

**Development of Financial Relations**

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**EFFECTS OF CREDIT REFERENCE
BUREAU PROCEDURES
ON PERFORMANCE OF LOAN PORTFOLIO:
A CASE OF SELECTED
COMMERCIAL BANKS IN TANZANIA**

Abstract

This study investigates the impact of credit reference bureau (CRB) procedures on the performance of loan portfolios at selected commercial banks in Tanzania. A cross-sectional research design was adopted, with data collected through questionnaires and interviews involving 95 respondents from selected commercial banks. The findings show that the procedure to accessing loans had a positive and significant relationship with loan portfolio performance at these banks ($\beta = 0.835$, $p = 0.000$), as did loan approval procedures ($\beta = 0.789$, $p = 0.001$) and quality control procedures ($\beta = 0.768$; $p = 0.002$). All were significant at 5% level. The study concludes that using credit reference bureau services allows banks and other credit providers to assess potential clients, track their financial performance, and manage any accumulated debts. The study recommends that the government of Tanzania work closely with listed commercial

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banks and other financial institutions to ensure compliance with legal requirements specifically policies and procedures that assist in screening and monitoring clients from the initial stage of lending by using credit reference bureau procedures to improve decisions on loan provision.

Key Words:

banks, credit reference bureau, loan portfolio.

JEL: G21, D82, O55.

1 formula, 3 tables, 25 references.

Problem Statement

A credit reference agency, also known as a credit bureau, is a system that collects individual credit information from financial institutions with which they have a relationship. The data is aggregated, and the resulting report information is made accessible to contributing businesses upon request for credit evaluation and rating purposes (Alloyo, 2013). A credit reference bureau (CRB) accumulates financial information from numerous sources and delivers consumer credit information on individual consumers for a variety of functions (Chandler & Coffman, 1979). The concept of credit reporting agencies was practiced in the 1860s in the United States, where merchants needed to keep track of their customers who were suspected of not being creditworthy. With the advancement of technology and the growth of commerce, companies involved in collecting credit data improved (O'Sullivan & Sheffrin, 2003).

In Africa, Credit Reference Bureau Africa (commonly known as CRB Africa) was established to address the high rates of defaults that threatened multinational banks operating in the African states by offering credit rating services and information sharing (see CRB Africa website at: www.crbafrica.com). CRB Africa specializes in the establishment and operation of «closed user group» credit informa-

tion sharing mechanisms for financial sectors in Africa, carefully designed to comply with the relevant confidentiality regulations (Tumusiime-Mutebile, 2011). In East Africa, Uganda was the first country in the East African Community (EAC) to have a private credit bureau, which began operations in May 2008 under the Compuscan Company. In his speech, the Governor of the Central Bank of Uganda pointed out that all supervised financial institutions, including commercial banks, credit institutions, and deposit-taking microfinance institutions, were participating (Tumusiime-Mutebile, 2011). In Kenya, the concept of credit reference bureaus (CRBs) was given statutory and legal recognition by the Banking (Credit Reference Bureau) Regulations, published in 2008. These regulations provide for the licensing and supervision of CRBs by the Central Bank, which operates as a closed user group for credit information sharing among institutions (Ng'ang'a, 2015).

In Tanzania, the first licensed and operational credit reference bureau was Credit info Tanzania, which received its operational license from the Bank of Tanzania in June 2013. Its core business is providing information related to credit and offering services to cover each stage of the customer life cycle. These services help banks and other credit providers to evaluate prospective customers, monitor the performance of existing ones, and manage any debts they may have incurred. They collect data from as many sources as possible, transform it into intelligence, and make it available to subscribers who have a legitimate reason to use it for business decisions. Additionally, CRBs assist financiers in evaluating creditworthiness, the ability to repay loans, the impact of interest rates, and other terms of the loan. Prospective financial institutions can access this information only when they have approved grounds, as stipulated by the law, to determine the creditworthiness of borrowers (O'Sullivan & Sheffrin, 2013). The Banking (Credit Reference Bureau) Regulations, 2008, provide that the information to be shared among banks includes any customer information concerning their customers' non-performing loans (NPLs) as well any other adverse (negative) information relating to a customer (Alloyo, 2013). On the other hand, listed commercial banks refer to banks that have issued shares of their stock through a stock exchange, with each share representing a portion of ownership in the commercial bank. Those shares can then be bought and sold by investors, increasing or decreasing in value according to demand.

Financial institutions mobilize funds from the public and place them in financial assets such as deposits, loans, and bonds rather than tangible property. The majority of financial institutions have engaged in lending and savings mobilization and have played a significant role in providing various lending and savings services and products (Namara, 2011). Despite its crucial role, lending has continuously been a challenging proposition, especially where legal/judicial enforcement is weak, and where information about applicants' ability and willingness to repay is not readily available, including because many of them have never borrowed

before and cannot pledge collateral to guarantee repayment (see Navajas et al., 2003; Conning & Udry, 2007 as cited in Alloyo, 2013).

Effective credit reference bureaus play an essential role in risk management and improve decision-making by collecting information about clients' credit history and other financial data (Gaitho, 2013). Before the introduction of CRBs, lenders faced challenges in assessing the credit risk of potential customers, which made credit decisions by lenders both slower and riskier, as lenders had no ready access to the credit history of potential borrowers.

Recently, CRBs have received interests globally as, according to Beck (2007), increased information sharing through a CRB allows for a more informed credit risk assessment, improves access to credit for groups that have been traditionally underserved, allows for greater and broader access to capital for small businesses and entrepreneurs, and enables better lending decisions resulting in lower default rates. The existence of a credit reference bureau (CRB) leads to a larger credit market, lower default and interest rates, improved profitability, and increased competitiveness within the industry (Alloyo, 2013).

According to Kasanda et al. (2013), CRBs in Tanzania have enabled lenders to assess the credit risk of potential customers. This has made credit decisions by lenders both quicker and less risky, since lenders have ready access to the credit histories of potential borrowers. While this applies to both corporate and individual borrowers, it is expected to have a particularly significant impact on personal lending, especially in the microfinance market, where lenders may lack access to financial statements or borrowing and saving histories of borrowers, unlike in corporate loans or loans to existing customers of mainstream banks. This area has attracted scholarly attention, with several studies investigating the impact of credit reference bureau reports. Among them, Shisia et al. (2014), Ng'ang'a (2015), Murimi (2017), Kaugi (2020), to name just a few, noted that CRBs had a negative effect on loan performance and non-performing loans. Despite these findings, there remains limited information and research regarding the impact of credit reference bureau reports on the loan portfolio performance of listed commercial banks in Tanzania. Financial institutions in Tanzania continue to grapple with the deteriorating quality of their loan books, and some banks, such as Tanzanian Women's Bank and China Commercial Bank, have been placed under statutory administration due to their failure to meet capital adequacy requirements and restore financial stability.

Other banks that have experienced failures include Delphis Bank in 2003, Karadha Company Ltd in 2000, First Adili (T) Ltd in 2000, and Bank Ltd in 2000 (Ernst & Young, 2021). Given the limited or no studies examining the effect of credit reference bureaus on loan portfolio performance from a Tanzanian perspective, this study seeks to fill the knowledge gap by investigating the impact of credit reference bureau procedures on performance as a strategic control measure, specifically focusing on their influence on the loan portfolios of listed commercial banks in Tanzania.

Literature Review

Several studies have examined loan performance and the relevance of credit reference bureaus in various countries. For example, Gitahi (2013) assessed the impact of credit reference bureaus on reducing non-performing loans (NPLs) at commercial banks in Kenya. The researcher employed a regression analysis and used the t-test to determine whether credit reference bureaus had a significant positive effect on the level of NPLs at commercial banks in Kenya. The findings indicated that CRBs had an effect on NPLs, with an average reduction of 4% in NPL levels in the years following the establishment of CRBs.

Kago (2014) examined the effect of credit reference bureau services on the financial performance of deposit-taking microfinance institutions in Kenya. The study employed event analysis to assess the return on assets over a period spanning two years before and five years after the establishment of the CRB in 2009. A linear regression model was used to test the relationship between return on assets and the total number of defaulters reported to the CRB per year. The study found that strong credit information sharing is therefore essential not only for individual prosperity, but also for a country's overall economic growth. The study established that financial performance ratings derived from credit information sharing enable both financial institutions and non-bank entities, such as retailers, telecom, and utility companies, to access borrowers' credit histories, which allows them to determine which clients to serve and what differential price to charge to cover risks.

Kimani (2015) sought to determine the impact of credit reference bureaus as a strategy on the level of loan performance at Commercial Bank of Africa. Based on both primary and secondary data, the study found that CRBs are used to provide the credit history of an individual or entity, share credit information analysis, store and disseminate information from lenders on borrowers' loans, generate reports for borrowers on request, assist in identifying serial credit defaulters, and provide credit rating or scoring of customers. The operational costs incurred in performing due diligence should generally be passed on, directly or indirectly, to their customers.

Osoro et al. (2015) investigated the influence of the credit reference bureau on the performance of banks in Eldoret, Kenya over the period from 2005 to 2011. The study found that the number of defaults was highest in 2008 and lowest in 2010, when only 15.9% of loans defaulted. In addition, the majority or 96% of secured loans—those with collateral—were long-term loans. The results further show that, on average, 48% of the sample's exposure at default was recovered within 1 year, and 62% within 2 years after the default took place. On average, the largest portion of recoveries was collected in the first year after default, with the amount of recovered funds decreasing in each subsequent year.

This study is built on the credit rationing theory introduced by Freimer and Gordon (1965), which posits that asymmetric information leads to credit rationing, as lenders cannot distinguish between high-quality and low-quality borrowers. However, this dominant view is not without criticism. In particular, de Meza and Webb (1987) vigorously contest this result, arguing that asymmetric information in credit markets can lead to the opposite outcome: an excess of credit (over-lending). Banks exist because they, unlike other investors, are more efficient at screening and monitoring borrowers (Allen & Santomero, 1997). They specialize in gathering and handling private information (Freixas & Rochet, 1999). By managing money and deposit accounts, banks own highly strategic information on firms' receipts and expenditures, as well as their development trajectories (Diamond & Rajan, 2001).

The more interesting form of credit rationing is equilibrium rationing, where the market has fully adjusted to all publicly available information and where demand for loans at a given market interest rate is greater than supply. Stiglitz and Weiss (1981) proved that credit rationing occurs when banks charge the same interest rate to all borrowers because they cannot distinguish between borrowers, while it is too expensive to screen borrowers perfectly. Both assumptions are oversimplifications and do not occur in the real world. Banks are usually able to differentiate their borrowers to a certain degree. Moreover, banks face more than just two types of borrowers and usually charge more than one interest rate to all customers. High-risk borrowers pay a higher interest rate, making credit rationing less likely. However, since banks cannot perfectly distinguish borrowers and it is impossible to screen them perfectly, credit rationing may occur.

According to Stiglitz and Weiss (1981), adverse selection—and consequently credit rationing—can still occur even when banks require collateral. They argue that low-risk borrowers expect a lower rate of return on average. Thus, they are less wealthy than high-risk borrowers on average after some periods. Low-risk borrowers are therefore not able to provide more collateral. Thus, increasing collateral requirements may have the same adverse selection effect as raising interest rates. Conversely, Bester (1985) contends that banks only offer contracts in which they adjust both interest rates and collateral requirements simultaneously. The credit rationing theory is applicable to this study as it proves that asymmetric information, which leads to credit rationing because lenders cannot distinguish between high-quality and low-quality borrowers, can be mitigated (Allen & Santomero, 1997). Since banks exist due to their superior ability to screen and monitor borrowers by gathering private information, this study aims to explore whether information sharing, effective screening of customers, and credit reference bureau procedures have an effect on the performance of listed commercial banks in Tanzania.

Methodology

This study employs a cross-sectional research design to explore the impact of credit reference bureau reports on the performance of listed commercial banks in Tanzania. This design is suitable because it involves a population-based survey with a stratified sampling technique. The target population consists of 95 employees from selected listed commercial banks in Dodoma city: Cooperative and Rural Development Bank (CRDB Bank), National Microfinance Bank (NMB), and Development Credit Bank (DCB). Stratification was based on departmental roles, and proportional random sampling was used to select respondents from each stratum. Additionally, purposive sampling was employed to select key informants, specifically top managers from these banks. Purposive sampling was chosen to focus on particular characteristics of the population that were of interest, thus aiding the researchers in answering their research questions.

Data on respondents' awareness of the effect of CRB procedures on loan portfolio performance of selected commercial banks were collected using both open-ended and closed-ended questionnaires. This mixed-method approach was employed because learning about opinions and behaviors can be a bit difficult without directly asking questions. The survey utilized an interviewer-administered questionnaire featuring both rating and closed-end questions (Saunders et al., 2009).

In addition, interviews were conducted to gather detailed opinions on the impact of credit reference bureau procedures. Key informants, including managers from CRDB Bank, NMB, and DCB, were interviewed using interview guides to obtain in-depth information on the subject. During these interviews, the researcher led the questioning and recorded the responses.

Both quantitative and qualitative analyses were used in the study. Qualitative data, captured through interview guides, was analyzed using content analysis, which involved developing themes based on theories and literature. Quantitative data were analyzed using a multiple regression model to assess the effect of credit reference procedure reports on the performance of loan portfolios among listed commercial banks in Tanzania.

The following regression model was used:

$$(Y) = \beta_0 + \beta_1 PrAcLo + \beta_2 QuCoPr + \beta_3 LoApPr + \mathcal{E} \quad (1)$$

where:

Y = Performance of loan portfolio;
 $PrAcLo$ = Procedure to accessing loans;
 $QuCoPr$ = Quality control procedures;
 $LoApPr$ = Loan approval procedures;
 \mathcal{E} = Error term.

Research Results and Discussion

The study adopted multiple regression analysis to determine the extent of variation in loan portfolio performance, the dependent variable, as explained by three independent variables: procedure to accessing loans; quality control procedures; and loan approval procedures.

The results presented in Table 1 indicate that the coefficient of determination (R^2) was estimated at 97.4%, suggesting that the model is fit for explaining the relationship between the variables. This means that 97.4% of the variation in loan portfolio performance at CRDB Bank, NMB, and DCB can be attributed to the independent variables (procedure to accessing loans, quality control procedures, and loan approval procedures). The remaining 2.6% of the variation in loan portfolio performance is likely explained by factors that were not taken into consideration in the model.

Table 1

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.714a	.974	.374	1.780	.974	4.727	7	38	.000

a. Predictors: (constant), procedure to accessing loans, quality control procedures, and loan approval procedures.

Source: authors' calculations.

ANOVA was applied to assess the significance of the regression model. As shown in Table 2, the model was significant in linking loan portfolio performance to the independent variables (procedure to accessing loans, quality control procedures, and loan approval procedures), as the p-value of 0.000 is less than the significance threshold of 0.05.

Table 2

Analysis of variance (ANOVA)

		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	83.323	8	43.887	4.727	.000 ^b
	Residual	49.548	74	14.462		
	Total	132.871	82			
a. Dependent Variable: loan portfolio performance (portfolio at risk, write-offs and provisions for bad loans)						
b. Predictors: (constant), procedure to accessing loans, quality control procedures, and loan approval procedures.						

Source: authors' calculations.

Table 3 indicates that the procedure to accessing loans has a positive and significant relationship with loan portfolio performance at selected listed commercial banks in Tanzania, as demonstrated by the p-value of 0.000, which is less than the threshold of 0.05. The coefficient for this variable was estimated at 0.835, suggesting that, holding other factors constant, a unit improvement in the procedure to accessing loans would, on average, result in an 83.5% increase in loan portfolio performance.

Table 3

Credit reference bureau procedures and loan portfolio performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.452	6.081		.906	.037
	Procedure to accessing loans	14.238	14.698	.835	.954	.000
	Quality control procedures	14.422	9.505	.768	.829	.002
	Loan approval procedures	15.834	12.397	.789	.705	.001
a. Dependent Variable: Loan portfolio performance (portfolio at risk, write-offs and provisions for bad loans).						

Source: authors' calculations.

The findings also demonstrate that quality control procedures had a positive association with loan portfolio performance ($\beta = 0.768$), which was significant at a p-value of 0.002, which is less than 5% significance threshold. This indicates that, on average, a unit improvement in quality control procedures resulted in a 76.8% increase in loan portfolio performance. Finally, loan approval procedures were positively associated with loan portfolio performance ($\beta = 0.789$), with a p-value of 0.001, also below the 5% significance threshold. This suggests that, on average, a unit improvement in loan approval procedures leads to a 78.9% increase in loan portfolio performance.

From the key respondents' perspective regarding the effect of CRB procedures on performance of loan portfolio among listed commercial banks in Tanzania, one key informant stated, «As far as accessing loans is concerned in our bank, we have different procedures that have been fundamental in determining whether the clients have the potential to pay their loan installments.» Another key informant also added, «We have procedures in place to help our bank to control quality and this has been helping in recovering loans in time».

Overall, credit reference bureau procedures—specifically, procedure to accessing loans, quality control procedures, and loan approval procedures—had a positive and significant relationship with the performance of loan portfolios at listed commercial banks in Tanzania, namely CRDB Bank, NMB, and DCB.

The findings of this study align with those of Osoro et al. (2015), who investigated the influence of the credit reference bureau on the performance of banks in Eldoret, Kenya, from 2005 to 2011. Osoro and colleagues found that the highest number of defaults occurred in 2008, while the lowest default rate—just 15.9%—was observed in the year 2010. The study also revealed that 96% of secured loans, i.e., those secured by collateral, were long-term. Furthermore, wholesalers had the highest default rate at 41.6%, while mining companies, as well as electricity, gas, and water supply companies, had the lowest default rates, each at 0.9%.

Conclusions and Recommendations

Credit reference bureau procedures had a significant effect on the performance of loan portfolios at CRDB Bank, NMB, and DCB, underscoring the crucial role of CRBs in the banking sector. The government of Tanzania should work closely with listed financial institutions to ensure compliance with legal requirements, in particular policies and procedures that aid in screening and monitoring clients from the initial stages of lending. This includes performance screening through CRB procedures, which can improve decision-making in loan provision. Future research could explore the broader impact of the CRB procedures on bank performance, possibly with a focus on comparing banks that adhere to CRB requirements and those that do not.

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