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Assessment of Credit Reference Bureaus on the Management of Nonperforming Loans in the Banking Industry in Kenya A Case of Nairobi County

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Abstract
The purpose of this study was to find out the role of (CRB) in the management of nonperforming loans in Kenya's banking industry. This study also sought to evaluate the effect of information sharing by Credit Reference Bureaus regulation on nonperforming loans and to establish the extent to which reputation collateral and blacklisting has on management of bad debt in Kenya's Banking industry. The study sourced data from secondary sources. The data was obtained from financial reports, library, and banks's records such as in-house magazines, journals, publications as well as website and other resourceful information available for 5 years from 2008 to 2013,the duration when the CRB regulation has been in operation. A regression relationship was generated to show the extent to which each independent variable influenced the dependent variable. A correlation analysis was also performed to find how the variables are related to each other in the model. The research findings showed that the CRB plays a major role in managing nonperforming loans. Reputation collateral and blacklisting do have both positive and negative effect respectively on the management of bad debt in Kenya's Banking industry. In addition, CRB firms in Kenya should link with other regional CRB firms in other countries as to have information on credit histories of those crossing the borders. The study also revealed that lack of awareness and non-compliance are currently the major challenges of CRB application in Kenya. The study recommends that the CRB be extended to all non-banking sectors that handle credit transactions since this will reveal more credit histories of different borrowers.
Keywords: Credit Reference Bureaus, Credit Histories. Nonperforming Loans.

1. Introduction

The problem of nonperforming loans due to loan defaulters is one of the major causes of financial losses experienced by financial institutions in Kenya. According to Basel 11 recommendations (Bank Committee of Banking Supervision, 2005), financial institutions world over need to impress the best credit risk management practices in order to avoid non-performing loans which affect their financial performance. These non-performing loans are caused by bad borrowers who are not credit-worthy. Financial institutions therefore must find mechanisms that can collect and store information concerning borrowers who are not only credit-worthy but also who have good credit histories. This is achieved through organisations called Credit Reference Bureaus (CRB).
According to Rehm ,(2002, banks and other financial institutions should improve their capabilities of management non performing loans and avoid management of nonperforming loans during the lending process by use of information sharing mechanisms provided by Credit Reference Bureaus.

The concept of credit reporting agencies was born in the 1860s in the US, when merchants needed to keep track of their customers, especially those of poor credit risk. Names were usually compiled in lists; these were the first "credit bureaus." With the advance of technology and further growth of commerce, companies that dealt with collecting credit data began to take shape. Sullivan et al, (2003). In Africa, the concept of Credit Reference Bureaus has had its practice in few selected countries by multilateral companies through private credit bureaus such as Compuscan which operates in Botswana, Namibia and Rwanda while Kutz Univar, operate in Tanzania, Kenya and Uganda. In Kenya, before the publication of the Banking (Credit Reference Bureau) regulations 2008 and the licensing of the first Kenya`s credit bureau, CRB Africa Ltd in February 2010, Kutz Univar bureau was operating in the country.

In Kenya, Credit Reference Bureaus Regulations outline the responsibilities of financial institutions and CRBs as well as providing for the oversight of CRBs by Central Bank of Kenya (CBK). The Regulations compel the sharing of information on both non-performing loans as well as on performing loans. Currently, CBK has since licensed two CRBs- Credit Reference Bureau Africa Limited, and Metropol Credit Reference Bureau

Limited. There are 44 licensed commercial banks under the banking Act in Kenya currently.

According to CBK the introduction of CRBs in our financial landscape is an effort to encourage sharing of information by institutions so as to reduce the incidences of serial defaults by bank customers as well as minimize the incidences of non-performing loans. Credit information sharing will allow banks to distinguish between good and bad borrowers. Borrowers on the other hand will benefit from their credit histories and those blacklisted will send a moral check to maybe moral hazard counterparts. Information sharing will also present customers with the opportunity to negotiate a for good credit terms when one has a good credit record. This study therefore sought to assess the role CRB in the Management of Nonperforming Loans in the Banking Industry in Kenya.

2.0. Literature review

2.1. Theoretical review

2.1.2. The theory of asymmetric information

The theory of asymmetric information was introduced by Akerlof, G. (1970) in his coveted paper in 1970 entitled “Lemons”: Quality Uncertainty and the market Mechanism. In the paper, Akerlof develops asymmetric information with example case of automobile market. His basic argument is that in many markets, the buyer uses some market statistics to measure the value of class of goods. Thus the buyer sees the average of the whole market while the seller has more intimate knowledge of specific item. Akerlof argues that this information asymmetry gives the seller an incentive to sell goods of less than average market quality, leading to adverse selection. This rather self-evident premise has neverthess revolutionalised modern economic thought since the 1970s. This gave rise to several seminal contributions and included the works of Spencer (1973), Rothschild Stiglitz (1976) and Akerlof, G. (1970) himself.

2.1.2. Credit theory of money

Credit theories of money (also called debt theories of money) are concerned with the relationship between credit and money. Proponents of these theories, such as Alfred Mitchell-Innes, sometimes emphasize that credit and debt are the same thing, seen from different points of view Randy Wray (2004). Proponents assert that the essential nature of money is credit (debt), at least in eras where money is not backed by a commodity such as gold. Two common strands of thought within these theories are the idea that money originated as a unit of account for debt, and the position that money creation involves the simultaneous creation of money and debt. Some proponents of credit theories of money argue that money is best understood as debt even in systems often understood as using commodity money. Others hold that money equates to credit only in a system based on fiat money, where they argue that all forms of money including cash can be considered as forms of credit money.

The first formal Credit theory of money arose in the 19th century. Anthropologist David Graeber has argued that for most of human history, money has been widely understood to represent debt, though he concedes that even prior to the modern era, there have been several periods where rival theories like Metallism have held sway Richard Werner (2005).

According to Joseph Schumpeter, the first known advocate of a credit theory of money was Plato. Schumpeter describes Metallism as the other of "two fundamental theories of money", saying the first known advocate of metallism was Aristotle, according to Richard Werner (2005). The earliest modern thinker to formulate a credit theory of money was Henry Dunning Macleod, with his work in the 19th century, most especially with his The Theory of Credit' (1889). Macleod's work was expanded on by Alfred Mitchell-Innes in his papers What is Money? (1913) and The Credit Theory of Money (1914), Randy Wray (2004), where he argued against the then conventional view of money arising as a means to improve the practice of barter. In this alternative view, commerce and taxation created obligations between parties which were forms of credit and debt. Devices such as tally sticks were used to record these obligations and these then became negotiable instruments which could function as money.

2.1.4. Quantity Theory

Quantity Theory of Credit was proposed in 1992 by Richard Werner, (Richard Werner (2005), whereby credit creation is disaggregated into credit for GDP and non-GDP (financial circulation). The approach is tested empirically in a general-to-specific econometric time series model and found to be superior to alternative and traditional theories. Werner found that bank credit creation for GDP transactions causes nominal GDP growth, while credit creation for financial transactions explains asset prices and banking crises. Richard Werner (2005).

In his book, New Paradigm in Macroeconomics, Richard Werner presents a comprehensive and empirically tested credit theory of money, including the Quantity Theory of Credit, and policy proposals as to how to avoid the 'recurring banking crises' and how to stimulate economies after severe banking crises (making use of Werner's policy concept of quantitative easing, which he proposed in Japan in 1994, and which is defined in true 'credit theory of money' spirit as an expansion in credit creation for GDP transactions. Werner's historical analysis presents a historical overview of credit money, tracing it back to ancient Mesopotamia.

According to David Graeber (2011), the best available evidence suggests that the original monetary systems

were debt based, and that most subsequent systems have been too. Exceptions where the relationship between money and debt was less clear occurred during periods where money has been backed by bullion, as happens with a gold standard. Graeber echoes earlier theorists such as Innes by saying that during these eras population perception was that money derived its value from the precious metals of which the coins were made, but that even in these periods money is more accurately understood as debt. Graeber states that the three main functions of money are to act as: a medium of exchange; a unit of account; and a store of value. Graeber writes that since Adam Smith's time, economists have tended to emphasise money as a medium of exchange.

Philip Coggan (2011) holds that the world's current monetary system became debt based after President Nixon suspended the link between money and gold in 1971. He writes that "Modern money is debt and debt is money". Since the 1971 Nixon Shock, debt creation and the creation of money increasingly took place at once. This simultaneous creation of money and debt occurs as a feature of Fractional reserve banking. After a commercial bank approves a loan, it is able to create the corresponding amount of money, which is then acquired by the borrower along with a similar amount of debt, Philip Coggan (2011).

In a 2012 paper, economic theorist Perry Mehrling notes that what is commonly regarded as money can often be viewed as debt. He posits a hierarchy of assets with gold at the top, then currency, then deposits and then securities.

Debt theories of money fall into a broader category of work which postulates that monetary creation is endogenous. Philip Coggan (2011).

Historically, debt theories of money have overlapped with Chartalism and were opposed to Metallism Stephanie A. Bell and Edward J. Nell, (2003). This largely remains the case today, especially in the forms commonly held by those to the left of the political spectrum. Conversely, in the forms held by late 20th century and 21st century advocates with a Libertarian or Conservative perspective, debt theories of money are often compatible with Quantity theory of money, and with Metallism at least when the latter is broadly understood. Stephanie A. Bell and Edward J. Nell, (2003).

2.2. Empirical literature

2.2.1 The Information Sharing

The Kenyan Banking (Credit Reference Bureau) Regulations, 2008 states that the main the role of Credit Reference Bureau is to provide credit histories to financial institutions as to be able to make lending decisions in order to prevent credit risks and hence manage nonperforming loans. As a result, Jappelli and Pagano, (1999) say that credit bureaus assist in making credit accessible to more people, and enable lenders and businesses reduce financial risks. They add that credit bureaus allow borrowers to take their credit histories from one financial institution to another, thereby making lending markets more competitive and in the end, mitigate credit risks and make credit more affordable. Jappelli and Pagano, (1999) further, asserts that sharing of information between financial institutions in respect of customer borrowing behavior, has a positive economic impact.

Giesecke (2004) defines credit risk as the distribution of financial losses due to unexpected changes in the credit quality of counterparty in a financial agreement. Saunders at al (2006) states that credit risk is the risk that the promised cash flows from loans and securities held by financial institution may not be paid in full. This means that borrowers may default in interest and principal payment, hence causing financial loss to the financial institutions.

According to Petersen, (1994), the data needed to screen credit applications and to monitor borrowers are not freely available to banks. When a bank does not have such information, it faces “adverse selection” or “moral hazard” problems in its lending activity.

Adverse selection arises when some information about the borrowers’ characteristics remain hidden to the lender (hidden information), and can lead to an inefficient allocation of credit, Moral hazard arises instead from the lender’s inability to observe borrower’s actions that affect the probability of repayment. This creates the danger of opportunistic behavior or moral hazard by the borrower and informational disadvantage by the bank leading to inefficient allocation of credit.

Hogen et al (2001) suggest that reduction of management of nonperforming loans is the core business in the banking business. According to Deborah Ralton and April Wright International Journal of Bank Marketing (2003) there is need to have appropriate management of nonperforming loans management strategy in order to reduce risk of loan default because a financial institutions’ viability is weakened by the loss of principal and interest. Eagles and Bosworth (1998) adds that if reduction of management of nonperforming loans are not addressed, the institution will incur financial losses, incur costs taken to recover the capital at risk and fail in its social role of providing loans to members of society to improve their living standards.

Understanding the effects of information sharing also helps to shed light on some key issues in the design of a credit information system, such as the relationship between public and private mechanisms, the dosage between black and white information sharing, and the “memory” of the system. Jorge, (1999).

According to Smith, (1998) the application of the CB concept is enforced through Private Bureaus and Public credit registers where lenders remit information about borrower. Smith adds that timeline and truthfulness

of the data reported by lenders to credit bureaus is enforced invariably by threatening deviants that they will be excluded from access to the common data base. According to Smith, (1998) private bureaus are profit oriented venture created by the initiative of entrepreneurs or a coalition of lenders. He states that credit reference agencies such as such as Duns & Bradstreet in the US, can be regarded as voluntary information sharing mechanisms, insofar as they draw a large portion of their data from lenders and suppliers, who in return obtain preferential access to their data. Alvarado, (1999) defined Public credit registers as databases created by public authority and managed by central banks. Their data are compulsorily reported by lenders, who then obtain a return flow of data for use in their lending decisions. Alvarado indicates that special public registers exist for specific classes of debt contracts or securities: for instance, in many countries lease registers record the real collateral assisting housing mortgage loans. Typically, these registers for special classes of debt have long initiated the creation of modern public credit registers managed by central banks, which record bank loans and lines of credit (Alvarado, 1999). Smith (1998) indicates that PCR differs from private bureau in that PCR universally covers all financial institutions and membership is compulsory for all lenders under regulatory jurisdiction of the CBKS. However, he says PCR does not cover all loans; there is a threshold below which they don't cover. Private bureau cover all amounts of loans but may only be patronaged by lenders who join and pay membership fee.

2.2.3 The Reputation Collateral

Credit Reference Bureausplay crucial role in the collection and dissemination of credit histories of borrowers. According to the Banking Act (cap 488), the banking (credit reference bureau) regulation 2008,Credit Reference Bureausare said to reduce default rates as borrowers seek to protect their "reputation collateral" by meeting their obligations in a timely manner. With the presence of a CRB, there is strong motivation for clients to repay their loans. Credit reports that include both positive and negative information help build "reputation collateral" in much the same way as a pledge of physical collateral. In the long run, a bigger credit market and lower default rates lead to lower interest rates, improved profitability and increased competitiveness.

According to Jappali and Pagano,(2000), information sharing about borrowers' characteristics and their indebtedness can have important effects on credit markets activity. They suggest that information sharing improves the banks' knowledge of applicants' characteristics and permits a more accurate prediction of their repayment probabilities. Secondly, Jorge, (1999), adds that it reduces the informational rents that banks could otherwise extract from their customers. Thirdly, Petersen,(1999), says it can operate as a borrower discipline device. Finally, Ongena and Smith, (1998), argue that it eliminates borrowers' incentive to become over-indebted by drawing credit simultaneously from many banks without any of them realizing.

2.2.4 Black Listing of Borrowers.

According to Carolina, (1999), the type of information shared in both types of bureau is mainly "black" information i.e. negative information i.e. defaults or arrears and not white information i.e. positive information. In addition, the use of CRB extends to sharing information merged from other sources such as criminal records, tax records etc. Carolina adds that in some case, all these data of information is compiled together and used to assign credit scores of borrowers based on statistical risk analysis.

Trivelli, (1999) concluded that one of the challenges to effective use of credit reference bureau is the negative effects on banks' profits as a result of black listing. He argues that giving out private information hands over potentially valuable asset to the competitors. Trivelli, (1999), also agrees and adds that other issues such as increase in lending to safe borrowers may fail to compensate for reduction in lending to risky black listed types of borrowers Padilla and Pagano (1997). Padilla and Pagano, (1997), found out that Credit reference bureau can have a negative effect of sharing information about borrowers' quality type. Besides, the problem of threshold amount limit as in public credit register and the threat of infinite memory by the credit reference systems has posed some challenges Bolton (1990) ,Penati (1998). In their research on Commercial Banking Crises in Kenya: Causes and Remedies, Nelson M. Waweru and Victor M. Kalani (2009) concluded that many of the financial institutions that collapsed in 90s were due to not blacklisting serial defaulters. This is true for research works by Ndegwa, S. (2001) on Systematic and Business risks, Mwirigi, P, K (2006) on Assessment of Credit Risk Management Techniques adopted by Microfinance in Kenya.

2.2.2. The Challenges Facing Credit Reference Bureaus

Trivelli, (1999) concluded that one of the challenges to effective use of credit reference bureau is the negative effects on banks profits. He argues that giving out private information hands over potentially valuable asset to the competitors. He also says the liabilities of trans-border borrowing which account for debt owed to foreign lenders may not be captured by the local credit reference systems bureau hence posing another barrier for credit bureau application. Pagano and Jappelli (1993) suggests that this problem can be mitigated if banks share information across boarders Trivelli, (1999), also agrees and adds that the design of credit information system can mitigate adverse effect of handing over private information to competitors. Other issues such as increase in lending to safe borrowers may fail to compensate for reduction in lending to risky types of borrowers Padilla and Pagano (1997). Padilla and Pagano, (1997), found out that Credit reference bureau can have a negative effect of sharing information about borrowers' quality type. Besides, the problem of threshold amount limit as in public

credit register and the threat of infinite memory by the credit reference systems has posed some challenges Bolton (1990) ,Penati (1998). According to Jappeli and Pagano (1999), the possibility of collusion of credit bureau members create barriers to new entrants. Jappali and Pagano, (2000) and Hleifer, (1998) observe that strict privacy protection laws in some countries like France, prevent development of private credit bureaus. The use of sophisticated technological systems, according to Bizer, (1992), also pause potential challenge.

3.0. Research Methodology

The research design adopted in this study was a case study approach using descriptive design that investigated the role of credit reference bureau in the management of nonperforming loans. This type of descriptive research was used because it gives a systematic collection and analysis of data in order to answer questions concerning current status of a program, proposal or activity as it is Mugenda et al (1999).

3.1 Population and sample

The population of the study consisted of all the licensed commercial banks in Kenya and the credit reference bureau under the Banking Act. According to the CBK, there were 43 licensed banks and two credit reference bureau in Kenya.

3.2 Sampling and sampling techniques

A sample of 9 banks was selected using stratified random sampling procedures based on their size category in terms of capitalization as per the CBK rankings and the two licensed credit reference bureaus.

3.3 Research Instruments

The study sourced data from secondary sources. The data was obtained from financial reports, library, and banks's records such as in-house magazines, journals, publications as well as website and other resourceful information available for 5 years from 2008 to 2013, the duration when the CRB regulation has been in operation

3.4. Validity and Reliability of instruments

In assessing reliability of the data, internal consistency method using Cronbach's alpha was used whose alpha values obtained indicated a coefficient of approximately 0.7 and which was considered acceptable.

3.5. Data analysis

The data from the respondents was edited, coded and tallied according to their themes and analyzed into total scores, frequencies, and percentages using SPSS computer programs and results presented in tables, pie charts, bar graphs and figures**.**

3.6. Regression model

The study examined the role of Credit Reference Bureaus on the management of nonperforming loans in Kenya's banking industry . The relationship between the variables was stated using a mathematical function.

$Y = f(X_1, X_2, X_3)$

Where Y (management of nonperforming loans) was the dependent variable and X_1, X_2, and X_3 are the independent variables (information sharing, reputation collateral and blacklisting of bad borrowers).

Therefore, an analytical model of a linear multiple regression equation of the form shown below was developed.

Where:

$Y=\alpha +\beta_1X_1+\beta_2X_2+\beta_3X_3 +e_1$

Y= Management of nonperforming loans

α = Autonomous factors

X_1= Information sharing

X_2= Reputation collateral

X_3= Blacklisting of bad borrowers

β_1 = Coefficient for Information sharing

β_2 = Coefficient for Reputation collateral

β_3 = Coefficient for Blacklisting of bad borrowers

e= Error term - Captures all relevant variables not included in the model because they were not observed in the data set

This regression relationship showed the extent to which each of the dependent variable is influenced by independent variable. This was shown by the coefficient of the independent variable in each case. A correlation analysis was also performed to find how the variables are related to each other in the model.

4.0. Findings

Table 4.1: Model Summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	*.901[a]*	*.811*	*.798*	*.88195*

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in the above table the value of adjusted R squared was

0.798 an indication that there was variation of 79.8% on the management nonperforming loans due to information sharing, reputation collateral and blacklisting of bad borrowers at 95% confidence level. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by 0.901.

Table 4.2: ANOVA

Model		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
1	***Regression***	0.042	***2***	***0.021***	***3.064***	***.018[b]***
	Residual	7.824	***24***	***0.326***		
	Total	7.866	***26***			

From the ANOVA statistics in table above, the processed data, which is the population parameters, had a significance level of 1.8% which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5%.

Table 4.3: Coefficients

Model	*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*
	B	*Std. Error*	*Beta*		
(Constant)	***.510***	***.440***		1.159	***.000***
Information sharing	***-.226***	***.129***	***-.026***	-1.751	***.018***
Reputation collateral	***-.247***	***.125***	***-262***	-1.976	***.043***
Blacklisting of borrowers	***-.276***	***.185***	***-.183***	-1.491	***.042***

The established regression equation was $Y = 0.510 - 0.226\ X_1 - 0.247\ X_2 - 0.276 X_3$

From the above regression equation it was revealed that information sharing, reputation collateral and blacklisting of bad borrowers to a constant zero, nonperforming loans in the banks would stand at 0.510. A unit increase in information sharing would lead to a decrease in nonperforming loans by a factor of 0.226, unit increase in reputational collateral of borrowers would lead to decrease in nonperforming loans by factors of 0.247 and unit increase in blacklisting of borrowers would lead to decrease in nonperforming loans in banking industry by a factor of 0.276. This shows that there was negative association between management of nonperforming loans and information sharing, reputational collateral and blacklisting of borrowers.
The study found that all the sign value for all the variables, information sharing, reputational collateral and blacklisting of borrowers were found to significantly influenced by information sharing through Credit Reference Bureaus. All the p-value for all the independent variable was found to be less than 0.05 indicating that they were statistically significant.

4.5. Conclusions

The study revealed that the use of CRB and its usage in the banks plays a significant role towards management of nonperforming loans. These findings conquered with Petersen (1999) and Nelson et al (2009) who stated that CRB operates as a borrower discipline device and contributes positively towards management of nonperforming loans in banking industry. The research findings showed that reputation collateral and blacklisting do have both positive and negative effect respectively on the management of bad debt in Kenya's banking industry. This is in line with the conclusions of Trivelli, (1999) who concluded that one of the challenges to effective use of credit reference bureau is the negative effects on banks' profits. He argues that giving out private information hands over potentially valuable asset to the competitors. He also says the liabilities of trans-border borrowing which account for debt owed to foreign lenders may not be captured by the local credit reference systems bureau hence posing another barrier for credit bureau application. The study also revealed that lack of awareness and non-compliance are currently the major challenges of CRB application in Kenya. The study recommends that the CRB be extended to all non-banking sectors that handle credit transactions since this will reveal more credit histories of different borrowers. In addition the study recommends that CRB firms in Kenya should link with other regional CRB firms in other countries as to have information on credit histories of those crossing the borders.

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