on the basis of this, that the paper’s motivation is drawn. Specifically, the study investigates causal linkage between institution and bank performance

via different dimensions of institutions namely: economic, political and institutional, for West Africa region.

Indisputably, a huge number of studies have examined as well as probed into how bank-specific, industry-characteristics as well as macroeconomic variables have affected bank performance both in the developed and developing countries. However, the particular strand of literature focusing on institutions-bank performance nexus is relatively scarce or at best emerging. Examining the causal relations for West Africa region is particularly interesting for the following reasons: First, all the countries within the region shares some common features that border on economic and political problems. More importantly, they all fall under sub-Saharan Africa region. Second, the financial systems are mostly bank-driven owing to the shallowness of capital markets, and lastly, they have at one time or the other beset with institutional problems, particularly governance dysfunctions which have engendered civil unrests, wanton destruction of properties, flagrant abuse of fundamental human rights and soon.

The remaining sections of the paper are as follows. Section 2 offers the stylized facts on the relationship between institutions and bank performance in West Africa. Section 3 conducts a terse review of previous empirics on the determinants of bank performance. Section 4 describes the data and empirical methodology. Empirical results are reported in section 5, while Section 6 concludes the paper.

Stylized Facts on Banking and Macroeconomic Environment for West African Countries

The performance of banks is measured via return on assets (ROA), return on equity (ROE) and net interest margin (NIM), respectively. In Table.1, the profits or returns generated from the use of bank assets is highest for Sierra Leone (4.69) while Nigeria has the least annual average of 0.36. In terms of ROE, Ghana commands the highest value amounting to 39.58 while Mauritania is destined with least value of annual average value of 7.50. It is worth mentioning however, that of all the banks under consideration, it is only Mauritania that maintains a single-digit rate. For the net interest margins, Sierra Leone still takes the lead with annual average value of 12.06 whereas Benin harbours the least value of 4.22 as average during the same period. Notwithstanding the measures of bank performance, the stability of the banks measured by Z-Score rates banks in Senegal as the most stable in the sub-region given the value of 37.84 and distantly followed by Mauritania with an annual mean value standing at 29.99 whereas the least goes to Nigeria with 1.22 thus signifying the extent of instability in the country's financial landscape.

This apart, the proportion of banks' operating expenses in the banking total assets appears to be highest for Sierra Leone with 9.38 while the second place is taken by Nigeria with 8.07 and the least is credited to Benin with 4.18 during the same period. The ratio of banking cost to income is highest for Nigeria and the least credited to Mauritania with 52.48 thus depicting the extent of resources' management.

Table.1: Annual Averages of Banking and Macroeconomic Variables for West Africa Countries (1999-2013)

Countries	ROA	ROE	NIM	Z-Score	Bank Overhead to Total Assets	Cost to Income Ratios	Inflation	Real GDP (USD-Billion)
Benin	1.02	12.41	4.22	16.55	4.18	64.23	3.11	4.61
Burkina Faso	1.21	14.18	5.18	9.11	5.21	60.95	2.37	5.87
Ghana	4.09	39.58	11.49	9.55	6.95	50.06	15.82	12.4
Cote Ivoire	0.97	12.79	4.83	17.75	5.82	68.90	2.76	18.0
Mali	1.08	10.19	5.67	17.83	5.06	64.40	2.24	5.67
Mauritania	1.43	7.50	6.02	29.99	4.40	52.48	5.84	1.97
Niger	1.19	11.76	5.95	16.46	6.93	72.08	2.14	3.74
Nigeria	0.36	12.78	7.92	1.22	8.07	79.38	11.61	1.19 ^a
Senegal	1.73	20.08	5.96	37.84	4.68	59.23	1.90	8.93
Sierra Leone	4.69	29.25	12.06	6.01	9.38	57.80	13.10	1.74
Togo	1.89	26.31	4.55	3.91	5.61	66.00	2.67	2.27

Source: Financial Development and Structure Database, 2015.

Note: a stands for trillion dollars

In terms of macroeconomic variables, Ghana appears to be macroeconomically unstable country with inflation rate averaged 15.82 while Senegal has the most stable macroeconomic environment over the same period. However, Nigeria is the most economically vibrant and viable country with the total economic activity totalling 1.19 trillion dollars and distantly followed by Cote Ivoire and Ghana having 18.0 and 12.4 billion dollars. The less buoyant country in terms of real GDP value is Sierra Leone with 1.74 billion dollars.

Table.2: Annual Averages of Governance Dimensions for West Africa Countries (1999-2013)

Countries	Voice and Accountability	Political Stability	Government Effectiveness	Regulatory Quality	Rule of Law	Control of Corruption
Benin	0.22	0.46	-0.45	-0.38	-0.52	-0.66
Burkina Faso	-0.37	-0.15	-0.62	-0.22	-0.49	-0.27
Ghana	0.24	-0.06	-0.05	-0.09	-0.05	-0.10
Cote d'Ivoire	-1.13	-1.56	-1.05	-0.75	-1.29	-0.95
Mali	0.06	-0.14	-0.78	-0.38	-0.37	-0.56
Maritania	-0.91	-0.35	-0.57	-0.45	-0.68	-0.39
Niger	-0.45	-0.58	-0.80	-0.56	-0.70	-0.80
Nigeria	-0.76	-1.77	-1.02	-0.87	-1.22	-1.12
Senegal	-0.04	-0.34	-0.29	-0.22	-0.18	-0.28
Sierra Leone	-0.58	-0.71	-1.27	-1.02	-1.10	-0.91
Togo	-1.16	-0.41	-1.39	-0.80	-0.90	-0.89

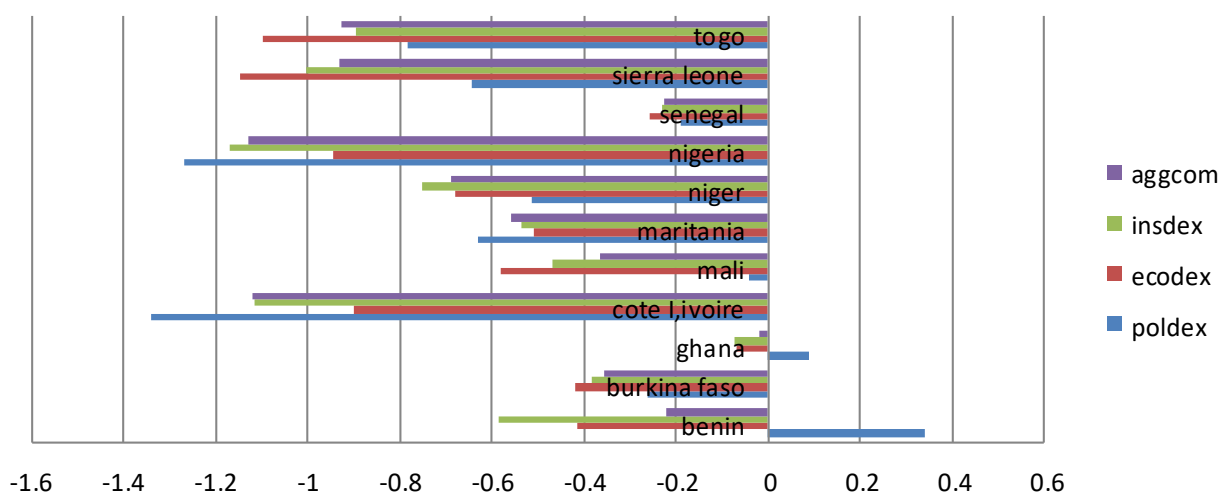
Source: World Governance Indicators, 2015.

Going by the dimensions of governance, it is discernable from Table.2 that almost all the governance dimensions are in negative thus suggestive of poor institutional quality in the region. On component by component basis, taking voice and accountability, Ghana records the highest of 0.24, directly followed by Benin with 0.22 and the least goes to Togo and Cote d'Ivoire with -1.16 and -1.13 respectively. Of all the countries, Benin appears to have a favourable political climate with a positive value of 0.46, with remaining countries wallowing in negatives but seems acute for Nigeria with a negative value of 1.77 in political stability component. In terms of government effectiveness, not even a single country from the sub-region enjoys a positive rating but appears fairly better in comparative term for Ghana with -0.05 but the situation is utterly worse off for Togo with a negative value of 1.39. The situations do not appear to be different for regulatory quality, rule of law and control of corruption components of governance. While Ghana takes the lead in the three components on the one hand, the worst outcomes are divided among the Sierra Leone (-1.02), Cote d'Ivoire (-1.29) and Nigeria (-1.12) in the same components, on the other hand. Taking together, the sub-region is completely worse off in all the dimensions of governance.

Viewing from the lenses of political, economic and institutional components of governance index, visual inspection from Fig.1 shows that Ghana and Benin appear to top the chart of political index by having positive values as can be observed from the diagram. The least values in terms of negatives are credited to Cote d'Ivoire and Nigeria with the longest bars over and above the bound of -1.2 as can be seen in fig.1. The same narrative could hardly be

said with respect to economic index whose negative values tilt in favour of Sierra Leone and Togo with Ghana hovering within the neighbourhood of less than -0.2 as indicated on the diagram. It is worth noting also to state that Nigeria maintains a lead position with respect to institutional index and directly followed by Cote I'voire, with both countries exceeding the bound of -1.0 as can be observed from fig 1. In aggregate terms, Nigeria and Cote I'voire are the worst performers in all the components on the one hand, and the best performers are Ghana, Benin and Senegal on the other hand.

Fig 1: Annual Averages of Governance Indicators in West Africa countries(1999-2013)



Source: Graphed from the underlying data of World Governance Indicators, 2015.

LITERATURE REVIEW

Quite a diverse number of different factors have been accorded due consideration as determining bank performance in the literature. The lists are many and varied. These include but not limited to: capitalization (Bourke, 1989; Liu et al, 2010); ownership structure (Innotta et al, 2007; Cornet et al, 2010) market structure (Seelanatha, 2010; Ayadi and Ellouze, 2013), market concentration index (Demirguc-Kunt et al, 2000; Casu and Girardone, 2009); credit size (Alshatti, 2015; Aduda and Gitonga, 2011), operating expenses (Staikouras et al., 2007; Fries and Taci, 2005) and corporate governance (Beltratti and Stulz, 2009; Odekunle et al, 2014); liquidity (Bourke, 1989; Marozva, 2015), size (Bikker and Hu, 2002; Stiroh and Rumble, 2006; Dietrich and Wanzenried, 2011); globalization (Sufian and Habibullah, 2012) as well as macroeconomic factors like inflation (Molyneux and Thornton, 1992; Athanasoglou et al, 2006; 2008) and business cycle (Goddard et al, 2004, Dietrich and Wanzenried, 2011; 2014). All of these factors are compactly housed under internal (bank-specific) and external (macroeconomic and market specific).

More specifically, attempt will be made to shed some lights on the aspect of determinants of bank performance since there are vast literatures on bank performance. Thus, in no particular order, Guru et al (2002) investigated the determinants of bank profitability in Malaysia

during 1986-1995. They divided determinants of profitability into two main categories, namely internal and external. The former includes liquidity, capital adequacy, and expenses management while the latter consists of ownership, firm size, and economic conditions. In their findings, the importance of expenses management was prominently featured as the most significant while the impact of macro indicators like interest ratio as well as inflation could not also be downplayed. While high interest ratio was associated with low bank profitability, that of inflation was found to exert a positive impact on bank performance.

Vong and Chan (2009) examined the impacts of bank characteristics, macroeconomic and financial structure variables on the performance of the Macao banking industry. They found that asset quality measured by the loan-loss provisions and the loan-to total assets ratio, adversely affected the banking performance. On the contrary, positive relationship was established between management efficiency (proxied with ratio of equity to total assets) and banking performance. It was however concluded that banking performance can be improved upon if it well capitalized and borrow less to finance its operations. With respect to macroeconomic variables, inflation was found to exhibits a significant relationship with banks performance.

Garza-Garcia (2011) analysed the determinants of bank performance in the Mexican banking sector for 2001-2009. The results of the study indicate that the lagged performance variable is positive and significant, which shows the tendency of bank profits to persist over time. Also, the Herfindahl-Hirschman index (HHI), which is a proxy for market concentration, shows no significance, thus rejecting the SCP hypothesis. The ratio of loan to total assets is negatively related to performance while capital is positive and significantly related to performance. Thus greater capital in banks reduces their funding costs and releases to them more resources to fund profitable investments.

Hoffmann (2011) examined the determinants of the profitability of US banks during the period 1995-2007. Contrary to Garza-Garcia (2011), their findings document a negative link between the capital ratio and the profitability, which supports the notion that banks are operating over-cautiously and ignoring potentially profitable trading opportunities. They also find a significant negative relationship between the size of the bank and its profitability. Thus a bank can take advantage of the scale economies at a low asset size level, but these scale economies become exhausted as the bank's size increases. On the same page with foregoing is the study by Ahokposi (2013) that investigated the determinants of bank interest margins in sub-Saharan African countries and found market concentration, bank inefficiency, equity and credit risk to be positively associated with interest margins. Liquidity ratio was negatively and significantly related to interest margins. Macroeconomic variables' relationship with bank performance in the study however appeared mixed. While inflation was positively related to interest margins, no evidence of significant relationship was found between economic growth and interest margins.

Nkegbe and Ustarz (2015), examined determinants of banks performance in the Ghanaian banking industry for the period 2000-2010 using trend graphs, equations and panel data estimation techniques. Three different measures of performance were employed and the results showed a negative trend in banks performance within the study period. On the determinants, market share of loan was found to be positively related to performance, confirming the relative market power hypothesis. The results further revealed that banks in Ghana passed on their inefficiencies to their customers by raising their lending rates and lowering their deposit rates.

Ayanda et al. (2013) looked at the determinants of profitability in the Nigerian banking industry from 1980 to 2010. Applying the econometric analysis of cointegration and error correction techniques, they found capital adequacy and credit risk to be statistically significant and negatively related to profitability of loans. Efficiency management – which shows banks' ability to manage their cost in order to boost their profits – was, however, found to be positively related to net interest margin. For the external or macroeconomic variables, they found broad money supply growth rate to be a significant driver both in the long run and in the short run. Toeing the same line is Khalfaoui and Saada(2015) who also investigated the determinants of banking performance among the listed banks in Tunisia, over the period spanning 2000 through 2013. The results showed that credit risk, liquidity, total assets and disclosure of information relating to credit were the main determinants of banking performance.

Undeniably, abundant literature exists on the determinants of banking performance, to the best of our knowledge; virtually nothing has been published to address the impact of institutions on banking performance. In light of the knowledge gap, this paper offers, for the first time, empirical evidence on the role of institutional infrastructure on bank performance in West Africa.

DATA AND METHODOLOGY

The Model

In an attempt to achieve the objective of this study, which is to expand the determinants of bank performance to capture the role of governance, we specify our model as follows:

$$BANKPERM_{it} = \alpha + \theta X'_{it} + \lambda Macro_{it} + \psi INS_{it} \quad (1)$$

Where $BANKPERM_{it}$ refers to bank performance measures which include return on assets (ROA), return on equity (ROE) and net interest margin (NIM); X'_{it} is a matrix of specific bank performance determinants; while $Macro_{it}$ denotes traditional macroeconomic factors that influences bank performance and such in the context of this study include real GDP (RGDP) and inflation rate(INF). As regards institutional measure (INS_{it}), the study employs Kaufmann World Governance Index (WGI) dataset comprises of six indices that are Political Stability, Control of Corruption, Voice and Accountability, Government Effectiveness, Regulatory Quality and Rule of Law.

It is hypothesized that there would be high correlation among the indices and that variation in each indices would be minimal. Hence, the degree of high substitution based on the correlation means some information would be irrelevant. Dropping some series would not lead to loss of information. To this end, we used Principal Component Analysis (PAC) to solve the problems of irrelevant information. Essentially, the aggregation of the indices is done in using two approaches: First a general aggregation, which implies that all the six indices are summed to an index. Second, we aggregated the indices into three: economic index (regulatory quality and government effectiveness); political index (political stability and voice and accountability) and institutional index (rule of law and control of corruption).

This classification is the recent trend in the literature and it is consistent with studies such as Kaufmann et al (2010), Andrés et al., (2014) and Asongu and Nwachukwu (2015).

Data Source and Description

As stated earlier, the scope of this study is limited to the 11 West African countries for the timeframe of 1999-2013¹. The choice of this scope is informed by data availability consideration. All data apart from banking and governance are sourced from the World Bank Development Indicators, while that of banking and governance measures are collected from the financial development and structure as well as World Governance Indicators database.

Econometric Methodology

As regards methodology, the study adopts the System GMM of Arellano and Bond (1991) and Arellano and Bover (1995). The superiority of this methodology over the Pooled OLS is the features of the former to deal with endogeneity issues that might occur as a result of measurement error, omitted variable bias as well as reverse causality. The System GMM estimator combines the set of equations in first differences with suitable lagged levels of variables as instruments, with an additional set of equations in levels with suitably lagged first differences as instruments. Blundell and Bond (1998) have evidence from Monte Carlo simulations that System GMM performs better than first-differenced GMM, the latter being seriously biased in small samples when the instruments are weak. In addition to this, Bond et al. (2001) in the study demonstrated the important of System-GMM over Differenced-GMM and went further to state that "...we recommend this system GMM estimator for consideration in subsequent empirical growth research" (Bond et al. 2001 p3-4). In an attempt to account for heteroscedasticity in the residual generated, we used two-step GMM, while one-step is consistent with homoscedasticity (Asongu and Nwachukwu, 2015).

Despite this laudable advantage of System-GMM, the study is faced with data constraint. This technique is more suitable in a situation where $N > T$ (i.e number of countries is greater than the time span). The inverse is the case for the study. This shortcoming can be addressed by using non-overlapping intervals (NOI). Another advantage of NOI is that it helps to fizzle out business-cycle trend in the series. Hence, we use a three-year NOI. It is assumed that the three-year interval is sufficient enough to withstand the cycle. Increasing the number of interval would weaken the model through the loss of degree of freedom

Discussion of Empirical Findings

Analysis of the empirical results commenced with descriptive statistic, which is meant to examining the statistical features of the series under consideration. In Table 3 for instance, the reported statistics which include the mean, minimum, maximum and standard deviation; tends to suggest that banks performance in West Africa when measured via return on equity (ROE) is relative better off when compare to other indicators (i.e. NIM & ROA). Looking at the minimum and maximum values, the statistics generally indicate a wide variation in both the bank-specific and macro determinants of bank's performance across the Western region of sub-Sahara Africa. This however, seems to be corroborated by the standard deviation statistics with real GDP recording the highest degree of variation followed by BCON, COSTINC and ROE. While various indicators of institutional environment considered in the

¹The West African countries are Benin, Burkina Faso, Ghana. Cote d'Ivoire, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo

context of this exhibit no significant evidence of variation/volatility, their respective mean values which are not only less than one (1), but equally negative in nature is an indication of poor performance of institutional environment in West Africa.

Table 3: Descriptive Statistics

Variable/Stat.	Obs.	Mean	Max	Min	Std. Dev.
<i>NIM</i>	165	6.715	18.63	2.15	3.141
<i>ROA</i>	165	1.789	12.11	-18.16	2.460
<i>ROE</i>	165	17.895	126.14	-18.07	16.220
<i>COSTASST</i>	165	6.028	16.92	1.63	2.216
<i>BCON</i>	165	78.225	100	22.56	16.930
<i>COSTINC</i>	165	63.228	218.09	24.52	16.713
<i>ZSCORE</i>	165	15.111	45.29	-9.6	10.984
<i>RGDPC</i>	165	16.825	183.31	1.06	35.195
<i>INF</i>	165	5.709	32.91	-3.1	5.876
<i>POL</i>	165	-0.476	0.54	-1.84	0.595
<i>ECO</i>	165	-0.638	0.14	-1.42	0.368
<i>INS</i>	165	-0.656	0.17	-1.42	0.379
<i>AGGCOM</i>	165	-0.594	0.12	-1.46	0.409

The panel model specified in equation (1) forms the basis of our estimations. Empirically, we considered three measures of bank performance in West Africa to include Net Interest Margin (NIM), Return on Asset (ROA) and Return on Equity (ROE). Thus, the regression results are based on these respective measures of bank performance. Table 4 present result from our baseline estimates where the performance of bank in West Africa were only explain via traditional bank's performance determinants as well as the macroeconomic factors included in the model. For each regression, we test the specification of equation the Arellano-Bond test for the second order serial correlation. We also considered the Hansen and Sargan tests of over-identifying restrictions. The test results show that all the regressions satisfy the specification tests, which indicates that our instruments are valid and there exists no evidence of second order serial correlation in our regressions.

While the coefficient on the lagged of the respective measures of bank performance confirms the dynamic nature of the model, the magnitudes of the lagged coefficients appear to be significant with respect to NIM only. That is, the dynamic characteristic of banking system in West Africa via own innovation is only significantly explain by net interest margin. However, the result reveals *COSTASST* as the likely most efficient determinant of bank performance in West Africa given its significant impacts on the various measure of bank performance that are considered. On the contrary however, the *BCON* consistently shows no evidence of significant impacts on bank performance irrespective of the measures considered. The implications of this one the one hand, is that the significant response of banking system to *COSTASST* in West Africa for the period under consideration is no sensitive to banking performance measures. On the other hand also, the lack of significant relationship between the banking system and *BCON* is equally not sensitive to banking performance indicators.

Furthermore, the significant impacts of bank specific factors such as *COSTINC* and *ZSCORE* on banking system appears to be more pronounced when bank performance in

West Africa is measure via net interest margin. Although the direction of their impacts tends to vary, yet the evidences are consistent with the aprior expectation of the study. For instance, the evidence of significant negative impact of COSTINC on NIM is consistent with theory that the higher costs of operation negatively affect bank performance, while the positive relationship between ZSCORE and NIM on the other hand implies stability of banking system in West Africa. These notwithstanding, there is an indication that the performances of these bank specific factors (i.e. COSTINC & ZSCORE) are sensitive to measure of bank performance that is under consideration. Hence, the macroeconomic variables chosen for this study, which include growth rate measured as log of real GDP and price level (inflation rate), empirically exerts no significant impact on bank performance.

Table 4: Two Step System-GMM Panel Estimation Regression Results (Baseline Model)

	<i>Model (1) Net Interest Margin (NIM)</i>	<i>Model (2) Return on Asset (ROA)</i>	<i>Model (3) Return on Equity (ROE)</i>
<i>NIM (-1)</i>	0.5383*** (0.223)	-	-
<i>ROA (-1)</i>	-	0.0485 (0.058)	-
<i>ROE (-1)</i>	-	-	0.1736 (0.125)
<i>COSTASST</i>	0.9166*** (0.175)	0.3775*** (0.084)	1.8537* (1.107)
<i>BCON</i>	0.0114 (0.008)	0.0141 (0.009)	0.1262 (0.293)
<i>COSTINC</i>	-0.0669*** (0.025)	-0.1404*** (0.016)	-0.4463 (0.480)
<i>ZSCORE</i>	0.0396*** (0.009)	-0.0004 (0.011)	-0.0829 (0.149)
<i>RGDPC</i>	0.2260 (0.156)	0.2042 (0.139)	1.9614 (5.077)
<i>INF</i>	0.0293 (0.060)	-0.0123 (0.017)	-0.0714 (0.351)
AR(2) (P-value)	0.260	0.491	0.450
Sargan test (P-value)	0.372	0.087	0.142
Hansen J-test (P-value)	0.688	0.478	0.233
Instruments	11	11	11
Observations	153	153	153
Countries	11	11	11

Note: ***, **, and * implies significance at 1%, 5%, and 10% respectively, while values in parenthesis denotes standard errors of the estimates.

In order to account for the role of institutional environment, each regression model denoting specific measure of bank performance ranging from NIM, ROA and ROE were further extended. For example, results from the regression with NIM as the dependent variable are depicted in Table 5(a), while Tables 5(b) and 5(c) present results from regressions with ROA and ROE as dependent variables respectively. Thus, the governance indicators ranging from the general aggregation index (AGGCOM), institutional index (rule of law and control of corruption (INS)), economic index (regulatory quality and government effectiveness (ECO)); and political index (political stability and voice and accountability (POL)) are introduced into the respective regression individually in order to prevent presence of autocorrelation in the model.

Table 5: Two Step System-GMM Panel Estimation Regression Results (*Extended Model*)

Table 5(a): Dependent Variable (NIM)				
	<i>Regression (1)</i>	<i>Regression (2)</i>	<i>Regression (3)</i>	<i>Regression (4)</i>
<i>NIM (-1)</i>	0.4853**(0.214)	0.5176**(0.232)	0.4897**(0.218)	0.4863**(0.200)
<i>COSTASST</i>	0.9285*** (0.126)	0.8934*** (0.136)	0.9197*** (0.132)	0.9310*** (0.131)
<i>BCON</i>	0.0057(0.041)	-0.0021(0.049)	-0.0019(0.045)	0.0093(0.039)
<i>COSTINC</i>	-0.0691**(0.029)	-0.0669** (0.030)	-0.0707** (0.029)	-0.0699** (0.029)
<i>ZSCORE</i>	0.0216(0.049)	0.0121(0.058)	0.0059(0.059)	0.0331(0.044)
<i>RGDPC</i>	0.2439(0.408)	0.1524(0.515)	0.0543(0.541)	0.2954(0.389)
<i>INF</i>	0.0224(0.033)	0.0153(0.033)	0.0133(0.035)	0.0296(0.038)
<i>AGGCOM</i>	1.1870** (0.469)	-	-	-
<i>INS</i>	-	1.4429** (0.701)	-	-
<i>ECO</i>	-	-	1.5862* (0.933)	-
<i>POL</i>	-	-	-	0.5053*** (0.186)
AR(2) (P-value)	0.336	0.323	0.306	0.351
Sargan test (P-value)	0.425	0.301	0.346	0.511
Hansen J-test (P-value)	0.675	0.624	0.625	0.738
Instruments	12	12	12	12
Observations	153	153	153	153
Countries	11	11	11	11
Table 5(b): Dependent Variable (ROA)				
	<i>Regression (1)</i>	<i>Regression (2)</i>	<i>Regression (3)</i>	<i>Regression (4)</i>
<i>ROA (-1)</i>	-0.0976(0.149)	-0.0927(0.145)	-0.11567(0.164)	-0.0737(0.128)
<i>COSTASST</i>	0.4830** (0.219)	0.4699** (0.191)	0.4854*** (0.183)	0.4525** (0.187)
<i>BCON</i>	0.0320(0.092)	0.0254(0.081)	0.0359(0.074)	0.0186(0.081)
<i>COSTINC</i>	-0.1483*** (0.018)	-0.1504*** (0.017)	-0.1491*** (0.014)	-0.1485*** (0.020)
<i>ZSCORE</i>	0.0187(0.087)	0.0148(0.079)	0.0293(0.080)	0.0031(0.073)
<i>RGDPC</i>	0.2647(1.012)	0.1985(0.893)	0.3566(0.8785)	0.1532(0.938)
<i>INF</i>	0.0011(0.029)	0.0018(0.031)	0.0098(0.035)	-0.0070(0.021)
<i>AGGCOM</i>	--0.4741(0.545)	-	-	-
<i>INS</i>	-	-0.6657(0.613)	-	-
<i>ECO</i>	-	-	-0.9799(1.018)	-
<i>POL</i>	-	-	-	-0.0550(0.306)
AR(2) (P-value)	0.442	0.425	0.416	0.449
Sargan test (P-value)	0.530	0.440	0.554	0.469
Hansen J-test (P-value)	0.665	0.694	0.740	0.603
Instruments	12	12	12	12
Observations	153	153	153	153
Countries	11	11	11	11
Table 5(C): Dependent Variable (ROE)				
	<i>Regression (1)</i>	<i>Regression (2)</i>	<i>Regression (3)</i>	<i>Regression (4)</i>
<i>ROE (-1)</i>	0.7804*** (0.284)	0.7599*** (0.234)	0.7621*** (0.259)	0.7689*** (0.218)
<i>COSTASST</i>	1.2315(2.927)	1.2363(2.494)	1.4346(2.144)	1.2098(1.509)
<i>BCON</i>	-0.2194(1.382)	-0.2331(1.152)	-0.1506(1.025)	-0.2125(1.509)

<i>COSTINC</i>	-0.2574(0.205)	-0.2733(0.200)	-0.2602(0.212)	-0.2516(0.239)
<i>ZSCORE</i>	-0.1457(1.273)	-0.1815(1.096)	-0.1342(1.059)	-0.0924(1.347)
<i>RGDPC</i>	-1.3157(14.811)	-1.6246(12.772)	-1.0353(12.227)	-1.2235(16.499)
<i>INF</i>	-0.2497(0.606)	-0.2429(0.555)	-0.2364(0.572)	-0.1944(0.541)
<i>AGGCOM</i>	3.8928(8.935)	-	-	-
<i>INS</i>	-	3.7503(10.648)	-	-
<i>ECO</i>	-	-	5.0462(15.734)	-
<i>POL</i>	-	-	-	1.6864(1.738)
AR(2) (P-value)	0.508	0.499	0.464	0.488
Sargan test (P-value)	0.553	0.557	0.556	0.588
Hansen J-test (P-value)	0.626	0.610	0.598	0.653
Instruments	12	12	12	12
Observations	153	153	153	153
Countries	11	11	11	11

Note: ***, **, and * implies significance at 1%, 5%, and 10% respectively, while values in parenthesis denotes standard errors of the estimates.

In consonance with our baseline regressions, all the extended regressions satisfy the specification tests thus suggesting that our instruments are valid and there exists no evidence of second order serial correlation in our regressions. Precisely, we test the specification of the equations via the Arellano-Bond test for the second order serial correlation, the Hansen and Sargan tests of over-identifying restrictions tests and all the test results suggest rejection of the respective null hypothesis. Again, reports in Table 5 seem to have reveals some evidences that are consistence with findings from our baseline analyses. The own innovation coefficients proxied by the lagged of the respective measures of bank performance shows that the dynamic characteristic of banking system in West Africa can be significantly explain via net interest margin (NIM) and Return on Equity (ROE).

Similarly, banking activities measure via NIM and ROA tends to respond significantly to variations in bank overhead cost to total assets (COSTASST) and bank cost to income ratio (COSTINC). Although, it is expected that overhead costs would be high in developing economies such as West Africa and we therefore, expect (COSTASST) to enter the regression with a negative sign. However, the positive and significant coefficient in our results, instead, suggest that banks in West Africa are not able to pass on most of the high overhead costs to customers through higher spreads in order to keep profits unaffected. On the other hand however, the evidence of significant negative impact of COSTINC on NIM seems to be line with theoretical expectation that higher costs of operation are expected to negatively affect bank performance. Again, the macroeconomic factors included in the model seem to be exhibiting insignificant positive effects on NIM and ROA, but on the other hand they negatively and insignificantly affect ROE for the period under consideration. These findings are similar to the evidence presented in our baseline reports; and thus further indicate poor influences of macroeconomic factors on banking system in West Africa region.

In addition to bank-specific and macroeconomic factors that have been identified as determinants of bank performance in the course of our analyses thus far. We further accounts for the role of institutional environment to strengthening our understanding on the probable factors responsible for banking system in West Africa. Essentially, the institutional environment either in its whole composite forms or when disaggregated into economic,

political, and institutional components have shown to be empirically viable for explaining bank performance in West Africa. Going by the signs and significances however, it is apparent that the impacts of each of the institutional dimensions; as well as the aggregate composite index on banking system appears to be sensitive to measure of bank performance that is under consideration. For instance, the positive responses of banking system to the respective institutional dimension considered are shown to be significantly pronounced when bank performance is measure via net interest margin (NIM). It is also interesting to note that of component dimensions, the political dimension impact of the institutional quality insert most significant impacts on bank performance (i.e. NIM) judging by its 1% level of significances. This in way may be attributed to the spread of democracy system of governance in the region, which has relatively stem the spates of political bickering among different warring factions as well as flagrant abuses of fundamental human rights.

CONCLUSION AND POLICY RECOMMENDATIONS

In addition to many bank-specific and macroeconomic factors that have been identified both in theory and empirics as determinants of bank performance. The study further accounts for the role of institutional environment to strengthening our understanding of the probable factors responsible for banking system in West Africa. Utilizing two step system GMM panel technique, the study empirically shows that the impact of institutional environment either in its whole composite forms or when disaggregated into economic, political, and institutional components are sensitive to the measure of bank performance under consideration. That is, the viability of the institutional dimensions; as well as the aggregate composite index for explaining banking system in West Africa are found to be significantly pronounced when bank performance is measure via net interest margin (NIM). More so, bank performance via NIM when compare to other measures; such as ROA and ROE tends to respond more significantly and favourably to bank specific factors namely COSTASST, COSTINC and ZSCORE. As a policy recommendation for the authorities, we suggest for reforms that would enhances the positive influence of institutional environment on banking system in West Africa. More so, a better supervision for an effective management of bank's overhead cost (COSTASST) must be ensured in a way that it would not discourage banking behaviour in the region.

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