European Journal of Accounting, Auditing and Finance Research

Vol.10, No. 10, pp.34-54, 2022

Print ISSN: 2053-4086(Print),

Online ISSN: 2053-4094(Online)

Credit Risk Management and Financial Performance of Commercial in DRC

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Citation : Duniamastaki Jean (2022) Credit Risk Management and Financial Performance of Commercial in DRC, *European Journal of Accounting, Auditing and Finance Research*, Vol.10, No. 10, pp.34-54

ABSTRACT: *This study had two specific objectives which are: Establish the effect of credit risk management on performance of commercial banks in DRC. And to identify the most healthiness Commercial banks in DRC. In this study we have responded to two questions: Is there a relationship between the credit risk management and the performance of Commercial banks in DRC? What's the healthiness commercial bank in DRC? After analysis we concluded that the credit risk management has not any impact with the financial performance of commercial banks in DRC and the best commercial bank in DRC was BCDC during the time covered by this study*

KEYS WORDS: Credit, risk, financial performance, commercial banks, DRC

INTRODUCTION

Background of the Problem

Actually, Banks play a major role in all the economic and financial activities: accepting money on various type of deposit account, leanding money by overy draft, loan both secured and unsecured, providing transaction account, cash management, provide equity financing, usuing bank draft and bank cheques in modern society. One of the core activities of the banking industry worldwide and, in particular Democratic Republic of Congo, is the creation of credit to give loan and help deficit units of the economy. Credit creation is the main income generating activity for the banks but this activity involves huge risks to both the lender and the borrower. Banks are subjected to a wide array of risks in the course of their operations and generally banking risks fall into three categories: financial, operational, and environmental risks (Greuning & Bratanovic, 2009). The risk of a trading partner not fulfilling his or her obligation as per the contract on due date or anytime thereafter can greatly jeopardize the smooth functioning of a bank 's business, wich can lead according to some economists and historians to a crisis caused the great depression.

On the other hand, a bank with high credit risk has high bankruptcy risk that puts the depositors in jeopardy. Among the risk that face banks, credit risk is one of great concern to most bank authorities and banking regulators. This is because credit risk is one risk that can easily and most likely prompts bank failure. Credit creation calls for prudent management of the risks associated with it. According to (Chijoriga,2011) credit risk is the most critical and expensive risk associated with financial institutions and its impact on performance is quite significant

compared to any other risk associated to the banking sector as it is a direct threat to solvency of the institution.

Statement of the Problem

The main problem of commercial banks is the lack of liquidity caused by issuing of loans without studing and respecting the required procedures. The deposits are used to provide credits, the issue unsecured loan and finally the borrowers fail to payback those loans which lead to loss of liquidity, and finally Central banks bankruptcy of the most of them. Bank need to manage the credit management inherent to the entire portfolio as well as the risk of individual credits or transaction.

The poor performance of a commercial bank may be determined by some element such as: liquidity risk, systematic risk, operating risk, credit risk monetary policy issue, economic ramification. But credit risk management may have played a big role in collapsing of many financial institutions. Since a high risk provide a high profitability and a low credit risk took provide a low profitability, this situation lead banks to increase their risk for satisfying their shareholder in this case the commercial bank faces the liquidity crisis as what happened in 2008s when US made the deepest recession since the Word war II, it was also the longest, lasting eighteen months. The unemployment rate more than doubled, from less than 5 percent to 10 percent in US.

Gray, Cassidy, & RBA (1997) state that credit risk is the biggest risk faced by banks and financial intermediaries. The indicators of credit risk include non- performing loans, problem loans or provision for loan losses (Jiménez & Saurina, 2006). Additionally, Yimka, Taofeek, Abimbola & Olusegun (2015) state that credit risk is caused by, low capital and liquidity levels, directed lending, massive licensing of banks, poor loan underwriting, reckless lending, poor credit assessment, no non-executive directors, poor loan underwriting, laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the central bank. Other types of risk which are external to a bank may include inflation risk, market risk, exchange rate risk, political risk etc. Gibson (2005), assets that the non-performing loan is the main cause of failing of commercial banks. Many other studies have been conduct for that issue and confimed the relationship between the credit risk management and the financial performance of commercial banks as:. Kambi & Ali, (2016), Stephen & Akele, (2014), Yousfi, (2014), Ghani, (2015), Res, Sa, & Gemechu (2016), Oluwafemi, Israel & Simeon (2013), Olamide, Uwalomwa, & Ranti, (2015) posited that risk management play an important role in determining the overall profitability of banks.

Sathyamooth C .R and Allii(2020), examined the impact of financial risk management practices on the financial performance at the commercial Banks in Botswana.The finding from the regression analysis showed that debt to total asset ratio increase the performance of banks increase positively with a few extentJohn (2020), wrote an article which aim was to rate the effect of financial risk management on the financial profitability of banks in Nigeria, the finding display that, there exist a significant positive effect of credit risk on the performance of Nigeria PK bank. Fredrick (2012) wrote his article in Kenya and it was published in the DBA Africa Management Review. The researcher examined the impact of credit risk management on

fiancial performance. The study also established that capital adequacy, asset quality, management effiiency and liquidity had weak relationship with fiancial performance (ROE) Kipngetich & Muturi (2015) did this empirical study in Kenya. The empirical results showed that capital adequacy and management efficiency had positive and statistically signifiant relationship with fiancial performance. This indicated that increase in capital adequacy and management efficiency leads to increase in financial performance.

Evalde (2016) did a research on the relationship between credit risk and commercial banks performance at Bank of Kigali in Rwanda, the result indicate that credit risk management measured by the Non-performing loan Ration(NPLR) had a positive high correlation on the performance of BK. As we can notice from the above Authors according to their finding credit risk has a positive impact on the financial performance but most of them used either the non-performing loan o to measure the credit risk in this study we have assessed the credit risk by the capital adequacy, the ratio of credit over deposits and the ratio of equity capital over total assets further more non-study has been conducted in other to orient customers about the bank they can trust. This current study aimed at the covering of that gap by olso using the Autoregressive model

Note that in DRC, according to the Central bank of congo the credit management is poor when the commercial bank has a non-performing loan Which is more than 5%. Another big problem of commercial banks is the asymmetric of information in the financial world; consider a situation where a lending institutionTop Banks enters into an agreement with a borrower. The lender establishes the terms and agreements that the borrower must stipulate to, and, usually, background checks are done in some ratios such as: financial equilibrium of the borrower, degree of liquidity of the borrower, degree of solvability of the borrower, rentability of the borrower...

However, the borrower may make the window dressing or may not accurately explain what they are borrowing the money for and may use it in a way that involves a level of risk that – had the lender been aware of it – would likely have led the lender to decline making the loan. The lender may end up with a loan that isn't repaid on time or isn't paid back at all. Such a situation can result in far-reaching consequences if the loss is so great that the lender is forced to charge higher interest rates to other borrowers to make up for the loss but most of the time the borrower in jeopardy accept any high interest which brings the lender to lend firms in hardship than those which are solvent. In the light of the above, we will have questioned the traditional method of assessing a borrower by the commercial bank by using the scoring method.

Objectives of the study

General Objective

The general objective of this study was to orient borrows and all acting with commercial bank to be acquainted with the best bank in DRC.

Specific objectives

This study will have two specific objectives which are:

1. Establish the effect of credit risk management on performance of commercial banks in DRC.

2. To identify the most healthiness Commercial banks in DRC.

Research questions

In this study we will have to respond to two questions below:

1. Is there a relationship between the credit risk management and the performance of Commercial banks in DRC?
2. What's the healthiness commercial bank in DRC?

Relevance of the Study

Possible beneficiaries of this study will be:

Central bank of Congo, Capital Markets Authority: this study willbe of a significant value to these regulations institutions because it is going to assess the level of credit risk of commercial banks to ensure if the minimum capital required is respected by commercial banks and other requirement such as: the equity capital, the transformation ratio, liquidity ratio, capital adequacy ratio, core capital ratio. Firms borrowers: through this study borrowers willbe acquainted either about the vulnerableness or their healthiness of commercial Banks so that they may pick the most healthiness bank. Future researchers in credit risk management: This study will be useful to various financial player as well as future reseachers in credit risk management who will use the findings of this study to enrich their research.

Organization of the Study

This thesis will be structured as follows: the chapter one will provide the research background, research objectives, the relevance of the research and the limitations encountered in the course of the study. The Chapter two will present conceptual definitions. The critical review of supporting theories, the emplorocal analysis of relevant studies, the reaserch gap identified, analysical framework, theoretical framework as well as the statement of hypothese.The chapter three will deal about the research design and methodeds, here we will explain about the research strategies, the survey populations, area of the research, prrocedures, variables and measurement procedures, methods of data collection, data processing and analyzing as well as the research findings.

LITERATURE REVIEW

Overview

In this chapter, we will deal about nine sections: the overview, conceptual definitians, method review of supporting theories, empirical analysis of relevant studies, research gap identified, conceptual framework, the theorical framework, statement of hypotheses and the summary of the current chapter.

Conceptual definitions

Credit

The term credit is from latin credo « i belive » or « i trust » credit implies a condition of trust between borrower and lender that the funds lent will be played. Credit is a contractual in which a borrower receives something of value now and agrees to repay the lender at some date in the

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future, generally with interest. The term also refers to the borrowing capacity of an individual or company. According to Peter.JM., Lewis.B.L., Dhar.V.(1989), credit is an accounting that either decreases liabilities and equity or the campany balance sheet as well as the company's income statement.

Credit risk

A risk is defined as the something that may an impact on the achievement of objectives and it includes risk as an opportunity as well as threat (Audit office.2000). According to Ly.2010), credit risk is the eventuality of loss the principal because the borrower 'failure to pay back a loan or to meet a contractual obligation. In this work the credit risk is also called the Default or counterpart risk which is the potential of a bank 'borrower or counter party to fail to meet its obligations in accordance with the agreed terms. Commercial banks face many types of other risk a part from credit risk such as: liquidity risk, interest rate risk, market risk as well as operational risk. The credit risk will retain our intention because it can be the cause of all sorts of risks. Credit risk is the possibility of a loss resulting from a borrower's failure to repay a loan or meet contractual obligations. Traditionally, it refers to the risk that a lender may not receive the owed principal and interest, which results in an interruption of cash flows and increased costs for collection. Excess cash flows may be written to provide additional cover for credit risk. When a lender faces heightened credit risk, it can be mitigated via a higher coupon rate, which provides for greater cash flows. Although it's impossible to know exactly. The counterpart risk has got three forms:

Counterpart risk borrower: concern the credits given on clients (particulars and enterprises) or investment on the financial;

-Counterpart risk on lender: on the potential financing gives by counterparties banks for ensuring financing of activities in case the bank has difficulties on the market;

-Counterpart risk on derivative products: derivative products are used for covering the risks or speculation. They are called derivative because they values are from others markets. Who will default on obligations, properly assessing and managing credit risk can lessen the severity of a loss. Interest payments from the borrower or issuer of a debt obligation are a lender's or investor's reward for assuming credit risk. As it is equally called counterpart risk, is the first risk that a bank can bear.it design « the risk of failure of a counterpart (borrower)

Credit risk management

Risk management are coordinated activities aim at controlling risk. Risk management according to Res, Sa, & Gemechu (2016) consists of a series of steps, which allows for continuous improvement of decision making by establishing the context, identifying and analyzing deviations, monitoring and communicating risks in an organization. The primary goals of managing financial risk are to identify measures to mitigate the risk and more importantly monitor the profile of the bank (Soyemi, 2014). Kambi & Ali, (2016), Stephen & Akele, (2014), Yousfi, (2014), Ghani, (2015), Res, Sa, & Gemechu (2016), Oluwafemi, Israel & Simeon (2013), Olamide, Uwalomwa, & Ranti, (2015) posited that risk management play an important role in determining the overall profitability of banks.

According to Yousfi (2014), the risk arising from the bank's inability either to meet its obligations or to invest fund increases in assets as they fall due is known as liquidity risk. Form this definition it's obvious that liquidity risk doesn't mean just the shortage in financial resources but also the excess of these unused funds. Thus, with a proper risk management, a bank should be able to effectively undertake 'gap management' that is maintaining a reasonable match between the average maturities of the sources and uses of funds (Christopher, 2019). Further, banks are confronted with the risk of repayment default of loan; also known as credit risk. Credit risk may arise from either an inability or unwillingness on the part of the borrower to perform its obligations (Anthony & David, 1997). Gray, Cassidy, & RBA (1997) state that credit risk is the biggest risk faced by banks and financial intermediaries. The indicators of credit risk include non- performing loans, problem loans or provision for loan losses (Jiménez & Saurina, 2006). Additionally, Yimka, Taofeek, Abimbola & Olusegun (2015) state that credit risk is caused by, low capital and liquidity levels, directed lending, massive licensing of banks, poor loan underwriting, reckless lending, poor credit assessment, no non-executive directors, poor loan underwriting, laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the central bank. Other types of risk which are external to a bank may include inflation risk, market risk, exchange rate risk, political risk etc.

Factors of credit risk management

According to Edward (1989) the important factors that dermine the credit risk management includes: capital position, risk and profitability of various types of loan, influence of monetary and ficascal policies, the ability and experience of bank personnel, credit need of the area served.

Capital Position

The capital of the bank serves as a shield to protectect depositor's funds. The size of the capital in relation to the amount of the risk that a bank can afford to take. Banks with relatively large capital structructure can make loan of a large maturity and greater credit(Kakuru.2003).

Risk and profitability of various types of loan

According to Kakuru(2003), since earning is necessary for succeful aperation of the bank, all banks may emphasis earnings more than others. Banks wihith greather need for earning might adopt agressive lending policy than those that don't consider earning to be paramount.

Stability of deposits

The financial and type of deposit must be considering by a bank in formulating its policy. Adequate provision has been made for the primary and secondary reserves, bank can then engage in lending. Even though these two resources are designed to take care of prdicted deposit fluctuation unpredectable loan demands force bank to give consideration the stability of deposits formulating policy (Kakuru, 2003)

Influence of monetary and fiscal policies

According to Griffin (2008) in monetary and fiscal policies expensive and additional reserves are made available to the commercial banking system, banks can have a more liberal loan policy if the opposite situation exists.

European Journal of Accounting, Auditing and Finance Research
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Print ISSN: 2053-4086(Print),
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The ability and personnel experience of the Bank

The expertise of lending personnel is not significant in the establishment of bank loan policy. For instance, the officicer may have considerable ability and experience in business lendeng but practically none in banking real estate loans. While in other banks, their policy may be consumer lending that their presence may influence the loan policy of other banks (Kakuru, 2003).

Credit needs and of the area served

According to Segnoriello, (1991) the major reason as to why the banks are not chartered is to serve the credit needs of their communities' sound loan requests. Other factors related to credit risk which the variations can influence the value of debt portfolio and the commitment of the bank are: Interest rate, Exchange rate (for international operations), Price of an asset, Underlying volatility (regarding credit risk on derivative instruments). Identification of counterpart risk is an important step for banks for it assessment and management.

Credit risk management variables

The processes of credit risk control begin with accurately assessing the creditworthiness of the customer base and his or her business viability. This particularly is important if the company chooses to extend some type of credit line or revolving credit to certain customers. Hence, proposer credit control is setting specific criteria that a customer must meet before receiving the proposed credit arrangement. The key credit control variables include (Signorelli, 1991). Credit standards.

These are the criteria, which the firm follows in selecting customers for credit extension. This is a very fundamental credit policy variable that requires intensive analysis. According to Pandey (2005), a credit standard is the one of the controllable decision variables that directly influence investment in trade credit.

Graham (1990), emphasized that individual account of credit applicants need a great deal of scrutiny and that, for this reason, it's important that standards be set basin on the individual credit applicants. Gitman (1982) argues that credit stardards provide guidelines for determining whether to extend credit to a customer and how much credit should be extended. Kakuru (2001) noted that it is important that credit standards be set basing on individual credit applicant by considering credit information, credit analysis, credit limit and credit rate.

Credit information

Before extending credit to any of its operators, sufficient information should be collected about the customer. This is done in a bid to minimize losses. According to Otero (1994) reliable and timely information is critical to manage the credit process. If timely and useful information is available, management is much better equipped to direct and control prudent credit process. The information will lie on the financial Analysis of a counterpart lies on five elements which are:

-Profit or ratability of the activity ; financial equilibrium and the risk, solvability as well as liquidity analysis.

Profit and of the activity:

The bank must identify the whole activity of the counterpart in question.it is about to know the product and service that he supplies, his cusomers as well as his market

Financial equilibrium analysis and risk: Financial equilibrium analysis**:** Financial equilibrium analysis is based on balance sheet equilibrium and off balance sheet, the main principle here is :" permanent liabilities must cover the fixed asset" therefore the working capital must be positive.

Risk analysis: Risk analysis is an important step for a financial analyst. This one must follow up different risks of the counterpart and alert on degradations which can put in jeopardy activities of the firm. The main risks to analyses are exploitation risk and financial risks.

Ratability analysis: This one is based on the analysis of accounts of results which cover charge and gain of the firm. Here the analyst will calculate the ratio of return on asset and the ratio of return on equity.

Liquidity analysis: the analyst will measure the capacity on the firm which asks the credit its ability to face current debt so the general liquidity ratio of that company must be more than 100%.

Sovability analysis: It is very important for the financial analist of the bank which is willing to give the credit to assess the solvability of the borower firm it means to evaluate its capacity to face its bebt in general (current debt and long term debts). Here there is the question of rating the level equity capital in the borrower firm and it must be at least more than 50% in the total assets.

Regarding the rentability and the liquidity of the borrower firm, the analist of the bank will classify four types of firms in accordance with their financial health:

Good shape firm: liquid and rentable firms

Temporary sick firms: renteble but not liquid firms

Chronicle sicks firms: no rentable but liquid

Next end firms: firms that are neither liquid nor rentable

In short financial analysis helps the analysist of the bank to classify firms in two merger categories: healthy firms (Good shape firm) and vulnerable firms (Temporary sick firms, Chronicle sicks firms and Next end firms) this financial analysis is a trational approach, in the practices, the bank cannot have a perfect information on the causes of defaulte and their perceptions indicators providing by enterprises. The bank concetrate the analysis on s opportuniste behavior of borrowers who submit incomplet and slant countable.

Insufficient and manipulated countable information: which ame at improving the image that have different financial stements of the borrower company. Problems lies on opportunism of the borrower: borrowers tend to to rise the risk of their firms without informing the lender (bank)

Under-investissement or sub-optimal investissement That why in this work we will use news standard approach such as the scoring method.

Client Appraisal

The involves screening clients to ensure that they have the willingness and ability to repay a loan. Financial institutions use the 5Cs.As the economic recovery continues to take hold, many business owners are seeking fiancing to support growth and position their company to take advantage of new opportunities. Applying for financing requires a certain amount of preparation and paperwork. A good place to start is understanding what leaders are looking for knowing the 5 C's of credit will help business owners navigate the fiancing process more effiiently.

Character: Combines credit history, reputation within the industry, length of bank relations and credentials.it refers to the trustworthiness and integrity of the business owners. It is an indication of the applicant's willingness to repay and ability to run the entreprese.

Capacity: refers to ability to take on and repay debt based on the earning potential and cash flow of the business. So it is the question of assessing whether the cash flow of the business or hausehold can serve to pay back the loan.

Credit: indicates how the business has hand the previous financial dealing.

Captal: personnel and corporate net worth, Equity investted in the business and the ability to assess other financial reserves.

Collateral: includes account receivable inventory, equipment, personal residence and commercial real estate. It means asset that the applicant is willing to give in case of nonpayment, or a guarantee by a respected person to repay a loan in default(Brealey,2002).

Condition

A business plan that consider the level of competition and the market for the product or sevice, and the legal and economic environment, the 5Cs need to be included in the credit scoring model. The credit scoring model is a classification procedure in which data collected from application forms for new or extended credit line are used to assign credit applicants to..good or .. bad credit risk classes (Myers& Brealey,2002). Knox (2004) notes that capital (equity contributions) and collateral (the security required by lenders) as major stumbling blocks for entrepreneurs trying to access capital. This is especially true for young entrepreneurs or entrepreneurs with no money to invest as equity ; or with no assets they can offer as security for a loan.Any effort to improve access to finance has to address the challenges related to access to capital and collateral. One way to nguarantee the recovery of loaned is to take some sort of collateral on loan.This is a straighforward way of dealing with the aspect of securing depositors'funds (Berkowitz and Mohan,1987).

Credit risk control

key credit contyrol include loan product design, credit committees, and delinquency management (Brigham, 1999).Loan product design: financial institution can mitigate a

Vol.10, No. 10, pp.34-54, 2022
Print ISSN: 2053-4086(Print),
Online ISSN: 2053-4094(Online)

significant portion of defautl risk by designing loan products that meet client needs. Loan product features includes the loan size, interest rate and fees, repayment schedule, collateral requirements and any other special terms. Loan products should be designed to addess the specific purpose for whioch the loan is intended (Knox, 2004).

Credit committees: establish a commitee of persons to make decisions regarding loans is essential control in reducing credit or fraud crisk.

Delinquency Management: to minimize such delinquency financial institutions can use the following delinquency methods institutional culture: A critical delinquency management method involves cultivating an institutinal culture that embraces zero tolerance of arrears and immediate follow up on all late payment. Banks can also remind clients who have had recent delinquency problems that repayment day is approaching (knox, 2004).

Client orientation: a logical first step toword developing a zero-tolerance institional culture is to communicate this concept to each new client who receive the loan.

Staff incentives: creating staff involvement in descouranginge delinquency, through a staff incentive system, can be effective.

Loan Rescheduling: given the vulnerability of the target market, it is common for borrowers to be willing but unable to repay.

Collection policy: there are various policies that an organinization should put in place to ensure that credit management is done effectively; one of these policies which is needed because all customers do not pay firms bills in time. Same customers are slow payers while others are non-payers. The collection effort should, therefore aim at accelerating collections from slow payers and reducing bad debt losses (Kakiuki,2010).

Profitability and risk in commercial banks

Bank profitability from the shareholder’s perspective is the difference between revenue and costs, this indicates that the goals of bank management is to obtain profit by maximizing revenue and minimizing costs. However, profitability in banks inclined by risk can face certain impediment such as changes in the regulatory framework, economic upheavals, political disturbance and other bank specific factors; that would affect banks from obtaining desired performance (Bikker & Boss, 2008). The performance of banks globally is characterizes by its overall profitability which is correlated with the risks taken by the bank concerned (Olteanu, 2003). The global performance of a bank is given by relationship between profit and risk. In the financial statements of a bank, they are financial indicators calculated that are closely related to the risk assumed by the bank such as CAR. Because the control of banking risk is a factor that depends on bank’s profitability (Stoica 1999), banks grant special attention to permanent monitoring indicators which expresses efficiency of banking activities and analyzing their effectiveness in close interdependence with the bank’s exposure to risks or potential risk that can jeopardize the activity.

Bank profitability

Bank's profitability is of vital importance for investors, stakeholders and the economy at large. The profitability of banks lies in their ability to achieve its objectives using its available ressources. The available resources such as money, men, machines, capabilities and skills needs proposer appraisal and and evaluation which is done systematically in determining the achievements of the company's objectives (Amelia, 2002). For, banks, the indicators of its profitability are cost-toincome ratio, return on asset (ROA), return on equity (ROE), interest rate spread etc, in this study, our focus on bank profitability will be ROA and ROE. These are the most sustainable measures of efficiency and it is also suitable in revealing how effectively and efficiently a bank utilizes the total asset at its disposal. Bank profitability of an organization does not just plays the function to raise the market value that particular organization but also direct development of the financial sector which finally leads to success of market specifically for banking business and its function as an engine of financial development. In relation to this work.

CRITICAL REVIEW OF SUPPORTING THEORIES

Stakeholder Theory

The stakeholder theory was initially developed by Freeman in 1898 as a managerial instrument and as since evolved into a theory of the firm with high explanatory potential (Klimczak, 2007). According to Klimczak (2007) the stakeholder theory focuses explicitly on equilibrium of stakeholder interests as the main determinant of corporate policy and that it's most promising contribution to risk management is the extension of implicit contracts theory from employment to other contracts. Omasete (2014) posits that the stakeholder theory helps to address the importance of customer trust and financial distress costs to companies. Finally, the theory suggests that smaller firms are more prone to financial problems, which should increase their interest in risk management practices (Omasete, 2014).

Portfolio Theory

Since the 1980s, banks have successfully applied modern portfolio theory (MPT) to market risk. Many banks are now using earnings at risk (EAR) and value at risk (VAR) models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk remains the largest risk facing most banks, the practice of MPT to credit risk has lagged (Margrabe, 2007). Under the portfolio theory, traditionally banks have taken an asset by asset approach to credit risk management. While each bank's method varies, in general this approach involves periodically evaluating the credit quality of loans and other credit exposures, applying a credit risk rating, and aggregating the results of this analysis to identify a portfolio's expected losses (Gakure, Ngugi, Ndwiga and Waithaka, 2012). According to Gakure et al (2012) the foundation of the asset-byasset approach is a sound loan review and internal credit risk rating system. In this approach a loan review and credit risk rating system enable management to identify 14 changes in individual credits, or portfolio trends in a timely manner (Gakure et al, 2012). Based on the results of its problem loan identification, loan review, and credit risk rating

system management can make necessary modifications to portfolio strategies or increase the supervision of credits in a timely manner (ibid). While the asset-by-asset approach is a critical component to managing credit risk, it does not provide a complete view of portfolio credit risk, where the term risk refers to the possibility that actual losses exceed expected losses. Therefore, to gain greater insight into credit risk, banks increasingly look to complement the asset-by-asset approach with a quantitative portfolio review using a credit model. Banks increasingly attempt to address the inability of the asset-by-asset approach to measure unexpected losses sufficiently by pursuing a portfolio approach.

According to Essendi (2013) the portfolio has a basic assumption that investors often want to maximize returns from their investments for a given level of risk and provides a framework for specifying and measuring investment risk and to develop relationships between risk and expected returns. One weakness with the asset-by-asset approach is that it has difficulty identifying and measuring concentration. Concentration risk refers to additional portfolio risk resulting from increased exposure to a borrower, or to a group of correlated borrowers. The traditional portfolio approach uses two methods, namely the expert method and the credit scoring models in the expert system, the credit decision is left in the hands of the branch lending officer. His expertise, judgment, and weighting of certain factors are the most important determinants in the decision to grant loans.

The traditional approach to the assessment of credit proposition of borrowers is based on the heuristics or intuition of the loan officer. Heuristic decision making is, however, not necessary arbitrary or irrational because it is based on years of experience that enable individuals to identify solution 15 quickly without going through an analytical process (Rosli, 2000). The 5Cs of credit are always used by banks to assess the creditworthiness of the potential borrower. The 5Cs of credit refer to Character, Capacity, Conditions, Collateral and Capital (Dev, 2009). Character assessment is performed to determine the willingness and desire of borrowers to repay debt. Capacity is described as the borrower‘s capacity to borrower and also his repayment capacity. Economic conditions will also affect the borrower‘s ability to repay the loan. A bank will normally ask for collateral as security against the loan. Capital requirement of the business indicates the financial net worth of the borrower. The loan officer can examine as many points as possible but must include these five Cs in addition to interest rate. In order to estimate default probability credit scoring models use statistical and mathematical methods (Togtokh, 2012). Some writers note that the reason for this increased use of the scoring methods is that the methods are relatively cheap, bases on historical data and simple compared to modern approaches. For example, Mester (cited in Togtokh, 2012) revealed widespread useof credit scoring models showing that 97 percent of the banks use credit scoring to approve credit card application, whereas 70 percent of the banks use credit scoring in their small business lending.

Asymmetric Information theory

The concept of asymmetric information was first introduced in George A. Akerlof's 1970 paper The Market for "Lemons": Quality Uncertainty and the Market Mechanism. In the paper, Akerlof develops asymmetric information with the example case of automobile market. His

basic argument is that in many markets the buyer uses some market statistic to measure the value of a class of goods. Thus the buyer sees the average of the whole market while the seller has more intimate knowledge of a specific item. Akerlof argues that this information asymmetry gives the seller an incentive to sell goods of less than the average market quality. The average quality of goods in the market will then reduce as will the market size. Such differences in social and private returns can be mitigated by a number of different market institutions.

Michael Spence continues the ideas of George A. Akerlof in his 1973 paper Job Market Signaling. He divides markets into two classes: those where there are few players in the market and they can establish a reputation as signalers and those where the players in the market are numerous and change frequently. Spence concentrates on the latter market where signals need to be interpreted without prior knowledge of the individual signaler. He uses job market as an example in the paper.

Joseph Stiglitz in his 1975 paper The Theory of 'Screening,' Education, and the Distribution of Income explore whether this could be used by the seller (employer) to screen the applicants (potential employees) into categories that reflect their productivity or some other capability. Stiglitz states that there are many important differences in the qualities of goods, individuals, brands and other items. He defines screening as identifying these qualities. Further, devices that perform screening activities are called screening devices.

Asymmetric information examples are everywhere. In the financial world, consider a situation where a lending institutionTop Banks in the USAAccording to the US Federal Deposit Insurance Corporation, there were 6,799 FDIC-insured commercial banks in the USA as of February 2014. The country's central bank is the Federal Reserve Bank, which came into existence after the passage of the Federal Reserve Act in 1913 enters into an agreement with a borrower. The lender establishes the terms and agreements that the borrower must stipulate to, and, usually, background checks are done.

However, the borrower may not accurately explain what they are borrowing the money for and may use it in a way that involves a level of risk that – had the lender been aware of it – would likely have led the lender to decline making the loan. The lender may end up with a loan that isn't repaid on time or isn't paid back at all. Such a situation can result in far-reaching consequences if the loss is so great that the lender is forced to charge higher interest rates to other borrowers to make up for the loss.

The ideal situation for any agreement or deal is one of perfectly symmetrical information, where each party has the same information, and both parties have all the information relevant to the transaction. That way, both parties can enter into the deal with confidence and reap from it what they expect.

Asymmetric information exists virtually everywhere, making flawless business agreements and transactions almost impossible to come by. In the best cases, asymmetric information causes some hurdles but leaves both parties relatively unscathed. At its worst, asymmetric information can cause severe financial hardship to one party and lead to broken agreements and failed deals.

In DRC for exemple borrow use the widow dressing for optaining the credit that why the scoring method is important for facing that bad habit.

Empirical analysis of relevant studies

Evalde (2016) did a research on the relationship between credit risk and commercial banks performance at Bank of Kigali in Rwanda, the resultat indicate that credit risk management meqsured by the Non-performing loan Ration(NPLR) had a positive high correlation on the performance of BK.From the sample size of 28 Empoyees from loan recovry and finance depoartement. This indicate that the more the credit risk is well managed, the more the bank is performent.

Sathyamooth C .R and Allii(2020), examined the impact of financial risk management practices on the financial performance at the commercial Banks in Botswana.The finding from the regression analysis showed that the interest rate had a negative and significant impact on the perfomance of banks,however, total debt to total asset revealed a positive and insignificant effect on return on equity ; it means that when the interest rest is enhanced either companies dont take loans or companies fail to pay back their debts, both situations decrease the performance of banks, however, when debt to total asset ratio increase the performance of banks increase positively with a few extent. From this article, our research will take in consideration other factors of of financial performance such as : the ratio of loan to the deposit and equity capital on loan.

John (2020), wrote an article which aim was to rate the effect of financial risk management on the financial profitability of banks in Nigeria, from the sample size of 56 management of staff members, the simple linear regression was used for the of hypothesis and the finding display that, there exist a significant positive effect of liquidity risk, credit risk, interest rate risk and inflation risk on the performance of Nigeria PK bank. That article had four Independant variables (liquidity risk, credit risk, interest rate risk and inflation risk) and the financial performance measured by return on Asset as a dependent variable. And the finding revealed that the higher are risks the more is the performance of commercial banks. His will be kaken in account in our research by using scoring methods.

Fredrick (2012) wrote his article in Kenya and it was published in the DBA Africa Management Review. The researcher examined the impact of credit risk management on fiancial performance. He was used in his study a causal research design and multiple regression analysis to analyze secondary data. He used variables as dependent variable i.e., the fiancial performance of the banks whereas the independent variables were the CAMEL components of Capital adequacy, Asset quality, Management effiiency, Earnings and Liquidity. In his study he found that there was a strong impact of the CAMEL components on the financial performance of commercial banks.The study also established that capital adequacy, asset quality, management effiiency and liquidity had weak relationship with fiancial performance (ROE) whereas earnings had a strong relationship with fiancial performance. The study suggests that CAMEL model can be used as a proxy for credit risk management. In this study he fails to recognize that one can assess the probability of defaut before giving the credit.

Kipngetich & Muturi (2015) did this empirical study in Kenya and it was published in the Strategic Journal of Business & Change Management. In this study, they focused the effect of credit risk management on the financial performance of savings and credit cooperative society. They were used two independent variables namely, capital adequacy and management effiiency; and one dependent variable that was fiancial performance. They had been used a cross-sectional descriptive research design to assessed the effects and data were collected from secondary sources. They utilized SPSS program to analyze the collected data and draw a regression model. The empirical results showed that capital adequacy and management effiiency had positive and statistically significant relationship with fiancial performance. This indicated that increase in capital adequacy and management efficiency leads to increase in financial performance.

ID: Credit Risk DV: Financial performance

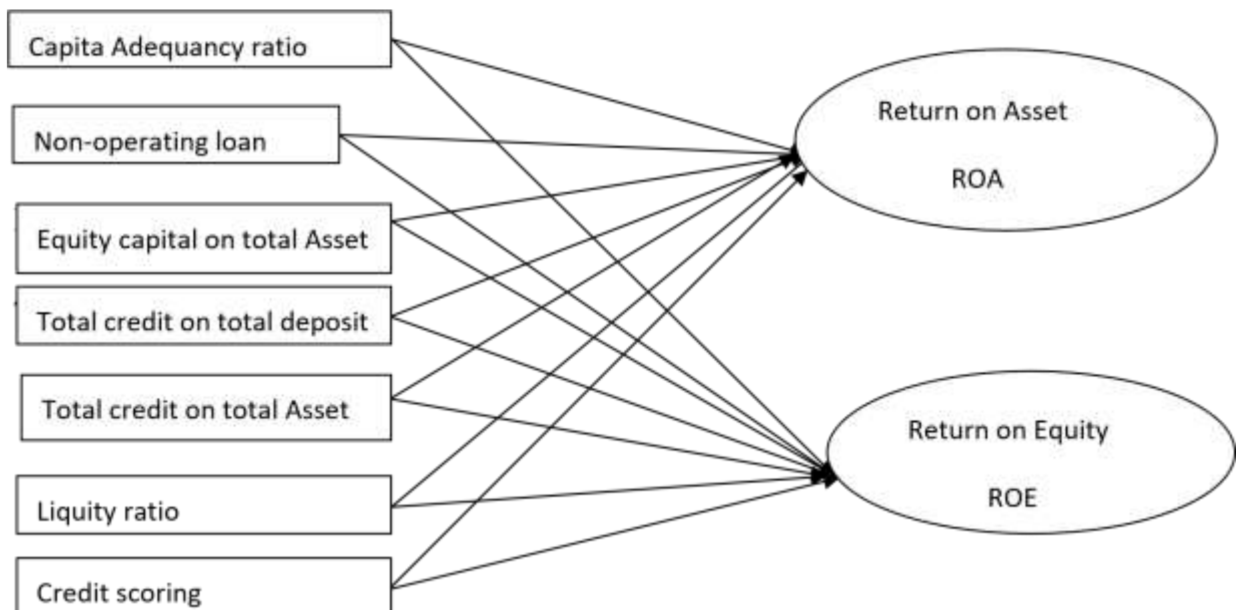

Figure N° 1: variables

Source: Author's self-conceptualization.

The purpose of this current research is to establish the relationship between independent variable and dependent variable. Here the ID will be measured by :

Theoretical framework

We have to identify and descrube variable such as:

Capital Adequacy Ratio : Capital adequacy is a measure of a bank's financial strength, in terms of its ability to withstand operational and abnormal losses. Further considering the regulatory requirement on the minimum capital required to be maintained by banks, capital adequacy also indicates the ability of bank to undertake additional business. The size of capital provides financial flexibility for bank and financial institution. Banks with high capital ratio

European Journal of Accounting, Auditing and Finance Research
Vol.10, No. 10, pp.34-54, 2022
Print ISSN: 2053-4086(Print),
Online ISSN: 2053-4094(Online)

tend to earn more profit through translating the safety advantage into profit (Ayele, 2012). Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the 14 resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas, Ongore and Kusa (2013). Measured by core capital to risk weighted asset and in DRC the central bank requires the minimum of 10% to commercial banks.

Equity Capital on Total Asset: the Central Bank of Congo requires to commercial banks to respect the minimum of 20% of Equity capital on the total Asset.

The total Credit on total deposit will help us to assess how requirement of banks management are repected because the more deposit is used for credit the more the bank is exposed to liquidity crisis.

The dependent variable (financial performance) will be measured by : the Return on Asset (ROA) and the Return on Equity (ROE); the former expresses the productivity of the total asset and is measured by dividing the net income over the total assets it must be more than 1%; the later expresses the performance of the equity capital or capital brought by shareholder in the bank and is calculated by dividing the net income over the equity capital a performant financial bank must have more than 15% ROE.

RESEARCH METHODOLOGY

This chapter has shown the research strategies, target population survey, data collection instruments, validity and reliability of the research intruments, data procedures, variable and measurement procedure; method of data, date collection procedures, data analysis, ethical considerations and limitation of the study as well as the findings.

Research strategies

Descriptive design has been used in this work to describe the profitability and the credit risk by using the second data collected without manipulation.

Method of data collection

The data collection tools which will be used in this research are here below:

-Record sheet**:** secondary data will be collected from balance sheets and financial statement of firms and commercial banks.

-Observation guide or check list: the research has required a keen observation on the three biggest Bank ok DRC: Rawbank, Commercial bank of Congo (BCBC) and Trust merchant bank TMB

Data processing and analysis

Data of this current research have been collected from the report writing and certified by the central bank of Congo. Some elements will help us to collect data: Paper, tablet, telephone, and

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Publication of the European Centre for Research Training and Development -UK

European Journal of Accounting, Auditing and Finance Research
Vol.10, No. 10, pp.34-54, 2022
Print ISSN: 2053-4086(Print),
Online ISSN: 2053-4094(Online)

computer. The statistical tools that will be used to analyze our data in other to respond to our objectives are:

1) Views to assess the relationship between our Independent variable (credit risk management) and our Dependent variable (financial performance) of commercial banks .Through this we have built such auto regression model:

Y=a1x1+a2 x2+a3 x3+ a4x4+b

Where:

Y= Financial performance measured by the return on asset and return on equity.

X_1= ROA of the last period

X2=Capital Adequacy ratio

X_3= Credit on deposit ratio

X_4= Equity capital on total asset ratio

b = constant

With Views we have determined the regression and the sig-value. If the Sig-value is < 0.05, we will reject the null hypothesis so we will conclude that there is a significant relationship between the IV (credit risk management) and DV (financial performance of commercial banks).

RESEARCH FINDINGS AND DISCUSSION OF RESULTS

Relationship between credit risk management and financial performance

Table number 1: ROA and Credit risk

Dependent Variable: ROA

Method: Least Squares

Date: 04/29/22 Time: 15:05

Sample (adjusted): 2011 2020

Included observations: 10 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA(-1)	0.638931	0.466312	1.370178	0.2197
CREDD	0.005983	0.008594	0.696220	0.5123
ECTA	0.031754	0.060943	0.521037	0.6210
CAR	-0.007834	0.034534	-0.226853	0.8281
R-squared	0.152726	Mean dependent var		1.137000

Adjusted R-squared	-0.270911	S.D. dependent var	0.316616
S.E. of regression	0.356936	Akaike info criterion	1.066653
Sum squared resid	0.764419	Schwarz criterion	1.187687
Log likelihood	-1.333264	Hannan-Quinn criter.	0.933879
Durbin-Watson stat	1.860948		

Sources: Ours Views finding

It was import on this level to do the text of significance of parameters as our T-tabular at 95% is 2,306 as our freedom degree is 8. The results above show that the coefficient of the former return on asset is 0.638931, which is low than 2,306 this implies that the coefficient is due to chance here we accepted the null hypothesis in addition to this the probability is 0.2197 which is more than 0.05 the Ho on this side was asserted again. The Coefficient of credit on deposit is 0.005983 but it does not have a statistical significance as it probability of 0.5123 is more than 0.05 ant its t-statistic less than T-tabular (2,306) which confirm the null hypothesis. The coefficients of Equity capital ratio and capital adequacy ratio are all assert the null hypothesis as their probabilities are more than 0.05.

The abve reality push us to conclude that there is not any relationship between the credit risk management and the performance of commercial banks in DRC. Our findings disagree whith Kambi & Ali, (2016), Stephen & Akele, (2014), Yousfi, (2014), Ghani, (2015), Res, Sa, & Gemechu (2016), Oluwafemi, Israel & Simeon (2013), Olamide, Uwalomwa, & Ranti, (2015) who posited that risk management play an important role in determining the overall profitability of banks. Sathyamooth C .R and Allii(2020), examined the impact of financial risk management practices on the financial performance at the commercial Banks in Botswana.The finding from the regression analysis showed that credit to total asset ratio increase the performance of banks increase positively with a few extent but in our case there is not any relationship between the two variables. Other authors like John (2020), Fredrick (2012) ,Kipngetich & Muturi (2015),

Evalde (2016) who did them in Nigeria, Kenya and Rwanda, all found out the results which disagreed with ours. This led us to reject the first hypothesis.

3.3 The best bank of DRC

	ROA	ROE	CAR	C/D	EC/TA	NPL
Rawbank	0,87	6,9	23,58	46,8		1.42
TMB	0,866	8,86	18,08	42,1	7,51	
BCDC	1,42	15,7	21	60,8	9	
SMT	3,156	31,46	62,66	149,7	16,51	
M	1,052	10,48	20,88	49,9	8,255	

Sources: financial reports of Rawbank, TMB and BCDC

Following this table all the three banks have been financially strong as the average of their return on asset (1,052) is more the 1%, the average of the return on equity which is 10,48 is more than 10% and the average of the capital adequacy ratio is of 20,88 which is far better than the requirement of the central bank (10%).

Concerning the ROA and the ROE, the commercial bank of Congo has been the best, but for the capital adequacy ratio Rawbank has been very high. In view of the above we concluded that the BCDC is the best and the strongest commercial bank in DRC.

CONCLUSION

The general objective of this study was to orient borrows and all people acting with commercial bank to be acquainted with the best bank in DRC. This study had two specific objectives which are: Establish the effect of credit risk management on performance of commercial banks in DRC. And to identify the most healthiness Commercial banks in DRC. In this study we have responded to two questions: Is there a relationship between the credit risk management and the performance of Commercial banks in DRC? , What's the healthiness commercial bank in DRC?

Descriptive design has been used in this work to describe the profitability and the credit risk by using the second data collected without manipulation. The data collection tools which had been used in this research are here below: Record sheet with secondary data have been collected from balance sheets and financial statement of firms and commercial banks. Observation guide or check list: the research has required a keen observation on the three biggest Bank ok DRC: Rawbank, Commercial bank of Congo (BCBC) and Trust merchant bank TMB

Data of this current research have been collected from the report writing and certified by the central bank of Congo. Some elements will help us to collect data: Paper, tablet, telephone, and computer. After analysis we concluded that the credit risk management has not any impact with the financial performance of commercial banks in DRC and the best commercial bank in DRC was BCDC during the time covered by this study.

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