

UNIVERSITY OF CAPE COAST

ASSESSING THE CREDIT RISK MANAGEMENT PRACTICES AMONG
RURAL BANKS IN THE TAKORADI METROPOLIS

BY

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DECLARATION

Candidates Declaration

I hereby declare that this dissertation is the result of my own original research and that it has not been presented for another degree in this university or elsewhere.

Candidate's Signature..... Date.....

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Supervisor's Declaration

I hereby declare that the preparation and presentation dissertation was supervised in accordance with the guidelines on the of dissertation supervision laid down by the University of Cape Coast.

Supervisor's Signature..... Date.....

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ABSTRACT

The study was to assess the credit risk management practices among rural banks in the Takoradi metropolis. The study was a descriptive design which targeted workers and management of Lower Pra Rural Bank, Achantaman Rural Bank Ltd, and Fiaseman Rural Bank. Questionnaires were administered to thirty workers while structured interview was conducted for three general managers of the various rural banks. Moreover, the data were analyzed with the aid of Statistical Product for Service Solution (SPSS version 21.0) by using percentages and frequencies and presented by using tables, and charts. On the other hand, the interviews were transcribed verbatim, coded into themes and discussed concurrently with the aid of the research objectives. It was found out that, although the rural banks face similar risk in the credit environment, there is disparity as to the degree of importance attached to the various risk elements by the various banks. Moreover, each bank has its own credit philosophy, basis for lending and the critical areas of credit assessment. Furthermore, despite differences in credit policies, rural banks in Ghana adopt similar approaches to mitigating the risk involved in credit lending. Therefore, the study recommends that all lending institutions should establish a unit to handle their VAF product to minimise losses as a result of financing poor quality vehicles and machinery which end up in repayment defaults. Also, all other financial institutions which can afford should establish collections unit to closely monitor and recover all problematic credit facilities. Moreover, there is the need for rural banks to ensure that their staff receive periodic on-the-job training to apprise themselves with new ways of doing things.

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DEDICATION

To my lovely father Mr. Ignitius Mensah and mother Gladys Ackon

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ABBREVIATION

ADB	-	Agricultural Development Bank
ARB	-	Ahantaman Rural Bank
BoG	-	Bank of Ghana
CIA	-	Central Intelligence Agency
CBR	-	Credit Bureau Referencing
DMBs	-	Deposit Money Banks
EAD	-	Exposure at default
FRB	-	Fiaseman Rural Bank
GDP	-	Gross domestic product
GSE-CI	-	Ghana Stock Exchange Composite Index
IRB	-	Internal Rating Basel
KYC	-	Know Your Customer
LGD	-	Loss given default
LPR	-	Lower Pra Rural Bank
NPL	-	Non-Performing Loans
OeNB	-	Oesterreichische National bank
PD	-	Probability of default
ROA	-	Return on assets
ROE	-	Return on equity
RCBs	-	Rural and Community Banks
SMEs	-	Small and medium Scale Enterprises
VaR	-	Value at risk

CHAPTER ONE

INTRODUCTION

This is the first chapter of the study, and it thus introduces the study to readers. The chapter has the background of the study, the problem statement, the research objectives, research questions, significance of the study, the scope of the study, limitations of the study and the organization of the study. The chapter gives the essence of the study.

Background of the Study

Most banks face various risks during their operations flow that they are not able to remove them but just manage them. Therefore, banks should control risks and reduce them for their survival. One of the most important related risks is liquidity risk (Mazarizadi, Baghvamian & Kakah-Khani, 2013). Therefore, the main task of banks is to make a balance between short-term financial commitments and long-term investments. The banking institutions had contributed significantly to the effectiveness of the entire global financial system as they offer an efficient institutional mechanism through which resources can be mobilized and directed from less essential uses to more productive investments (Wilner, 2000).

Even though one of the major causes of serious banking problems continues to be ineffective credit risk management, the provision of credit remains the primary business of every bank in the World. For this reason, credit quality is considered a primary indicator of financial soundness and health of banks. Interests that are charged on loans and advances form a sizeable part of every bank's

revenue. Default of loans and advances poses serious setbacks not only for borrowers and lenders but also to the entire economy of a country. Studies of banking crises all over the world have shown that poor loans (asset quality) are the key factor of bank failures. The strength of the banking industry is an important prerequisite to ensure the stability and growth of an economy (Halling & Hayden, 2006).

The significant role played by rural banks in a developing economy like Ghana (where access to capital market is limited) cannot be overemphasized. In fact, well-functioning banks are known as a catalyst for economic growth whereas poorly functioning ones do not only impede economic progress but also exacerbate poverty (Barth, Schumacher and Herrmann-Lingen, 2004). However, banks are exposed to various risks such as credit, market and operational risk. Although all these risks militate against the performance of banks in several ways, Chijoriga (1997) argues that the size and the level of loss caused by credit risk as compared to others were severe to collapse a bank.

Amongst all the services provided by banks and rural banks, credit creation is the main income generating activity for the banks. But this activity poses extremely high risks to both the lender (financial institution) and the borrower (customer). The risk of a trading partner not fulfilling his or her obligation as per the contract can greatly hinder the smooth functioning of a bank's operation. On the other hand, a bank with high credit risk faces potential insolvency and this does not give depositors confidence to place deposits with it (Chijoriga, 1997).

Some financial institutions have collapsed or experienced financial problems due to inefficient credit risk management systems typified by high levels of insider loans, speculative lending, and high concentration of credit in certain sectors among other issues. Bad credit risk management practices and poor credit quality continue to be a dominant cause of bank failures and banking crises worldwide (Gil-Diaz, 2008).

Financial institutions have faced difficulties over the years for a multitude of reasons, the major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties (Gil-Diaz, 2008).

Credit risk management is one of the significant risk management practices of rural banks by the nature of their activities. Through effective management of credit risk exposure, rural banks not only support the viability and profitability of their own business but also contribute to systemic stability and to an efficient allocation of capital in the economy (Psillaki, Tsolas, & Margaritis, 2010, p.873). "The default of a small number of customers may result in a very large loss for the bank" (Gestel & Baesems, 2008, p. 24).

In order to minimize loan losses as well as credit risk, it is crucial for rural banks to have an effective credit risk management system in place (Santomera 1997; Basel 1999). Derban, Binner and Mullineux (2005) on information theory

recommended that borrowers should be screened especially by banking institutions in form of credit assessment. As a result of asymmetric information that exists between banks and borrowers, banks must have a system in place to ensure that they can do analysis and evaluate default risk that is hidden from them. Information asymmetry may make it impossible to differentiate good borrowers from bad ones (which may culminate in adverse selection and moral hazards) have led to huge accumulation of non-performing accounts in banks (Bester, 1994).

Effective credit risk management system involves establishing a suitable credit risk environment; operating under a sound credit granting process, maintaining an appropriate credit administration that involves monitoring, processing as well as enough controls over credit risk (Greuning & Bratanovic 2003). Rural banks that have higher loan portfolio with lower credit risk improve on their profitability. Angbazo (1997) stressed that rural banks with larger loan portfolio appear to require a higher net interest margin to compensate for a higher risk of default.

Cooper, Jackson, and Patterson (2003) adds that variations in credit risks would lead to variations in the health of banks' loan portfolio which in turn affect bank performance. Meanwhile, Ducas and McLaughlin (1990) had earlier argued that volatility of bank profitability is largely due to credit risk. Specifically, they claim that the changes in bank performance or profitability are mainly due to changes in credit risk because increased exposure to credit risk leads to a fall in bank performance and profitability.

The bank of Ghana credit manual for rural banks maintains that credit facilities may be granted for the purpose of conducting or carrying on, developing or improving farm, fishing, and commercial operations to benefit the community. It continues that credit facilities may also be extended to maintain the efficiency of eligible borrowers in connection with their health, education and subsistence. Writing on the importance of the lending as a function of rural banks, Crosse and Hempel (1980) argued that, traditionally and practically, the foremost obligation of a rural bank is to supply the credit need of individuals and business enterprises.

Affirming this stance, Rose and Korari (1995) touched on its significance of the quantitative contribution of lending to the bank income, as well as the important role it plays in the social function that rural banks perform in the economy.

For a full realization of the above benefit, the bank's first type or forms of credit is a loan. The second type is the overdrafts. This is the amount a customer is allowed to overdraw over and above his or her normal deposit with the bank. Interest is charged only to the excess amount. All these points above come to support the fact that credit risk management is very important to the survival of rural banks as well as their customers. If the risk associated with lending is greatly reduced, the banks will be relieved of the burden of carrying and using part of their profits to pay off bad debts and the interest of banks in granting credit will rise thereby bringing down the interest on loans and other forms of credit.

In the case of rural banks in the western region of Ghana, the issue of credit risk is even of a greater concern because of the higher levels of perceived risk resulting from the growing city and business because of the oil-find as well as behaviour of customers and the type of risky business activities they finance. It has thus become relevant to assess the credit risk management on the performance of rural banks in Sekondi-Takoradi.

Statement of the Problem

Banking institutions are very important in any economy; their role is similar to that of blood arteries in the human body since banks pump financial resources for economic growth from the depositories to where they are required. Many researchers have proposed that banks are the key providers of financial information to the economy. They play even a more critical role in emerging economies where borrowers have no access to capital markets (Greuning & Bratanovic, 2003). Lending has been, and still is, the mainstay of banking business, and this is truer to emerging economies like Ghana where capital markets are not yet well developed.

To most of the developing economies, however, and Ghana in particular, lending activities have been controversial and very difficult. This is because business firms especially Small and Medium Scale Enterprises (SMEs) on one hand complain about lack of credit and the excessively high standards set by banks while banks, on the other hand, have suffered large losses on bad loans (Tschemernjak, 2006).

Rural Banks in Ghana have the primary motive of enhancing the financial welfare of their clients by granting them several types and forms of loans that are available on their desks. However, financial institutions are faced with the problem of employees' turnover in an attempt at redeeming their loans granted to their clients (Kwafo, Amenyo, Opuni, Arthur & Nuhu-Appiadu, 2013). Many clients do migrate and change their jobs without informing these financial institutions, which makes it very difficult for the financial institution in question to trace them when they default in the payment of their loans.

This situation of job insecurity gives a headache to financial institutions after granting loans to their clients. One of the most difficult situations and exercises for financial institutions is the cost of monitoring their clients after providing them with their requested loans. It falls on the shoulders of some financial institutions to do a follow-up monitoring whether the loans granted to their clients are used for their intended purposes (Kwafo, Amenyo, Opuni, Arthur & Nuhu-Appiadu, 2013).

It also costs financial institutions to trace loan defaulters especially when they are difficult to be traced because of the informal settlements and difficult contacts of these clients. This results in high operational expenses by financial institutions (Krasah & Ameyaw, 2010). The bank has specific conditions with which they give out loans to their clients for the intended use. However, a number of these clients veer off from the particular reason why they were given the facility.

Some go to extent of using it for their personal benefit and not what the loan was acquired for.

To this end, it has been found out that in order to minimize loan losses and hence credit risk, it is essential for banks to have an effective credit risk management system in place to combat the evolution of credit risk problems (Basel, 1999; Santomero, 1997). In Ghana, banks and non-bank financial institutions face a lot of problems in granting credit to Small and Medium Enterprises (credit risk). Over the years, there have been persistent complaints by the private sector of a squeeze in credit.

There have been some policy interventions such as the Basel II/III which have established a credit risk management framework for banks. Such policies and procedures including; Know Your Customer (KYC), Credit Bureau Referencing (CBR) and the Borrowers and Lenders ACT (2008) introduced by the Central Bank of Ghana. Locally, banks are expected to operate within this framework but in practice, Rural and commercial banks have their specific credit risk areas of interest. Some focus on asset-based lending; some on the cash flow from the borrowers' business operations; while others make clean lending (i.e. lending without underlying security) (Pricewaterhouse, 2013).

Furthermore, the banking industry sensitivity to credit risk is because banks' significant income is generated from credit given to their customers. This credit creation process exposes the banks to high credit risk which sometimes lead to losses. Saunders and Cornett (2005), asserts that the very nature of the banking

business has become so sensitive because more than 85% of their liability is in form of deposits. Banks use these deposits to generate credit for their borrowers, which in fact is a revenue-generating activity for most banks. Banks must thus, create credit for their clients to make some money, grow and survive stiff competition at the marketplace.

Non-performing loans still remain a high phenomenon in the Ghanaian banking industry. In spite of the efforts by the Bank of Ghana to encourage rural banks to manage their risks to acceptable levels, percentage of non-performing loans is still on the higher side. According to the Monetary Policy Committee of the Bank of Ghana, Non-Performing Loans (NPL) ratio deteriorated from 17.6% in December 2010 to 36.17% between February 2016 (BoG, 2017); with most banks having written-off huge loans since the global financial crisis, (Price Water House Coopers, 2012). This arising from credit risks.

There are a number of studies in Ghana on the effects of credit risk on banks performance. Krakah and Ameyaw (2010) examined the drivers of banks profitability using Lower Pra Ltd and Merchant Bank Ltd. They found interest-bearing liabilities (loans), non-interest expense, bank's capital strength, total assets, growth of money supply, and annual rate of inflation as significant drivers of banks profitability. Given the fact that there are about 27 banks in Ghana, a generalization of the result on the sector could be misleading.

Mills and Amowine (2013) also studied the determinants of Rural and Community Banks' (RCBs) financial profitability using a secondary data of 26

Rural and Community Banks for the period 2002 to 2011. Given the varied characteristics (such as credit risk, loan portfolios among others) between Rural and Community Banks and the Deposit Money Banks (DMBs), there is the need for a study in this regard.

The current study sought to analyse the credit risk appetite, major credit policies, credit risk management systems and procedures to be able to know clearly what happens in the credit functions of rural banks. Furthermore, credit Risk Management in today's deregulated market is a big challenge. Increased market volatility and domestic banking sector competition has brought even loosening of the credit system. Hence the need for a serious interest in credit risk management, specifically the case study of Rural Banks to assess the practices and Bank's profitability and performance.

Purpose of the Study

The aim of this study is to assess the credit risk management practices among rural banks in the Sekondi Takoradi Metropolis.

Research Objectives

The specific objectives of the study are to:

1. evaluate the extent to which credit risk management practices affect credit risk rating system of rural banks;
2. assess the types of credit risk executed by rural banks in Sekondi Takoradi Metropolis;

3. assess the lending procedure/processes of rural banks in the Sekondi Takoradi Metropolis;

Research Questions

1. How does credit risk management practices in the rural banks affect credit risk system?
2. Which of the major types of risk management is save for rural banks in the Sekondi Takoradi Metropolis
3. What is the lending procedure/processes of the various rural banks in the Sekondi Takoradi Metropolis?

Significance of Study

The significance of this research work is to see the role of credit risk on bank's profitability. The study of credit risk in the banking industry seeks to examine the rate of default by potential customers and the type of internal mechanisms that can be put in place to forestall such occurrences that can jeopardize the future of the bank. The high level of non-performing assets in a bank's portfolio if not brought under control, may erode the capital base of the bank and reduce its profitability. The worst case can happen where liquidation or bankruptcy may occur due to the bank's inability to manage its credit risk efficiently.

Also, this study is, therefore, necessary to unravel the causes of high non-performing loans in the rural banks and how to deal with the situation. By

conducting this research, rural banks would be able to tighten its credit policy and adopt the best credit risk management practices in order to reduce significantly the number of impaired loans which has an effect on the profitability of the Banks.

Moreover, the findings from the study would be of immense benefit to credit officers and managers of Rural and commercial banks, the central bank (the government) and the economy at large. The research results will be used as an input for further studies and it will be useful for all financial institutions by providing information on credit risk.

Delimitation of the Study

The study would be in the Ghanaian context and would cover Eight Rural (8) Banks in the Sekondi Takordi Metropolis for the period 2005 – 2014 using quantitative approach and secondary data analysis. The scope of the research study embraced the credit risk rating systems used by the bank and how it affects lending decision on bank performance. It also basically focuses on the rating systems used by the rural banks, how the rates are interpreted, and what variables are considered in the calculation of a risk rate and the methods used to calculate risk rates.

Limitation of the Study

This research would be limited to the Credit Management Policies and ARB Apex bank procedures; therefore, the findings, analyses and recommendations would not be an exact representation of the entire banking industry. Some limitations of the study would be time, cost and the reluctance of some rural bank

officials to provide the needed information and documents for the successful execution of the study. The absence of real data on the subject matter leads the researcher to rely on information from bank staff by means of the additional questionnaire and interview for additional in-depth explanations. The extension of the analysis to other banks may offer different results. Cross-border research may also bring out different outcomes and regulatory policies.

Organization of the Study

The work was organised into five main chapters. Chapter One contains introduction of the study including the statement of the problem of the study, research objectives and questions, significance of the study, the scope of the study and the limitations associated with the study. Chapter Two focuses on the review of the literature on the previous works related to risk management. Effective credit risk management and rural banks, theories on risk management and empirical evidence of risk management on rural banks were considered in this section of the study. The details of the research method and organisational profile were captured under Chapter Three while Chapter Four entails data presentation and analysis. The last chapter covers summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter discusses other literary materials or work done on how banks assume credit risk, credit risk rating and how it can affect the lending decision. Furthermore, the chapter makes a comparative analysis and attempts to evaluate the credit risk rating systems that can be employed. This literature review is important because it seeks to help answer questions the research paper attempts to answer. The variables considered in rating borrowing customers is evaluated as to whether it gives a fair rate to borrowing customers and how it has helped curb credit risk among financial institutions in Ghana.

Theoretical Review

The theoretical review seeks to establish some of the theories that are attributed by other researchers, authors and scholars and are relevant to credit risk management. The study objectives were guided by the credit risk theory and information theory.

Credit Risk Theory

Although people have been facing credit risk ever since early ages, credit risk has not been widely studied until recent 30 years. Early literature (before 1974) on credit uses traditional actuarial methods of credit risk, whose major difficulty lies in their complete dependence on historical data. Up to now, there are three

quantitative approaches of analysing credit risk: structural approach, reduced form appraisal and incomplete information approach (Kisivuli, 2013). Melton 1974 introduced the credit risk theory otherwise called the structural theory which is said the default event derives from a firm's asset evolution modelled by a diffusion process with constant parameters. Such models are commonly defined "structural model" and based on variables related to a specific issuer. An evolution of this category is represented by a set of models where the loss conditional on default is exogenously specific. In these models, the default can happen throughout all the life of a corporate bond and not only in maturity (Longstaff & Schwartz, 1995).

Information Theory

Derban, Binner and Mullineux (2005) recommended that borrowers should be screened especially by banking institutions in form of credit assessment. Collection of reliable information from prospective borrowers becomes critical in accomplishing effective screening as indicated by symmetric information theory.

Qualitative and quantitative techniques can be used in assessing the borrowers although one major challenge of using qualitative models is their subjective nature. However, according to Derban, Binner and Mullineux (2005), borrowers attributes assessed through qualitative models can be assigned numbers with the sum of the values compared to a threshold. This technique minimizes processing costs, reduces subjective judgments and possible biases. The rating systems will be important if it indicates changes in expected level of credit loan loss. Brown Bridge (1998, pp.173-89) concluded that quantitative models make it

possible to numerically establish which factors are important in explaining default risk, evaluating the relative degree of importance of the factors, improving the pricing of default risk, screening out bad loan applicants and calculating any reserve needed to meet expected future loan losses.

History of Rural and Community Bank

This is a Rural and commercial bank that is owned and operated by the local working community. These financial institutions do not have a national presence and can only be found in certain areas. Community banks operate as independent institutions and do not affiliate with larger bank chains through purchase of shares and are licensed to provide financial intermediation. They were first initiated in 1976 to expand savings mobilization and credit services in rural areas not served by commercial and rural banks. The number expanded rapidly in the early 1980s, mainly to service the government's introduction of special cheques instead of cash payment to cocoa farmers – though with adverse consequences for their financial performance (Nissanke & Aryeetey, 1998).

The characteristics of a Rural /community bank tend to revolve around how and where the bank conducts business. For example, community banks focus on providing traditional banking services in their local communities. They obtain most of their core deposits locally and make many of their loans to local businesses. For this reason, they are often considered to be “relationship” bankers as opposed to “transactional” bankers. This means that they have specialized knowledge of their local community and their customers. Because of this expertise, community banks

tend to base credit decisions on local knowledge and nonstandard data obtained through long-term relationships and are less likely to rely on the models-based underwriting used by larger banks.

The Dynamism of Banking Operation

The business of banking can be viewed as consisting of two parts; the borrowing and lending also known as financial intermediation and the production part which involves operations, marketing and other business and support activities of the bank. Net interest income represents the bank's role as a pure intermediary, while net non-interest income or burden represents the production part of the business (Sinkey, 1992). However, the ability to gather core deposits and maintain loan quality drives interest expense and provision for loan loss. Without control of these two performance indicators, high banking performance is difficult to achieve.

A banks operations and activities depend on the economic policies of the economy, ranging from access to the central bank funding system to be subjected to regulatory mandates for sound operating standards. Bank earnings are derived from leveraging capital. Hence, banks tend to be highly leveraged and operate with relatively low capitalization. Operating in this manner heightens the need for banks to adroitly manage and control operating risks with credit, market and operational risks being the major area. Banks also have to be adept at managing liquidity, since they usually rely on the confidence or reputations sensitive interbank borrowings as primary funding sources. Banking operations are subject to the credit business cycles of industries and to consumer credit trends in addition to economic factors.

The Nature of Risk in Banking Operations

The nature of banking business in financial markets makes it susceptible to varying degrees of risk. The intermediation activity of the banks exposes them to various risks not by chance but by choice. In a modern-day society, the concept of risk pervades every life. Risk has two components: uncertainty and exposure. If either is not present or there is no risk. In the early years of the twenty-first century, risk has come to dominate individual and collective consciousness. The etymology of the word risk can be traced to the Vulgar Latin (popular or “street” Latin, as opposed to classical Late Latin) word *rescue* meaning ‘risk at sea’, ‘danger’ or “that which cuts”. Common sense suggests that risk is something to be avoided while uncommon sense suggests that risk sweetens the reward or gives the feeling of having pulled it off. Sinkey (1992) defines risk as the uncertainty associated with some events or outcomes. From a banking perspective, risk can be defined as uncertainty that an asset will earn an expected rate of return, or a loss may occur.

Banks in acting as financial intermediaries are faced with uncertainties that can make them loose and be bankrupt. The risks associated with the provision of banking services differ by the type of service rendered. For the sector as a whole, risks can be broken into six generic types: *systematic or market risk, credit risk, counterparty risk, liquidity risk, operational risk, and legal risks*. However, according to the Basel Accords, banks are faced with three major risks; credit risk, market risk and operational risk. Credit risk is the risk of loss due to an obligator's non-payment of an obligation in terms of a loan or other lines of credit. Market risk

is defined as the risk of losses in on and off-balance sheet positions arising from movements in market prices. Operational risk is defined as the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events.

All these risks are derived from banks' most fundamental and traditional roles of lending and borrowing. Among those risks, credit risk, which is associated with the potential variability of the stream of cash flows from an asset, is one of the most crucial ones, as it is often appointed as the cause of a bank failure. It is also the most significant of all risks in terms of the size of potential losses.

Credit Risk Measurement

Measuring risk is about trying to obtain some measures of the dispersion of possible future outcomes, and in practice, the focus is usually on the downside outcomes (Lowe, 2002). The credit risk in banks should be measured by size as well as scope of the exposure, and as pointed out by Lowe (2002), all kinds of credit risk measuring approaches comprise of four common building blocks, including the probabilities of borrowers defaulting (PDs), the correlation of PDs across borrowers, the possible loss in the event of default (LGD) and the correlation between PDs and LGD. Based on these elements, the approaches may differ in assumptions and modelling methodologies. Measuring risk is always a crucial part in risk management process, and as suggested by Fabozzi (2006), quantifying credit risk can be complicated due to the lack of sufficient historical data, the diversity of involved borrowers and the variety in default causes. Most banks use one of these

three methods for measuring credit risk; credit rating, credit scoring, and credit modelling.

Credit Risk Rating

Banks manage a wide range of assets, liabilities, and equity capital that support their operations and activities. Proper risk management is, therefore, a vital and integral part of effective bank operation. To perfect its credit risk assessment, monitoring and management, banks use a variety of methods and tools. In the past 20 years, banks have been adopting and improving automatic credit scoring system¹ so as to evaluate certain types of loans more objectively, accurately and efficiently. Recently, the industry has started implementing credit rating as a mechanism to better manage its credit risk and to improve its overall portfolio performance.

Credit risk rating is a summary indicator of risk for banks' individual credit exposures and is generally assigned at the time of each underwriting or credit approval and reassessed during the credit review process. A credit rating is for assessing the creditworthiness of an individual or corporation to predict the probability of default, which is based on the financial history and current assets and liabilities of the subject. As mentioned by Federal Reserve (1998), credit risk ratings may reflect not only the likelihood or severity of loss but also the variability of loss over time.

It functions as the barometer for the banks to measure their credit risk exposure to each individual customer, either in isolation or as part of their loan

portfolio. The rating allows banks to measure the relevant default probabilities at different rating levels more accurately. It helps banks to reduce their risk exposure and to improve their profitability by reducing the number of potential default loans as well as minimizing the cost associated with bad debt. Although the major objective of credit rating is to determine the ability and willingness of a borrower to pay at the agreed terms, the rating does a bit more than just classifying the borrowers into “acceptable” and “unacceptable” categories. The most important benefits for banks in using the rating system to assess their loans include: identify and decline potential risky applicants; reduce losses due to defaults; price the loan properly; increase liquidity; maximize the profit; improve monitoring process; reduce monitoring cost; minimize administrative costs with debt collection; help banks to achieve their objectives; allow allocation of resources where they are more productive; and avoid loan concentration.

Basel II expressly recognizes internal credit ratings by financial institutions as well as external ratings. However, for some banks, both an internal and external credit rating is involved in their credit risk assessment.

Internal Credit Ratings

The internal credit ratings of banks, as suggested by Jacobson, Linde and Roszbach (2003), are the summary of the risk properties of the bank loan portfolio. They can be treated as monotonic transforms of the probability of default and shape the nature of credit decisions that banks make daily (Treacy & Carey, 2000). It is a powerful credit risk measurement tool used by a lot of banks. This system

automatically makes some calculations of the debtors' information such as identity, financial data, and nature of the industry that the debtor belongs. A consistent and meaningful internal risk rating system can be a useful means for differentiating the degree of credit risk in loans and other sources of exposure (Basel, 1999).

Treacy and Carey (2000) suggest that in designing a credit rating system, a bank should consider numerous factors, including cost, efficiency of information gathering, consistency of rating produced, staff incentives, nature of a bank's business, and uses to be made of the internal ratings. A rating system with more rating categories is better than a system with just a few categories.

When assigning a loan applicant to a particular grade, Crouhy, Galai, and Mark (2001) suggest that banks should analyze three different categories of variables – quantitative, qualitative and legal. The quantitative analysis concentrates mainly on financial analysis and is often based on a firm's financial reports. The four main quantitative factors used in the assessment model include net income, total operating income, total equity capital and total asset values. These factors allow the banks to calculate a variety of ratios including return on assets (ROA), return on equity (ROE) and assets utilization (AU), etc. Once computed, these ratios would be compared with the industry standard.

In addition to the information disclosed in the financial statements, the rating also includes information about the quality of collateral and the third-party support. The principal concern under qualitative analysis is to determine the quality of a borrower's management, a thorough review of a firm's competitiveness within

its industry as well as the expected growth of the industry is needed. Finally, legal analysis refers to the capacity to borrow. This means that a bank must make sure that a customer requesting a loan has the authority and the legal standing to sign a binding agreement. For instance, a bank needs to check whether the representative from an organization asking for a loan has the power to sign the credit agreement binding the organization and whether it gets the first claim on the collateral. In case it is an individual asking for a loan, a bank needs to know if he can be held legally liable for the loan he is requesting.

Despite the advances in science and technology that allow the development of an expert system or statistical classification models, human judgment is still an important ingredient in the credit risk assessment process. According to Treacy and Carey (2000), the rating process almost always involves the exercise of human judgment because factors to be considered in assigning a rating and the weights given to each factor can differ significantly among borrowers. Indeed, experienced lenders take credit ratings and reports as inputs for decision-making process. The key reason for the models to be tempered with judgment and common sense is because they do not fully explain the subjective factors involved in the rating. Especially for large exposures, the benefits of such accuracy may outweigh the higher costs of the judgmental systems. For most banks, internal ratings are generated for both retail and corporate customers.

External Credit Ratings

These are crediting ratings whether solicited or unsolicited from external credit rating agencies. It's an opinion assigned by Credit Rating Agencies on the ability and willingness of a borrower to make timely payments on a debt instrument over the life of that instrument. Companies that provided such services are known as credit reference bureaus. Currently, there is one operational bureau in the country (XDS Data Ghana Limited) which provides such services. Credit bureau scores are based on 5 main categories of credit information. The relative importance of each is as follows:

1st – Late payments, collections, bankruptcies

2nd – Outstanding debt

3rd – Length of credit history

4th – Types of credit in use

5th – New application for credit

Credit Scoring Systems

Credit-scoring approaches, as stated by Reto (2003), can be found in virtually all types of credit analysis and share the same concept with credit ratings. A credit scoring system determines points for each pre-identified factor, which are combined to predict the loss probability and the recovery rate. According to Altman and Saunders (1998), there are two types of accounting-based credit-scoring system in banks; univariate and multivariate. The first one can be used to compare various

key accounting ratios of potential borrowers with industry or group norms while in the latter one, key accounting variables are combined and weighted for producing a credit risk score or a probability of default measure, which is higher than a benchmark, indicates a rejection of the loan applicant or a further scrutiny.

Credit Risk Modeling

According to Basel (1999), credit risk models attempt to aid banks in quantifying, aggregating and managing credit risk across geographical and product lines, and the outputs can be very important to banks' risk management as well as economic capital assignment. Those models, despite the possible differences in assumptions, share the common purpose to forecast the probability distribution function of losses that may arise from a bank's credit portfolio (Lopez & Saidenberg, 1999). And regarding the potential benefits from the application of credit risk models in banking sectors, Basel (1999b) has concluded that they are responsive and informative tools offering banks "a framework for examining credit risk in a timely manner, centralizing data on global exposures and analyzing marginal and absolute contributions to risk". According to Jackson, Nickell and Perraudin (1999), four types of models that are better known.

Merton-based models are also referred to as structural models. The basic principle of this category of models, as suggested by Merton (1974) first, is that a firm is considered to be in default when the value of its assets falls below that of its liabilities. Merton has modelled a firm's asset value as a lognormal process, with

the equity modelled as a call option on the underlying assets, and the default is allowed at only a future time; (Arora, Bohn & Zhu, 2005).

The current value and the volatility of the firm's assets, the outstanding debt and its maturity are required as inputs, from which the borrower's default probability can be determined (Hull, Nelken & White, 2004). Based on the Merton model, Moody's KMV model has been developed for providing a term structure of default risk probabilities. The term "Distance-to-default" is proposed in the KMV model, which is calculated from the market assets value of the firm, the volatility as well as the default point term structure, and the model derives the actual probability of default and the Expected Default Frequency for each obligor instead of relying on the average historical transition frequencies produced by the rating agencies (Crouhy, Galai & Mark, 2000).

Credit Ratings and Basel II

Regulatory changes in banks' capital requirements under Basel II have resulted in a new role to credit ratings. Ratings can now be used to assign the risk weights in determining the minimum capital charges for different categories of borrower. Under the Standardized Approach to credit risk, Basel II establishes credit risk weights for each supervisory category which rely on "external credit assessments". Credit ratings are also used for assessing risks in some of the other rules of Basel II.

Banks' Other Defenses against Credit Risk

When all the approaches for managing credit, risk fail in a bank, its capital will form the ultimate defence against risk. According to Rose and Hudgins (2008), the capital acts as the last line of defence against failure and absorbs losses from bad loans to keep the operating of the bank. Regarding this, the Basel (2006) has defined a comprehensive formula for banks to calculate minimum capital requirements against credit risk, which safeguard the whole banking sector. It is required that the total capital ratio of a bank should be not less than 8%, however, with the tier 1 ratio, it should not be less than 4% to cover the potential credit, market and operational risk, in which credit risk is the primary focus. The Basel also requires that banks maintain an adequate level of capital, which is important for risk management purposes and the achievement of financial stability.

Environmental Analysis - Ghana's Economic Overview

Ghana's economy has been strengthened by a quarter century of relatively sound management, a competitive business environment, and sustained reductions in poverty levels. Ghana is well endowed with natural resources and agriculture accounts for roughly one-quarter of GDP and employs more than half of the workforce, mainly small landholders. The services sector accounts for 50% of GDP. Gold and cocoa production and individual remittances are major sources of foreign exchange. Oil production at Ghana's offshore Jubilee field began in mid-December 2010 and is expected to boost economic growth. Estimated oil reserves have jumped to almost 700 million barrels (CIA World Factbook, 2012).

In 2011 Ghana's economy grew at 14.4% boosted by new oil production and a rebounded construction sector. With oil production reaching its plateau, in 2012 GDP growth is expected to decelerate to 7.5 percent. Monetary policy was effective in containing inflation within the single digit target of 9 percent throughout 2011. Supported by a remarkable revenue collection effort, the fiscal deficit reached 4.1 percent of GDP—in line with the government's 2011 objective. However, due to unforeseen challenges with the implementation of ongoing salary structure reforms, the wage bill exceeded its target. Despite new oil exports, Ghana's 2011 current account deficit widened due to higher import growth and a large increase in profit repatriation by extractive industries (The World Bank, 2012).

The Ghanaian economy registered a strong growth in 2012 despite the slowdown in the global economy. Real GDP growth was estimated at 7.9 per cent compared with global growth of 3.2 per cent and SSA growth of 4.8 per cent. In the first half of the year, macroeconomic stability was threatened by increased volatility in the foreign exchange market. However, policy measures implemented restored stability in the market during the second half of the year. Inflationary pressures remained subdued, benefiting from good food harvests and relatively stable crude oil prices on the international market. Monetary growth generally slowed down over the review period. Credit to the private sector continued to trend upwards despite increases in interest rates especially during the second half of the

year. There were challenges to the fiscal programme due to shortfalls in government receipts and higher spending (BoG, 2013).

In the external sector, the current account deficit widened on account of worsening trade balance and increased net income payments. Gross international reserves at the end of 2012 stood at US\$5,349.0 million, equivalent to 3.0 months of import cover, compared with 3.2 months at the end of 2011. The external debt stock increased by 16.4 per cent to US\$8,835.6 million (21.6% of GDP) at the end of 2012. The Ghana Stock Exchange Composite Index (GSE-CI) ended the last year with a cumulative gain of 23.8 per cent against a loss of 3.1 per cent at the end of 2011. Market capitalization also appreciated by 21.0 per cent as a result of gains made by some equities, additional shares issued and the listing of the first Commodity Backed Exchange Traded Funds.

Credit Risk

A bank exists not only to accept deposits but also to grant credit facilities, therefore inevitably exposed to credit risk. Banks primary business activities are related to extending credit to borrowers (thereby generating loan and credit assets). A significant component of a bank's risk, therefore, lies in the quality of its asset. A review of a bank's credit risk examines the composition, diversification and quality of both; it's on balance sheet assets and off-balance sheet assets in terms of repayment versus loss potential. Credit risk arises from non-performance by a borrower. It may arise from either an inability or an unwillingness to perform in the pre-committed contracted manner. This can affect the lender holding the loan

contract, as well as other lenders to the creditor. Therefore, the financial condition of the borrower, as well as the current value of any underlying collateral, is of considerable interest to its bank.

Chen and Pan (2012) define credit risk as the degree of value fluctuations in debt instruments and derivatives due to changes in the underlying credit quality of borrowers and counterparties. Coyle (2000) also defines credit risk as losses from the refusal or inability of credit customers to pay what is owed in full and on time. Credit risk can also be defined as the exposure faced by banks when a borrower (customer) defaults in honouring debt obligations on due date or at maturity. This risk interchangeably called 'counterparty risk' is capable of putting the bank in distress if not adequately managed. The real risk from credit is the deviation of portfolio performance from its expected value. Accordingly, credit risk is diversifiable but difficult to eliminate completely. This is because a portion of the default risk may, in fact, result from systematic risk. In addition, the idiosyncratic nature of some portion of these losses remains a problem for creditors in spite of the beneficial effect of diversification on total uncertainty.

The main source of credit risk includes, limited institutional capacity, inappropriate credit policies, volatile interest rates, poor management, inappropriate laws, low capital and liquidity levels, direct lending, massive licensing of banks, poor loan underwriting, laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the central bank (Kithinji, 2010). An increase in bank credit risk gradually leads to liquidity and

solvency problems. Credit risk may increase if the bank lends to borrowers it does not have adequate knowledge about. Credit risk is by far the most significant risk faced by banks and the success of their business depends on accurate measurement and efficient management of this risk to a greater extent than any other risks (Gieseche, 2004).

The main types of credit risk include personal or consumer risk, corporate or company risk and sovereign or country risk. Today, banks are taking on credit risk in the form of margin lending and transactions in the over the counter derivatives market that expose them to large amount of counterparty risk that can be difficult to measure. The credit risk on any individual loan can be broken down into two components; the probability that the borrower will default, and the losses incurred in the event of default. The principal determinant of the losses incurred in the vent of default is the value of the security held as collateral against the debt.

Myers and Forgy (1963) have cited that the problem of determining credit risk has been with the lender, since the first consummated a business transaction without receiving immediate payments for his goods and services. Lenders still find it difficult to determine the most efficient and accurate method of measuring and managing credit risk.

Credit Risk Management in Banks

The focus of banks risk management has been credit risk management because the risk associated with loans is credit which has always been at the core of banking operations. Credit risk management incorporates decision making

process i.e. before the credit decision is made; follow up of credit commitments including all monitoring and reporting process. Credit risk management is important in measuring and optimizing the profitability of banks. The long-term success of any banking institution depends on the effective systems put in place that ensures repayments of loans by borrowers. An effective credit risk management system involves establishing a suitable credit risk environment which includes operating under a sound credit granting process, maintaining an appropriate credit administration that involves monitoring, processing as well as enough controls over credit risk (Greuning & Bratanovic 2003).

Credit risk management maximizes bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable limit in order to provide a framework for understanding the impact of credit risk management on banks' profitability (Kargi, 2011). Demircuc-Kunt and Huzinga (1999) opined that credit risk management is in two-fold which includes, the realization that after losses have occurred, the losses becomes unbearable and the developments in the field of financing commercial paper, securitization, and other non-bank competition which pushed banks to find viable loan borrowers.

A sound credit risk management system (which include risk identification, measurement, assessment, monitoring and control) are policies and strategies which clearly outline the purview and allocation of a bank credit facilities and the way in which a credit portfolio is managed; that is, how loans were originated,

appraised, supervised and collected (Basel, 1999; Greuning & Bratanovic 2003, Pricewaterhouse, 1994).

The activity of screening borrowers had widely been recommended by, among other, Derban et al, (2005). In screening loan applicants, both qualitative and quantitative techniques should be used with due consideration for their relative strength and weaknesses. It must be stressed that borrowers' attributes, assessed through qualitative models can be assigned numbers with the sum of values compared to a threshold. This technique is termed "credit scoring" (Heffernan, 1996).

The rating systems, if meaningful, should signal changes in expected level of loan loss (Santomero, 1997). Chijoriga (1997) posited that quantitative models make it possible to among others, numerically establish which factors are important in explaining default risk, evaluate the relative degree of importance of the factors, improving the pricing of default risk, be more able to screen out bad loans application and be in a better position of calculate any reserve needed to meet anticipated future loan losses. Establishing a clear process for approving new credit and extending existing credit (Heffernan, 1996) and monitoring credits granted to borrowers (Mwisho, 2001) are considered important when managing credit risk (Heffernan, 1996).

Bank Performance Measures

In past studies, the researchers for determining profitability use several measures. Some use qualitative performance aspects while other associate financial

quantitative indicators with profitability. Brealey and Myers (2003) have stressed that there are diverse significant measures that could be used in investigating the profitability of a business institution. According to them, these include net profit ratio, ratio of return on assets (ROA), and ratio of return on equity (ROE). The authors discussed the procedure introduced by past researcher David Cole in 1972. Cole put forth the ratio analysis method for the evaluation and assessment of the banks' performance (Cole, 1972).

According to this process, an investigator of bank profitability must focus upon the source and size of the financial institution in relation to the amount of risk, it has accepted. Cole believed that income statement of a bank is the core and foremost source for driving the measures of performance for it. Therefore, he stated that there are several measures of profitability. One such measure is the ratio of net income to equity i.e. the accounting return on equity (ROE). ROE can also be used for serving as a target measure for determining profitability at the overall level. Likewise, Cole also explained Market Return on Equity as an important profitability measure (Koch & MacDonald, 2014). According to him, it is a price return or the ratio of the price difference between two different points of time of the bank's shares.

However, the use of different ratios is dependent upon the situations faced by the financial institution. One such situation can be the point when the price-earnings ratio stays steady and stable, it can provide a profitability yardstick. Therefore, it is worthy to note down that both ROE and the market return on equity

should be considered after aligning it with what is expected by the banks' shareholders regarding the related risk level. The third ratio highlighted by Cole is Return on assets (ROA). However, difference between ROA and other discussed above is the fact that it is used to assess profitability of the banking transactions. The most widespread computation of ROA that could be examined in past studies is the ratio of the present and available periodical proceeds, interest proceeds and present bills, divided by asset balance (Cole, 1972).

Credit Risk and Bank Performance

Credit risk is a serious threat to the performance of banks; therefore, various researchers have examined the impact of credit risk on banks in varying dimensions. Kargi (2011) evaluated the impact of credit risk on the profitability of Nigerian banks. Financial ratios as measures of bank performance and credit risk were collected from the annual reports and accounts of sampled banks from 2004-2008 and analyzed using descriptive, correlation and regression techniques. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian banks. It concluded that banks' profitability is inversely influenced by the levels of loans and advances, non-performing loans and deposits thereby exposing them to great risk of illiquidity and distress.

Felix and Claudine (2008) investigated the relationship between bank performance and credit risk management. It could be inferred from their findings that return on equity (ROE) and return on assets (ROA) both measuring profitability

were inversely related to the ratio of non-performing loan to total loan of financial institutions thereby leading to a decline in profitability.

Numerous researchers have also studied reasons behind bank problems and identified several factors (Chijoriga 1997, Santomera 1997, Brown, Bridge & Harvey, 1998). Problems in respect of credit especially, weakness in credit risk management have been identified to be the main part of the major reasons behind banking difficulties. Loans form a huge proportion of credit as they normally accounted for 10 – 15 times the equity of a bank. In this way, the business of banking is potentially faced with difficulties where there is small deterioration in the quality of loans.

Poor loan quality starts from the information processing mechanism (Liuksila, 1996) and then increase further at the loan approval, monitoring and controlling stages. This problem is magnified especially when credit risk management guidelines in terms of policy and strategies and procedure regarding credit processing do not exist or are weak or incomplete.

Brown, Bridge and Harvey (1998) observed that these problems are at their acute stage in developing countries. In order to minimize loan losses as well as credit risk, it is crucial for banks to have an effective credit risk management system in place (Santomera 1997, Basel 1999). As a result of asymmetric information that exists between banks and borrowers, banks must have a system in place to ensure that they can do analysis and evaluate default risk that is hidden from them. Information asymmetry may make it impossible to differentiate good borrowers

from bad ones (which may culminate in adverse selection and moral hazards) have led to huge accumulation of non-performing accounts in banks (Baster, 1994).

Conceptual Framework

This conceptualization of credit risk rating is in the light of Ghanaian banks becoming increasingly interested in the continued development and improvement of their risk measurement methods and procedures. Also, the Basel Committee on Banking Supervision has devised regulatory standards under the heading Basel II for banks in-house estimation of the loss parameters probability of default (PD), loss given default (LGD), and exposure at default (EAD).

A lot has been reviewed in terms of lending activities of various commercial banks. Some opinions deliberated on the factor responsible for banks willingness to extend much credit to their customers while some discussed the effect of such extension of credits on productivity and output. Most of these earlier studies agreed on the fact that it is logical for banks to have some basic lending principles or consideration to act as a check in their lending activities. Since there are many studies in respect of bank's lending behaviour, it is therefore imperative to highlight and consider some factor that economist and professionals alike have proposed as virtually significant in explaining the determinants of rural banks lending behaviour.

Credit constitutes the largest single income-earning asset in the portfolio of most banks. This explains why banks spend enormous resources to estimate, monitor and manage credit quality". This is understandable, a practice that impacts

greatly on the lending behaviour of banks as large resources are involved. According to Adedoyin and Sobodun (1991), “lending is undoubtedly the heart of banking business. Therefore, its administration requires considerable skill and dexterity on the part of the bank management”. While a bank is irrevocably committed to pay interest on deposits it mobilized from different sources, the ability to articulate loanable avenues where deposit funds could be placed to generate reasonable income; maintain liquidity and ensure safety requires a high degree of pragmatic policy formulation and application.

Rural banking in Ghana witnessed an era of impressive profitability, characterized by high competition, huge deposits and varied investment opportunities; in an effort to make quick profits the Rural and commercial banks relied essentially on self-liquidating loans and diversified their portfolio into less risky investments with a safe margin. The current trend in the Ghanaian banking and finance sector, suggest that the days of cheap profits are now over and only banks with well-conceptualized lending and credit administration policies and procedures can survive the emerging competition. “Bank lending decisions generally are fraught with a lot of risks, which calls for a great deal of caution and tact in this aspect of banking operations. The success of every lending activity to a great extent, therefore, hinges on the part of the credit analysts to carry out good credit analysis, presentation, structuring and reporting” (Ezirim, 2005).

According to Duffie and Singleton (2003), credit risk can be defined as the risk of default or of reductions in market value caused by changes in the credit

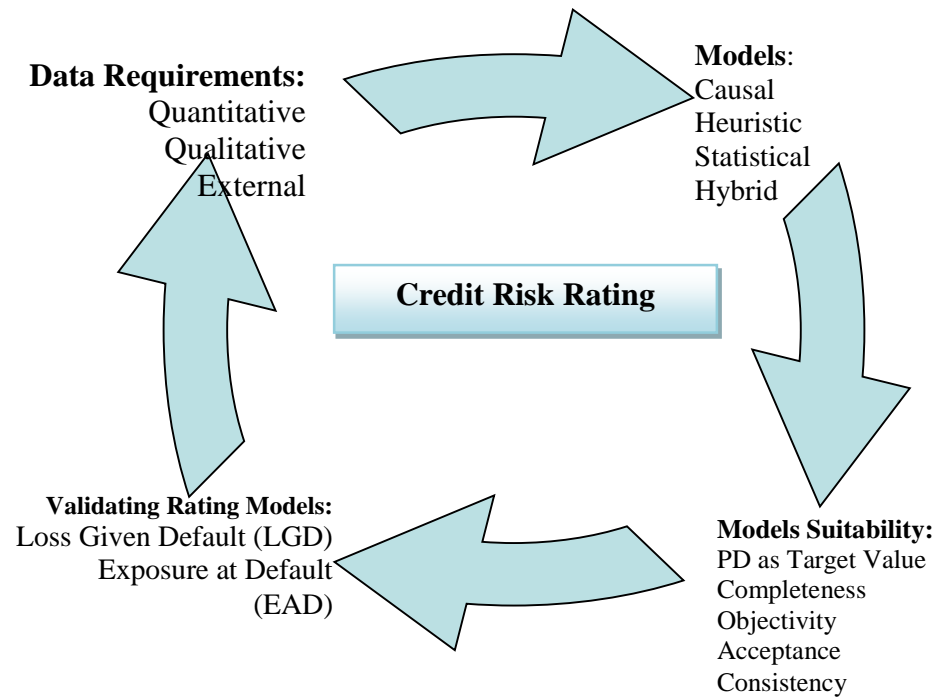
quality of issuers or counterparties. Generally speaking, it is common in every business. Whenever a payment or performance to a contractual agreement by counterparty is expected, this risk exists. Conventionally, credit risk arises through lending, investing as well as credit granting activities and concerns the return of borrowed money or the payment for sold goods. Besides, it also appears through the performance of counterparties in contractual agreements such as derivatives (Horcher, 2005).

Credit risk management covers both the decision-making process before the credit decision is made, and the follow-up of credit commitments, plus all monitoring and reporting processes. Measuring risk is about trying to obtain some measures of the dispersion of possible future outcomes, and in practice, the focus is usually on the downside outcomes (Lowe, 2002).

The credit risk in banks measure by size as well as scope of the exposure, and as pointed out by Lowe (2002), all kinds of credit risk measuring approaches comprise of four common building blocks, including the probabilities of borrowers defaulting (PDs), the correlation of PDs across borrowers, the possible loss in the event of default (LGD) and the correlation between PDs and LGD. Based on these elements, the approaches may differ in assumptions and modelling methodologies. The following sections conceptualize information requirement and processes in bank's credit risk rating. The conceptual framework is curled from Oesterreichische Nationalbank (OeNB) Guidelines on Credit Risk Management - Rating Models and

Validation

(2004).



Commonly Used Credit Assessment Models

Besides the creation of a complete, high-quality data set, the method selected for processing data and generating credit assessments has an especially

Figure 1: Conceptual Model for Credit Risk Rating

Source: Author computation (2015)

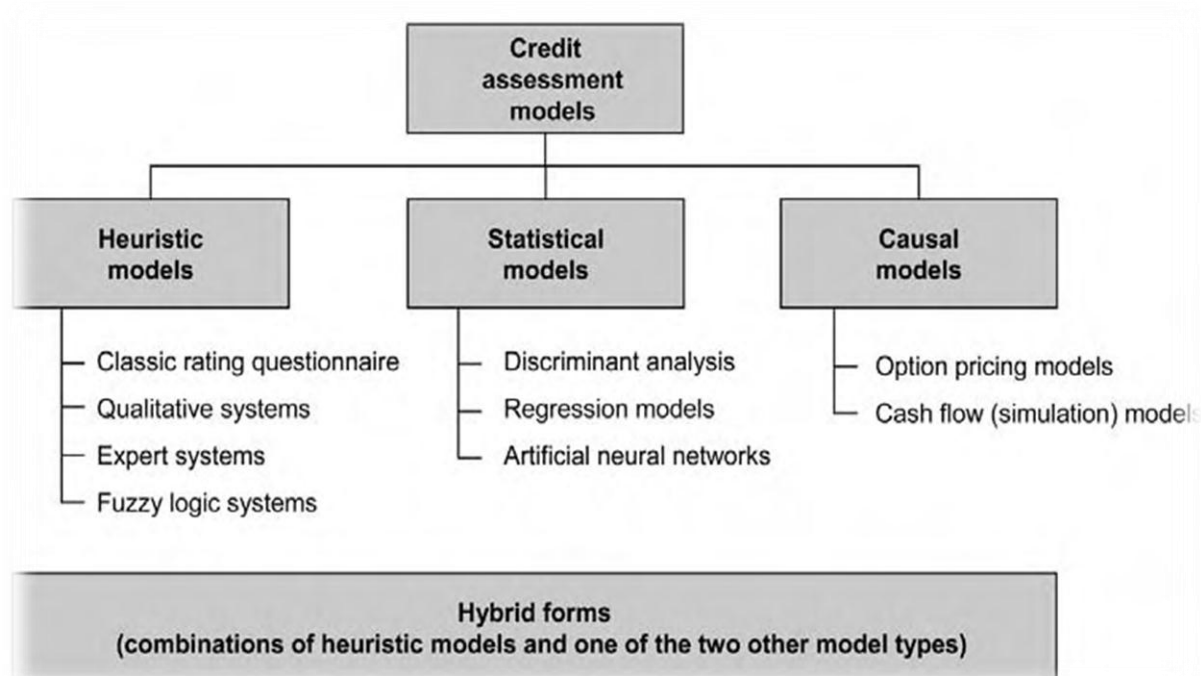


Figure 2: Commonly used credit risk models

Source: Oesterreichische National bank (2004)

Heuristic Models

Heuristic models attempt to gain insights methodically on the basis of previous experience. This experience is rooted in: subjective practical experience and observations; conjectured business interrelationships and business theories related to specific aspects. In credit assessment, therefore, these models constitute an attempt to use experience in the lending business to make statements as to the future creditworthiness of a borrower. The quality of heuristic models thus depends on how accurately they depict the subjective experience of credit experts. Therefore, not only the factors relevant to creditworthiness are determined

heuristically, but their influence and weight in overall assessments are also based on subjective experience. In the development of these rating models, the factors used do not undergo statistical validation and optimization. This is among the major credit risk type of rural banks and this involves the subjective experience view of the rural bank loan expert on the borrower. This makes the loan procedure very simple, but at times, problematic due to its subjectivity.

Statistical Models

While heuristic credit assessment models rely on the subjective experience of credit experts, statistical models attempt to verify hypotheses using statistical procedures on an empirical database. For credit assessment procedures, this involves formulating hypotheses concerning potential creditworthiness criteria: These hypotheses contain statements as to whether higher or lower values can be expected on average for solvent borrowers compared to insolvent borrowers. As the solvency status of each borrower is known from the empirical data set, these hypotheses can be verified or rejected as appropriate. Statistical procedures can be used to derive an objective selection and weighting of creditworthiness factors from the available solvency status information. This is among the major credit risk type of rural banks and this involves the objective, systematic and statistical view of the rural bank loan expert on the borrower. This is robust risk strategy, but difficult to the executive when there is a paucity of data on client or borrower. This makes the loan procedure at times, very cumbersome.

Causal Models

Causal models in credit assessment procedures derive direct analytical links to creditworthiness on the basis of financial theory. This means that in the development of such models, statistical methods are not used to test hypotheses against an empirical data set. These include Option Pricing Models; Cash Flow (Simulation) Models.

Hybrid Forms

In practice, the models described in the previous sections are only rarely used in their pure forms. Rather, heuristic models are generally combined with one of the two other model types (statistical models or causal models). This approach can generally be seen as favourable, as the various approaches complement each other well. For example, the advantages of statistical and causal models lie in their objectivity and generally higher classification performance in comparison to heuristic models. However, statistical and causal models can only process a limited number of creditworthiness factors. Without the inclusion of credit experts' knowledge in the form of heuristic modules, important information on the borrower's creditworthiness would be lost in individual cases. In addition, not all statistical models are capable of processing qualitative information directly (as is the case with discriminant analysis, for example), or they require a large amount of data in order to function properly (e.g. logistic regression); these data are frequently unavailable in banks.

Empirical reviews

Range of past studies has already provided sufficient evidence to confirm the relationship between the credit risk management and profitability. Gholami and Salimi (2014) conducted one such research study in which authors have investigated the relationship between credit risk management and liquidity management and the profitability in banking sector. Authors stated that that based on the series of practical solutions, a significant relationship between credit risk management with profitability was evident. It was further stated that banks' financial statements are immensely affected by the credit risk. In other words, for increasing the business profitability, credit risk monitoring must be perfect. The study concluded a negative relationship between the credit risk and the profitability.

In contrary, Afriyie and Akotey (2012) have presented a different association between these two research variables through a study on the credit risk management and profitability of selected rural banks in Ghana. According to authors, there is a noteworthy positive association between the non-performing loans and profitability levels of the banks performing in the rural areas. In other words, the banks with higher loan scan still show profits. This is due to the inappropriate policies for credit risk management of the banks. The banks in Ghana shift their overall price on non-payment of loan to other customers in the form of elevated interest rate on loans.

Similarly, Gizaw, Kebede, and Selvaraj (2015) have focused on the relationship between credit risk management and profitability levels of the banks

operating in Ethiopia on a commercial basis. The findings of research revealed that there is a significant relationship between the non-performing loan, loan loss provisions and capital adequacy within the commercial banks of Ethiopia. Angeela (2010) has shown a no relationship between the non-performing loans and the profits figures for Kenyan banks within the financial statements. The low profits of the banks were found even within the period when the credit facilities of the banks were also very low. It was thus, confirmed by the authors that profits of commercial banks are not influenced as a result of the credit amount and nonperforming loans but other variables in the financial statements can be attributed to the low profits of the banks in Kenya. In contrary, Aduda and Gitonga (2011) by using the regression model found a reasonable level relationship between the credit risk management and the Kenyan bank's profitability level.

Boahene, Dasah and Agyei (2012) studied the relationship between credit risk and profitability of some selected banks in Ghana with a panel data from six selected commercial banks covering the five-year period (2005-2009). They found out that credit risk (non-performing loan rate, net charge-off rate, and the pre-provision profit as a percentage of net total loans and advances) has a positive and significant relationship with bank profitability. This indicates that banks in Ghana enjoy high profitability in spite of high credit risk, contrary to the normal view held in previous studies that credit risk indicators are negatively related to profitability. Also, bank size, bank growth and bank debt capital influence bank profitability positively and significantly.

Chapter Summary

This section reviewed relevant literature on credit risk management of rural banks. Credit risk theory and information theory that underpinned this study were also reviewed. The concept of credit, credit risk, risk management were review. Furthermore, an overview of rural banking, credit risk management, bank performance and effects of credit risk management on bank performance. Lastly, the empirical review was conducted on credit risk management practices among rural banks.

CHAPTER THREE

RESEARCH METHODS

Introduction

Research methodology, on the other hand, is inclusive of the research methods and encompasses the overall approach to the research process from definition to selection of the appropriate research method and analysis of data and drawing conclusions from the analysis. This chapter covers the methods used in conducting the study, how questions of the research were answered, the targeted population, the sample size and technique used. It also explains how the various and appropriate sources of data and how the data were collected as well as the method used in analyzing or estimating the data. The chapter further highlights the organizational profile of Rural Banks in Ghana.

Study Area

The study was conducted in the rural banks in Sekondi-Takoradi Metropolis. Sekondi-Takoradi, the administrative head of the Western region a city comprising the twin cities of Sekondi and Takoradi, is the capital of Sekondi – Takoradi Metropolitan District and the Western Region of Ghana. Sekondi-Takoradi is the region's largest city and an industrial and commercial centre, with a population of 445,205 people (2012). The chief industries in Sekondi-Takoradi are timber, cocoa processing, plywood, shipbuilding, its harbour and railway repair, and recently, sweet crude oil and crude oil. Sekondi-Takoradi lies on the main

railway lines to Kumasi and Accra. There are seventeen (17) rural banks in Sekondi-Takoradi Metropolis (www.ghanabusinessweb.com).

Research design

Research design is the blueprint for conducting the study that maximises control over factors that could interfere with the validity of the findings (Burns & Grove 2001). Similarly, Saunders, Lewis and Thornhill (2009) define research design as the general plan which guides a researcher in answering research questions. The study employed a cross-sectional descriptive survey. This aided the researcher to gather data from the respondents once.

Leedy and Ormrod (2005) defined descriptive survey as a collection of data in order to test hypothesis or answer questions concerning the current status of a study. To Leedy and Ormrod (2005), a descriptive survey determines, and report the way things are. The descriptive survey studies are designed to elicit the precise and vital information concerning the subject of the study. It provides opportunities for researchers to gain valuable insight into the existing state of a phenomenon.

According to Creswell (2012), descriptive research designs help to gather information about the present and existing condition of a research parameter. Again, Creswell (2012) emphasized that with the use of a descriptive research design, more emphasis is laid on describing rather than on judging or interpreting the process. A descriptive research is to portray an accurate profile of persons, events or situations (Robson, 2002). Another major reason for the use of the descriptive research design is that it is used to answer descriptive research questions

such as ‘What is happening?’, ‘How is something happening?’ and ‘Why is something happening?’ (Creswell, 2012).

Population

The study seeks to assess credit risk management at Rural Bank in Sekondi-Takoradi Metropolis of the Western region of Ghana. The banking sector in Ghana comprises of twenty-eight (28) commercial/ retail banks and a hundred and forty rural banks (www.bog.gov.gh). However, only seventeen (17) rural banks that were found in Sekondi Takoradi Metropolis were considered. The rural banking sector industry made up of local banks that emerged after the liberalization of the financial market over the last decades. In specific terms, only staff of the Finance and Treasury departments of three (3) selected Rural banks in Takoradi whose office is directly responsible for credit risk management, practices and control were considered as target population of this study. The total number of workers in those department of the various rural banks was thirty (30).

Sampling Procedures and Techniques

Though the population for the study consists of all rural banks in the Sekondi Takoradi Metropolis, however, purposive sampling was used to select three (3) Rural Banks for the study; Lower Pra Rural Bank (LPR), Ahantaman Rural Bank Ltd (ARB), Fiaseman Rural Bank (FRB). Information obtained from survey of its key personnel and Bank of Ghana is additional source that formed a credible basis for analysis of the objectives of the study. With the aid of a census,

all the thirty (30) respondents (staffs) from three main departments of the three Rural banks: Credit Risk, Treasury and Finance Department of the bank were involved in this study.

Sampling involves “the use of definite procedures in the selection of a part for the express purpose of obtaining from its description or estimates certain properties and characteristics of the whole” (Kumekpor, 2002; p.123). General managers of the various rural banks were purposively selected. However, census was used in order to solicit the views and perception of all the workers concerning credit risk management. In all, thirty-three respondents were involved in the study.

The choice of these Rural Banks in Takoradi is as a result of their diversity, ease of access to data and convenience; while Bank of Ghana as secondary data institutions is as a result of the credibility of the institution domestically over the past years, and also convenience of access to data. Also, the banks were selected due to their active involvement in all forms of credit risk management practices and have wider coverage in terms of geographical dispersion and customer base. The Credit Risk, Treasury and Finance departments of the banks were selected because of its requisite staff personnel required for the study. These are those in the respective head branch office in Takoradi, Ghana. Interviews and discussions were consulted with the right personnel of the bank.

Sources of Data

Both primary and secondary sources were employed. The primary data was obtained from the responses and information from the interview that were administered to the staffs and managers of the Rural Banks in Sekondi-Takoradi. Structured interviews were sourced as relevant information for the purpose of this work where necessary. The secondary data included documents, receipts and financial reports on the rural banks. Key is Secondary sources inspection. Saunders *et al.*, (2009) define secondary sources of data as data that have been previously collected for some project other than the one at hand. For this research, these secondary sources of data were sourced from the audited financial statement of rural banks, credit risk management policy manuals as well as published and unpublished reports of the banks under study. The other sources of the information include books, internet search, articles, and journals among others. The secondary data are used to support or compensate the primary data for credibility and reliability of the data.

Data Collection Instruments

The current study adopted a questionnaire for staff members and a structured interview for managers. Questionnaires were used in order to solicit for data from a larger number of staffs for describing the risk management of various rural banks. The latter tool was adopted in order to gain in-depth understanding of savings mobilization practices from the managers of various branches. Questionnaires were used as the primary data collection instrument to obtain the

necessary information from the respondents. The structured interview focused on strategies for improving upon credit risk management in rural banks. Documentation was also done to review reports, documents, articles, and journals among others.

Data Collection Procedure

An introductory letter was obtained from the researchers' department. The letter spelt out the purpose of the instrument, the need for the individual participation, anonymity as well as confidentiality of respondents' responses. After establishing the necessary contact with the manager and the management of the rural banks, permission was granted for the administration of the instrument. The researcher administered questionnaires to the selected customers as well as the interview with the workers personally at the various rural banks. The questionnaires were completed and given back to the researcher on the same day. The questionnaire was administered from 12:30 pm to 1:30 pm for two weeks. The time was favourable since it was the break time for the workers of the rural banks which permitted the researcher to administer the instrument to the respondents without the interference with their busy schedule. The interviews were also conducted within three days; thus, a manager was interviewed within a day at their break period. Other secondary data were gathered at the end of the interviews.

Ethical Issues

This study would not be successful if the key ethical issues in social science research were ignored. The supervisor approved the research topic as a researchable topic and free from harming the respondents, but of infringing benefits to the respondents. The research also assured absolute confidentiality and consent of the respondents by providing introductory information to the respondents to make an informed decision on whether they will participate or not. The respondents were given the right to withhold information that they may consider private. Moreover, researcher ensured that the respondents were not harmed physically or psychologically during and after the research. Respondents' confidentiality was assured by using the information that was gathered for the study purpose only. Moreover, all the secondary data sought from the rural banks were used only for the purpose of the study and discarded after the data processing and interpretation stage. Furthermore, researchers ensured that others whose works were used in the study were acknowledged adequately and appropriately.

Data Analysis

Analyzing the data is an important step in any research and be done according to the aims of the study. Williman (2005) states that data is analyzed in order to measure, make companions, examine relationships, forecasts, test hypothesis, construct concepts and theories explore, control and explain. Data gathered from the field survey, comprising both quantitative and qualitative information are analysed by means of a research statistical package, specifically

with Statistical Package for Social Sciences (SPSS, version 21). This is due to the simplicity and convenience of the software package to the researchers. The software is deployed to save time since a manual analysis where data is entered in data view. The data would be cleaned, all variables defined and all data entered in the data view of the software. This enabled the researcher to generate graphs/charts and tables and to establish patterns and relationships between various parts of the data gathered. The results were then presented, analysed, interpreted and discussed. However, the recordings of the interviews were transcribed verbatim, organised, presented in themes based on the research objectives. Secondary data was analysed manually with help of content analysis as proposed by Saunders, Lewis and Thornhill (2009).

Chapter Summary

The study was a descriptive design of which the targeted population was the workers and management of Lower Pra Rural Bank (LPR), Ahantaman Rural Bank Ltd (ARB), Fiaseman Rural Bank (FRB). Thirty of respondents were chosen with the aid of a census. Questionnaires and structured interview were the main data collection instruments. Furthermore, the data were analyzed with the help of statistical software known as Statistical Product for Service Solution (SPSS version 21.0) and interpreted by using percentages and frequencies and presented by using tables, and charts using Excel 2013 version. On the other hand, the responses of the interviews were transcribed verbatim, coded into themes and discussed

concurrently with the responses analysed from the questionnaire based on the research objectives.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents and discusses the empirical results of the study. This section presents the quantitative and qualitative analysis of the responses taken from the respondents of the questionnaire and interview using data collected from the field survey on the credit risk management. It starts from the quantitative analysis of the demographics and credit risk management issues. A total of thirty (33) respondents was featured for the analysis of the study. There were no problems of non-response; all 30 questionnaires were successfully returned. Data gathered from the field comprised both quantitative and qualitative data and as such, analysis was mainly descriptive, supported with tables and graphs.

Background of Respondents

As mentioned earlier, 30 questionnaires were successfully administered to the selected sample comprising the staff of the credit department of each of the three banks. Age of the respondents ranged between 20 and 60 years with the majority of them falling between the age brackets of 31 – 40 years. 24 of the respondents (80%) were males and the remaining 6 (20%) were females. The table below summarises the background characteristics of the respondents to the field survey.

Table 1: Demographic characteristics of the respondents

Bio-data	Frequency	Percentage (%)
Gender		
Male	24	80
Female	6	20
Total	30	100
Age		
20 – 30	11	36.67
31 – 40	11	36.67
41 – 50	5	16.7
51– 60	3	9
Total	30	100
No. of years of experience		
Less than three years	6	20
4 – 6 years	15	50
7 – 8 years	5	16.7
More than 8 years	4	13.3
Total	30	100

Source: Field Survey, Mensah (2017)

Data was also collected on the number of years for which the respondents have worked with their respective institutions in order to ascertain the level of experience they have in credit risk management. The result obtained is presented in

the table 1. It is seen from the table that the majority of the respondents (50%) have served as credit staff for 4 – 6 years.

Assessing the major types of credit risk safe by rural banks in Sekondi-Takoradi

This objective was to examine the various types of credit risks executed by the rural banks and the degree of importance attached to it by the various banks, specific areas of risk critical to credit evaluation, targeted industries among others.

Types of Credit Risk

The researcher also gathered data on the various types of credit risk considered by the banks for credit risk assessment and evaluation purposes. It was observed that all three banks considered similar risks in their assessment and evaluation of credit proposals. The various risks assessed include financial risk, account performance risk, management risk and collateral risk. However, the level of seriousness attached to these types of risks at the various banks differed from one bank to another. Figure 1 shows the degree of importance attached to the various risk types by each bank.

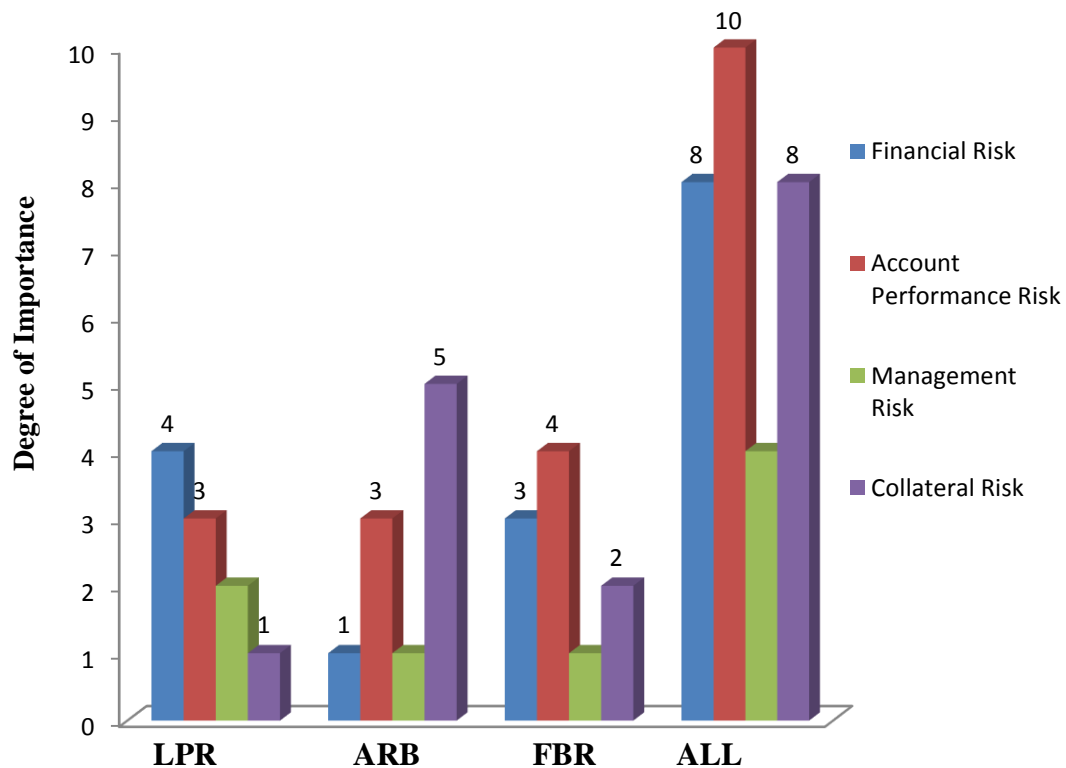


Figure 3: Specific Areas of Risk Critical to Credit Evaluation by LPR, ARB and FRB

Source: Field Survey (2017)

It is evident from Figure 3 that Lower Pra Rural Bank (LPR) attaches the most seriousness to financial risk when assessing credit applications. This is followed by account performance risk and then by management risk and collateral risk. Ahantaman Rural Bank Ltd (ARB) on the other hand considers account performance risk to be the most threatening risk in credit lending, followed by financial risk, collateral risk and then finally by management risk. With Fiaseman Rural Bank (FRB), Collateral risk is very paramount credit risk for assessment. This

is followed by account performance risk. Management risk and financial risk are not major issues of concern for FRG when it comes to credit risk assessment.

This was confirmed by the Manager of Lower Pra Rural Bank, “financial risk is dear to our heart when assessing credit applications submitted by our clients.”

Overall, Account performance risk is the most important to credit risk assessment by the rural banks in Ghana as seen in Figure 1. This is followed by collateral risk and financial risk which are treated with the same priority. The least important to credit risk assessment is managing risk. It should be noted that these risks are internal risks which the bank has control over. Thus, the level of exposure to these risks depends on the internal policies and structures put in place by the banks to regulate the award of credit. Besides the internal risks identified above, it was also revealed that rural banks face other external risk factors which the organisations have little or no influence on them. Among the external risks include performance risk, Interest rate risk, legal risk and risk of fraud.

Credit Risk Philosophies/Appetite

By credit risk philosophy of a rural bank, then the study is looking at the extent to which the bank is prepared to take risk in credit lending. Thus, it is the extent to which a particular bank subjects or exposes itself to risks in the credit environment. A bank’s credit risk appetite may either be described as risk averse, risk neutral or risk loving. This is determined by the types of credit facilities

granted, the kind of industries it lends to and the major factors that influence the bank's willingness to grant credit facilities to customers.

With the types of credit facilities granted by the banks, it was observed that all three banks have similar products made up of loans, overdraft facilities, letters of credit, and bank guarantee. However, there were differences as to the sectorial or industry preferences among the banks.

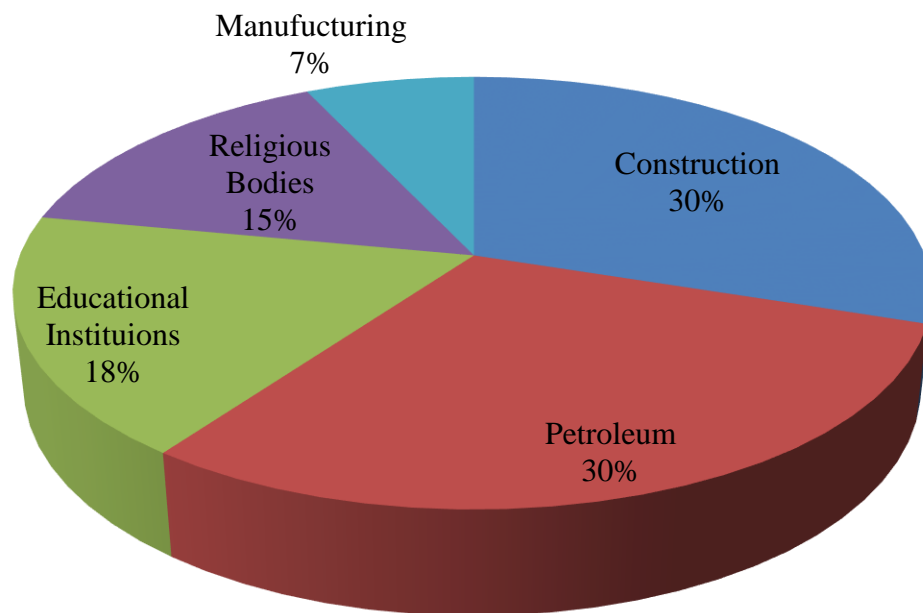


Figure 4: Major Industries Lower Pra Lends Credit

Source: Field Survey, Mensah (2017)

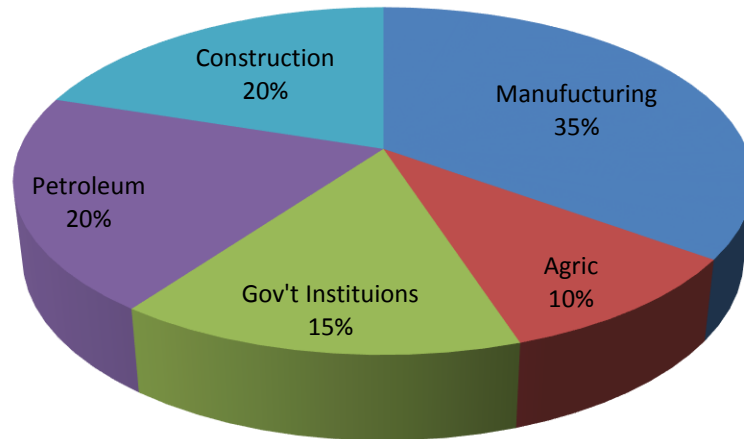


Figure 5: Major Industries Fiaseman Rural Bank Lends Credit

Source: Field Survey, Mensah (2017)

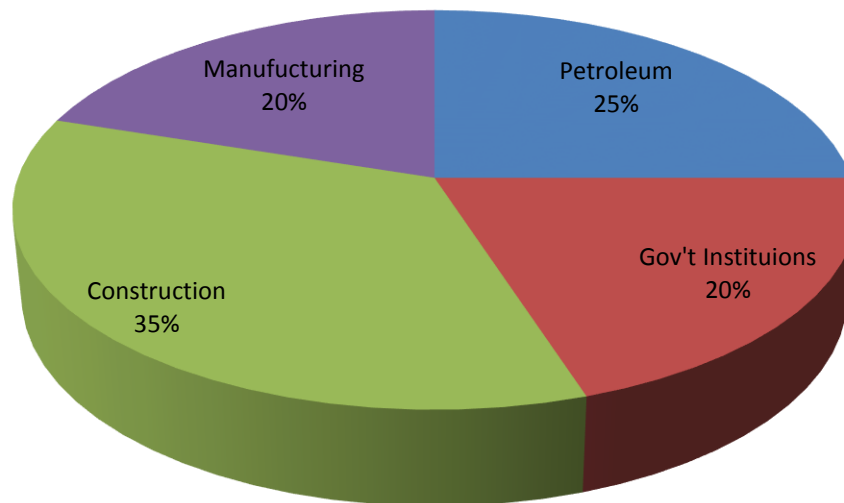


Figure 6: Major Industries Ahantaman Rural Bank Lends Credit

Source: Field Survey, Mensah (2017)

It can be seen from the figures 4, 5 and 6 that, whereas the main focus of Lower Pra is the construction and petroleum industry, Fiaseman's focus is on the manufacturing industry before the construction and petroleum industries. Agriculture is a new area Fiaseman is focusing. Ahantaman Rural Bank, on the other hand, gives more preference to the construction sector and then petroleum. Manufacturing and governmental institutions are given equal priorities at Ahantaman Rural Bank.

Off Balance Sheet Credit Facility Risk

Default Risk upon Facility Crystallization

This is one example of risk involved in lending off-balance sheet credit facilities. The bank is obliged to settle the supplier's bank the full sum of the LC established when the facility matures whether or not the customer has enough funds. Rural banks, however, adopt the following measures as mitigating factors.

1. Approving an inner limit (RSTL) with LC facilities such that the crystallized portion of the LC (when the LC is matured) is termed out as a loan to the customer to be repaid in a specified period usually 30 days, 90days or 180 days.
2. Another mitigating factor is that the CEM puts in the sanctioning document that a percentage of the LC exposure must be held in a marginal account before the LC is established. This is usually 20%. This cash build up becomes condition precedent to any establishment of the LC throughout the facility period. The cash builds up by the customer is to ensure repayment

of the LC on the maturity date. It usually takes the structure as follows;

Where LC maturity is 90 days;

20% - Before LC is established

60% - After 30 days

75% - After 60 days

100%- At maturity

Critical Areas of Credit Evaluation

It was revealed from the field survey that the critical areas of credit application's evaluation by the three rural banks under study include the customer's account turnover, quality of the collateral, financial performance of the customer's business, quality of customer's management and the nature of the business. Figure 5 depicts the level of importance and emphasis placed on the various factors by the three rural banks.

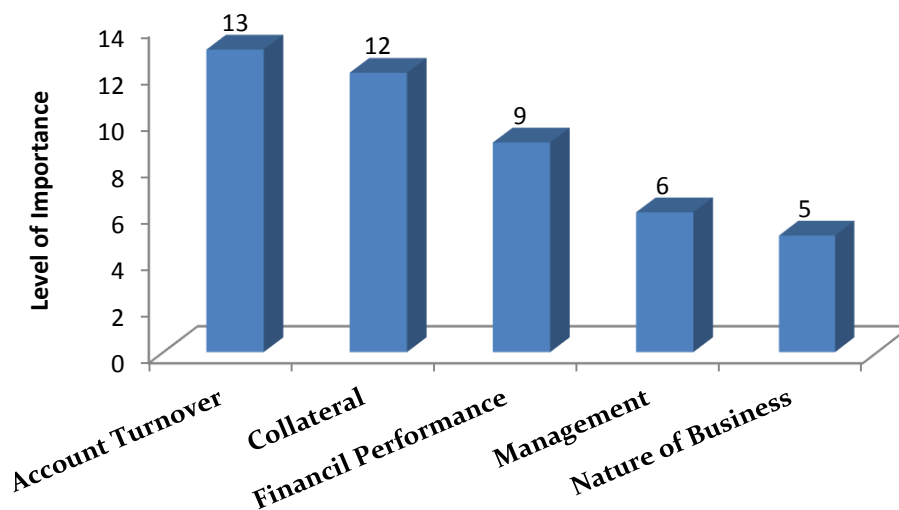


Figure 7: Critical areas of Credit Evaluation

It is observed from the data above that the most important determinant of whether or not a customer's application for credit would be considered is the customer's account turn over. This is quite understandable because the banks expect that the customer meets its obligation of repaying the loan and interest from the profits of its business. Since the account turnover determines the margin of profit that can be expected from the customer's business operations, it stands to reason that the banks should be convinced that the customer has a satisfactory account turnover before awarding the credit. Anything short of this will lead to loan default as the customer would not be able to repay the loan on schedule.

The quality of the collateral was also observed to be the second most important consideration to credit evaluation. The collateral is also of much importance because in case the customer defaults in repaying the loan, it is the collateral that the bank will have to fall on as security. It is therefore reasonable that the bank ensures that the collateral securing the loan is commensurable to the amount of credit granted.

Financial performance also helps the bank to determine the financial position of the customer so as to ascertain how the business is faring. Thus, whether they have been making considerable gains or losses over the years is of much importance to credit evaluation. It was identified that the quality of the customers' management and the natures of the business were not very important in credit evaluation. Once the banks were satisfied with the first three, the credit application could be approved.

Assessing the lending procedure/processes of rural banks in the Sekondi Takoradi Metropolis

Objective three was to assess the various lending procedures of the various rural banks by examining the basis of credit approval and the major areas of credit policy.

Basis of Credit Approval

The Basis of lending refers to the main factor that credit approval hinges on. Also based on the past experience of repayment default coupled with the strength of the bank in question in terms of collection task force, any approval of credit facility application depends on one of the following: Security that fully cover the bank's total exposure; Strong cash flow of the client's business and the willingness of the borrower (Clean Lending- here no collateral is required). Figure 6 depicts the bases of lending for the rural banks covered by the study.

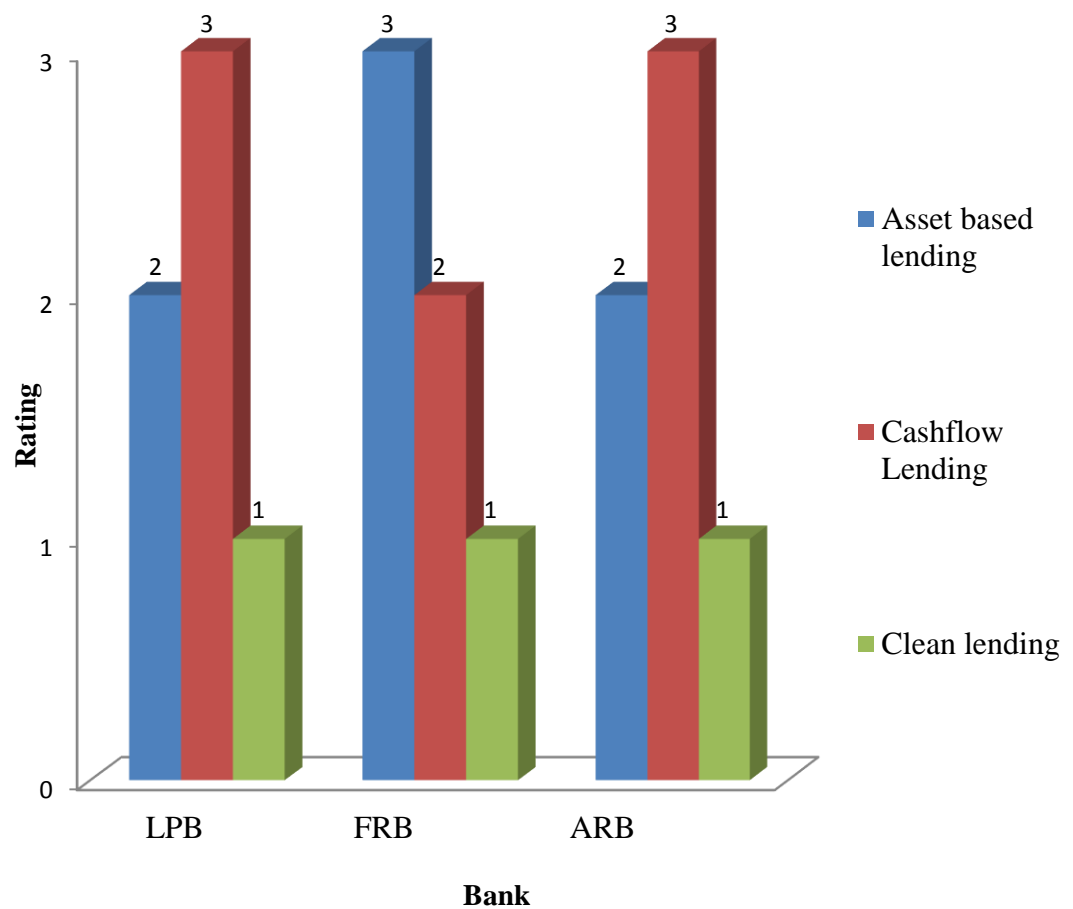


Figure 8: Basis of lending for Lower Pra, Fiaseman and Ahantaman Rural Banks

Source: Field Survey, Mensah (2017)

It is seen from figure 6 that the main basis of lending for Lower Pra and Fiaseman is cash flow lending. Ahantaman Rural Bank Ghana, on the other hand, focuses on the asset-based lending. This implies that Fiaseman focuses on the quality of the collateral or security for the credit facility.

Major Areas of Credit Policy

Lower Pra Rural Bank

The credit policy of Lower Pra Ltd is aimed at maintaining acceptable credit standards by holding reasonable risk limits, evaluating new business opportunities, complying with regulatory requirements and providing adequate liquidity for the effective running of the bank.

The importance of these objectives is to ensure that clients who borrow from the bank have the ability to repay the funds they borrow on schedule and with interest. Businesses that borrow from the bank should demonstrate an ability to repay from their current and future net cash flows of the business. Individual client's repayments depend also on their personal cash inflows basically being their salaries. Another importance is the need to avoid bad debt as much as possible by not giving credit to clients who are likely to be unable to repay due to their peculiar circumstances.

Also, the bank must ensure that at all times it is able to meet its obligations to depositors since its stock in trade is money. This it does by diversifying loans it has given to have a wide array of maturity profiles. Also, it ensures that its assets are properly matched with its liabilities to avoid the situation where it borrows short term from depositors and lends out long term to needy units.

Figure 7 is a diagrammatic representation of the detailed process that credit application at Lower Pra goes through till the credit facility is finally disbursed.

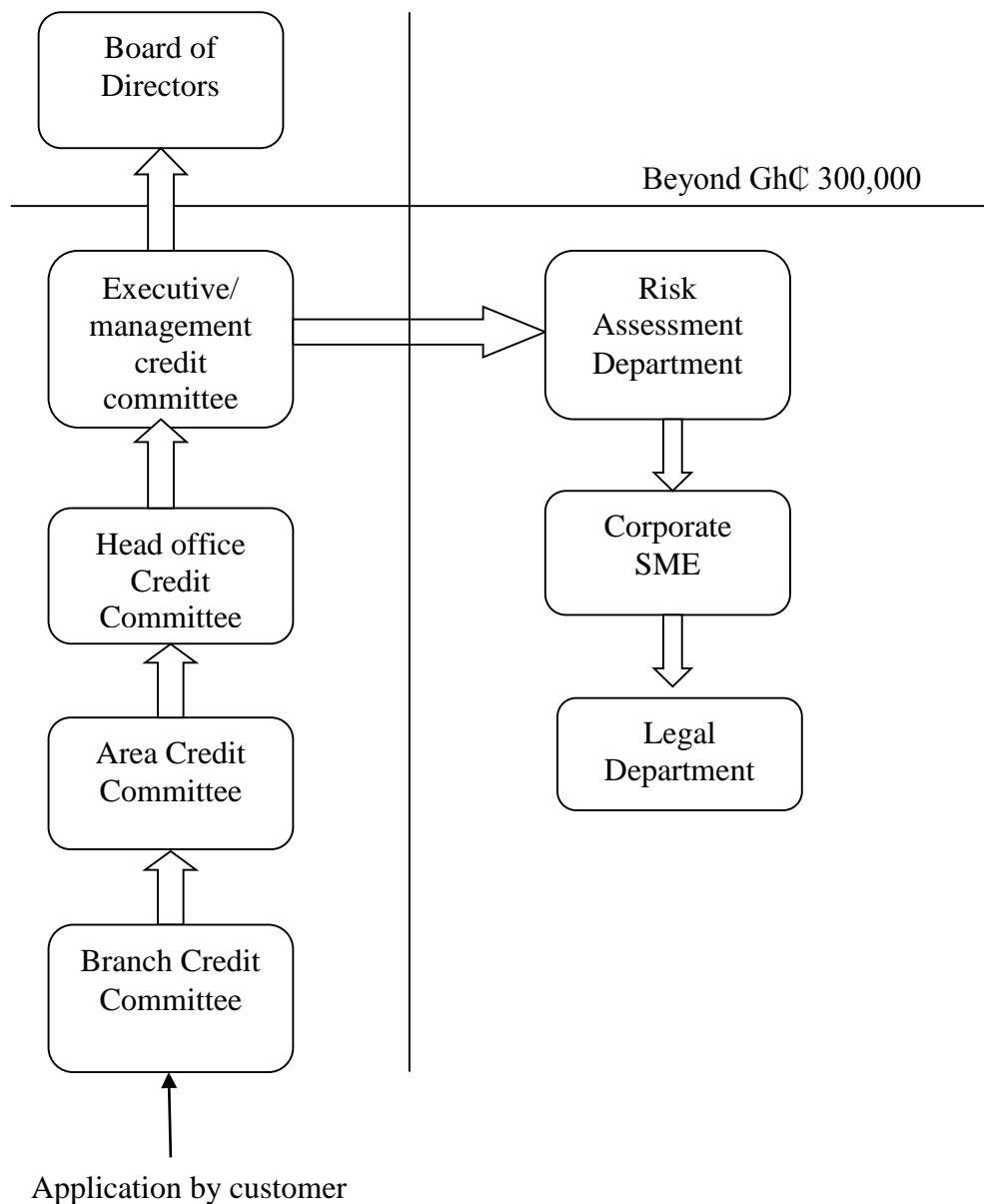


Figure 9: Lower Pra Rural Bank Credit Approval Process

Source: Field Survey, Mensah (2017)

From Figure 9, it is seen that the first step in the credit approval process at Lower Pra is the application for credit by the customer. This application is made by the customer through the branch credit committee of the branch where the customer

has an account. The branch credit committee receives the application and verifies the supporting documents. The application is then forwarded to the area credit committee where the application is further vetted. From here, the application is sent to the head of office credit committee for approval. The decision as to whether to approve or reject the application, however, resides with the Executive or management credit committee.

However, if the amount to be granted is more than GHC 300,000, then the decision must be ratified by the board of directors. Once the application is approved, it is sent to the risk department where the necessary credit risk assessment is done to ascertain the level of risk to be expected and for that matter the terms of the credit. After the risk assessment is done, the application goes to the Corporate SME department for processing. The legal department is made to draft the required legal documents for the client. Upon completion of the legal process, the credit facility is disbursed to the customer.

Fiaseman Rural Bank

The credit policy of Fiaseman is determined by the bank's group risk policy committee. Credit policy in the bank is supported by a credit process, which covers credit origination, on-going management of the portfolio, remedial management and work-out of weak credit. The auditors help to provide the checks and balances by examining and reporting on the institutional credit policy and process, its

relevance, effectiveness and whether there is consistent compliance with laid down procedures and control systems by all lending and credit approval points.

The policy states what should be done, while a procedure is how it should be done. The procedure, therefore, governs the day to day management and administration of credit. The primary business of banking is lending. Lending goes hand in hand with risk. The main purpose of the credit policy is to take an acceptable risk and grow the book substantially. The credit policy of Ahantaman Rural Bank Ghana Ltd is to be used as a guide only. It is impossible to cover all aspects of credit in the credit policy manual and use of the manual should be regarded as a helpful guide rather than an exhaustive record of credit

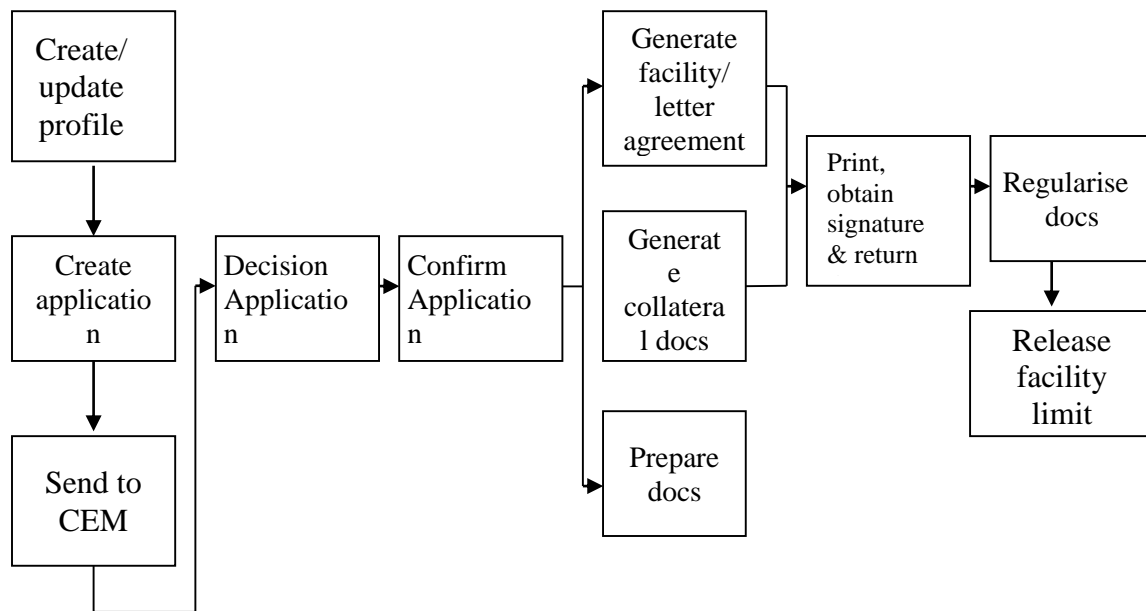


Figure 10: Credit Approval Process for Fiaseman (The CAMS Module)

Source: Field Survey, Mensah (2017)

Fiaseman uses the credit application management system, better known as CAMS to capture the customer’s profile and application and then manages its flow

through the various functional areas. The Point of Representation (POR) team comprises all Relationship Managers and Business Bankers who are the prime point of contacts that the customer has with the bank. The main duties include:

- i. setting up a customer's profile and application for credit;
- ii. informing the customer and confirming whether the application process should continue when the application has been approved by CEM;
- iii. arranging for arbitration if the application was declined;
- iv. gathering supporting documents from the customer and send through to the relevant departments;
- v. ensuring that the appropriate legal documents relating to the application provided by Collateral are signed; and
- vi. Sending the physical/signed legal documents back to the Credit Administration for disbursement and marking of limit on the customer's account.

A great deal of the functionality on CAMS has been automated which means that once the application has been captured it will automatically be routed to various work-list within the different functional areas. Legal documents will automatically be prepared and generated based on the information captured.

Ahantaman Rural Bank

Some key principles of Ahantaman Rural Bank's credit policy include the following:

- i. Developing core banking relationship with the bet customers from focus industries with exemptions for group SME credit and better customers from low and medium risk industries;
- ii. To have account plans for customers with facilities of over \$ 2 million;
- iii. Focus on tangibly secured, short-term trade (receivable services, export, import and domestic) facilities to improve product holdings of clients and thus maximise income;

The credit approval process is as depicted by the figure below.

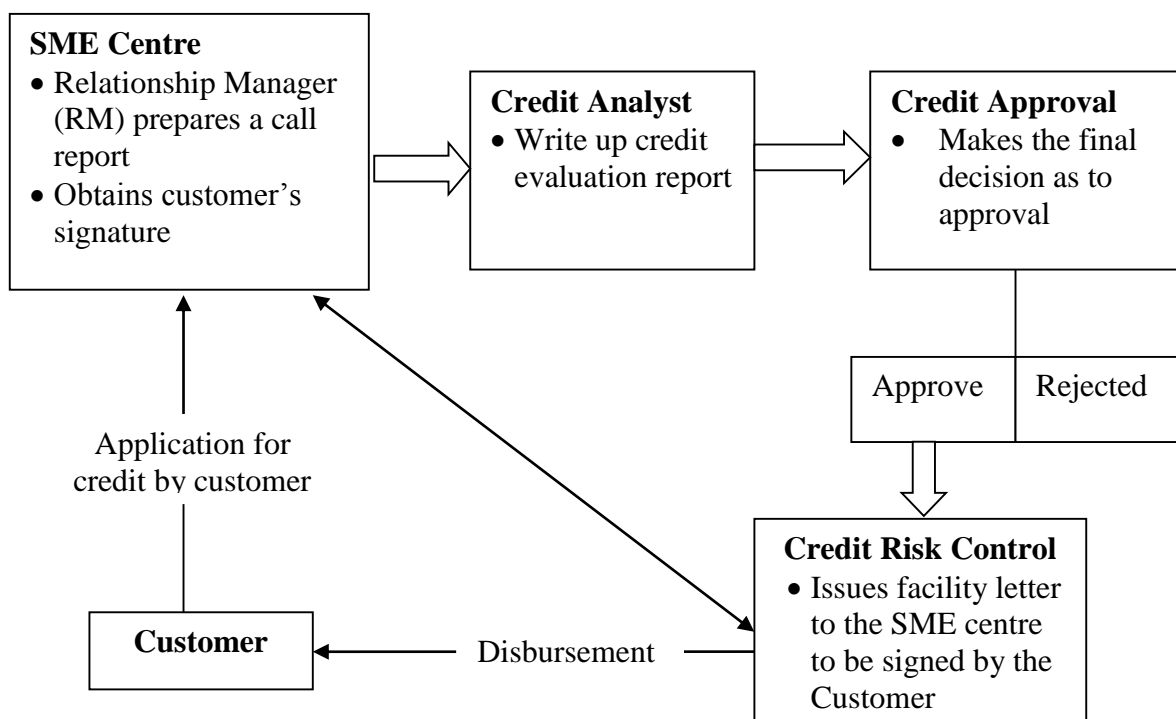


Figure 11: Credit Approval process for Ahantaman Rural Bank

Source: Field Survey, Mensah (2017)

From the diagram above, it is seen that credit applications, when received at any branch, are then forwarded to the SME centre. The Relationship Manager (RM) visits the customer and makes a call report. The RM also obtains all relevant

information and forwards it to the Credit Analyst who puts up credit paper and sent it to Credit approval team or evaluation. The approved application is forwarded to Credit Risk Control Unit where the offer letters are drafted and sent back to the RM for the customer to sign. After obtaining the signatories it is then sent to Credit Risk Control Unit again for disbursement and monitoring of subsequent repayments.

Credit Risk Mitigating Factors

Several precautionary measures have been adopted by the Lower Pra to mitigate the dangers involved in credit risk - to ensure that credit facilities granted do not turn out to be non-performing loans. These include credit monitoring; facility restructuring and flexibility of repayment schedules; monitoring clients' sales/revenue to prevent diversion of proceeds; borrower visitation and enforcement of collateral.

Credit Monitoring

The researcher after personally interviewing some credit staff of the banks had information as to how the CBs monitor their credit facilities from turning into bad debts. The following are some of the ways credit risks are mitigated through credit monitoring.

- i. The practising bank management is not relieved of the responsibility to ensure the existence and compliance with minimum credit standards.
- ii. Banking supervisors within the practising bank also dwell on the adequacy and efficiency of lending policies and organisation.

- iii. The statutory (external) auditor has a responsibility in its periodic audit of the lending institution in respect of
 - a. Review of the credit portfolio management as the core activity.
 - b. Expression of an opinion on efficacy and effectiveness of credit management by the executive management of the institution and the adequacy and efficiency of the lending policies of the organisation.
- iv. The internal auditor of the lending institution (the bank) in the discharge of his/her duties uses the continuous audit preventive, detective and remedial approaches in its credit monitoring perspective, covering;
 - a. Efficiency and effectiveness of the lending organisation
 - b. Discharge of credit duties under internal check and controls
 - c. Liquidity of the credit portfolio
 - d. Proper financing of the credit portfolio, etc.

Facility Restructuring and Flexible Repayment Schedule

A common practice by all the banks is that credit facilities are reviewed annually and during this review, the customer or the bank proposes a restructuring of the existing credit facility depending on the ability of the customer to meet repayments. Usually, overdraft facilities becoming hardcore are turned out into loans for specific tenor. Repayments are also normally restructured to incorporate terms like moratorium by deferring capital repayment of a loan for a specified

period of time (say 3 or 6 months) depending on the nature of the customer's cash flow projections. This gives a flexible repayment for customers and reduces default.

Monitoring Clients' Sales/Revenue to Prevent Diversion of Sales Proceeds

Financial institutions have to make sure that credit granted is used for the purpose it was borrowed. Where the borrower has utilized funds for purposes not shown in the original proposal, financial Institutions should take steps to determine the implications on creditworthiness. The rural banks in an attempt to prevent customers from diverting sales proceeds put in their offer letters a condition that sales proceeds are channelled through the customers' accounts held with the banks. The account turnover is then generated from time to time (usually 1 to 6 months) to monitor the sales trend. Other covenants such as quarterly management accounts, stocks and debtors ageing lists, guarantee utilization reports are required by the banks.

Borrower Visitation

Credit officers of the banks pay a periodic visit to their various customer's, especially delinquent ones. Call reports are then prepared on the performance of the customers' business and sent to the appropriate level of management for the necessary preventive actions to be taken.

Enforcement of Collateral

In extreme cases of persistence default, the banks would have no option but to resort to realising their security in the asset(s) pledged as collaterals for the credit facility. This usually takes the form of the bank's legal/recovery department initiating court proceedings to recover the amount due with interest and cost. When judgement is granted in favour of the bank, then the pledged asset(s) can be foreclosed or sold under the supervision of the court to defray the debt. It has been observed that this is an effective means of retrieving bad loans as many borrowers do not even wait for the court proceedings to end before paying their debts and then applying for settlement outside the court.

Chapter Summary

The study reveals that the three rural banks face similar risks in their credit lending business. The various risks considered include financial risk, account performance risk, management risk and collateral risk. Also, it was revealed from the field survey that the critical areas of credit evaluation by the three rural banks under study include the customer's account turnover, quality of the collateral, financial performance of the customer's business, quality of customer's management and the nature of the business. Furthermore, the main basis of lending for Lower Pra and Ahantaman Rural Bank is cash flow lending. Ahantaman Rural Bank Ghana, on the other hand, focuses on the asset-based lending. This implies

that FIASEMAN focuses on the quality of the collateral or security for the credit facility.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

In this chapter, the significant findings and the valuable information obtained or achieved by this study have been carefully summarized. The chapter by far is made up of the summary of the research, and the conclusion drawn from this research study. Also, significant recommendations for further studies were given from the analysis of the available data in this study.

Summary

The study was to assess the relationship between credit risk management and the performance of rural banks in the Sekondi Takoradi metropolis.

Specifically, the study seeks to;

1. evaluate the extent to which credit risk management practices affect the credit risk rating system of rural banks;
2. assess the major types of credit risk executed by rural banks in Sekondi Takoradi Metropolis;
3. assess the lending procedure/processes of rural banks in the Sekondi Takoradi Metropolis;

The study was a descriptive design of which the targeted population was the workers and management of Lower Pra Rural Bank (LPR), Ahantaman Rural Bank Ltd (ARB), Fiaseman Rural Bank (FRB). Thirty of respondents were chosen with

the aid of a census. Questionnaires and structured interview were the main data collection instruments.

Furthermore, the data were analyzed with the help of statistical software known as Statistical Product for Service Solution (SPSS version 21.0) and interpreted by using percentages and frequencies and presented by using tables, and charts using Excel 2013 version. On the other hand, the responses of the interviews were transcribed verbatim, coded into themes and discussed concurrently with the responses analysed from the questionnaire based on the research objectives.

Major findings

Types of Credit Risk safe by Rural Banks

The study reveals that the three rural banks face similar risks in their credit lending business. The various risks considered include financial risk, account performance risk, management risk and collateral risk. However, the level of seriousness attached to these types of risks at the various banks differed from one bank to another. Lower Pra attaches the most serious to financial risk; Ahantaman rural bank, on the other hand, considers account performance risk to be the most threatening risk in credit lending whilst with Fiaseman, Collateral risk is a very paramount credit risk for assessment. Overall, Account performance risk is the most important consideration to credit risk assessment by the rural banks in Ghana. This was followed by collateral risk and financial risk which are treated with the same

priority. The least important to credit risk assessment by the banks in Ghana is managing risk.

Critical Areas of Credit Evaluation

It was revealed from the field survey that the critical areas of credit evaluation by the three rural banks under study include the customer's account turnover, quality of the collateral, financial performance of the customer's business, quality of customer's management and the nature of the business. The most significant determinant of whether or not a customer's application for credit would be considered is the customer's account turnover. The quality of the collateral was also identified to be the second most important consideration to credit evaluation. Financial performance also helps the bank to determine the financial position of the customer so as to ascertain how the business is faring and was the third most important consideration. It was further observed that the quality of the customers' management and the natures of the business were not very important in credit evaluation. Once the banks were satisfied with the first three, the credit application could be approved

Basis of Lending

The Basis of lending refers to the main factor that credit approval hinges on. The main basis of lending for Lower Pra and Ahantaman Rural Bank is cash flow lending. Ahantaman Rural Bank Ghana, on the other hand, focuses on the

asset-based lending. This implies that FIASEMAN focuses on the quality of the collateral or security for the credit facility.

Credit Risk Mitigating Factors

The study also revealed that several precautionary measures have been adopted by the rural banks to mitigate the dangers involved in credit risk. There are well-structured credit policies and credit approval processes that credit officers must follow in order to approve credit for customers. These policies cover credit origination to retrieval. Lower Pra credit policy, for example, is aimed at maintaining acceptable credit standards by holding reasonable risk limits, evaluating new business opportunities, complying with regulatory requirements and providing adequate liquidity for the effective running of the bank. The ultimate goal of these credit policies is to ensure that the banks lend to the best customers who can repay so that credit facilities granted do not turn out to be non-performing loans. Other measures adopted by the banks to mitigate default include credit monitoring; facility restructuring and flexibility of repayment schedules; monitoring clients' sales/revenue to prevent diversion of proceeds; borrower visitation and enforcement of collateral

Conclusions

The descriptive study was well conducted through appropriate methodology and the following inferences were made over the findings based on the objectives of the study.

Lending is one of the main activities and the principal business for most rural banks in Ghana and other parts of the world. Loan portfolio is typically the largest asset and the largest source of revenue for banks. In view of the significant contribution of loans to the financial health of banks through interest income, they are considered the most valuable assets of banks. Notwithstanding its contribution to the sustenance of the bank, huge portions of banks' credit facilities usually go unrecovered and therefore affect the financial performance of these institutions. International and national regulations and guidelines, therefore, exist to regulate the way rural banks deal with the risk involved in credit lending so as to maximise their profitability. However, in practice, CBs have their own approaches to credit risk management. This study has explicated the credit risk management practices of three major rural banks in Takoradi. It has been revealed that, although the rural banks face similar risk in the credit environment, there is disparity as to the degree of importance attached to the various risk elements by the various banks. Moreover, each bank has its own credit philosophy, basis for lending and the critical areas of credit assessment. Furthermore, despite differences in credit policies, rural banks in Ghana adopt similar approaches to mitigating the risk involved in credit lending.

Recommendations

Based on the findings and conclusions drawn, the following suggestions are put geared toward ensuring effective credit risk management of rural banks so as to minimise losses and enhance the profitability of rural banking in Ghana;

1. Credit Application Management System (CAMS) is recommended to be adopted by all rural banks to provide basically two benefits to them: a permanent electronic record of credit applications and; prepares a paperless system for capturing credit applications. This system is currently used by Ahantaman Rural Bank which has improved its turnaround time (TAT) with less challenge after its implementation for 6 months.
2. The findings revealed that only Ahantaman Rural Bank has a separate unit within the credit department that handles finance lease facilities (Vehicle and Asset Financing – VAF) by people who are expert and have experience in the automobile industry. The study, therefore, recommends this to all lending institutions to consider and establish such a unit to handle their VAF product to minimise losses as a result of financing poor quality vehicles and machinery which end up in repayment defaults.
3. The excessive demand of covenants by CEM should be minimised since most of them are difficult to be met by the customers. In as much as it is important for the bank to cushion itself against unnecessary risk of default, it is also important that the terms of the credit should be flexible and customer friendly. This is because, at the end of the day if the covenants are

difficult to be met by the customer, it would aggravate the situation by serving as grounds for default.

4. Fiaseman and Ahantaman Rural Bank have recovery units that pursue all the Non-performing loans by using legal means to recover the default facilities. It is recommended that all other financial institutions which can afford should established collections unit to closely monitor and recover all problematic credit facilities.
5. Another factor worth recommending is that although collateral serves as secondary sources of repayment, because of culture of some societies like Western Region, sale of properties used as securities becomes difficult after even obtaining a court order. The findings revealed that residential buildings offer for sale since 2007 and 2008 have still not been bought. Therefore, credit decisions should be mostly based on viability, ability and willingness of the borrower (primary security).
6. The lending sector is one of the most dynamic sectors in the banking industry. There is, therefore, the need for rural banks to ensure that their staffs receive periodic on-the-job training so as to get themselves apprised of the new ways of doing things. It is admitted that this will apparently lead the bank to incur more expenditure but it is held that the benefits that will accrue from these training programs would improve staff efficiency and productivity and most importantly expose the bank to less risk.

Suggestions for Further studies

Other researchers can research on the effects of credit risk management on bank's performance. Moreover, mitigation factors of credit risk management among rural banks can also be researched since there were different mitigation factors among rural banks in managing credit risk.

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APPENDICES

APPENDIX I

QUESTIONNAIRE FOR RURAL BANKS

Dear Respondent,

This is a research questionnaire aimed at soliciting information on the topic **“Relationship between credit risk management and the performance of rural banks in the Takoradi metropolis - Case Study of Ahantaman Rural Bank Fiaseman Rural Bank and Lower Pra Rural Bank”**. Please be assured that any information provided herein is strictly for academic purpose and will be treated with the utmost confidentiality. You are therefore entreated to answer the questions as accurately as possible. Thank you.

Please complete this questionnaire by ticking (√) the applicable box or by providing the appropriate response in the spaces provided.

PART A: BIO-DATA OF RESPONDENTS

1. Gender: Male Female

2. Age: 20-30 years 31-40 years 41-50 years
 51-60 years

3. For how many years have you worked with this bank? Less than 2 years
 4-6 years 6-8years Over 8years

PART B: TYPES OF CREDIT RISK

4. Which of the following types of credit risk are assessed by your bank? Please tick as many as apply to your bank.

- A. Management Risk
- B. Financial Risk
- C. Collateral Risk
- D. Account Performance Risk
- E. Other (s) specify.....

5. Please indicate the degree of importance attached to the following risk types when performing risk assessment. Please mark your answer by ranking from (1) ‘very important’ to (5) ‘least unimportant’

Risk Type.	1 Very important	2 Important	3 Neutral	4 Less important	5 Least important
Management Risk					
Financial Risk					
Collateral Risk					
Account Performance Risk					

6. What major risk exposure is associated with lending off balance sheet credit facilities in your organisation?
7. Indicate which of the following types of risks in the credit environment is faced by your bank? Please tick the appropriate bracket(s)
- A. Performance []
 - B. Interest rate or pricing risk []
 - C. Legal []
 - D. Risk of fraud []
 - E. Credit risk in electronic banking []

PART C: SPECIFIC AREAS OF RISKS CRITICAL TO CREDIT EVALUATION MANAGEMENT.

8. Which industry(ies) does your bank frequently grant credit facilities? Please answer by ticking the appropriate bracket(s).
- A. Agricultural Sector []
 - B. Construction Industry []
 - C. Manufacturing Industry []
 - D. The Petroleum Industry []
 - E. Religious organisations []
 - F. Government Institutions []

9. Which of the following factors influence your willingness to grant credit facilities to customers? Please tick as many as applicable.
- A. Nature of the customers' business []
 - B. The quality of customers' Management []

- C. The customers' account turnover []
- D. Financial performance of the customer []
- E. Others (please specify)

10. What credit facilities are provided by your bank?

- F. Loan []
- G. Overdraft []
- H. Letters of credit []
- I. Bank Guarantee []
- A. Other (please specify)

11. In order of importance rank the bases of lending at your bank in taking credit decision. Rank from 1 – 3, where 1 is the most important and 3 is the least

Risk Area	Rank (1, 2, or 3)
Collateral risk (Asset based lending)	
Cash Flows (Cash Flow Lending)	
Management Behavioural (Clean Lending)	

PART D: CREDIT POLICY AND MITIGATING FACTORS.

12. Briefly state the major areas of credit policies of your bank.

.....

13. What credit model is mostly used by your bank?

.....

14. What preventive measures are used to ensure that credit facilities granted do not turn out to be Non-Performing Loans(NPLs)

.....

.....

APPENDIX II

INTERVIEW GUIDE

1. How do customers apply for credit in your bank?
2. What are your facility requirements for business loans?
3. Can you describe the system that credit application goes through from the time the customer submits the application till the final disbursement of the facility?
4. How do you monitor the credit disbursed to customers to make sure they do not turn to be non-performing loans?
5. What is the level of centralisation in your credit functions? Who is responsible for the final approval of credit disbursed? Does every application have to be sanctioned by the board of directors?
6. What is the staff strength of your credit department, in terms of educational qualification, experience, commitment to duty and motivation?
7. Who is responsible for ensuring the recovery of all credit disbursed? Do you have a credit recovery team to specifically deal with problematic loans?
8. What are your basics of credit rationing for both existing and prospective credit applicants?

9. Do you require collateral or other forms of security for every credit facility before approval is finally given? What are the specific requirements or criteria for approving these securities?
10. What are some of the specific areas of risk confronted by your bank in giving credit to your customers?
11. How do you deal with these risks?
12. What are some of the challenges faced by your bank in terms credit risk management?