Received: 22 September 2017 | Accepted: 16 November 2017

DOI: 10.1002/ijfe.1599

RESEARCH ARTICLE

WILEY

Does credit information sharing affect funding cost of banks? Evidence from African banks

Baah Aye Kusi | Mary Opoku-Mensah

Department of Finance, University of Ghana Business School, Accra, Ghana

Correspondence
Baah Aye Kusi, Department of Finance, University of Ghana Business School, Accra, Ghana.
Email: baahkusi@gmail.com

Abstract

This study takes advantage of the lack of empirical studies on the effect of credit information sharing and funding cost of banks and investigates credit information sharing and bank funding cost in Africa between 2006 and 2012. Employing a two-step generalized method of moments regression of 233 banks in 17 African countries, the study provides new revelations. The study shows that the quality of credit information shared is key and persistent in reducing funding cost of banks. Again, the study confirms that the coverage of private credit bureaus significantly reduced bank funding cost whereas no such evidence was found for coverage of public credit registries. Further, although the study found evidence to support that the presence of credit information reduces bank funding cost, no evidence was found to support that countries that use both private credit bureaus and public credit registries are able to reduce funding cost of banks in Africa. From these results, it is evident that credit information sharing presence, coverage, and quality reduces funding cost in Africa. For policy recommendations, policymakers and bank boards must team up and set up credit information sharing institutions to help reduce information asymmetry and funding cost in countries that do not share credit information. Also, the introduction and establishment of credit information sharing must be geared towards private bureaus as they are more effective in reducing funding cost of banks. Again, policymakers must enact laws and policies that deepen the coverage, depth, and quality of credit information shared so that the financial sector of Africa countries can realize the full potential of credit information sharing.

KEYWORDS

Africa, banks, funding cost, information sharing, private bureaus, public registries

1 | INTRODUCTION

The important roles banks play in the economic development and growth of economies cannot be underestimated. A stable, sound, and well-functioning financial system is a prerequisite for proper financial mediation leading to sustainable private investment and the promotion of entrepreneurial ventures. Bank and other financial institutions form an integral part of our world today and propel economic growth and development through the functions and activities they perform (Beck & Levine, 2004; Kargbo & Adamu, 2009). For example, Mishkin (1999) and Bain and Howells (2009) state that banks and financial institutions promote development and growth by undertaking activities of mobilizing savings for productive use, evaluating projects and allocating scarce

resources, pooling and sharing of risk, monitoring economic agents, and providing credit information for making informed decision. However, undertaking these activities comes with some funding cost for which banks must be willing and ready to bear. Therefore, it is important for banks to be able to undertake these activities and function at the least funding cost possible so as to boost and ease financial intermediation.

Existing literature also suggests that opaqueness in the credit market affects the funding cost of credit market participants in both competitive and uncompetitive capital markets (Armstrong, Core, Taylor, & Verrecchia, 2011; Lambert, Leuz, & Verrecchia, 2011). Thus, information asymmetry in the credit market affects the pricing of financial assets and securities. Specifically, Armstrong et al. (2011) reveal that information asymmetry increases funding cost of firms in uncompetitive capital markets but had no effect on funding cost in a competitive capital market. Hence, increase in information asymmetry increases the funding cost of banks that is transferred on to bank clients through the rates banks charge. Hence, high rate charges by banks due to increased funding cost caused by increased information asymmetry that stifle financial intermediation and slowdown economic growth and development. In the light of the later, the literature also suggests that the effect information asymmetry can be reduced through credit information sharing in the financial market (see Freimer & Gordon, 1965; Freixas & Rochet, 2008; Kusi, Agbloyor, Ansah-Adu, & Gyeke-Dako, 2017; Luoto, McIntosh, & Wydick, 2007; Stiglitz & Weiss, 1981). It is therefore not surprising to find a rapidly improving credit information sharing in Africa for the last few decades (Kusi et al., 2017; Kusi, Agbloyor, Fiador, & Osei, 2015, 2016).

Although several studies show that information sharing reduces information asymmetry, not much is discussed on the links between credit information sharing and funding cost of banks especially in the context of Africa. Hence, this study aims at establishing the effect of credit information sharing presence, coverage and quality of private credit bureaus, and public credit registries on funding cost in African banks in 17 countries. This study is relevant and contributes to the literature on funding cost and information sharing in four ways. First, to the best of our research abilities, this study for the first time empirically examines the links between credit information sharing and funding cost of banks. Second, the study employs different measures of information sharing to investigate its effect on bank funding cost in the context of Africa. Third, the study tests the assertion that private credit bureaus are effective than public credit registries (see Kusi et al., 2017; Miller, 2003). Fourth, credit information sharing in Africa is quite recent, and this study will make policy contributions for effective and efficient use of credit information. The rest of the study is organized into literature review, methodology, empirical results and discussions, robustness checks, and conclusions and policy recommendations.

2 | LITERATURE REVIEW

Earlier theoretical literature suggests that information asymmetry in the credit market leads to adverse selection and moral hazard due to incomplete, accurate, and reliable information on credit market participants (Freimer & Gordon, 1965; Stiglitz & Weiss, 1981). This causes credit risk and default rates in financial market that are passed on to other financial market participants through interest rate or financing charges. This therefore increases the funding cost of financial market participants including banks. That is, information asymmetry, which highlights the level of information opaqueness of the financial market increases the uncertainty and risk in the financial market leading to increased cost of funds used in financing economic activities. However, to ease the adverse effect of information asymmetry in the financial market, the literature suggests that the credit information sharing theory is useful (Gehrig & Stenbacka, 2007; Kallberg & Udell, 2003; Pagano & Jappelli, 1993). However, modern information economics (see Bester, 1985; Luoto et al., 2007) suggests that information sharing reduces information asymmetry in two: screen and motivation effects. Although the screening effect argues that information sharing reduces information asymmetry by enhancing the predictive power of financial market participants; hence, reinforcing certainty in prediction and reduction in interest rate and funding cost, the motivation or incentive effect argues that information sharing reduces information asymmetry by pressuring financial market participants to avoid default hence decrease in credit risk that leads to reduced funding cost for financial market participants. The empirics on credit information sharing have focused on bank profitability (Kusi et al., 2015), credit risk (Kusi et al., 2017; Kusi et al., 2015, 2016), and access to credit (Behr & Sonnekalb, 2012; Triki & Gajigo, 2012).

On the part of funding cost of banks, several studies look at its determinants with no study focusing on credit information sharing as a determinant of funding cost of banks. A study conducted by Mensah, Agbloyor, Harvey, and Fiador (2017) on the effect of sovereign credit rating on funding cost of banks in Africa concluded that both macroeconomic and bank level variables determine

funding cost. Using a dataset that spans from 2006 to 2012 and a generalized method of moments (GMM) approach, the study evidenced that sovereign credit ratings, gross domestic product (GDP) growth, and inflation negatively affect cost of funding of banks. Elaborating on the fact that sovereign credit ratings upgrade reduces funding cost of banks. The study also indicated that capital adequacy, bank size, and profitability of banks influence their funding cost.

Babihuga and Spaltro (2014) examined the determinants of funding cost using both bank specific and macroeconomic variables for internationally active banks during 2001 and 2012. They show that capital ratio, quality of capital, equity returns and provision ratio, short term interest rate, GDP growth, yield curve, and dummy variable of financial crises affected funding cost of banks. Hossain and Hossain (2015) also examined funding cost of nonbanking financial institutions in Bangladesh focusing on internal factors. Using firm age, size equity contribution, profitability, and nature of assets as independent variables, the finding confirms that firm age and profitability reduce funding cost in nonfinancial banking institutions. Jibrin et al. (2015) worked on strategies for lowering banks' cost of funds in Nigeria during the period of 2012 to 2014. Employing bank level, industry level, and macroeconomic level variables, their GMM regression analyses reveal that overhead cost, risk premium, inflation, liquidity ratio, and money supply determined funding cost of banks'. Beau, Hill, Hussain, and Nixon (2014) posit that funding cost is the compensation depositors, and investors demand in exchange for funding bank's activities. They report that credit rating also affects the funding cost of firms and argue that better credit rating reduces or lowers funding cost.

3 | METHODOLOGY

The study makes use of the panel data framework that consists of both time series and sectional data. The panel has the ability to capture both time and firm variations and controls for omitted variable biases. The study employed annual data on 233 banks in 17 African countries. The data for this study are gathered from BankScope and World Development Indicators databases. Specifically, the banks' specific variables are obtained from BankScope database whereas the credit information sharing variables, the variable of interest, and macroeconomic variables are obtained from World Development Indicators database. The dataset spans from 2006 to 2012. The general panel form is expressed as

$$Y_{it} = \alpha_i + \gamma_t + \beta X_{it} + \varepsilon_{it}, \quad (1)$$

where subscript i signifies the cross sectional dimension (bank) $i = 1$. N and t signify the time series dimension (time), $t = 1$ ... T; Y_{it} is the dependent variable; α_i is scalar and constant term for all periods (t) and specific to a bank-fixed effect (i); γ_t is the time fixed effect t; β *is a* $k \times 1$ vector of parameters to be estimated on the independent variables; X_{it} *is a* $1\times$ k vector of observations on the independent variables composing of input variables in the model that includes controlled variables and εit, which is iid is the error term.

3.1 | Estimation technique

This study employs the two-step GMM to estimate the models. The GMM is used for a number of reasons. First, GMM offers more consistent estimates (comparing to fixed and random effect) by making use of instruments that are obtain from the orthogonality conditions that exist between the error term and the lagged variable (Arellano & Bond, 1991; Arellano & Bover, 1995). Second, the two-step GMM controls for autocorrelation, heteroscedasticity, and endogeneity problems hence making estimates more robust and reliable (Blundell & Bond, 1998; Windmeijer, 2005). Following the two-step GMM technique, the models to be estimated are expressed as:

$$\begin{aligned} \boldsymbol{FUNCOS_{it}} = {} & \beta_0 + \beta_1 FUNCOS_{it-1} + \beta_2 PRICREBUR_{it} \\ & + \beta_3 QUALITYINFO_{it} + \beta_4 BKSF_{it} \\ & + \beta_5 CAP_{it} + \beta_6 ROAE_{it} \\ & + \beta_7 XEFF_{it} + \beta_8 GDPGROWTH_{it} \\ & + \beta_9\, INF_{iit} + \boldsymbol{\varepsilon_{it}}, \end{aligned} \quad (2)$$

$$\begin{aligned} \boldsymbol{FUNCOS_{it}} = {} & \beta_0 + \beta_1 FUNCOS_{it-1} + \beta_2 PUBCREREG_{it} \\ & + \beta_3 QUALITYINFO_{it} + \beta_4 BKSF_{it} \\ & + \beta_5 CAP_{it} + \beta_6 ROAE_{it} \\ & + \beta_7 XEFF_{it} + \beta_8 GDPGROWTH_{it} \\ & + \beta_9\, INF_{iit} + \boldsymbol{\varepsilon_{it}}, \end{aligned} \quad (3)$$

$$\begin{aligned} \boldsymbol{FUNCOS_{it}} = {} & \beta_0 + \beta_1 FUNCOS_{it-1} + \beta_2 EXISTINFOSHA_{it} \\ & + \beta_3 QUALITYINFO_{it} + \beta_4 BKSF_{it} + \beta_5 CAP_{it} \\ & + \beta_6 ROAE_{it} + \beta_7 XEFF_{it} + \beta_8 GDPGROWTH_{it} \\ & + \beta_9\, INF_{iit} + \boldsymbol{\varepsilon_{it}}, \end{aligned} \quad (4)$$

$$\begin{aligned} \boldsymbol{FUNCOS_{it}} = {} & \beta_0 + \beta_1 FUNCOS_{it-1} + \beta_2 PRIPUB_{it} \\ & + \beta_3 QUALITYINFO_{it} + \beta_4 BKSF_{it} + \beta_5 CAP_{it} \\ & + \beta_6 ROAE_{it} + \beta_7 XEFF_{it} + \beta_8 GDPGROWTH_{it} \\ & + \beta_9\, INF_{iit} + \boldsymbol{\varepsilon_{it}}, \end{aligned} \quad (5)$$

$$\begin{aligned} \boldsymbol{FUNCOS_{it}} = {} & \beta_0 + \beta_1 FUNCOS_{it-1} + \beta_2 QUALITYINFO_{it} \\ & + \beta_3 BKSF_{it} + \beta_4 CAP_{it} + \beta_5 ROAE_{it} \\ & + \beta_6 XEFF_{it} + \beta_7 GDPGROWTH_{it} \\ & + \beta_8\, INF_{iit} + \boldsymbol{\varepsilon_{it}}. \end{aligned} \quad (6)$$

3.2 | Funding cost (FUNCOS)

Bank funding cost is the dependent variable for this study. Funding cost is the interest rate that a bank must pay in raising the various liabilities needed for the operations of the bank. Following a study by Dietrich and Wanzenried (2011) and Mensah et al. (2017), cost of fund is measured as bank interest expenses divided by the average of total deposits of banks. Banks employ and deploy all possible strategies to reduce its cost of funding because higher cost of funding implies that it will cost the bank a lot of funds in securing funds from depositors or customers and vice versa.

3.3 | Bank size (BSKF)

Bank size is a major determinant of funding cost in the literature. It is measured as the log of total deposit in this study. "Too-big-to-fail" status of some large and systemic banks makes them advantageous in their cost of funding as compare to small banks (Babihuga & Spaltro, 2014). "Too-big-to-fail" banks enjoy some subsidy on their funding cost due to the fact that these banks are bail out and as result causes the funding cost to decline. Moreover, most large banks have the goodwill of sustainability, and with that, customers are comfortable in depositing funds with them without demanding a high interest rates on the funds (Acharya, Anginer, & Warburton, 2015; Demirgüç-Kunt & Huizinga, 2010). From the theory of diseconomies of scale, large banks require more funds to operate hence increasing their cost of funding for their operations. Hence, the relationship could either be negative or positive.

3.4 | Capital adequacy (CAP)

Capital adequacy: This is measured as the ratio of equity to total assets. Following the pecking order theory, the study expects a positive relationship between funding cost and capital adequacy. The theory argues that equity capital is the most expensive source of funding indicating that increase in equity capital increases the funding cost of a firm. On the contrary, Dietrich and Wanzenried (2011) argue that well-capitalized banks are perceived to be safe and less risky. The reason is that less risky banks are able to raise capital at a cheaper cost.

3.5 | Profitability (ROAE)

Profitability is also one of the determinants of funding cost of banks. Profitability in this context is proxied with return on average equity of banks. Return on average equity is measured with net profit to average total equity (Goddard, Molyneux, & Wilson, 2004). Profitable firms may have the potentials to undertake new projects which in essence will demand additional funding and as result increase their cost of funding giving additional capital required. On the other hand, profitable firms may plough back profits for running their operations, which may not require them to demand more funds outside. As a result of that, they pay little on the funds deposited by their customers that will cause their funding cost to be low. The relationship could either be positive or negative.

3.6 | Operating efficiency (XEFF)

Operating efficiency can be defined as the cost of operations of banks divided by the total revenue generated. Operating efficiency is proxied with cost to income ratio (see Athanasoglou, Brissimis, & Delis, 2008; Naceur & Omran, 2011). A higher operating cost is an indication for inefficient operating cost management, and as such, it will cause funding cost to be high. A negative nexus is expected between operating cost and funding cost.

3.7 | Economic growth (GDPGROWTH)

GDP growth is an indication of economic situation in a country. A country having a persistent increase in GDP growth will help reduce risk in the financial sector; hence, banks are able to reduce their cost of funding due to economic growth (Babihuga & Spaltro, 2014). Based on the argument above, a negative relationship is expected between GDP growth and funding cost.

3.8 | Inflation rate (INF)

Inflation influences the borrowing of funds in an economy and the cost of doing business in an economy (Mensah et al., 2017). If banks are unable to anticipate inflation rate in order to adjust their borrowings, they will end up paying higher interest rate on their funding. On the other hand, if inflation is anticipated and adjusted properly, the cost of funding can reduce as result of the fall in the value of interest rate; the bank should have paid to their depositors. The relationship is not straightforward. The variables employed in the study are summarized in Table 1.

TABLE 1 Summary of variables

Variable	Measurement	Indicator	Source	Expected sign
Dependent variable				
FUNCOS	Total interest expenses/total deposits	Bank stability	Computed by author based on data from BankScope	
Independent variables: Credit information sharing variables				
QUALITYINFO	Index ranges from 1 to 6 indicating quality of information shared	Quality of credit information shared	World Development Indicators	—
PUBCREREG	Percentage of adult population who are captured in public credit information institutions	Coverage of public credit information sharing institutions	World Development Indicators	—
EXITINFSHA	Dummy variable and assumes a value of 1 where a country shares credit information and 0 otherwise	Existence of credit information sharing	Constructed by authors based on data from World Development Indicators	—
PRIPUB	Dummy variable and assumes a value of 1 where a country has both private and public information sharing institutions and 0 otherwise	Existence of both private and public credit information sharing	Constructed by authors based on data from World Development Indicators	—
PRICREBUR	Percentage of adult population who are captured in private credit information institutions	Coverage of private credit information sharing institution	Constructed by authors based on data from World Development Indicators	—
Independent variables: Control variables				
CAP	Total equity/total assets	Capitalization		+/−
XEFF	Operating expenses/total income	Bank size		+
ROAE	Net profit/average equity	Credit risk		+/−
BKSF	Natural log of Total deposits	Diversification		+/−
GDPGRTWH	(Current GDP–previous GDP) /previous GDP	Industry concentration		−
INF	Consumer price index	Liquidity		[−/+]

4 | EMPIRICAL RESULTS AND DISCUSSIONS

Table 2 presents the summary statistics on the variables employed in this study. The summary statistics table is used to screen for outliers that have the potential to cause biased results. From the summary statistics, outliers, which have the possibility to influence the consistency, efficiency, and biasness of coefficient were not observed in the dataset. Table 2 also presents the normality of the variables employed using the Shaprio–Wilk normality test. With a null hypothesis of no normal distribution, Shaprio–Wilk test rejects the null hypothesis of no normal distribution and concludes that all the variable are normally distributed around their means.

Form Table 2, funding cost of banks, which is the dependent variable, is averagely 9.03% indicating that the funding cost of deposits mobilized is quite low. Also, the quality of credit information shared, which is an index, ranges between 0 and 6 with higher index meaning high quality. It indicates indicating the depth, availability, and quality of credit information shared. On the average, quality of information shared index is 1.72 implying that the quality of credit information shared is low. Public credit registry coverage and private credit bureau coverage are averagely 2.33% and 11.07% indicating that the coverage of public and private information sharing institutions are low. However, it is evident that private credit bureau coverage is better than that of public credit registry coverage. Again, in terms of existence of credit information sharing about 80% of the banks operated financial sectors that shared credit information. Again, it is clear from the summary statistics that about 25% of the banks operates in financial sectors that have both private credit and public credit information sharing institutions.

Capital adequacy is averagely 16% implying that owners' equity contribution towards the formation of banks is about 16%. In other words, equity forms 16% of the total funding options available to banks in this study. Management efficiency is 68.4% on the average indicating

TABLE 2 Summary statistics

Variable	Obs	Mean	Std. dev.	Min	Max	SWILK
FUNDCOS	1,397	0.0903	0.6829	0.0000	24.0909	16.813***
QUALITYINFO	2,317	1.7212	2.4045	0.0000	6.0000	9.968***
PUBCREREG	2,317	0.0233	0.0524	0.0000	0.2780	15.602***
EXITINFSHA	2,317	0.7959	0.4032	0.0000	1.0000	2.557***
PRIPUB	2,317	0.2495	0.4328	0.0000	1.0000	2.29**
PRICREBUR	2,317	0.1107	0.2019	0.0000	0.6480	14.982***
CAP	1,678	0.1587	0.1560	−0.9594	1.0000	14.679***
XEFF	1,617	0.6839	0.5425	0.0000	9.3333	15.711***
ROAE	1,665	0.1095	0.3816	−4.0811	7.4634	15.531***
BKSF	1,510	6.0112	1.9196	0.0000	11.3392	4.138***
GDPG	2,317	0.0529	0.0262	−0.0784	0.1501	11.633***
INF	1,985	0.0882	0.0509	−0.0105	0.2624	10.211***

Note. FUNDCOS = funding cost; QUALITYINFO = quality of credit information shared; PUBCREREG = public credit registries coverage; EXITINFSHA = existence of credit information sharing; PIRPUB = existence of both private and public credit information sharing institutions; PRICREBUR = private credit bureau coverage; CAP = capital adequacy; XEFF = management efficiency; ROAE = return on average equity; BKSF = bank size; GDPG = economic growth; INF = inflation.

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

that there is low efficiency in the management of cost by banks as their operational expenses constitute 68.4% of total assets. Average return on equity is about 11% indicating that shareholder return is about 11% during the periods under study. Economic growth and inflation rates on the average are 5.3% and 8.82%, respectively. These imply that economic conditions are quite favourable given the periods under study. However, bank size is a logged variable, hence making the interpretation of its value meaningless.

Table 3 shows the correlation matrix between the variables that are employed in this study. The Pearson's correlation matrix that serves as a mechanism for checking and controlling multicollinearity is shown in Table 3. The threshold for multicollinearity between the regressors is set to 0.8 following Grewal, Cote and Baumgartner (2004). Hence, there is no evidence of multicollinearity from the results presented.

Table 4 reports the two-step GMM regression results on the effect of credit information sharing on bank funding cost in 17 countries in Africa covering periods between 2006 and 2012. The table presents five models on the effect of credit information sharing and bank funding cost in 17 Africa countries. In Model 1, private credit bureau coverage and quality are employed to investigate funding cost whereas in Model 2, public credit registry coverage and quality are used to investigate funding cost. In Model 3, existence of credit information sharing (captured with a dummy) and the quality of information shared are employed to test their effect on funding cost whereas in Model 4, the existence of both private and public credit information sharing institutions and their quality are employed to test the effect of funding cost. Finally, in Model 5, the quality of credit information shared whether through private or public credit institutions is employed in the fund cost model. The result captures 233 banks in African countries covering periods between 2006 and 2012.

From the results in Table 4, funding cost is dynamic, persistent, and responsive to previous year funding cost (lag of dependent variable) in banks in Africa. Following Goddard et al. (2004), the coefficient of the lag of dependent variable implies that departure from perfectly competitive market structure in the bank sector of Ghana may not be far indicating strong competition among banks in Africa. However, given the value of the coefficients of the lag of dependent variable in all five models, banks in Africa are sluggishly in learning from previous year funding cost strategies; hence, previous year fund cost increases current year funding cost.

From the results reported, the variables of interest show interesting revelations. First, private credit bureau coverage and its quality are significant and negatively related funding cost in Model 1. This indicates that private credit bureau coverage and quality reduce bank funding cost in Africa. Second, in Model 2, although public credit registry coverage is not significantly related to information shared funding cost, the quality of public credit information shared is negative and significantly related to

TABLE 3 Pearson's correlation matrix

	FUNDCOS	QUALIT~O	PUBCRE~G	EXITIN~A	PRIPUB	PRICRE~R	CAP	XEFF	ROAE	BKSF	GDPG	INF	VIF
FUNDCOS	1												
QUALITYINFO	0.0969	1											4.25
PUBCREREG	−0.0377	0.1553	1										2.16
EXITINFSHA	0.0254	0.3626	0.2254	1									1.61
PRIPUB	−0.0353	0.1017	−0.1234	0.0619	1								1.98
PRICREBUR	0.14	0.7129	−0.2192	0.2777	−0.1558	1							3.97
CAP	0.1077	0.1165	−0.1246	−0.0281	−0.1367	0.2638	1						1.31
XEFF	−0.0148	−0.1038	−0.026	−0.0481	−0.0822	−0.0684	0.0095	1					1.37
ROAE	−0.0138	0.0257	−0.0483	−0.0445	−0.0161	0.0806	−0.0726	−0.4796	1				1.33
BKSF	−0.0736	0.3163	0.0709	0.2185	0.4013	0.1507	−0.4033	−0.2987	0.1454	1			1.71
GDPG	−0.0529	−0.3791	−0.2325	−0.1691	0.0714	−0.287	0.0023	0.0445	0.019	−0.127	1		1.26
INF	−0.0253	−0.1603	−0.0854	−0.3754	−0.0081	−0.1348	0.0506	0.0383	−0.0023	−0.0872	0.0734	1	1.26
Mean VIF													2.02

Note. FUNDCOS = funding cost; QUALITYINFO = quality of credit information shared; PUBCREREG = public credit registries coverage; EXITINFSHA = existence of credit information sharing; PIRPUB = existence of both private and public credit information sharing institutions; PRICREBUR = private credit bureau coverage; CAP = capital adequacy; XEFF = management efficiency; ROAE = return on average equity; BKSF = bank size; GDPG = economic growth; INF = inflation; VIF = variance inflation factor.

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

TABLE 4 Generalized method of moments results: Effect of credit information sharing on funding cost of banks

	Model 1	Model 2	Model 3	Model 4	Model 5
FUNDCOS L1.	1.3526 [0.0487]***	1.3457 [0.0513]***	1.3521 [0.0485]***	1.3492 [0.0503]***	1.3453 [0.0515]***
PRICREBUR	−0.0264 [0.0112]**				
PUBCREREG		0.0172 [0.0308]			
EXITINFSHA			−0.0285 [0.0109]***		
PRIPUB				0.0093 [0.0078]	
QUALITYINFO	−0.0021 [0.0013]*	−0.0034 [0.0013]**	−0.0018 [0.0010]*	−0.0039 [0.0015]***	−0.0033 [0.0013]**
CAP	0.0772 [0.0423]*	0.0835 [0.0435]*	0.0563 [0.0371]	0.0811 [0.0429]*	0.0847 [0.0433]**
XEFF	0.0014 [0.0141]	0.0009 [0.0141]	0.0049 [0.0129]	0.0006 [0.0134]	0.0011 [0.0139]
ROAE	0.0031 [0.0138]	0.0014 [0.0137]	0.0001 [0.0131]	0.0022 [0.0136]	0.0015 [0.0134]
BKSF	−0.0002 [0.0017]	−0.0001 [0.0018]	0.0006 [0.0018]	−0.0006 [0.0019]	0.0000 [0.0018]
GDPG	−0.1879 [0.1108]*	−0.1987 [0.1121]*	−0.0815 [0.0801]	−0.2189 [0.1152]*	−0.2012 [0.1110]*
INF	−0.2240 [0.1952]	−0.2502 [0.1893]	−0.2274 [0.1734]	−0.2582 [0.1906]	−0.2563 [0.1913]
CONS	0.01161 [0.0288]	0.0132 [0.0287]	0.0232 [0.0291]	0.0176 [0.0294]	0.0137 [0.0287]
OBS	836	836	836	836	836
GROUPS	233	233	233	233	233
INSTRUMENTS	22	22	22	22	21
SARGAN	161.68	163	159.32	155.98	162.84
Prob > χ^2	0.000	0.000	0.000	0.000	0.000
HANSEN	17.8	18.15	17.71	16.85	18.22
Prob > χ^2	0.122	0.111	0.125	0.155	0.109
AR(1)	−1.4	−1.4	−1.36	−1.4	−1.4
Pr > z	0.161	0.161	0.173	0.161	0.161
AR(2)	−1.22	−1.23	−1.24	−1.23	−1.23
Pr > z	0.221	0.219	0.214	0.218	0.219
Wald χ^2 (9)	944.86	810.21	854.77	801.26	767.23
Prob > χ^2	0.000	0.000	0.000	0.000	0.000

Note. FUNDCOS = funding cost; QUALITYINFO = quality of credit information shared; PUBCREREG = public credit registries coverage; EXITINFSHA = existence of credit information sharing; PIRPUB = existence of both private and public credit information sharing institutions; PRICREBUR = private credit bureau coverage; CAP = capital adequacy; XEFF = management efficiency; ROAE = return on average equity; BKSF = bank size; GDPG = economic growth; INF = inflation.

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

funding cost. This is an indication that the quality of public credit registries reduces bank funding cost in Africa. Third, in Model 3, both the existence or presence of credit information sharing institutions and their quality were negatively and significantly related to funding cost in Africa. Fourth, in Model 4 where a dummy is used to capture the dual existence of both private credit bureaus and public credit registries were not significantly related to funding cost of banks in Africa. However, the quality of both private credit bureaus and public credit registries was significant and negatively related to bank funding cost in Africa. Finally, in Model 5, the quality of credit information shared is negatively and significantly related to bank funding cost in Africa. These findings following the arguments of the prior studies that credit information sharing reduce information asymmetry (see Bester, 1985; Gehrig & Stenbacka, 2007; Pagano & Jappelli, 1993) that in tend contribute to a reduction in funding cost. Thus, credit information sharing enhance and reinforce transparency, hence reduction financial market risk leading to decline in funding cost. Again, the study confirms that the assertion of private bureaus is more effective than public registries (see Kusi et al., 2017; Miller, 2003) as the coverage of public credit registries are not significant

in reducing funding cost but coverage of private bureaus significantly reduced funding cost of banks.

From the results, bank capital adequacy is reported to be positive and significant across the models except in Model 3. This is an indication that increase in capital induces increased funding cost to banks in Africa. This finding is consistent following the pecking order theory. The theory suggests that equity capital is the most of all the funding options. Hence, an increase in capital will require increase cost of funding.

GDP growth is negatively and significantly related bank funding cost indicating that economic growth reduces cost of funding for banks. This finding is that persistent economic growth increases certainty in the economic and improves investor confidence. The increased certainty reduces risk in the economic leading to a decline in funding cost because investor will be willing to low return due to the reduction in risk. The finding is consistent with Babihuga and Spaltro (2014) who argue that persistent increase in GDP growth reduces risk in the financial sector, and hence, banks are able to reduce funding cost of their operations.

5 | ROBUSTNESS CHECKS

The study ensures reliability, efficiency, and accuracy of the results by employing some techniques. First, the study screens for outliers, ensures normality of data, and no multicollinearity in the dataset. Controlling for these enhances the reliability and accuracy of the findings. Second, the study employs the two-step GMM technique to control for possible autocorrelation, heteroscedasticity, and endogeneity problems in the dataset. From the GMM estimates, the Sargan, Hansen test, Wald, and Arellano–Bond tests (1 and 2) are all evidence of robustness of the models. Again, the signs of the variable are largely consistent across the five models estimated indicating that the findings are robust, reliable, and fit for generalization.

6 | CONCLUSIONS AND POLICY RECOMMENDATIONS

This study sets out with the objective of establishing the effect of credit information sharing on bank funding cost in 17 African countries during 2006 to 2012. This study is motivated by the lack of empirical studies on bank funding cost and information sharing and takes advantage to investigate credit information sharing and bank funding cost in Africa. Employing a two-step GMM regression of 233 banks in 17 African countries during 2006 and 2012, the results are interesting and projects new revelations. First, the study shows that the quality of credit information shared is key and persistent in reducing funding cost of banks. Second, the study shows that the coverage of private credit bureaus also significantly reduced bank funding cost whereas no such evidence was found for coverage of public credit registries. Third, although the study found evidence to support that the existence or presence of credit information also reduced bank funding cost, no evidence was found to support that countries that use both private credit bureaus and public credit registries are able to reduce funding cost of banks in Africa. From these results, it is evident that credit information sharing presence, coverage, and quality reduces funding cost in Africa.

From these findings, the following are recommended. First, management of banks and policymakers in countries that do not sharing credit information in their financial market must introduce policies and regulations that enable sharing of credit information given its ability to reduce information asymmetry and consequently reduce bank funding cost. Second, the introduction and establishment of credit information sharing must be geared towards private bureaus as the result shows that they are more effective in reducing funding cost of banks. Third, policymakers must enact laws and policies that deepen the coverage, depth, and quality of credit information shared so that the financial sector of Africa countries can realize the full potential of credit information sharing.

ORCID

Baah Aye Kusi http://orcid.org/0000-0003-0920-9866

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How to cite this article: Kusi BA, Opoku-Mensah O. Does credit information sharing affect funding cost of banks? Evidence from African banks. *Int J Fin Econ*. 2018;23:19–28. https://doi.org/10.1002/ijfe.1599