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Institutional challenges for lending organizations in the West African housing finance system

By Basirat Oyalowo and Timothy Gbenga Nubi

1. Introduction

The functions that lending organizations perform in the housing market are generally broad and impact on national development, especially where the mortgage market is embedded in the macro-economic financial policy. Major functions include the mobilization of household savings, allocation of funds for lending to loan seekers, allocation of domestic and international funds to the local housing sector, differentiated loan product design and also, integration of the housing system into the local and global financial markets (Forrest, 2008; Renaud, 1985). As most of these functions can be achieved through policy liaisons with government regulatory agencies, the effectiveness of lending organizations rests on the policy environment in which they operate. However, some institutional factors act to constrain the ability of lending organizations to carry out lending activities. Institutional factors are here defined as the macro-economic and financial infrastructures acting on the capacity- and willingness- of fund suppliers to provide accessible (to the borrowers) and profitable (for themselves) housing funds across various income groups. Without a cohesive framework that integrates the profit seeking motives of formal lending organizations with the social obligation of the government, the general housing sector might become dysfunctional. This could account for the informality inherent in the housing finance sector in developing countries, where the contribution of formal lending organizations to the market has been minimal (Chiqiuer et al., 2004; Erbas and Nothaft, 2005; Nubi, 2010). Across emerging economies, the scale of residential lending is small, expensive and thus poorly accessible, with lenders being exposed to several risks- credit, liquidity and interest rate risks (Chiquier et al., 2004). Further, in Africa, a shortage of homes for sale in the open market has led to widespread adoption -by all income classes-of self-build options, with finance sourced from informal means (Centre for Affordable Housing Finance in Africa CAHFA, 2011). The limitations affecting the participation of formal lending organizations in the housing sector could also be a contributory factor to this state of affairs. The aim of this study is therefore to examine the institutional constraints acting on the ability of lenders to carry out loan mobilization functions in the West African region. Loan mobilization in this context, relates to the ability of the formal lenders to gather sufficient funds from borrowers through the savings and mortgages they (borrowers) make in the formal sector. The study is therefore limited to studying constraints on the supply side, from which inferences about the necessary and sufficient criteria for their enhanced participation in the market can then be drawn.

In subsequent sections, the institutional conditions necessary for the mobilization of housing finance by formal lending organizations are examined. Next, these conditions are highlighted in relation to the West African context. The study methodology is thereafter presented; followed by a discussion and concluding remarks.

2. Institutional conditions for market-based housing finance systems

The influence of institutional factors on housing finance mobilization has been studied in varying depths in a number of studies. However, there is a dearth of comparative research focused on the West African region. For instance, Erbas & Nothaft (2005) presented a case for the introduction of mortgage suppliers in five Middle East and North African countries. Djankov, McLeish & Shleifer (2006) investigated cross-country determinants of private credit using data on legal rights and private and public credit registries in 129 countries between 1978 and 2003. They found that legal creditors' rights and existence of information sharing institutions are statistically significant in the private credit development of these countries.

Chiquier et al. (2004) focused on emerging countries spread across Latin America, Asia, Eastern Europe and the Middle East. The study examined the experience in developing mortgage securities development in emerging countries with case-studies of eight emerging economies. They argue that a country must have sufficient legal, regulatory and primary market infrastructure to be able to tap into more formalized sources of finance such as mortgage securities.

Renaud (2004 in Warnock and Warnock, 2008) examined the constraints on mortgage finance in emerging economies and noted that macro-economic stability, property registration and development of modern mortgage laws are a pre-requisite for the development and growth of mortgage markets, which is the foundation of formal housing finance.

More recently, Warnock & Warnock (2008) examined the determinants of housing finance in sixty two countries which included one West African country (Ghana). However, the authors concluded that a stable macro-economic condition, strength of legal rights for borrowers and lenders, and deep credit information systems contribute to deeper housing finance systems.

Similarly, Butler, Kravkova and Safavian (2009) examined the regulatory efficiency in the mortgage registration and title transfer process as well as ease of foreclosure in 42 countries. They concluded that the size of housing finance markets depends on land rights, income distribution, macro-economic stability, financial market depth, urban planning policies and the availability of other sources of long-term finance. They also reiterated the need for ease of mortgage registration, title transfer and ease of foreclosure processes as conditions necessary for the development of housing finance markets. More recently, Adams & Fuss (2010) determined the impact of macro-economic variables on house prices. Using panel data on macroeconomics and housing markets for 15 countries over 30 years; they found that interest rates and construction costs had significant average long-term impacts on house prices in the 15 OECD countries studied.

While providing significant insights into the factors underpinning the performance of housing markets in several developed countries; none of these studies presented targeted and detailed analyses of the constraints acting against developing countries-such as in Sub-Saharan Africa-as a whole, despite the increasing potential of the region as a possible property investment destination (Centre for Affordable Housing Finance in Africa CAHFA 2011). In filling this gap, the most prominent institutional factors identified in the literatures (with consideration for availability of data) are selected and analyzed in relation to the West African region.

2.1 The current situation in West Africa

A number of factors have been identified in the literature as being integral to the development of mortgage finance, which has become synonymous with formal housing finance for developing countries (see Chiquier and Lea 2009).

The strength of mortgage lending in a country is enhanced by the ability of financial institutions to gather loans from savings and thereafter disburse effectively across all geographical locations of the country (Renaud, 1985). This requires stable macroeconomic conditions where inflation rates are low and stable over time, with a balanced distribution of income and single digit interest rates. Apart from this, the quality of access to credit information by lenders is also important, as it facilitates the development of various loan structures to suit the needs of borrowers; while also ensuring that lenders can carry out objective verification of the ability of potential borrowers to repay the loans and also ascertain the soundness of their collateral (The World Bank, 2009). This information could be accessed from private credit bureaus or public registries or both.

Lending activity is enhanced by the ability of lenders to foreclose on defaulters' properties quickly and easily. Ease of foreclosure has been found to be a significant factor in regulatory efficiency in housing finance systems (Butler et al., 2009).

The legal powers of lenders are also enhanced by the quality of the country's property registration system, which should be quick, relatively cheap and not bureaucratic. Thus, these factors: strength of mortgage lending, stable macro-economic conditions, access to credit information networks, legal power of lenders and property registration systems, are examined in this paper as integral conditions to mobilizing funds from the market.

2.1.1. Strength of Mortgage Lending

The ratio of mortgage lending to GDP is the measure of the financial resources provided by the private sector in the form of mortgages. It is a direct measure of mortgage lending in a country. Available data (CAHFA, 2011) shows that this data is available for only a few West African States. As at 2009, Nigeria has 0.4%, Ghana has 0.2% and Senegal 2% mortgage lending to GDP ratios. The small size across the three available countries where data is available is an indicator that the fund disbursement from the market to prospective home-owners is also low in the region.

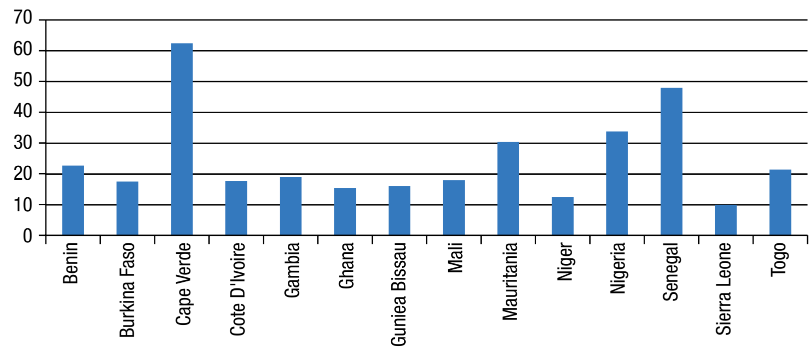
The absence of data for other West African countries is an indication of either its non-existence, or lack of measurement and probable insignificance to the national economy. In view of this, a more widely available indicator of the ratio of private credit to GDP- is used as a proxy for the depth of mortgage lending to GDP. The private credit to GDP ratio captures all the private sector debts in the market: of which mortgage debts are a component. It would therefore give an insight into the upper limit of the potential size of the mortgage market and its contribution to the national GDP.

Figure 1 below shows average private credit to GDP ratios for 2009 and 2010 for 14 West African countries as available from the World Bank (2011) data base. It shows that Cape Verde (at 62%) and Senegal at (48%) are two countries where the private credit ratio appears significant. It is therefore probable that the mortgage credit component of this ratio in comparison with the GDP is accordingly low.

2.1.2 Macro-Economic Stability

For the purpose of this study, inflation rates and GDP are utilized as the indicators of macro-economic stability. Inflation figures are gathered for all 16 West African countries from the database of the African Economic Outlook for the 2009 to 2012 period. Fig.2 shows the average inflation rates between 2009 and 2012. Due to lack of access to uniform datasets in each country, inflation rates for some years were projected in the original data source (Africa Economic Outlook report). Inflation rates across West Africa are currently in the single digit range and with the exception of countries like Liberia, Niger and Senegal, inflation rates have actually been declining within the past three years. Despite this, there is need to be con-

Figure 1 **Average private credit to GDP ratios (2009-2010) in West Africa**



Source: Adapted from The World Bank (2011) cerned about inflation changes in the region in the years to come; as increases in inflation could affect sound macro-economic management and stability in the region. As West African countries do not generally have social security systems to cushion macro-economic fluctuations; increases in the price of basic consumer goods and social services would further reduce savings and investment, reducing the pool of funds available for lending in the market.

In terms of economic growth as measured by increases in GDP in the region, the trend had been positive. West African countries such as Senegal, and Guinea Bissau saw accelerated growth in the 2007-2008 period. Good climatic conditions had aided agricultural performance, and high commodity prices increased the region's GDP from 4.6% in 2006 to 5.1% in 2007 ((ECA, AU & ADBG, 2010). However by 2009, the effects of the global recession had resulted in growth stagnation across most of the West African countries. For instance, Guinea recorded 0% growth and Ghana witnessed a 4.5% increase. By 2010, growth had rebounded across a number of countries such as Nigeria and Cape Verde as a result of increased domestic demand and status as an oil exporting country (Economic Report for Africa, ERA 2011).

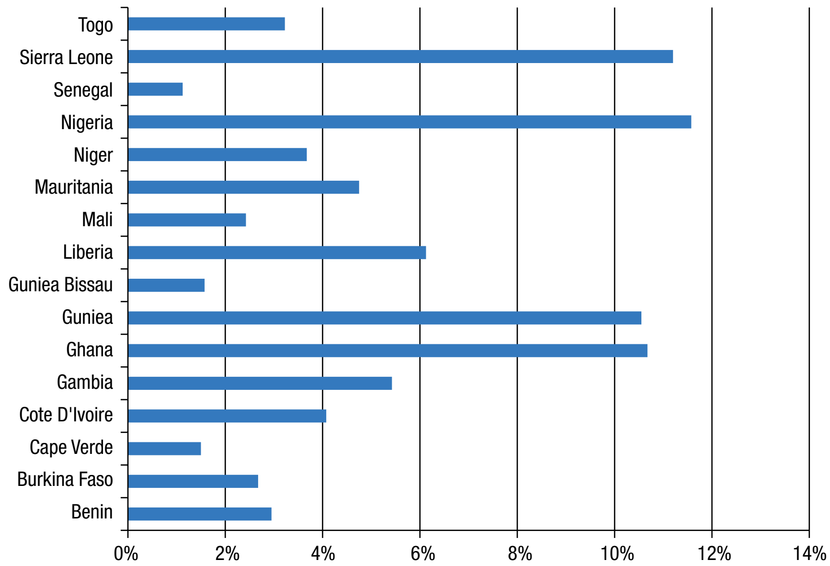
2.1.3 Access to Credit Information

Three indicators: the depth of credit information index, public registry coverage and private bureau coverage were collected from the Doing Business report's credit information section to determine whether financial institutions had access to information to determine the credit worthiness of potential borrowers. Data was collected for four years; between 2009 and 2012. The data showed that private registry coverage is virtually non-existent in West Africa. Ghana is the only country that has adult population coverage in private credit bureaus in the region, with average of 6% coverage over the four years measured. Although Nigeria recently (2nd quarter 2010) incorporated three private credit bureaus, their performance in terms of coverage is yet to be integrated in the Doing Business reports. As shown in fig 4 below, with over 20% coverage, Cape Verde has the highest public credit information bureau coverage in West Africa. Other countries such as Benin, Mali and Senegal have public bureau coverage, but have not achieved up to 15% coverage over the period measured. Across all the regions of the world, the Economic Community of West Africa States (ECOWAS) region has the lowest depth of credit information.

2.1.4 Ease of Registration of Property

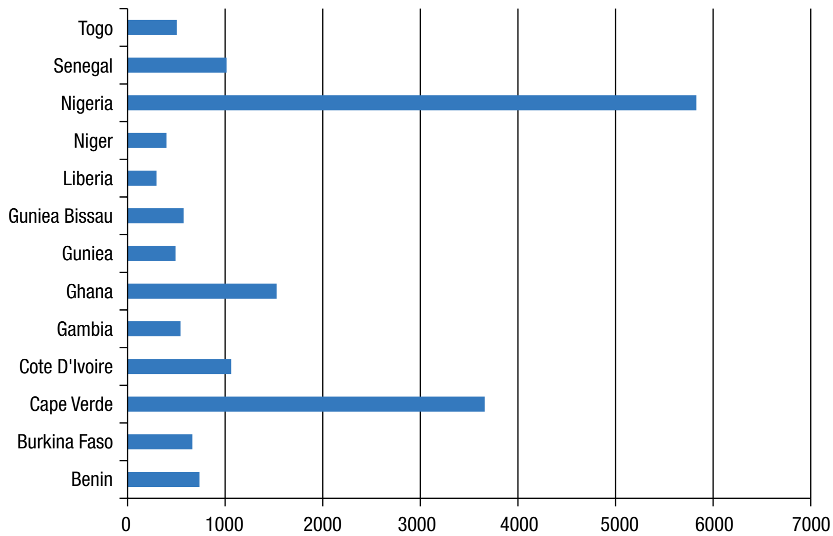
To test the quality of the institutional structures necessary to register properties in the region, data was gathered from the Doing Business reports (registering property section) for four years (2009-2012). In this period, at least one West African country was at the bottom of the rating schedule in each of the three indicators measured; on a global scale. The indicators, shown in tables 1, 2 and 3 are: number of procedures necessary to transfer property title, time to register property measured in days and cost to complete registration measured as a percentage of property value. At 13 stages, Nigeria has one of the highest numbers of procedures to register properties globally-although reforms are being carried out in the sector

Figure 2 **Average percentage inflation 2009-2012 (projected) across West Africa**



Source: www.tradingeconomies.com; African Economic Outlook Database (2012).

Figure 3 **GDP per capita (USD) across West Africa (2011)**



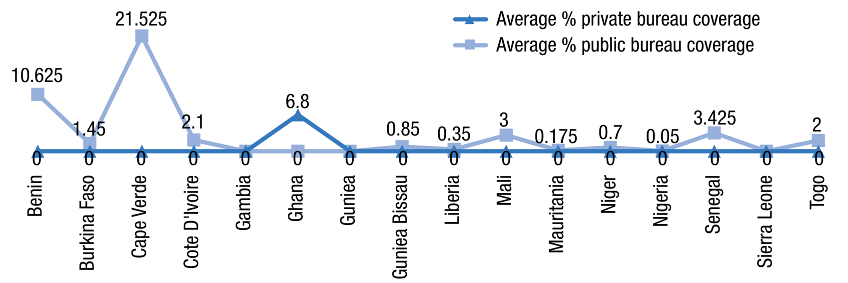
Source: African Economic Outlook Database (2012) through the introduction of GIS mapping and computerized registration systems in several states of the country; the effect of this reform is yet to be measured. Four West African Countries –Guinea Bissau, Sierra Leone, Togo and The Gambia were amongst the slowest countries in which to have a property registered (table 2). Globally, the cost of registering properties is highest in several West African States: Cote d'Ivoire, Guinea, Mali, Senegal, and Nigeria. However, in Burkina Faso, new regulations were made to recognize the land registry and establish statutory time limits for registration procedures. The Doing Business reports therefore present Burkina Faso as a global best practice country.

2.1.5 Ability to secure collateral by lenders

Data is gathered for the years 2009 to 2012 from the World Bank's Doing Business reports to test the extent of the legal powers of lenders. The legal right index ranges from 0 (weak legal rights) to 10 (strong legal rights).

Fig. 5 shows that across West Africa, Nigeria, Gambia, Ghana and Sierra Leone ranked above average in the legal strength of lenders' ranking. The ability of lenders in the region to seize properties used as collateral in the case of default is therefore generally not strong. Since loan recovery is hinged on successful foreclosures; lenders might not be encouraged to participate in loan disbursement in the face of weak legal rights.

Figure 4 Average % adult coverage on public and private credit information bureau across West Africa 2009-2012



Source: World Bank's Doing Business West Afican Regional Reports 2009, 2010, 2011 & 2012)

Table 1: Number of procedures to register property (2009-2012)

COUNTRIES	PROCEDURES TO REGISTER				AVERAGE
	2009	2010	2011	2012	2009-2012
Benin	3	4	4	4	3.8
Burkina Faso	8	6	4	4	5.5
Cape Verde	6	6	6	6	6.0
Cote d'Ivoire	7	6	6	6	6.25
Gambia	5	5	5	5	5.0
Ghana	5	5	5	5	5.0
Guinea	6	6	6	6	6.0
G/ Bissau	9	9	9	8	8.8
Liberia	13	13	10	10	11.5
Mali	5	5	5	5	5
Mauritania	4	4	4	4	4
Niger	5	4	4	4	4.3
Nigeria	14	14	13	13	13.5
Senegal	6	6	6	6	6
Sierra Leone	8	7	7	7	7.3
Togo	5	5	5	5	5

Source: World Bank Doing Business West Africa Regional Reports 2009, 2010, 2011

Table 2: Time to register property (2009-2012)

COUNTRIES	TIME TO REGISTER PROPERTY (DAYS)				AVERAGE
	2009	2010	2011	2012	2009-2012
Benin	11.8	120	120	120	93
Burkina Faso	12	136	59	59	67
Cape Verde	73	73	73	31	63
Cote d'Ivoire	62	62	62	62	62
Gambia	371	371	66	66	219
Ghana	34	34	34	34	34
Guinea	104	104	104	59	67
G/ Bissau	211	211	211	210	210
Liberia	50	50	50	50	50
Mali	29	29	29	29	29
Mauritania	49	49	49	49	49
Niger	32	35	35	35	34
Nigeria	82	82	82	82	82
Senegal	114	124	122	122	121
Sierra Leone	235	86	86	86	123
Togo	295	295	295	295	295

Source: World Bank Doing Business West Africa Regional Reports 2009, 2010, 2011 & 2012

Table 3: Cost to register across West Africa (2009-2012)

COUNTRIES	COST TO REGISTER PROPERTY (% OF PROPERTY VALUES)				AVERAGE
	2009	2010	2011	2012	2009-2012
Benin	11.4	11.9	11.8	11.8	46.9
Burkina Faso	12.2	10.2	13.1	12.8	12.1
Cape Verde	7.7	7.6	3.9	3.9	5.8
Cote d'Ivoire	16.9	13.90	13.9	13.9	14.7
Gambia	7.6	4.6	7.6	7.7	7.0
Ghana	1.3	1.2	1.0	0.7	1.0
Guinea	15.3	13.90	14.0	14.4	14.4
G/ Bissau	5.4	5.4	6.1	10.6	6.9
Liberia	14.9	14.7	13.2	13.1	13.9
Mali	21.2	20.30	11.9	12.1	35.7
Mauritania	5.2	5.2	5.2	4.7	5.0
Niger	9.0	11.0	11.0	11.0	10.5
Nigeria	22.2	21.9	20.9	20.8	21.4
Senegal	19.5	20.60	20.6	20.3	20.3
Sierra Leone	14.9	12.90	12.2	11.8	12.9
Togo	13.9	13.40	13	13	53.3

Source: World Bank Doing Business West Africa Regional Reports 2009, 2010, 2011

3. Method

Data was gathered in respect to the variables discussed in the previous section for16 West African countries over the short-term (4 years from 2009-2012) period. These were averaged to allow the computation using bootstrap regression method. However, as shown in the previous section, not all data was available for all countries across all variables. For instance, it should be noted that due to limited data, the private credit to GDP ratio is adopted as a proxy for the mortgage credit to GDP ratio and serves as the dependent variable. While it is recognized that the mortgage credit to GDP ratio is a more appropriate measure of nation's formal housing finance depth (Chiquier and Lea, 2009); this strategy was adopted due to lack of data on the mortgage credit to GDP across several West African countries (data was available for only three countries). In addition, the private credit to GDP ratio captures all the private sector debts in the market: of which mortgage debts are a component. Its use as a proxy also provides an indication of the upper limit of the potential size of the mortgage market. Independent variables for the study are inflation, depth of credit information systems (measured by percentage of adults covered by either a private or public credit bureau), property registration index (measured by three variables: time to register property, cost of registering property and number of procedures needed to register a property), and finally, depth of legal strength. The use of secondary data from a number of institutional sources (the World Bank, International Monetary Fund, African Development Bank, Economic Commission for Africa and Africa Economic Outlook) was necessary due to lack of a single, concise database on housing finance for the region. It is therefore noted that this study is limited to the extent of the accuracy of the data from these sources. Having obtained secondary data, for each of the dependent and independent variables, 'bootstrap regression analysis' was utilized to determine which of these institutional factors present(s) the most significant challenges to the participation of lenders in the West African region.

The descriptive statistics shown in table 4 below indicate that the average depth of credit to GDP in West Africa over the four years studied was 23%. Inflation averaged 4.5%; while the average depth of the credit information systems ranking was 3.6. The mean ranking on the registration of property index and strength of legal rights were 6.6 and 3.9 respectively.

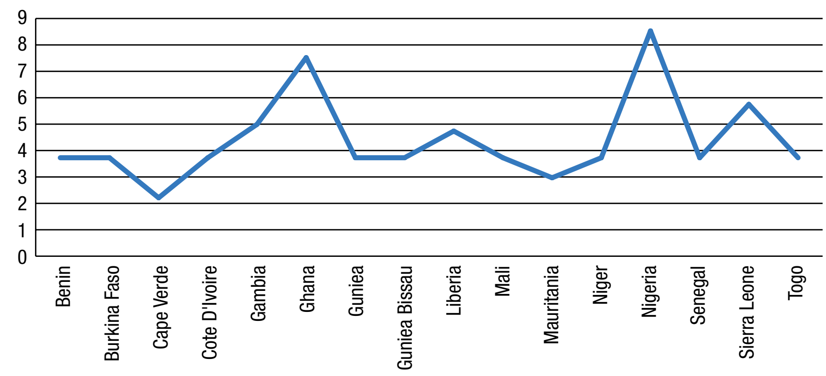
The descriptive statistics shown in table 4 below indicate that the average depth of credit to GDP in West Africa over the four years studied was 23%. Inflation averaged 4.5%; while the average depth of the credit information systems ranking was 3.6. The mean ranking on the registration of property index and strength of legal rights were 6.6 and 3.9 respectively.

In order to ascertain which of these factors presents the most significant challenge to lending organizations in the West Africa region, the data presented above were subjected to statistical analysis, which is presented in the next section.

Pearson correlation was then used to determine the degree of association between the variables-Private credit to GDP as the dependent variable; and inflation, depth of credit information systems, ranking on property registration and strength of legal rights as independent variables. It was determined that at 0.726 (p value<0.05), there is a significant, positive relationship between the strength of information systems and the depth of private credit to GDP. This is the only institutional factor that has a positive significant relationship with the private credit to GDP ratio. It can be inferred from this that if the credit information system across West African countries is deepened to allow access to credit information on loan seekers; the volume of private credit to GDP may increase.

The reliability of the data set in reaching this conclusion is ascertained in a number of ways. First, by the calculation of the multiple coefficient of determination R2, which measures the degree of fitness of the regression to the data by determining the average correlation and percentage of variation of the dependent variable (depth of private credit to GDP) explained by the independent variables (inflation, depth of credit information systems, ranking on property registration and strength of legal rights). This is found to be 0.785% for West Africa. The adjusted multiple coefficient of determination R-2 is further determined as 55%. It is adjudged that at 55%, the regression model somewhat fits adequately with the data, and that the independent variables

Figure 5 Average rating on powers of lenders across West Africa (2009-2012)



Source: World Bank Doing Business West African Regional reports 2009,2010, 2011 & 2012

Table 4: Pearson correlations and descriptive statistics

		Depth of credit to GDP	Inflation	Strength of credit information systems	Registration of property index	Strength of legal rights index	Mean	Std.	N
WEST AFRICA	Depth of private credit to GDP	1					23.396	15.230	28
	Inflation	-.203	1				4.559	4.351	28
	Strength of credit information systems	.726***	-.358	1			3.657	6.000	28
	Registration of property index	.005	.501***	-.249	1		6.61	2.885	28
	Strength of legal rights index	-.089	.733***	-.416***	.512***	1	3.96	1.796	28

***. Correlation is significant at the 0.05 level (2-tailed). Bootstrap results are based on 1000 bootstrap samples. West Africa: R = 0.785. Adjusted R Square = 0.550.

somewhat explain the dependent variable. As the adjusted R2 shows the multiple coefficient of determination corrected for degrees of freedom, similar results across the two tests would imply fitness of the data to the regression. The two results, at 0.785 and 0.55 are adjudged to be closely fit. The reliability of the result is also supported by the Analysis of Variance test. The ANOVA table (table 5) shows that the F ratio for the regression across West African states is 9.259 with P-value <0.05. The F ratio is the ratio of the average variability in the dependent variable that a given model can explain. Since the values for West Africa are a significant, the independent variables are adequate for the regression analysis.

Third, the variance inflation factor Variance Inflation Factor (VIF) is utilized to determine the existence of multi-collinearity in the data set. The Bootstrap regression co-efficient in table 3 shows that the VIF for all independent variable across both West African states is not up to 5 thereby showing little or no existence of multi-collinearity in the regression models. This further increases the reliability of the dataset and the independent variables adopted for the study.

The result of the Bootstrap Regression Analysis in table 6 below indicates that only the credit information system has a significant effect on the private credit to GDP ratio (significant at 0.000 with p-value<0.05). The standard coefficient (beta) also shows that strength of information systems has the highest effect followed by inflation and legal rights. It can therefore be concluded that the strength of credit information has a direct effect on the depth of private credit to GDP in West Africa.

3.1 Discussion

Unlike previous studies such as Warnock and Warnock (2008) and Butler et al. (2009) which showed that across developed countries, the variation in the strength of the legal rights accounted for the depth of the housing finance system, the bootstrap regression analysis shows that strength of credit information systems is the most significant institutional factor affecting the participation of lenders in housing fund supply in West Africa. The implication of these findings is that should West African countries provide better mechanisms for efficiently capturing credit history information on fund seekers; there is a possibility of increased interest in lending activities generally, which could spill-over into the mortgage market. This therefore forms the most important criteria for fund mobilization in the region. However, government support is crucial to achieve this objective.

The documentation of borrowers' income is necessary and should form the basis of objective assessment of capacity to repay loans. Similarly, an objective assessment of a borrower's credit history assures increased capacities to take informed risks and hence the development of alternative finance products for various classes of lenders (IMF, 2008). However in West Africa, most incomes are earned in the informal sector where documentation is rare. The government can intervene by establishing a formal relationship with thrift and credit societies that are traditional local savings outlets for this category of people. This could be achieved by strengthening them through local capacity development efforts and then introducing them to modern financial records management that could feed back into the formal credit information system. In this way, the local thrift and credit societies could be gradually formalized and utilized by more sophisticated credit information bureaus.

The establishment of public credit information bureaus and promotion of private credit information bureaus are very important roles governments can play in creating an 'enabling' environment for formal fund suppliers (Butler et al, 2009; Genworth Financial, 2008) while fund suppliers themselves should be equipped with the capacities to evaluate credit risks. As already happens in countries with higher ratings in the credit information index, these credit bureaus should be ready to share collected (positive and negative) credit information with other lenders and also allow borrowers to check their credit records.

Further, to ensure that access to funds by low income groups is protected; governments would have to provide guarantees for lending to certain target groups. These state guarantees ensure that the challenge to provide housing finance to subprime lenders can be tackled by the private sector. Further, the cost of capital for housing finance should not be left wholly to the operations of the market, but could be tailored toward the affordability of the people they are meant to serve. South Africa for instance, has developed housing finance mobilization and housing market stabilization policies to achieve this (Gardner, 2008).

Housing markets are susceptible to national policies relating to land-use and construction laws, price controls, and governance of institutions, allocation policies, taxation and savings mobilization (Forest, 2008). Thus, another critical role of the government is to ensure that the macro-economic and most importantly, the political-economy structure is stable and conducive for the operations of formal housing finance providers.

All these could be accommodated in a framework aimed at sustainable financial development, which would span from establishment of macro-

Table 5: Analysis of variance (ANOVA)

Split	Model	Sum of squares	df.	Mean Square	F	Sig.
West-African Countries	Regression	3863.572	4	965.893	9.259	0.000
	Residual	2399.377	23	104.321		
	Total	6262.950	27			

Table 6: Bootstrap regression coefficients

Split model	Unstandardized coefficients		Standardized coefficients	t.	Sig.	Correlations			Co-linearity statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(constant)	2.463	6.738		.366	.718					
Inflation	-.853	.683	-2.44	-1.251	.223	-.203	-.252	-.162	.439	2.279
Strength of credit information systems	2.091	.362	.824	5,782	.000	.726	.770	.746	.820	1.219
Registration of property index	.792	.813	.150	.974	.3440	.005	.199	.126	.703	1.423
Strength of legal rights index	3.013	1.706	.355	1.767	.091	.089	.346	.228	.412	2.425

****. Correlation is significant at the 0.05 level (2-tailed). Bootstrap results are based on 1000 bootstrap samples. West Africa: R = 0.785. Adjusted R Square = 0.550.*

economic policies, to the development of financial infrastructures, upgrading of human capital, the development and deepening of appropriate institutions and finally, the development of capital markets and other institutions.

4. Conclusion

The effectiveness of formal lending organizations in performing their functions in the housing market rests on the policy environment in which they operate. Further, several institutional factors have been identified as criteria needed for the effective performance of these functions. This study examined the institutional constraints acting on the ability of lenders to carry out loan mobilization functions in the West African region, and finds that the limited effectiveness of the credit information systems (as a result of lack of credit information bureaus) is a major constraint. Against the backdrop of previous studies in developed countries, this finding appears significant. Previous studies have identified several criteria for fund mobilization in developed countries to range from strong legal rights of lenders, to information sharing institutions, adequate legal, tax and accounting framework, macro-economic stability, property registration systems, urban planning policies and financial market depth. However, studies that have empirically tested for the strength of these criteria in the development of market processes have identified legal rights of lenders and existence of credit information institutions as the two most pertinent criteria. The result of the bootstrap regression analysis utilized in this paper shows that similar criteria are required in the West African region as are found in developed countries.

The lack of credit information bureaus in the region challenges the private sector to enter the housing finance sector by establishing private credit information bureaus. On the other hand, the need to set up credit information systems through public information bureaus by the government itself, or the facilitation of private sector credit information companies becomes urgent. However, current attempts at neo-liberalism across West Africa might negatively influence direct participation of government in these areas. It should be noted that in developed countries, an integration of government participation in the housing finance market has been achieved, with resultant increase in the sector's contribution to the GDP and improved access to housing finance for the people. The facilitation of governments in converting informal credit information from informal organizations to formal records is also necessary in the region. It is therefore argued that in realizing the criteria necessary for housing finance development in the region, the governments of West Africa should focus on the provision of direct, indirect and regulatory interventions to facilitate market-based forms of provision, rather than to take a completely passive policy of withdrawal and non-participation.

References

Adams Z, Fuss R. Macroeconomic determinants of international housing markets. Journal of Housing Economics 2010.19; 2010; 38-50.

African Economic Outlook (2012). "Data and Statistics." Available at www.Africaneconomicoutlook.org (accessed 20 June 2012)

Butler, S., Kravkova, M. and Safavian, M. (2009), "Mortgage registration and foreclosure around the globe: Evidence from 42 Countries". *Housing Finance International*, June (2009), pp.19-29.

Centre for Affordable Housing Finance in Africa (2011), "2011 Year-Book. Housing Finance in Africa" South Africa: Centre for Affordable Housing Finance in Africa

Chiquier, L., Hassler, O., and Lea, M. (2004), "Mortgage securities in emerging markets' financial sector operations and policy department", Working Paper 3370, The World Bank World Bank Policy Research, August 2004.

Djankov, McLeish, C. and Shleifer, A.(2005), "Private credit In 129 countries" Working paper 11078, National Bureau Of Economic Research, available at: http://www.nber.org/papers/w11078 (accessed 15 June 2009).

Economic Commission for Africa, Africa Union & Africa Development Bank Group (2010), 'Assessing Progress in Africa toward the Millennium Development Goals', available at http://www.africaunion.org/root/au/Conferences/2010/september/mdg/English%20MDGs%20report.pdf. (accessed 4 July 2010)

ERA (2011), "Economic Report on Africa", Available at http://new.uneca.org/era/era2011.aspx (accessed 18 July 2012)

Erbas, N. and Nothaft, F. (2005), "Mortgage markets in Middle East and North African Countries: Market development, poverty reduction, and growth", *Journal of Housing Economics* 14, pp.212–241.

Forrest, R. (2008), "Risk, governance and the housing market". *Housing Finance International*, vol. xxiii, 3-13.

Gardner, D. (2008). "Housing Microfinance in South Africa: status, challenges and prospects". South Africa: Finmark & Hivos.

Genworth Financial (2008). "Public/private partnership in housing finance: expanding access and ensuring financial system stability," in International Conference on Housing Finance in Emerging Markets: Lessons for development from the sub-prime crisis 2008, World Bank Headquarters Washington D.C, May 28-30

International Monetary Fund, (2008), "World economic outlook: Housing and the business cycle", available at http://www.imf.org/external/pubs/ft/weo/2008/01/ (accessed 16 April 2011)

International Monetary Fund, (2012), "World economic Outlook', available at http://www.imf.org/external/pubs/ft/weo/2012/01/weodata/index.aspx (accessed 6 May 2012)

Nubi, T. (2010), "Towards a sustainable housing finance in Nigeria: The challenges of developing adequate housing stock and a road map." *Housing Finance International*, summer 2010. pp. 22-29

Renaud, B. (1985), "Financing shelter". Discussion paper. Report No UDD-78. The World Bank.Washingtom.1985

The World Bank (2012)," Doing Business Report Regional Profile: Economic Community of West African States", available at http://www.doingbusiness.org/reports/~/media/FPDKM/Doing%20Business/Documents/Profiles/Regional/DB2012/DB12-Economic-Community-West-African-States.pdf (accessed 12 June 2012)

The World Bank (2011), "Doing Business Report Regional Profile Economic Community of West African States", available at http://www.doingbusiness.org/reports/~/media/FPDKM/Doing%20Business/Documents/Profiles/Regional/DB2011/DB11-Economic-Community-West-African-States.pdf (accessed 12 June 2012)

The World Bank (2011): "Private Credit to GDP 2007-2011" available at http://data.worldbankorg/indicator/FS.AST.PROT.GD.ZS (accessed 10 June 2012)

The World Bank (2010), "Doing Business Report Regional Profile Economic Community of West African States", available at http://www.doingbusiness.org/reports/~/media/FPDKM/Doing%20Business/Documents/Profiles/Regional/DB2010/DB10-Economic-Community-West-African-States.pdf (accessed 12 June 2012)

The World Bank (2009), "Doing Business Report Regional Profile Economic Community of West African States", available at http://www.doingbusiness.org/reports/~/media/FPDKM/Doing%20Business/Documents/Profiles/Regional/DB2009/DB09-Economic-Community-West-African-States.pdf (accessed 12 June 2012)

The World Bank (2009), *Housing finance policy in emerging markets*. The World Bank: Washington.

UN Habitat (2007), 'State of the world's cities 2005 in urban informal economy.' H*abitat Debate*, vol.13 No. 2, pp. 9.

Warnock, V.C. and Warnock, F. E. (2008), "Markets and housing finance", *Journal of Housing Economics* 17, pp.239–251