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Credit Information Sharing and Performance of Commercial Banks in Kenya

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Abstract

A strong and resilient banking system is a foundation of sustainable economic growth. Banks are at the centre of credit intermediation process between savers and investors but credit markets present asymmetric information problems. To alleviate these problems the central bank of Kenya gazetted and operationalised Credit Reference Bureau Regulations in 2009 that govern the licensing, operation and supervision of credit reference bureaus by the Central Bank of Kenya to act as a medium for exchange of credit information. This paper contributes to the emerging body of research by examining how the diffusion of credit information sharing has affected the performance of commercial banks in Kenya. The researchers adopt census survey of all commercial banks licensed under the Banking Act (cap 488 laws of Kenya). The study covers a period of five years from 2008 to 2012 and performance is measured by financial ratios to draw conclusions. The study used both primary and secondary data which was analyzed using both inferential and descriptive statistics and multiple regression analysis. The study established that credit information sharing led to improved financial performance of commercial banks in Kenya.

Key words: *Credit information sharing, Credit reference bureaus, Information asymmetry, Performance of Commercial banks*

1.0 Introduction

Credit markets present asymmetric information problems. Lenders know neither the past behavior and the characteristics, nor the intentions of credit applicants. This creates a moral hazard problem that causes lenders to make credit decisions based on the average characteristics of borrowers rather than on individual characteristics (Chen, 2010). Moral hazard implies a lower average probability of payment, making credit more expensive. Higher interest rates exacerbate another informational problem, adverse selection, because only higher risk borrowers are willing to accept loans at high interest rates (Kipyegon, 2011). Matthews and Thompson, (2008) argue that the idea underlying information sharing it that "the best predictor of future behaviour is past behaviour". In practice, it is an arrangement by which lenders contribute information about their customers to a common pool, which is accessible to all lenders that contribute. This is the work of credit bureaus (Brown, Jappelli & Pagano, 2006). Information Asymmetry Theory deals with the study of decisions in transactions where one party has more or better information than the other. This creates an imbalance of power in transactions which can sometimes cause the transactions to go awry, a kind of market failure in the worst case (Yun, 2009). Finance theory postulates that information asymmetry can constrain all types of external financing by either limiting availability or increasing costs. Consequently information asymmetry should affect the acquisition and use of bank lines since short term credit is a primary external source of firm liquidity (Faulkender & Petersen, 2006).

Matthews and Thompson, (2008) developed the theory of delegated monitoring of borrowers which is one of the most influential in the literature on the existence of banks. Defined broadly, 'monitoring' of a borrower by a bank refers to information collection before and after a loan is granted, including screening of loan applications, examining the borrower's ongoing creditworthiness and ensuring that the borrower adheres to the terms of the contract. The very endurance of a commercial bank in credit market depends on its ability to collect and process information professionally in screening credit applicants and in monitoring their performance (Brown, Jappelli and Pagano, 2006). Lack of accurate information on the credit history and current financial ability of prospective borrowers makes it extremely difficult for lenders to assess their credit worthiness and likelihood to repay the loan. Credit bureaus are an institutional solution to the problems of information asymmetries and moral hazard in credit markets. Shared information allows a lender to better assess the risk profile of a potential borrower and introduce incentives to have a borrower pay on time in the form limiting a borrower's future ability to access credit from other credit suppliers.

Although theory is ambiguous on the impact that information sharing will have on the credit market, empirical evidence has provided plenty of evidence supporting the claim that credit sharing institutions have a positive effect on lending to the private sector. For instance, Jappelli & Pagano (2007) show that strong credit- sharing institutions are positively related to the size of the credit market. Other empirical studies, including Lin, Ma & Song (2012), Adano (2012), Ocharo (2013), Chen (2010) Love & Mylenko (2009), Galindo & Miller (2011) & Powell, et al. (2004) have shown that credit is more abundant when borrowers and lenders benefit from credit- sharing institutions. Brown, Jappelli & Pagano (2006) find that credit sharing between lenders is associated with increased and cheaper credit in transition countries in Eastern Europe. Djankov, McLiesh & Shleifer (2007) show that such institutions are associated with higher ratios of private credit to gross domestic product. Berger, Frame & Miller (2005) demonstrate how such institutions increased the quantity of small business loans in the United States.

In Kenyan, the banking sector was saddled with a momentous non- performing loans (NPLs) portfolio before the advent of credit information sharing mechanisms. This invariably led to the collapse of some banks (Degryse & Ongena, 2010). One of the catalysts in this scenario was "Serial defaulters", who borrowed from various banks with no intention of repaying the loans. Undoubtedly, these defaulters thrived in the "information asymmetry" environment that prevailed

due to lack of a credit information sharing mechanism. Comparing, the ratio of non-performing loans to total loans (NPLs/TL) in Kenya of 33% to similar African economies at the end of 2008, central banks of those countries (by then) reported that, this ratio (NPLs/TL) is much lower in Zimbabwe (24%), Nigeria (11%), and South Africa (3%), (CBK, 2008). It's on this background that the Banking Regulations2008 that govern licensing, operation and supervision of Credit Reference Bureaus (CRBs) by the CBK were gazetted and operationalised on 2009.

2.0 Problem Statement

The impact of credit information sharing on the banking sector has received much attention from research scholars as it is a very key sector in any economy. Empirical work by Brown, Jappelli, and Pagano (2007), using firm level panel data in transition economies, has found that the cost of credit declines as information sharing increases between lenders. This is confirmed by McIntosh and Wydick (2009), empirically found that overall default decreases marginally after credit bureau introduction. Following the same lines Chen (2010) used cross- country regressions to assess the impact of bank competition and credit information sharing on the efficiency of capital allocation and attenuates that credit information sharing increases bank efficiency. Another interesting study was conducted by Kipyegon (2011) relating to credit information sharing and the performance of the banking sector. The research findings indicated that credit information sharing and the performance of the banking sector are strongly related. In his empirical study Ocharo (2013) studied the effect of credit information sharing on the non- performing loans among commercial banks in Kenya. The results concur with literature which provides a positive effect of credit information sharing on NPLs.

From the foregoing background it is evident that scanty systematically documented information exists on the effects of credit information sharing on the performance of commercial banks in Kenya. This paper aims to fill this gap and add to the body of knowledge by empirically chalking out financial performance areas most affected by credit information sharing. The specific objectives of the study were: to determine the effect of non- performing loans on performance of Commercial banks; to establish the effect of the level of interest rates on performance of commercial banks; to determine the effect of operating cost on performance of commercial banks and to assess the effect of volume of lending on loan of commercial banks.

3.0 Study Design and Methodology

This study applied a descriptive survey design which took a census survey of all the 43 Commercial banks licensed and regulated pursuant to the provisions of the Banking Act (Cap 488 Laws of Kenya).

A multiple regression model with four independent variables was used:

$$\mathbf{Y = \beta_0 + \beta_1 NPLs + \beta_2 IR + \beta_3 VL + \beta_4 OC + \varepsilon}$$

Where Y represents performance of commercial banks (profitability) which was the depended variable, β_0 is a constant term, NPLs-non-performing loans portfolio, IR-level of interest rates, VL-volume of lending and OC- operating cost which are the independent variables and ε is the disturbance term. ROA was used as the indicator of the profitability as supported by Khrawish (2011) and Olweny (2011).

The study used both primary and secondary data. Primary data was collected using self-administered questionnaires through drop and pick method to credit managers of all licensed commercial banks in Kenya. Secondary data was obtained from bank supervision reports, commercial bank financial reports and credit reports.

4.0 Results and Discussion

4.1 Non-performing loans

To understand the effect of credit information sharing (CIS) on non- performing loans of the different commercial banks, the respondents were to indicate the extent to which they agreed with the various statements. Majority (90%) of the respondents indicated that NPLs negatively affected profitability of commercial banks. The respondents also agreed that NPLs reduced due to use of CIS as shown by a mean of 3.62; NPLs portfolio reduced due to use of CIS as shown by a mean of 4.10; the bank observes the limits as indicated by a mean of 3.65 and finally they attested that loan defaulters reduced due to efficient lending policy as indicated by a mean of 4.03. The results are presented on table 4.1 below.

Table 4.1: Performing of loans

Performing of loans	Mean	Std. Deviation
The level of non-performing loans is very high	3.62	.693
NPLs portfolio reduced due to CIS	4.10	.525
The company observation of total loan limits	3.65	.913
Reduced loan defaulters due to efficient lending policy	4.03	.416

From the findings on banking supervision reports of Central Bank of Kenya and annual audited accounts of commercial banks, NPLs declined by 17.5%, from Kshs 70.7 billion in 2007 to KShs 58.3 billion in 2008. NPLs declined by 1.8% from KShs. 61.87 billion in 2008 to KShs. 60.74 billion in 2009. NPLs declined further by 5.1% from KShs. 60.7 billion in 2009 to KShs. 57.6 billion in 2010. NPLs dropped by 10.1% from Kshs. 47.7 billion in 2010 to settle at Kshs. 42.9 billion in 2011. The decline in gross NPLs was attributable to recoveries and the improved credit appraisal monitoring standards that was brought by enhanced credit information sharing.

4.2 Level of interest rates

From the findings on the respondents level of agreement on statement relating to level of interest rates, the study found that majority (71.5%) of the respondents agreed that the level of interest rates negatively impacts performance of the banks. The study also found out those respondents agreed that the level of interest rates was very high before the rollout of credit information sharing as shown by the mean of 4.50; CIS is used to appraise loan applications as shown by

the mean 4.77; respondents also agreed that interest rate charged depends on reputational risk of the borrower as shown by the mean of 3.98; CBK lending rate is taken into account in pricing loans as shown by the mean of 3.85; interest rate have declined due to CIS as shown by mean of 4.18; interest rate charged cover the cost of the loan product shown by mean of 3.7. The results are presented on table 4.2 below.

Table 4.2: level of interest rates

Level of interest rates	Mean	Std. Deviation
Level of interest rates high before rollout of CIS	4.50	.840
Use of CIS to appraise loan applications	3.73	.731
Reduction of interest rates due to CIS	4.18	.344
CBK lending rate taken into account in pricing loans	3.85	.963
Interest rate charged cover the cost of loan product	4.77	.734
Interest rate depend on reputational risk of the borrower	3.98	.894

Average lending rates increased in the fiscal year 2008/09 from 13.9 percent in July 2008 to 15.1% in June 2009. Average lending rates declined marginally in the fiscal year 2009/10 from 14.79% in July 2009 to 14.39% in June 2010. Average lending rate to the private sector declined from 14.39% in June 2010 to 13.91% in June 2011. The decline in interest rates was mainly attributed to better loan appraisal methods and use of credit information sharing. The lending rate rose to 20.1% in 2012 because of the upward review of the CBR by CBK.

4.3 Volume of loans

The study found that volume of loans affects the financial performance of the banking sector to a very great extent as indicated by 66% of the respondents. The findings indicated that the overall volume of loans increased due to information sharing (CIS) by banks as indicated by a mean of 4.10; conditions of lending relaxed due to CIS as indicated by a mean of 3.88; observation of conditions of lending as shown by a mean of 3.90; MSMEs and individuals have access more loans due to CIS as shown by a mean of 3.83 and finally overall profitability improved due to CIS as shown by a mean of 3.85 as shown in table 4.3 below.

Table 4.3: Volume of loans

Volume of loans	Mean	Std. Deviation
Volume of lending has increased due to CIS	4.10	.702
Conditions of lending relaxed due to CIS	3.88	.969
Observation of conditions of lending	3.90	.975
MSMEs and individuals have access to more loans due to CIS	3.83	.956
Increased profitability due to CIS	3.85	.963

As per the CBK banking supervision reports, loans increased by 22.3% from KShs. 449.4 billion in 2007 to KShs. 549.5 billion in 2008. The loans increased further by 18% to KShs. 646.1 billion in December 2009. The trend continued as loans increased by 26.4 percent to KShs. 816.5 billion in December 2010. Gross loans grew by 11.7% to KShs. 1,330.4 billion in December 2012. The growth trend in loans is attributed to increased demand for credit by the various economic sectors and credit information sharing by commercial banks.

4.4 Operating costs

The study found that operating cost affects financial performance of commercial banks to a great extent as indicated by 85% of the respondents. The study also found that respondents agreed that there was efficiency in debt collections as shown by mean of 3.70; reduction in Information search costs due to CIS as shown by the mean of 3.93; fewer staff are involved in debt collection as shown by the mean of 3.50; reduction in litigation costs due to CIS as shown by mean of 3.83; reduction in total cost of debt collection due to the use CIS as shown by mean of 3.73. Results are presented in the table below;

Table 4.4: operating cost

operating cost	Mean	Std. Deviation
Efficiency in debt collection	3.70	.925
Reduction in Information search costs have reduced due to CIS	3.93	.981
Fewer staff are involved in debt collection due to CIS	3.50	.875
Court litigation costs have reduced due to CIS	3.83	.956
Reduction in total cost of debt collection due to CIS	3.73	.931

The CBK banking supervision report shows that total expenses rose by 36.4% from KShs. 79.5 billion in 2007 to KShs. 108.5 billion in 2008. Total expenses increased further by 13.8% to KShs. 123.5 billion in December 2009. The banking sector's expenses increased further by 11.3% to KShs. 137.5 billion in 2010. The banking sector's expenses increased by 21.4% from KShs. 137.5 billion in December 2010 to KShs. 166.9 billion in December 2011. The banking sector expenses grew by 48.8 percent from KShs. 166.9 billion in December 2011 to KShs. 248.4 billion in December 2012. The increase in total expenses was due to a rise in interest expenses on deposits, loan losses, salaries and wages

5.0 Regression Analysis

Table 5.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.921[a]	.891	.870	.88195

Referring to the table above, it was found that that the adjusted R-square value is 87% and from this it is concluded that 87% of the variation in the dependent variable (ROA) is explained by the independent variables in the model. This indicates a strong explanatory power of the regression.

Table 5.2: Anova of the regression model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.042	2	0.021	59.08	.018[b]
	Residual	12.062	37	0.326		
	Total	12.104	39			

i) Predictors: (constant), non- performing loans (%), interest rates (%), volume of lending (%), operating cost (%)

ii) Dependent variable: ROA (%)

From the table above it is known that the value of F-statistic is 59.08 and is significant as the level of significance is less than 5%. Hence it can be concluded that non- performing loans, interest rates, volume of lending, and operating cost have significant impact on financial performance of commercial banks measured by ROA.

Table 5.3: Coefficients of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.510	.440		1.209	.000
	Non-performing loans portfolio	-.226	.129	-.026	-.205	.018
	Level of interest rates	.-125	.112	.152	1.121	.026
	Volume of lending	.247	.125	.262	1.971	.043
	Operating cost	-.276	.185	-.183	-1.488	.042

Thus, the analysis predicts the average ROA with about 87% explanatory power by the following model:

ROA = 0.510 - 0.226 NPLs - 0.125IR + 0.247VL - 0.276OC

To assess the significance of each independent variable on the dependent variable ROA, the researcher has established that non- performing loans, interest rates, volume of loans and operating cost were found to be significant and affect ROA as their t-sig are less than 5%. The model shows that there was positive association between banking performance and volume of loans but a negative association between banking performance and NPLs, interest rates and operating cost.

Return on Assets (ROA) is an indicator of how profitable company's assets are in generating profit. Return on Assets ratio gives an idea of how efficient management is at using its assets to generate profit. The only common rule is that the higher return on assets is, the better, because the company is earning more money on its assets. A low return on assets compared with the industry average indicates inefficient use of company's assets

Table 5.4: Return on Assets (ROA)

	Years before credit information sharing		Years after credit information sharing		
YEAR	2008	2009	2010	2011	2012
ROA	2.57%	2.55%	3.47%	3.18%	3.25%

Analysis of ROA trends of Kenyan commercial banks over the period of 2008 to 2012 indicates better ROA in the years after unveiling of credit reference bureaus. Furthermore, the ROA reported in the table above show a generally good performance.

6.0 Conclusion

The study finds that the breadth of credit markets is associated with information sharing. There is positive relationship between credit information sharing and the performance of the banking sector. The relationship is that as the banks share credit information about the borrowers, their respective performance will improve. Results of the study indicate that 87% of the variation in profitability of commercial Banks is explained by NPLs, volume of loans, level of interest rate and operating costs.

NPLs have a negative relationship with performance of commercial banks. A unit increase in non-performing loans will lead to 22.6% decreases in profitability. The findings were that loan performance as measured by loan default rate is negatively related to performance of commercial banks which is in tandem with the findings of Brown (2007) and Mwangi & Sichei (2009) and CBK objective of launching credit referencing. Bad debts are the most significant portfolio where most of the banks record their losses. This is because loan is the investment where banks get their profits. However, this is also the investment portfolio where banks are most vulnerable to the loan defaulters especially when the loan applicant report is not well known by the bank.

From the study model, a unit increase in interest rates will lead to 12.5% decrease in profitability of commercial banks. The study observes that credit information sharing will facilitate the building of information capital that will guide the pricing of loans by financial institutions. Banks will at the appraisal stage be able to price loans with vastly enhanced information set as compared to the current situation. Customers, armed with their credit histories, will also be empowered to negotiate better terms for credit with banks thus reduction in interest rates. This is definitely a win-win situation that will catalyze growth of credit for investment and wealth creation

The study further concludes that there is a positive correlation between volume of loan and banking performance. A unit increase volume of loans lent will increase profitability by 24.7%. The findings concur with those of Jappelli and Pagano, (2007) who found that the overall profitability improves as volume of loans lent out to customer increases.

It is also evident from the study that there is a negative correlation between operating cost and performance of commercial banks. Results show that a unit increase in operating cost will lead to 27.6% decrease in profitability. The negative relationship between operating cost and profitability is an indication that the resources used by the credit department calls for an extra expense in the firm which negatively affects profitability

Finally, Credit information sharing is one of the important factors considered by managers of commercial banks, the regulator and the government to improve credit risk management practice and increase access to finance. Therefore banks consider credit referencing very instrumental in credit appraisal process especially for new clients. Credit information reduces adverse selection and moral hazard problem by reducing information asymmetry.

7.0 Recommendations

The study recommends that commercial banks should always use credit information sharing to screen loan applicants in order to reduce non-performing loans as this will improve their profitability. To ensure proper credit information sharing, it is imperative that the mechanism be extended to other non-bank credit providers. This is because a lot of people also get access to credit from a whole host of non-banks including, microfinance institutions, SACCOs, other financial sector regulators and utility companies.

Commercial banks in Kenya should develop an integrated information system to ensure that the customers are informed promptly on their loan status and any other information. Credit reference bureaus should be empowered in order to reduce interest rates charged on consumer loans by commercial banks. On the same breath commercial banks should install a customer monitoring system which would reduce credit track records, risk premiums and search costs imposed on customers by the banks. This would increase the customer base which would enhance performance in the banks.

This study used aggregate industry figures, the researcher therefore recommends that future researchers use firm (bank) specific figures to investigate the effect of credit information sharing on bank performance and assess whether the results will be different from the finding of this study.

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