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**CREDIT RISK MANAGEMENT IN GHANAIAN BANKS:**  
**A CASE STUDY OF SG-SSB LIMITED**

**BY**

**EDMUND BERTINO BAABEREYIR, BSC. LAND ECONOMY**

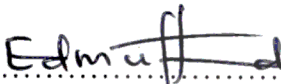
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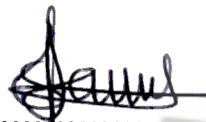
**COMMONWEALTH EXECUTIVE MASTERS OF BUSINESS  
ADMINISTRATION.**


**MAY, 2009**

## DECLARATION

I hereby declare that this submission is my own work towards the Commonwealth Executive Masters of Business Administration (CEMBA) and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

  
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## **DEDICATION**

This piece of work is dedicated to my family for their encouragement and support during the period of my study.

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## ACKNOWLEDGEMENTS

All praise and honour belong to God Almighty for his guidance, providence and kindness. My God is dependable, in Him; I derive fullness of life and satisfaction.

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This notwithstanding, I wish to state that I am responsible for all irregularities, omissions and commissions in the text.

Finally and above all, "TO GOD BE THE GLORY"



## ABSTRACT

Credit and its recovery is one of the most important functions that banks are required to carry out and the reward for credit risk is adequate interest income. The strict observance of established procedures in credit evaluation is essential if incidence of bad debt is to be avoided. Effective management of credit risk is critical to the survival, growth and long-term success of any banking institution.

The purpose of this study was to examine the effectiveness of credit risk management procedures in the Ghanaian Banking industry using SG-SSB Limited as a case study. Both primary and secondary data were used for analysis in the study. Primary information on credit management procedure used by the bank was obtained from officials of the credit department through questionnaire administration whereas the secondary data was mainly elicited from past financial statements of the bank.

The study revealed that though the bank has increased its loan portfolio, it has also taken steps to reduce the associated risk. The credit risk management procedure and techniques of SG-SSB Limited were rated as 'average' since the techniques employed require improvement considering the fact that the banking industry is evolving with higher levels of risk.

The study recommended that Banks in Ghana including SG-SSB Limited should adopt quantitative credit risk models that can calculate Probability of Default of counter parties. This will reduce the overdependence on the subjective judgement and expertise of their credit analysis team in the credit evaluation process.

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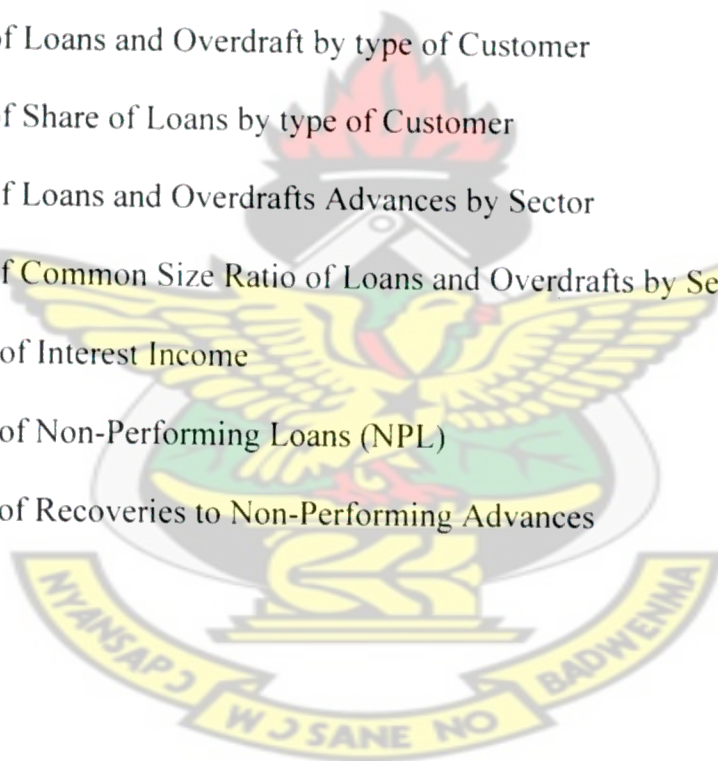
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# CHAPTER ONE

## GENERAL INTRODUCTION

### 1.1 Background of the Study

The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization. Credit risk is mostly defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. It arises whenever a borrower is expecting to use future cash flows to pay a current debt.

Credit risk is closely tied to the potential return of an investment, the most notable being that the yields on bonds correlate strongly to their perceived credit risk. The higher the perceived credit risk, the higher the rate of interest that investors will demand for lending their capital. Credit risks are calculated based on the borrowers' overall ability to repay. This calculation includes the borrowers' collateral assets, revenue-generating ability and taxing authority (such as for government and municipal bonds).

For financial institutions, the goal of credit risk management is to maximize their risk adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Among the risks that face banks, credit risk is of great concern to most bank authorities and banking regulators. This is because credit risk can easily and most likely cause bank failure (Achou & Tenguh, 2008). Adequate management of credit risk in banking institutions is therefore critical for their survival and growth.

This results from the reason that banks are in the business of safeguarding money and other valuables for their clients. Credit creation is the main income generating activity for banks and this activity involves huge risks to both the lender and the borrower. The risk of a trading partner not fulfilling his or her obligation as per the contract on due date or anytime thereafter could greatly jeopardize the continuous existence and the smooth functioning of the bank. This implies that a bank with high credit risk will have high bankruptcy risk that can in turn put the depositors in jeopardy.

In Ghana, credit risk management has received quite a significant attention by both the banks and their main regulator, the Bank of Ghana, for quite sometime. This makes a research about the credit risk management of Ghanaian banks a useful subject for study.

## **1.2 Statement of the Problem**

The introduction of the new Banking Act 2004, and results from the change in the monetary policy of the government (e.g., the reduction in the Public Sector Borrowing Requirement) and also changes in macro economic conditions such as inflation, interest rates and foreign exchange controls in the country have contributed the need for effective credit risk management in Ghanaian Banks, since banks can no longer hide from performing their major tasks of financial resource mobilization, lending and credit administration.

Most commercial banks in Ghana experienced bad loans on their credit portfolios prior to the introduction of the Financial Sector Adjustment Programme (FINSAP) of 1989.

All the public sector banks were rendered insolvent by non-performing assets and had to be restructured between 1989 and 1991 through FINSAP. As a result, until recently, the financial services sector took to stringent measures to reduce the problems and history of bad loans by creating a situation of credit non-availability, particularly during the last half of the 1990s when banks took solace in investing their funds in Government Treasury Bills and Bonds (risk-free high yield papers) which gave guaranteed and reasonable rates of return.

An analysis of the performance of the banking sector of the economy in 1989 clearly indicated that 24 percent of banks' assets were invested in safe investments (treasury bills) as against 12 percent in risky investments (credit). With the macroeconomic stability investment in treasury bills to total assets was 25.9 percent as against 44.6 percent in credit as of October 2006 (Annual Ghana Banking Awards, 2007).

With the current favourable government monetary policy, public sector borrowing from the banks has reduced considerably. This has caused the returns from treasury bills also to fall since the government borrows by selling treasury bills to the public. Banks therefore find it more profitable to lend to the private sector than to the public sector. In other words, banks prefer investing in credit to investing in treasury bills. However, investment in credit is riskier compared to investment in treasury bills. As a result, banks need to manage effectively this risk associated with credit creation.

Furthermore, the current emphasis on shareholder value and risk adjusted return on capital put pressure on banks to operate on business lines where all types of risks can



be managed well. It is therefore imperative that credit risk management needs to be robustly pursued to enable banks to proactively manage loan portfolios in order to minimize losses and earn an acceptable level of return for shareholders. This will help banks to perform their intermediation role as financial institutions more effectively and efficiently and be able to stand both the domestic and international competition and contribute to national development.

Thus, this study is designed to investigate credit risk management procedures followed by banks in Ghana with particular reference to SG-SSB Limited as they manage to perform their intermediation function.

### 1.3 Research Questions

The study addresses the following research questions:

- (i) What are the current credit risk management strategies and procedures followed by SG-SSB Limited?.
- (ii) What are the gaps in the existing credit risk management procedures of the bank?.
- (iii) What are the challenges facing banks in Ghana in the area of credit risk management?.
- (iv) How is an appropriate credit risk environment established?
- (v) How can a sound credit granting process be conducted?
- (vi) What is involved in maintaining an appropriate credit administration, and monitoring process?.
- (vii) How can adequate controls over credit risk be ensured?.

Although specific credit risk management practices may differ among banks depending upon the nature and complexity of their credit activities, a comprehensive credit risk management programme will address the questions above.

#### **1.4 Objectives of the Study**

The main objective of this study is to have a bigger picture of how banks manage their credit risk with particular reference to SG-SSB Limited's Loan Portfolio. Among other things, the study will focus on the following specific objectives:

- (i) Analyze credit risk management procedures followed in the Ghanaian banking industry with particular reference to SG-SSB Limited.
- (ii) To identify the problem areas and gaps if any in SG-SSB's credit management process with a view to improving the safety of the Bank's loan management process.
- (iii) To assess whether the bank's credit risk management exposure has increased since emphasis on lending is now on the private sector.
- (iv) To assess revenue earned from the bank's loan and overdrafts as compared to revenue from the other earning assets during the period under review.
- (v) To assess the trend in the Bank's loan portfolio for the period under review.



## 1.5 Significance of the Study

The relevance of the study is due to the fact that by mid 1980s most banks were carrying huge non-performing loans on their balance sheet and were heading towards collapse. The Government of Ghana had to step in to rescue them by initiating a Financial Sector Adjustment Programme (FINSAP) with the support of the World Bank.

Under the programme, large proportions of the non-performing loans were taken over by the Non-Performing Asset Recovery Trust (NPART) and replaced with interest bearing bonds issued by the Bank of Ghana. In addition, some of the banks were recapitalized, thus leaving them with a clean sheet to resume operations. Other measures introduced included the promulgation of a new banking law in 1989, PNDC Law 225 where banks among other things were tasked to improve their credit management procedure and techniques.

Since exposure to credit risk continues to be the leading source of problem in banks world-wide, banks and their supervisors should be able to draw useful lessons from past experiences. The study will therefore investigate the extent to which SG-SSB Limited has been able to draw useful lessons from past experiences and its awareness of the need to identify, measure, monitor and control credit risk as well as the determination to hold adequate capital against these risks and the compensation for risks incurred.

The study will therefore review the credit management procedures of SG-SSB Limited, highlight any weaknesses in its credit management functions and come out with recommendations. This study is important since non-performing advances portfolio over a period of time affects a bank's portfolio which can eventually lead to its collapse resulting in depositors losing their funds. Studies have shown that this was what happened in the case of Bank for Housing and Construction, Co-operative Bank and Bank for Credit and Commerce International. The collapse of a bank can affect the financial system of an economy since there will be loss of confidence in the Banks by the general public.

### **1.6 Scope of the Study**

Conceptually, this study finds out the credit risk management procedures followed by banks in Ghana. It includes a detailed discussion of the concept of credit risk management in the financial sector as well as an in-depth discussion of the nature and activities as well as the techniques of commercial banking in Ghana. The study is limited to the SG-SSB Limited in terms of actors and spatial coverage in line with the research philosophy and resource availability.

### **1.8 Structure of the Study**

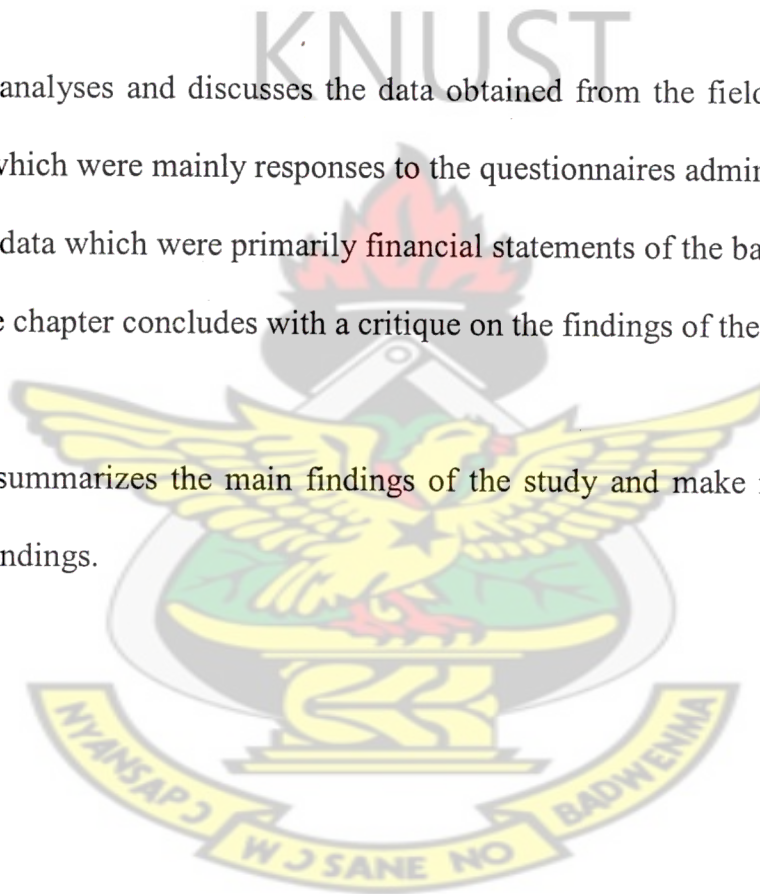
The study is organized into five chapters. Chapter one constitutes the general introduction of the study. This includes the background, objectives and significance of the study, problem statement, the scope of the study, structure of the study and its limitations.

Chapter two reviews literature on credit risk management procedures and techniques in the commercial banking industry in Ghana.

Chapter Three highlights briefly the history of SG-SSB Limited, which is the main focus of the study; its corporate mission and scope of activities. It also briefly highlights the organizational structure of the Bank's lending function, its lending policies and objectives, loan pricing procedures as well as the types of risks associated with lending. It finally specifies the methodology used for the study.

Chapter Four analyses and discusses the data obtained from the field. It discusses the primary data which were mainly responses to the questionnaires administered as well as the secondary data which were primarily financial statements of the bank for a period of five years. The chapter concludes with a critique on the findings of the study.

Chapter Five summarizes the main findings of the study and make recommendations based on the findings.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter gives a conceptual background of banking, and reviews the various literature on the subject of financial intermediation, the nature of banks, definition and the different types of risk in banking, as well as what and why risk management is essential in banking. Finally, the chapter ends with the essentials of effective credit risk management, which is the subject matter of this research.

#### 2.2 Risks in Banking

According to Oldfield and Santomero (1997), the risks associated with the provision of banking services differ by the type of service rendered. For the sector as a whole, however, the risks can be broken into six generic types: systematic or market risk, credit risk, counter party risk, liquidity risk, operational risk, and legal risks. Systematic or market risk is the risk of the asset value change associated with systematic factors. All investors assume this type of risk, whenever assets owned or claims issued can change in value as a result of broad economic factors. As such, systematic risk comes in many different forms. For the banking sector, however, two are of greatest concern, namely variation in the general level of interest rates and the relative value of currencies.

This is because the bank's dependence on these systematic factors is high as stated by Oldfield and Santomero (1997). Some banks therefore estimate the impact of these particular systematic risks on performance by hedging against them and thus limit the



sensitivity to variations in undiversified factors. Accordingly, most banks will track interest rate risk closely. At the same time, international banks with large currency positions closely monitor their foreign exchange risk and try to manage, as well as limit, their exposure to it.

Santomero (1997) further explains that in a similar fashion, some institutions with significant investments in one commodity such as oil, through their lending activity or geographical franchise, concern themselves with commodity price risk. Others with high single-industry concentrations may monitor specific industry concentration risk as well as the forces that affect the fortunes of the industry involved.

According to Bessis (2002), although credit risk is diversifiable, it is difficult to eliminate completely. This is because a portion of the default risk may, in fact, result from the systematic risk outlined above. 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. This is particularly true for banks that lend in local markets and ones that take on highly illiquid assets. In such cases, the credit risk is not easily transferred, and accurate estimates of loss are difficult to obtain.

Counter party risk comes from non-performance of a trading partner. The non-performance may arise from a counter party's refusal to perform due to an adverse price movement caused by systematic factors, or from some other political or legal constraint that was not anticipated by the principals. Diversification is the major tool for controlling non-systematic counter party risk. Counter party risk is like credit risk,

but it is generally viewed as a more transient financial risk associated with trading than standard creditor default risk. In addition, counter party's failure to settle a trade can arise from other factors beyond a credit problem as referred by Georges (2000).

As referred to by Pesaran et al (2005), liquidity risk can best be described as the risk of a funding crisis. While some would include the need to plan for growth and unexpected expansion of credit, the risk here is seen more correctly as the potential for a funding crisis. Such a situation would inevitably be associated with an unexpected event, such as a large charge off, loss of confidence, or a crisis of national population such as currency crisis. Recognizing liquidity risk leads the bank to recognize liquidity itself as an asset, and portfolio design in the face of liquidity concerns as a challenge.

Bessis (2002) and Saunders and Cornett (2003), see operational risk as associated with the problems of accurately processing, settling, and taking or making delivery on trades in exchange for cash. It also arises in record keeping, processing system failures and compliance with various regulations. As such, individual operating problems are small probability events for well-run organisations but they expose a firm to outcomes that may be quite costly. Operational Risk Management has lately become a core management in banking today (Banking World Magazine April, 2003)

According to Bessis (2002), legal risks are endemic in financial contracting and are separate from the legal ramifications of credit counter-party and operational risks. New statutes, tax legislation, court opinions and regulations can put formally well-established transactions into contention even when all parties have previously



performed adequately and are fully able to perform in the future. For example, environmental regulations have radically affected real estate values for older properties and imposed serious risks to lending institutions in the area.

Bessis (1998), goes on to identify a second type of legal risk, which arises from the activities of an institution's management or employees. Fraud, violations of regulations or laws, and other actions can lead to catastrophic loss, as recent examples Baring Bank collapse in the UK and Enron in the USA have demonstrated. These examples are also causes of multiple risks types discussed.

Other types of risks essential in banking and identified by Besis (1998) are country, solvency risks as well as systemic risk. Country risk is associated with the risk of incurring financial losses resulting from the inability and or/unwillingness of borrowers within a country to meet their obligations. Solvency risk relates to the risk of having insufficient capital to cover losses generated by all types of risks.

Systemic risk encompasses the risk that failure in one firm or in one segment of the market would trigger failure in segments of or throughout the entire financial markets. Systemic risk is perhaps the greatest challenge to supervisors and to financial markets. All financial institutions face these risks to some extent, and in one-way or the other. Non-principal or agency activity involves operational risk primarily, since institutions in this case do not own the underlying assets in which they trade, systematic, credit and counter party risk accrues directly to the asset holder. If the latter experiences a financial loss, however, legal recourse against an agent is often attempted. Therefore,

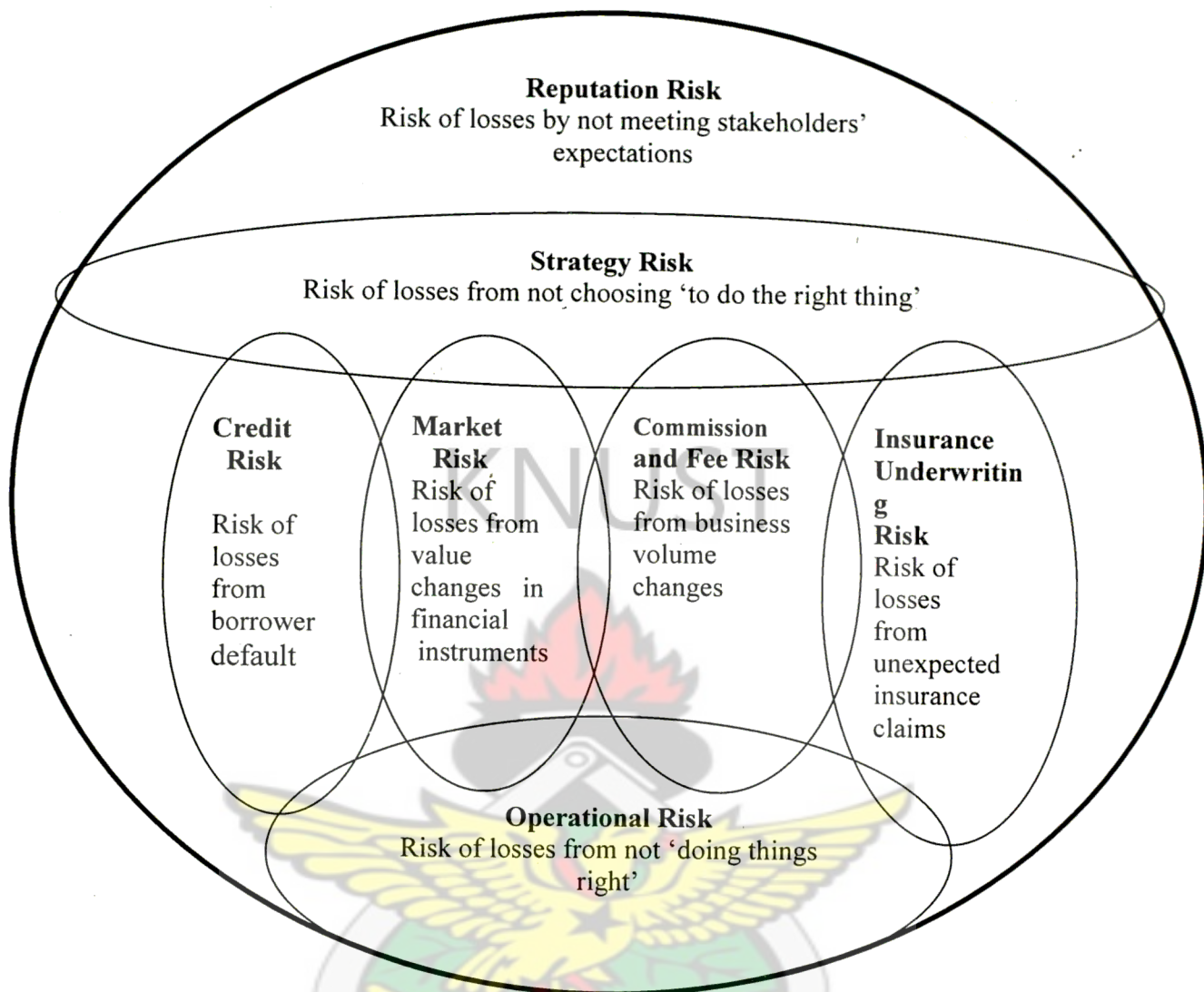
institutions engaged in some banking firms would also list regulatory and reputation risk in their set of concerns. Nonetheless, all would recognise the first four as key, and all would devote most of their risk management resources to constraining these key areas of exposure.

Our main interest centres on the businesses in which the bank participates as a principal i.e. as an intermediary. In these activities, principals must decide how much business to originate, how much to finance, how much to sell, and how much to contract to agents. In so doing, they should weigh both the return and the risk embedded in the portfolio.

Principals should measure the expected profit and evaluate the prudence of the various risks enumerated to be sure that the result achieves the stated goal of maximising shareholder value. Cummings and Hirtle (2001) argue that the risk of the whole may be greater than the sum of its parts, largely due to spill over effects from operational risk.

According to Saunders, and Cornett (2003), all the various types of risks are interrelated and overlap in functions. This overlap of risk is illustrated in Table 2.2. The practicalities of achieving integrated risk management are daunting and 'appear to have discouraged firms from adopting consolidated risk management'. (Cummings and Hirtle 2001). Once those risks management systems are in place, however, firms should expect to reap economies of scale in risk management (Flannery 2000).

Table 2.2 Overlaps between Risk Classes



Source: 2002 Centre for Financial Judge Institute of Management, University of Cambridge & Cambridge Systems Associates Ltd

### 2.3 Why do Banks manage these Risks at all?

It seems appropriate for any discussion of risk management procedures to begin with why these firms manage risk. According to standard economic theory as purported by Modigliani-Miller (1958), managers of value maximising firms ought to maximise expected profit without regard to the variability around its expected value. However,

there is a growing literature on the reasons for active risk management including the work of Stulz (1984), Smith, Smithson, and Welford (1990) and Froot, Sharfstein and Stein (1993) to name but a few of the more notable contributions.

Recent review of risks management reported in Santomero (1995) list dozens of contributions to the area and at least four distinct rationales offered for active risk management. These include managerial self-interest, the non-linearity of the tax structure, the costs of financial distress and the existence of capital market imperfections. Any one of these justifies the firms' concern over return variability as the above –cited authors demonstrate.

Thus far, this study would narrow discussions on Credit Risk Management, on which our main study is focussed. Below therefore are building blocks of Credit Risk Management from various literature, from which an attempt is made to introduce the essentials of Credit Risk Management.

#### **2.4 What is Credit Risk?**

Credit risk is the probability that a borrower will default on a commitment to repay financial obligations. Default occurs when the borrowers do not fulfil their obligations, such as making interest payments to bondholders or repaying bank loans. In the event of default, lenders, bondholders or banks suffer a loss because they will not receive the payments promised to them. Both business cycles and firm specific events influence credit risk. During economic expansions credit risk most often decreases because strong earnings keep default rates low. On the other hand, during economic



contractions the credit risk increases because the earnings go down and make it more difficult to repay loans or make bond payments. Firm specific credit risk is unrelated to business cycles. This type of risk arises due to actions specific to a firm's business activity or its industry.

## 2.5 Measures of Credit Risk

A common used measure of a firm's credit risk is the credit rating. This type of measure is useful when dividing companies according to their credit risk. Rating firms such as Moody's and Standard & Poor's make a credit rating for a company based on a firm's ability to meet scheduled interest and principal payments, its industry competition, and its view for the future. Credit ratings often range from AAA for a firm with the highest credit quality to CCC for a firm likely to default.

Another more quantitative measure of credit risk is the credit risk premium. For fixed income securities, the credit risk premium is the difference between the interest rate a firm pays when it borrows and the interest rate on a default free security for example a treasury bond. For floating rate securities, the premium is the difference between the interest rate a firm pays when it borrows and LIBOR. The premium is the compensation an investor requires for lending to a company that might default. When the firm's credit risk increases, bond investors and banks demand a higher risk premium. This increase is necessary to make up for the higher expected losses on the bond or loan from the increased probability that the loan will not be paid.

## **2.6 Who is affected by Credit Risk?**

Credit risk affects any party making or receiving a loan or a debt payment for example borrowers, bond investors and commercial banks.

### **2.6.1 Borrowers**

Credit risk affects borrowers because their cost of borrowing depends on their risk of default. A borrower who plans to issue debt faces that unanticipated events increase of the costs of borrowing. There are several examples of companies, which got a downgrade in credit rating and therefore increased its cost of borrowing. Even without a change in a company's firm specific credit risk, a downturn in the economy could raise the average credit risk premium and increase the cost of borrowing for all debt issuers.

### **2.6.2 Bond Investors**

Individual bond investors are exposed to the risk of a downgrade in the bond's credit rating. A downgrade will increase the bond's credit risk premium and hence reduce the value of the bond. Similarly, mutual funds that hold a portfolio of corporate bonds will be affected by fluctuations in the average credit risk premium. Increase in the premium reduce the price of the bonds and hurt the fund's total return

### **2.6.3 Commercial Banks**

Banks are exposed to the risk that borrowers will default on their loans. There are two reasons why the credit risk faced by banks is relatively high. First, banks limit their ability to diversify credit risks across borrowers because of that they tend to



concentrate their loans geographically or in particular industries. Second, credit risk is the prevail risk in loans made to businesses. A majority of bank loans have adjustable or floating rates, with the interest rate periodically reset to reflect changes in LIBOR. When the borrower rate reflects changes in LIBOR, movements in LIBOR pose little risk to banks. However, the credit risk return is typically fixed when the loan is made. If the borrower credit rating downgrades, its risk premium will rise. Lenders then suffer because the loan payments are inadequate to compensate for the higher risk.

## 2.7 Pricing Credit Derivatives

The ambition is to investigate different pricing methods in the market, but still, it is important to understand the structure of the pricing process. Below we present a implication how the price is set, both in a practical and in a historical academic way. Noticeable is nevertheless the fact that there is no well-accepted formula like the Black & Scholes model in the credit derivatives market, so these models can only work as a pedagogic tool to understand the fundamental pricing process of credit derivatives.

## 2.8 Practical Pricing

The compensation an investor receives for assuming a credit risk, which equals the premium that a hedger would need to pay to move a credit risk, should be linked to the size of the credit risk. The size of the credit risk depends on two factors.

- a) The likelihood of default
- b) The size of the payoff or loss following default (1-recovery rate)

We assume that the probability for a bond to default over the next year is  $p$  and the recovery rate if the bond default is  $R$ . Then we can get a formula for pricing a bond

named  $P$  as follows (where  $r$  is the one-year risk-free rate)

$$P = (1 + r)^{-1} (p \times 100 \times R + (1 - p) \times 100)$$

If the one-year probability of default is 0.50%, the recovery rate is assumed to be 40%, and the one-year risk free rate is 5%, the price of the bond is given by:

$$P = (1 + .1.05) (0.005 \times 100 \times 0.4 + 0.995 \times 100) = 94,95$$

Which is lower than the risk-free zero coupon bond price

$$P_{\text{risk-free}} = (100(1.05)^{-1} = 94,95$$

For the zero coupon bond, we define credit quality using the spread  $s$  as follows:

$$P = (100) (1+r) (1+s)$$

Using the above example, we find  $s=30, 1\text{bp}$

## 2.9 What is Credit Risk Management?

According to Morsman (1993), credit risk in banking 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 of 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. The real risk from credit is the deviation of portfolio performance from the expected value. Sound banking operations are characterised partly by having an overview of the risks which the bank's operations entail, and partly by the bank's earnings being in reasonable proportion to those risks.

Anderson et al (2000) explain that granting of credit is central to ordinary banking operations, and quite naturally this is the principal source of risks to which banks are exposed. That is why traditionally; banks' management of credit risk has been related to the credit assessment of individual customers. The basis for credit assessment is the customer's financial situation, which gives a picture of the customer's creditworthiness. A key issue for the bank is whether the customer has both the will and the ability to fulfil its obligations to the bank, i.e. to service the debt.

Credit risk management, is considered a strategic necessity for banks if they are to emphasise on shareholder value and risk adjusted return on capital. Diamond (1984), explains that financial market frictions such as moral hazard and adverse selection problems require banks to invest in private information that makes bank loan illiquid. Since these loans are illiquid and thus costly to trade, and because bank failure itself is costly when their loans incorporate private information, banks have an incentive to avoid failure through a variety of means, including holding a capital buffer of sufficient size, holding enough liquid assets and engaging in risk management.

Froot, Scharfstein and Stein (1993) and Froot and Stein (1998) present a rigorous theoretical analysis of how these frictions can affect non-functional firm's investment as well as banks' lending and risk-taking decisions. According to their model, active risk management can allow banks to hold less capital and to invest more aggressively in risky and illiquid loans.



## **2.10 Portfolio Theory and Traditional Method to Credit Risk Management**

Since the 1980s, banks have successfully applied modern portfolio theory (MPT) to market risk. Many banks are now using earnings at risk (EAR) and value at risk (VAR) models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk remains the largest risk facing most banks, the practical of MPT to credit has lagged (Margrabe, 2007).

Banks recognise how credit concentrations can adversely impact financial performance. As a result, a number of sophisticated institutions are actively pursuing quantitative approaches to credit risk measurement, while data problems remain an obstacle. This industry is also making significant progress toward developing tools that measure credit risk in a portfolio context. They are also using credit derivatives to transfer risk efficiently while preserving customer relationships. The combination of these two developments has precipitated vastly accelerated progress in managing credit risk in a portfolio context over the past several years.

### **2.10.1. Asset –by-Asset Approach**

Traditionally, banks have taken an asset-by-asset approach to credit risk management. While each bank's method varies, in general this approach involves periodically evaluating the credit quality of loans and other credit exposures, applying a credit risk rating, and aggregating the results of this analysis to identify a portfolios; expected losses. The foundation of the asset-by-asset approach is a sound loan review and internal credit risk rating system. A loan review and credit risk rating system enable management to identify changes in individual credits, or portfolio trends in a timely



manner. Based on the results of its problem loan identification, loan review, and credit risk rating system management can make necessary modifications to portfolio strategies or increase the supervision of credits in a timely manner.

### 2.10.2 Portfolio Approach

While the asset-by-asset approach is a critical component to managing credit risk, it does not provide a complete view of portfolio credit risk, where the term risk refers to the possibility that actual losses exceed expected losses. Therefore to gain greater insight into credit risk, banks increasingly look to complement the asset-by-asset approach with a quantitative portfolio review using a credit model.

Banks increasingly attempt to address the ability of the asset-by-asset approach to measure unexpected losses sufficiently by pursuing a portfolio approach. One weakness with the asset-by-asset approach is that it has difficulty identifying and measuring concentration. Concentration risk refers to additional portfolio risk resulting from increased exposure to a borrower, or to a group of correlated borrowers. Table 2.1 below summarises the strategies for reducing and coping with Portfolio credit risk.

**Table 2.1 Strategies for reducing and coping with Portfolio Credit Risk.**

Technique	Advantages	Disadvantages	Implication
Geographic Diversification	External shocks(climate, price , natural disasters, etc) are not likely to effect the entire portfolio if there is spatial diversification	If the country is small or the institution is capital constrained, it may not be able to apply this principle. It will become vulnerable to covariate risk, which is high in	

		agriculture	
Loan Limits (Rationing)	Size Prevents the institution from being vulnerable to non-performance on a few large loans.	Can be carried to the extreme where loan size does not fit the business needs of the client and results in suboptimal use and lower positive impact by client. Client could become dissatisfied.	Protects asset quality in the short-run but creates client retention problems in the long run. Inimical to relationship banking.
Over Collateralisation	Assures the institution that enough liquidation value will exist for foreclosed asset.	Excludes poor, low-income clients who are the vast majority of the market.	Not a recommended technique if goal is to better serve the low- and moderate income clients
Credit Insurance	Banks make clients purchase credit insurance. In event of default, bank collects from insurer.	Databases and credit bureaus may not exist to permit insurer to engage in this line of business in cost-effective manner.	
Portfolio Securitization	Lender bundles and sells loans to a third party. Transfers default risk and improves liquidity so that it can continue to lend. Allows lender to develop expertise in analyzing creditworthiness in one sector or niche.	Requires well documented loans and long time series of performance data to permit ratings and reliable construction of financial projections	Requires a well developed secondary market, standardized underwriting practices, and existence of rating companies.

Source: Publication of the Inter-American Development Bank, May 2007

### 2.11 Traditional Approach

It is hard to differentiate between the traditional approach and the new approaches since many of the ideas of traditional models are used in the new models. The traditional approach is comprised of four classes of models.

### **2.11.1. Expert Systems**

In the expert system, the credit decision is left in the hands of the branch lending officer. His expertise, judgment, and weighing of certain factors are the most important determinants in the decision to grant loans, the loan officer can examine as many points as possible but must include the five 'Cs'. These are; character, credibility, capital, collateral and cycle (economic conditions) in addition to the 5 Cs, and expert may also take into consideration the interest rate.

### **2.11.2 Artificial Neural Networks**

Due to the time consuming nature and error –prone nature of the computerized expertise system, many systems use induction to infer the human expert's decision process. The artificial neural networks have been proposed as solutions to the problems of the expert system. This system simulates the human learning process. It learns the nature of the relationship between inputs and outputs by repeatedly sampling inputs/outputs information.

### **2.11.3 Internal Rating at Banks**

Over the years, banks have subdivided the pass/ performing rating category, for example at each time, there is always a probability that some pass or performing loans will go into default , and that reserves should be held against such loans.

### **2.11.4. Credit Scoring Systems**

A credit score is a number that is based on a statistical analysis of a borrower's credit report, and is used to represent the creditworthiness of that person. A credit score is



primarily based on credit report information. Lenders, such as banks use credit scores to evaluate the potential risk posed by giving loans to consumers and to mitigate losses due to bad debt. Using credit scores, financial institutions determine who are the most qualified for a loan, at what rate of interest, and to what credit limits (Wikipedia, 2008)

## **2.12 Supervisory Authority of Bank Credit Risk Management**

The Bank of International Settlement (BIS) on November 28<sup>th</sup> 2005 in a press release issued a series of ten principles on **Sound Credit Risk Management and Valuation for loans:**

**Principle 1:** The bank's board of directors and senior management are responsible for ensuring that the banks have appropriate credit risk assessment processes and effective internal controls to consistently determine provisions for loans losses in accordance with the bank's stated policies and procedures, the applicable accounting framework and supervisory guidance commensurate with the size, nature and complexity of the bank's lending operations.

**Principle 2:** Banks should have a system in place to reliably classify loans on the basis of credit risk.

**Principle 3:** A bank's policies should appropriately address validation of any internal credit risk assessment models.

**Principle 4:** A bank should adopt and document a sound loan loss methodology, which address risk assessment policies, procedures and controls, for assessing credit risk, identifying problem loans and determining loan provisions in a timely manner.

**Principle 5:** A bank's aggregate amount of individual and collectively assessed loan provisions should be adequate to absorb estimated credit losses in the loan portfolio.



**Principle 6:** A bank's use of experienced credit judgment and reasonable estimates are an essential part of the recognition and measurement of loan losses.

**Principle 7:** A bank's credit risk assessment process for loans should provide the bank with the necessary tools, procedures and observable data to use for credit risk assessment purposes, account for impairment of loans and the determination of regulatory capital requirements.

**Principle 8:** Banking supervisors should periodically evaluate the effectiveness of a bank's credit risk policies and practices for assessing loan quality.

**Principle 9:** Banking supervisors should be satisfied with the methods employed by a bank to calculate loan loss provisions produce a reasonable and prudent measurement of estimated credit losses in the loan portfolio that are recognized in a timely manner.

**Principle 10:** Banking supervisors should consider credit risk assessment and valuation practices when assessing a bank's capital adequacy.

### 2.13 Managing Credit Risk Using Financial Ratios

Ratio analysis (financial and accounting ratios) is a measurement system to analyse the strength, weakness, opportunity and threats (SWOT Analysis) of a financial institution.

Table 2.2 depicts some of the frequently used ratios in credit analysis.

**Table 2.2: Frequently Used Ratios in Credit Analysis**

Category	Ratio
Operating performance	Earnings before interest, taxes, depreciation and amortization (EBITDA) / Sales Net Income/Sales Net Income/Net Worth Sales/Fixed Assets

Debit Service Coverage	EBITDA/Interest payment > 1.5 Free Cash-flow expenditure /Interest payments Free Cash-flow expenditures-dividend/ Interest
Financial Leverage	Long-term debt/ Capitalization Long-term debt/ Tangible net Worth Total Liabilities / Tangibles net Worth Current liabilities/ Tangible net Worth
Liquidity	Current ratio(current asset/current liabilities) Quick ratio(current assets-invent-inventory/current liabilities) Inventory turnover( inventory/ Net /Sales Inventory to Net working capital Current debt to Inventory Raw materials, WIP, and finished goods as a percentage of total inventory
Receivables	Aging of receivables: 30, 60, 90, 90+ days Average collecting period

Source: Caoutte, et al., 1998

## 2.14 General Issues in Credit Risk Modelling

According to Lopez, and Saidenbery (1999), the field of credit risk modelling has developed rapidly over the past few years to become key component in the risk management system in financial institutions. Cebenoyan and Strahan (2004) further confirm that in recent years, risk management at banks has come under increasing scrutiny. As a result banks and bank consultants have attempted to sell sophisticated credit risk management systems that can account for borrower risk( e.g. rating), and , perhaps more importantly, the risk reducing benefits of diversification across borrowers in a large portfolio. Regulators have even begun to consider using banks' internal credit models to devise capital adequacy standards.

In fact, several financial institutions and consulting firms are actively marketing their credit risk models to other institutions. In essence, such models permit the user to

measure the credit risk present in their asset portfolios. This information can be directly incorporated into many components of the user's credit portfolio management, such as pricing loans, setting concentrated limits and measuring risk adjusted profitability.

As summarised by the American Federal Reserve System Task Force (FRSTF 1998) on Internal Credit Risk Models, and the Basel Committee on Banking Supervision (BCBS, 1999), there exists a wide variety of credit risk models that differ in their fundamental assumptions such as their definition of losses as loan defaults, while mark-to market or multi-state models define credit losses as ratings migration of any magnitude. However, the common purpose of these models is to forecast the probability distribution function of losses that may arise from a bank's credit portfolio.

The ability of banks to measure credit risk clearly has the potential to greatly improve risk management capabilities. With the forecasted credit loss distribution in hand, the user can decide how best to manage the credit risk in a portfolio, such as by setting aside the appropriate loan loss reserves or by selling loans to reduce risk.

Andersen et al (2000) explain that to a greater degree the use of credit risk models will enable the banks to undertake portfolio management, which takes due account of the varying impact of business cycles on lending. Moreover the models will make it possible to assess risk and earnings, for each loan thereby ensuring an appropriate trade-off between yield and the risk assumed by the bank, not only for the individual



loans, but also in relation to the rest of the loan portfolio.

It is important to note, however, that the banks' credit decisions to grant credit will continue to depend on an assessment of the actual risk that an exposure entails. As in traditional credit assessment, the basis for a credit model is to determine the risk and earnings on each credit exposure. However, in a credit model it is not sufficient to estimate earnings and risk on the basis of qualitative groupings. On the contrary, exact measures must be set for each individual exposure.

As in the case of risk assessment of each credit exposure, the use of a credit model implies that the correlation can be quantified in terms of exact correlation data. It is thus not enough merely to have a general overview of the correlations between the various types of loans. Instead, there must be an exact statistical measure of the links to all other types of loans in the credit portfolio.

For both an individual loan and credit portfolio the credit risk is quantified by evaluating two central parameters: the expected loss and the unexpected loss. The expected loss (EL) indicates the expected level of the credit loss on the loan /credit portfolio. In principle, EL is not a part of the risk, but can be perceived as a cost. The actual risk on the other hand, comprises the unexpected loss (UL). UL thus expresses the scale of the loss in more extreme circumstances, i.e. in situations where the development is not as expected. It must be possible to cover such losses from the bank's own funds.



## **2.15 Essentials of Effective Credit Risk Management in Banking**

Basel II Accord identifies that effective credit risk management is a critical component of a bank's overall risk management strategy and is essential to the long-term success of any banking organisation. Overall, the components of effective credit risk comprise.

- (vi) active Board and Senior management oversight
- (vii) sufficient policies, procedures and limits
- (viii) adequate risk measurement, monitoring
- (ix) management information systems
- (x) and comprehensive internal controls

## **2.16 Regulatory Framework for Banking Operations in Ghana**

The main legal and regulatory framework for bank lending and credit risk management in Ghana during this period of study is provided by the Banking Law 2004, as amended by the Banking (Amendment) Act 2007 (Act 738) which imposes a minimum paid up capital requirements of GH¢2.5 million and GH¢7 million for commercial and universal banks respectively.

The Bank of Ghana has recently reviewed the minimum capital for obtaining class 1 banking license (universal banking) to GH¢60 million. Existing banks with foreign majority share ownership are to attain the minimum capitalization by December 31, 2009, while banks with local majority share ownership are expected to attain a capitalization rate of at least GH¢25 million by the end of 2010 and GH¢60 million by 2012.

The Banking Law sets a minimum capital adequacy ratio of 10% of adjusted risk assets and requires banks to maintain reserve funds with transfers out of annual profits. The Law also gives the Bank of Ghana the authority to prescribe minimum liquid asset ratios. In addition, the 2004 Banking Law stipulates exposure limits for secured credits or guarantees to a single customer of 25% of the bank's net worth, and unsecured credits or guarantees of 10% of net worth.

To restrict insider lending, exposure to customers with links to the bank's own directors is limited to a maximum of 2% of net worth for secured facilities and 3% of net worth for unsecured facilities. Banks can not advance credit against the security of their own shares or directly engage in non-banking business, and the Banking Law restricts equity investments and loans, which banks can extend to subsidiary companies.

The Banking Law gives the Bank of Ghana authority to take action against a bank, which it believes may be unable to meet its obligations to depositors, or is not acting in the best interests of depositors and creditors. Punitive actions available to the Bank of Ghana include prohibiting acceptance of fresh deposits, assuming control of the bank or revoking the bank's license. A standardized accounting system for the banks, which includes explicit criteria for the classification of loans, provisioning for non-performing assets and the non-accrual of unpaid income, has been introduced.

To facilitate offsite supervision, banks are required to submit to the Bank of Ghana, a variety of statistical data at regular intervals, including data on large exposures, non

performing loans and connected lending. The banks are generally complying with the reporting requirements, although reports are not always submitted on time.

The Bank Supervision Department (BSD) of the Bank of Ghana has been strengthened, with staffing levels more than doubled and supervisory skills upgraded through training. Regular on site examinations are now taking place in line with the requirements of the Banking Law, which stipulates that the Bank of Ghana must examine each bank at least once a year. Bank Examinations are able to investigate the accuracy of the banks' report to the Bank of Ghana, including the veracity of their loan classification. Supervisors claim that they are under no government pressure to regulate the government owned banks less stringently.

While the reforms are likely to have considerably improved banking regulation and supervision in Ghana, how effective the prudential system has become is probably too early to evaluate. The banking system during this period is not going to be easy to supervise for two reasons.

Firstly, because the reserve requirement has come down considerably, and the fact that the government and Bank of Ghana security yields are relatively low, all of the banks have adopted an aggressive strategy in their asset management. This means that the bank lending and other risk assets will form a big share of their total portfolios (advances averaged 39% at 2005 end as compared to only 20% of the banks' total assets in 1994)



Secondly, the number of banks which the Bank of Ghana has to supervise, has grown to 26, and newer ones are still coming on board. During 1991-1994 there were only 14 banks operating in Ghana. The regulators have been faced with a rapid expansion of private sector banks, as occurred in Kenya, Nigeria and Zambia, which, given the experience in these countries, would be more vulnerable to financial distress and would require intensive supervision. Hence, Bank of Ghana's supervision is very stringent.

It is possible that financial fragility in the banking system will increase. New entrants into banking markets, the growth of NBFIs, and the privatization of public sector banks are likely to increase competition and squeeze interest rate, and hence profit margins.

Again, if interest rates on government securities continue to decline, as would happen when the fiscal position improvement remain steady, the banks will have to hold a larger share of risk assets in their portfolios to maintain earnings. Most of the prime borrowers in the economy are likely to bank with the well-established banks, especially those with strong foreign connections. This leaves the new entrants among the banks, NBFIs and possibly the weaker public sector banks, to service the least creditworthy segments of the credit market, as has happened in other countries in Africa such as Kenya.

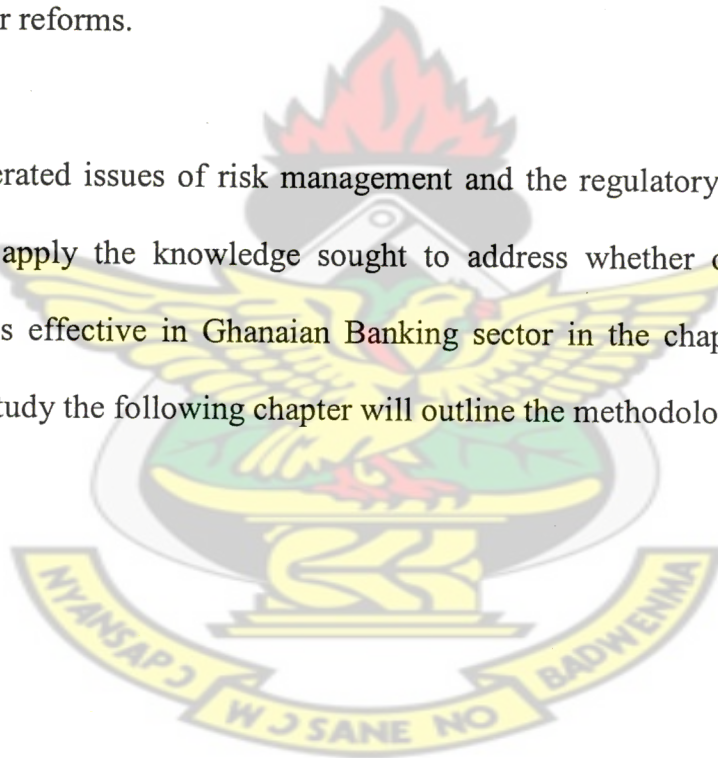
The liberalization of controls over interest rates and credit allocation together with the adoption of a more commercially oriented approach to lending by the banks should



enhance the efficiency of credit allocation; i.e. enable banks to direct credit towards those borrowers capable of generating the highest rates of return. It is likely that credit allocation has improved-the reduction in the level of banks' Non Performing Assets (NPAs) suggests that banks are generally avoiding lending to commercially unviable projects. This could probably be due more to the institutional reforms undertaken by the public sector banks than by liberalization of administrative controls.

The main constraint to an increase in the efficiency of credit allocation by the banks has been macroeconomic instability, as in several other African countries undertaking financial sector reforms.

Having enumerated issues of risk management and the regulatory framework so far, we will now apply the knowledge sought to address whether or not Credit Risk Management is effective in Ghanaian Banking sector in the chapters to follow. To conduct, this study the following chapter will outline the methodology adopted.



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## **CHAPTER THREE**

### **BACKGROUND OF THE STUDY AREA AND METHODOLOGY**

#### **3.1 Introduction**

This chapter is organized into two parts. The first part considers the profile of SG-SSB Limited. It basically looks at its history and corporate mission as well as the credit system. The second part looks at the actual methodology. It looks at the sources of data, data analysis and presentation, sampling design and technique.

#### **3.2 SG-SSB Limited as the Case Study**

##### **3.2.1 Brief History of SG-SSB Limited**

SG-SSB Ltd was formed through the acquisition of SSB Bank by Société Générale. The integration of SSB Bank within Société Générale's international network enables SSB Bank to strengthen its position in the Ghanaian financial industry.

The Bank is represented in every region in Ghana with 36 fully-networked branches. The Bank has a very strong representation in the Western Region with eleven branches to provide financial support to the cocoa growing areas.

The competitive advantage of the bank is manifested through its values of Professionalism, Team Spirit and Innovation. It also pursues a balanced growth strategy for its deposits, credits, retail and corporate services based on a strong network of its branches.

### **3.2.2 Corporate Mission of the Bank**

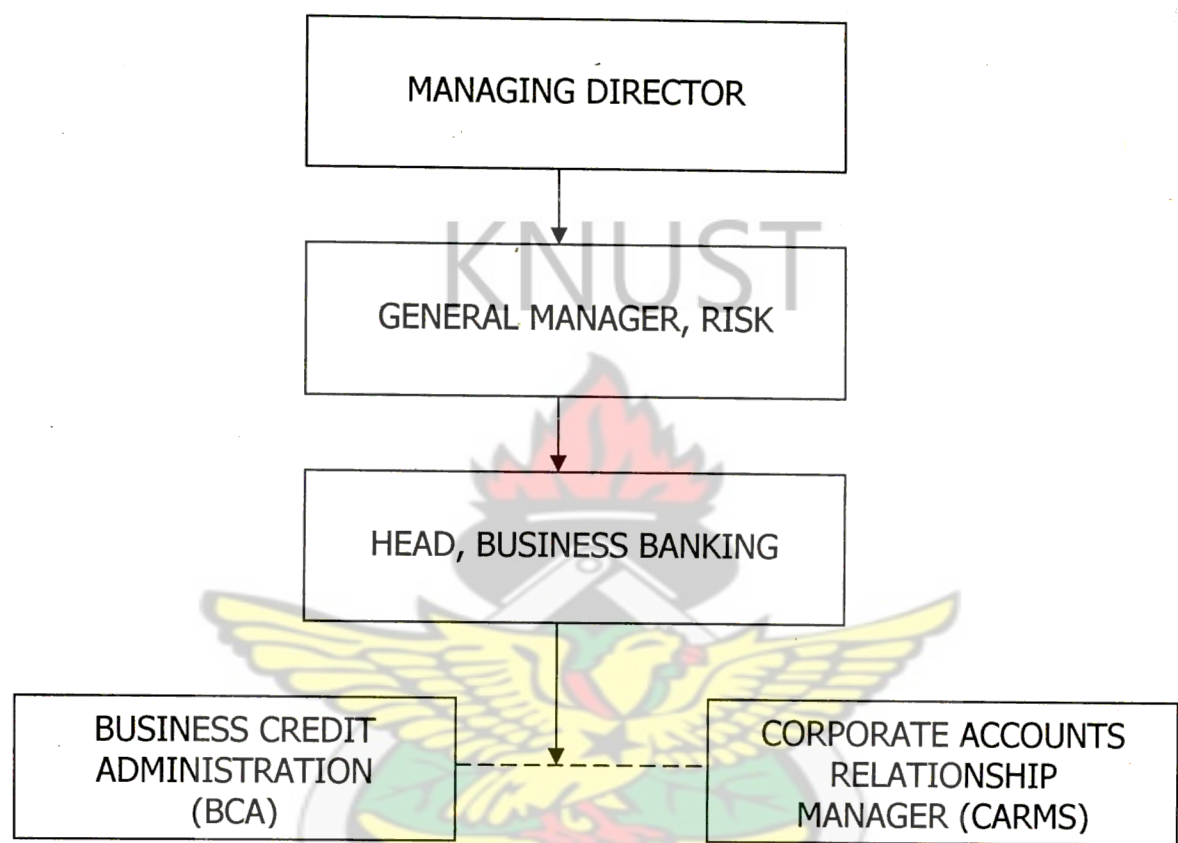
The mission of SG-SSB is to create the preferred banking institution, which employs professionalism, teamwork and innovation to provide quality products and services that best satisfy the needs of its customers. To achieve this, values that relate to the mission have been made clear. These are:

- Aiming for enhanced shareholder value
- Focusing on quality
- Rewarding success
- Identifying with the group network
- Commitment to local communities and
- Achieving excellence

### **3.2.3 The Credit Department of SG-SSB Limited**

The primary function of the credit department is to evaluate the credit worthiness and repayment ability of borrowers. The department is also responsible for facility review, monitoring and collection of overdue facilities. SG-SSB Limited's business is organized under the Corporate Banking Department. This department consists of Corporate Account Relationship Managers (CARMS), and the Business Credit Administration Unit. The CARMS manages and supervises the accounts of corporate customers of the Bank.

Account Management is relationship management concept. Every corporate customer of the bank has an account manager who monitors all transactions concerning the account. The manager reports to a General Manager. The structure of the department is shown in Figure 3.1 below:



**Figure 3.1 The Structure of the Credit Department of SG-SSB Limited**

**3.2.4 Credit Policy of the Bank**

The credit policy reflects the bank’s lending culture including its priorities specifying focus to the bank lending activities. To ensure that such direction is unambiguous and is communicated to all concerned the policy is written in the form of a document. The credit policy objective of SG-SSB Limited is to provide credit to its clients who constitute its target market and fall within its risk asset acceptance criteria. The banks’



products are tailored to meet the needs of its clientele.

The bank's policy therefore aims at identifying a viable and sustainable target market and developing relevant and acceptable products. It also aims at giving needed financing to businesses to promote the expansion of the productive sectors of the economy as well as to provide quality advances that will generate the required returns to ensure profitability and long term survival of the bank.

### **3.2.5 Credit Facilities offered by the Bank**

The financing activities of the bank can be categorized into two namely, funds based and non-funds based. The funds based are mainly short term in the form of overdrafts and loans. A few medium term loans are also granted. The non-funds based facilities (contingent liabilities) are guarantees, bonds and letters of credit. Beneficiaries of these facilities include individuals, private and state owned companies. The facilities are made available to the manufacturing, construction, commerce, mining, transport and services sectors of the economy.

### **3.2.6 Source of Funds for the Bank's Credit**

The main source of funds for the bank's credit is its deposits. These deposits are held in demand deposits (current and call accounts), fixed deposits, time deposits and certificates of deposits which are of short term maturity. Demand deposits and time increased throughout the five year period resulting in an increase in total deposits. The volume of deposits determines how much funds is available to the Bank to lend.

### **3.2.7 Facility Pricing**

The bank prices its credit facilities based on several factors among which are the following;

- The cost of funds
- The risk complexion of the transaction
- Interest rate as charged by competitors
- Other banking relationship with the borrowers

The pricing of credit facilities at SG-SSB Limited is the responsibility of the Assets and Liabilities Committee. The committee determines the lending rates by taking into consideration the bank's cost of funds. Key customers however, are able to negotiate for lower rates. The rates are reviewed regularly and reflect changes in the interest rate regime.

### **3.2.8 Commission and Fees**

A facility fee of 1.5% of the amount approved is charged for processing credit applications. A commission of 1% per quarter is charged on off-balance sheet exposures such as guarantees and bonds. Letters of credit attract 1.5%.

### **3.2.9 The Credit Analysis Procedure**

The credit analysis procedure attempts to assess the feasibility of credit requests making use of the Cs' of credit management. The purpose of credit analysis is to determine a borrower's credit risk so that a decision could be made as to whether a credit facility should be granted or not. It also provides an input regarding the pricing

of the facility and the setting of terms and conditions. The five Cs are as follows;

- Character
- Capacity (cash flow)
- Capital (wealth)
- Collateral (security)
- Conditions

#### **(i) Character**

Good citizens are ready to repay their debts. Character analysis suggests determining a borrower's willingness to repay debts. The three main sources of information are:

- Borrowers past credit history
- Character references (conducting opinion from other banks)
- A credit analysis judgment of the borrower's character based upon a face to face interview.

Since willingness to pay is difficult to quantify and judge, in cases where character is not easily discernible credit analysis takes into consideration a borrower's audited financial statements.

#### **(ii) Capacity**

Capacity to pay can be measured by the borrower's take home pay in the case of individuals and after tax profits or cash flows statements in the case of companies.

#### **(iii) Capital**

Capital can be measured by the borrower's net worth position

#### **(iv) Collateral**

Collateral can be evaluated by the quality of assets the borrower is willing to pledge as a security for the credit facility.

#### **(v) Conditions**

Economic conditions are designed to measure a borrower's vulnerability to changes in the economic environment.

### **3.2.10 The Credit Appraisal Procedures of the Bank**

#### **3.2.10.1 Application Processing**

All applications from customers for facilities are submitted in writing to the bank. The contents of the application letter must include the type of facility, amount, and term of facility, the purpose of the facility, repayment terms and the details of the security to be offered. When the application is received, it is sent to the Corporate Banking Department and referred to the Appropriate Corporate Account Relationship Manager to begin the credit assessment process.

#### **3.2.10.2 Interviews**

The Corporate Account Relationship Manager interviews the customer about his request. It is expected that through the interview the Account Manager will elicit more useful information to determine whether or not the application is worth submitting a proposal for consideration. If satisfied, the Account Manager initiates the credit appraisal process which covers the analysis and recommendations of customer's application.



### **3.2.10.3 Non-Financial Analysis**

The appraisal process undertaken by the Credit Department considers information that contains details of the borrowing Company's background such as:

- Date of Incorporation
- Date of commencement of Business
- Nature of business the company is authorised to undertake
- Shareholding structure
- Directors of the Company
- Management Team

The above is necessary since it gives an idea about the history of the company as well as the quality of the company's management.

### **3.2.10.4 Financial Analysis**

The Business Credit Department carries out a detailed comparative analysis of three years audited financial statements of borrowers by calculating various financial ratios and interpreting them. Projected cash flows statements covering the repayment period is also analysed. Key financial ratios calculated are detailed below:

- Liquidity Ratios
- Profitability Ratios
- Efficiency Ratios
- Leverage Ratio

### **3.2.11 Evaluation of Account Performance**

After the financial analysis, the Account Manager comments on the customer's account performance. This entails whether credit facilities granted to the customer

were repaid on schedule, the credit turnover of the customer and revenue obtained.

### **3.2.12 Evaluation of Security**

The Account Manager must ensure that the customer has adequate security in place to secure the facility. Types of security accepted by the bank include;

#### **(i) Legal Mortgage**

In respect of landed property, it is only legal mortgage which is permissible to be used to secure facilities of the bank under the Mortgage Decree 1972 (NCRD 96). When a property is being proposed as security, the bank takes possession of the title deeds. The title deeds are then forwarded to the Legal Department of the bank to conduct a search at the Lands Commission to ensure that it is not encumbered. At the same time, the bank's certified valuer is notified for a valuation report on the property. If it is a lease property the Legal Department ensures that the ground rent has been paid up to date.

A certificate confirming that the person named in the documents has valid title to the property and a valuation report are required before an application is recommended for.

#### **(ii) Debentures**

In respect of debentures, the bank takes a fixed and floating charge of the Company's assets.

#### **(iii) Deed of Hypothecation**

A letter of hypothecation may be "general" to cover all transactions with a customer or 'specific' to cover a single transaction. By a letter of hypothecation, documents of title

to goods may be pledged as security for a facility. It confers on the bank the power to sell the goods and to insure it and warehouse them at the customer's expense. The bank is also empowered to apply the proceeds of any goods sold in repayment of the customer's facility.

If it becomes necessary that the customer must sell the goods to repay the facility, the bank would release the documents of title to the customer against a 'trust receipt'. By this, the customer acknowledges the receipt of the documents of title, agrees to hold the goods in trust for the bank and undertakes to pay the proceeds of sale to the bank.

- (iv) Liquid securities such as treasury bills, fixed deposits, certificate of deposits and cash balances are also accepted as security. The bank takes a lien on them and the customer is requested to sign a lien form.
- (v) Contract proceeds are also assigned to the bank when contractors are given credit facilities.

### **3.2.13 Strengths, Weakness, Opportunities and Threats (SWOT)**

The Credit Department does a SWOT analysis bringing out the strengths and weaknesses of the company as well as any opportunity and threats that may arise.

### **3.2.14 Recommendations**

After the credit application has been received the Account Manager comes out with a recommendation as to whether the facility should be granted or not. The credit application is signed by the Account Manager and the Manager for Corporate Banking

and it is forwarded to the appropriate approving authority for consideration.

### **3.2.15 The Credit Approval Process**

The bank operates a structured credit approval process which is specified in the credit policy manual. The size of the proposed credit facility determines the level at which the credit approval must be obtained. The board of directors has delegated credit approval authority to the Managing Director, the Credit Committee and the Loans and Investment Committee. The Managing Director's limit is restricted to 7.5% of total shareholder's funds. The Credit Committee is limited to 20% of shareholders funds and the Loans Investment Committee is empowered to deal with amount in excess of 20% of shareholders funds. The Credit Committee meets twice in a month and the Loans and Investment Committee meets once a month. Credit exposure no matter the approval authority shall be reported to the Board at its sitting. In the case of credit approval by the Managing Director it shall in the first instance be reported to the Credit Committee.

### **3.2.16 Pre-Disbursement Conditions**

After an application has been considered and approved by the appropriate approving authority, the Account Manager informs the customer in writing. The terms and conditions under which the facility is granted are stated in the letter. The facility will not be put at the disposal of the customer until the terms and conditions under which it is approved have been fully met.



The Legal Department prepares a deed of mortgage for execution by the customer if the security proposed is a landed property. The property has to be insured against all risk and the bank's interest noted as loss payee. After the customer has executed the mortgage documents, it is registered and stamped at the Lands Registry. Where the security is a debenture, the Legal Department processes the documents in a similar way as the legal mortgage. Where it is a liquid security the customer will execute lien forms. After all the terms and conditions of the facility have been met, the facility is disbursed to the customer.

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### **3.2.17 Credit Documentation**

The bank has a credit file for each borrowing customer. Each credit file contains the following:

- Credit appraisal report
- Credit approval
- Audited financial reports
- Customer's correspondence
- Internal correspondence
- Property inspection report
- Opinion report on borrower from other banks
- Particulars and value of security

### **3.2.18 Credit Monitoring**

The bank's Credit Manual lays down procedures for monitoring of credit facilities. Account Managers are expected to monitor the account performance of borrowers and

ensure prompt repayment of all facilities granted. They are also responsible for the recovery of outstanding and non-performing facilities.

Account Managers are expected to pay periodic visits to customers' office premises, factories and shops and hold discussions with the Management of the Company to elicit information about the business such as:

- The level of business activity whether increasing or decreasing.
- Any signs of problems. For instance accumulation of inventory (stock piling)
- The state of machines and equipment being used.

In addition, they have been issued with guidelines on the monitoring of facilities and scrutiny of accounts. They look for indicators to a bad state of the account and take immediate remedial action. Some of the indicators they look for are;

- Frequent attempts by a customer to draw cheques beyond approved limits.
- Frequent request for irregular drawings beyond approved limits
- Drawing on account to the hilt, indicating formation of a hardcore.
- Reduced credit turnover which may indicate diversion of sales proceeds to another bank.
- Inability to pay monthly principal and interest on loans
- Frequent request for drawings against uncleared effects.

### 3.2.19 Risk Asset Quality

The objective of the bank is to maintain good quality risk assets. However, repayments of these assets are sometimes overdue and there is benchmark for classifying them.

The overdue facilities of the bank are classified in accordance with the Bank of Ghana

quantitative and qualitative guidelines. The classifications are:

**(i) Current**

These are facilities in which repayment is not in doubt. Facilities which are at least 30 days or less overdue are classified as such. A provision of 1% is made for Bad Debts.

**(ii) OLEM (other loans especially mentioned)**

These are facilities with evidence of weakness in the borrower's financial conditions or credit worthiness. Facilities which are at least 30 days but less than 90 days overdue are classified as such. A provision of 5% to 15% is made

**(iii) Substandard**

These are facilities for which the normal repayment of principal and interest has been jeopardized because of adverse trends. They display well defined credit weakness that jeopardize the liquidation of the debt. Non-performing facilities which are at least 90 days but less than 180 days overdue are classified as such. A 50% provision is made.

**(iv) Doubtful**

These are facilities in which repayment appear questionable on the basis of available information and exhibit a degree of eventual loss. These facilities are not well secured making liquidation in full highly impossible. Non-accrual of interest is required and previously accrued and unpaid interest is reversed. Non-performing facilities which are at least 180 days but less than 540 days overdue are classified as such. A 50% provision is made.

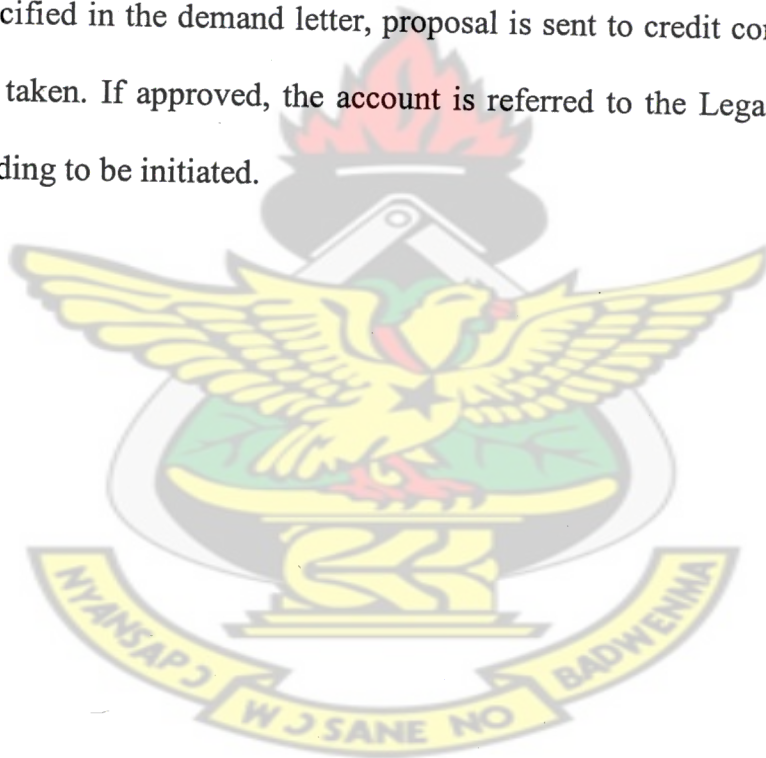
**(v) Loss**

These are facilities that are considered as uncontrollable. Such facilities are written off and previously accrued and unpaid interest is reversed. A loss classification does

not mean that there is no potential for recovery; a vigorous collection effort is expected to continue until no further recovery is possible. Non-performing facilities which are 540 days or more overdue are classified as such. A 100% provision is made.

### **3.2.20 Recovery of Overdue Facilities**

Account Managers are responsible for the recovery of overdue facilities. Demand letters are sent to customer whose facilities have expired but have not been paid off. Where a customer is seen to be recalcitrant in paying off its facility despite the deadline specified in the demand letter, proposal is sent to credit committee for legal action to be taken. If approved, the account is referred to the Legal Department for court proceeding to be initiated.





### **3.3 METHODOLOGY**

This section presents a detailed account of the approach adopted to obtain data to answer the research questions raised in chapter one, and to achieve the objectives of the research.

#### **3.3.1 Research Setting**

The research was conducted within the Credit and the Risk Departments. The primary focus was on SG-SSB Limited and the case study approach was used in the study which enabled an appreciable level of investigation within the limited time.

#### **3.3.2 Sources of Data**

This study uses both primary and secondary data. The primary data was obtained from fieldwork. Questionnaires were administered and oral interviews were held with officials of the Credit Department of SG-SSB Limited. In addition, oral interviews with some officials of the Department as well as personal observations constituted vital sources of data for the study.

Secondary data was obtained from journals, magazines, newspapers, textbooks, annual reports, minutes of meetings and relevant websites on credit risk management. Specifically, the secondary data consists of research reports, newspapers, Bank of Ghana (BOG) statistical data and publications, articles on financial intermediation in Ghana, the FINSAP policies in the Ghanaian Banking Sector.

The purpose of these collections was to analyse the Bank's credit management process and how credit risk management contributed effectively to the growth and survival of a banking organisation.

### **3.3.3 Study Population**

The study population was made up of the management and employees of the Bank in the Credit and Risk Management Departments. The total population in these Departments was 12 for Credit Department, 12 for Risk Department and 7 for Business Banking Department.

### **3.3.4 Sample Size**

Economically, it is not feasible to seek the views of every member of this population. To follow the practices of research, a sample of was taken from the population. A sample size of 25 was targeted and this was proportioned among Business Banking Department (10), Credit Department (10) and Corporate Account Relationship Managers (5). It is my view that this is a good representation of the population for the study.

### **3.3.5 Sampling Design and Technique**

Principally, the simple random sampling was the approach used. The simple random sampling technique postulates that each element or member of the population has an equal and the same chance of being selected in the sample. With this sampling method all the elements or members in the population are assumed to have the same characteristics.

In the light of this, the required samples were picked from the list of employees in the departments (The Credit Risk Unit, The Credit Unit and Business Banking Unit). The Heads of these departments were not sampled because it was possible to reach the divisional heads (Credit Administration, Credit Risk and Business Banking).

### **3.3.6 Measurement**

A five point Likert Scale was used to enable nonparametric inferential statistical analysis. Categorical statements were also included. The use of the Likert scale was to make it possible to measure respondents' judgements on the critical issues of concern for this research which could not be assigned categorical answers.

The Likert scale has been consistently used in similar research works (Milson and Kirk-Smith, 1996). The use of this approach was, therefore, consistent with approaches used in this field. This was also to guarantee content validity of this support.

### **3.3.7 Data Collection Methods**

#### **3.3.7.1 Questionnaire Design**

The primary data was obtained from both oral interviews and questionnaires. The questionnaire was designed to enable genuine answers on the main components of effective credit risk management. The wording of the questionnaire is made to be as simple as possible demanding only straightforward answers. Ambiguities and leading questions were avoided and respondents did not have to delve into memory, although this is unavoidable in some cases.

Questionnaires were used instead of other alternatives (e.g. in-depth interviews etc) because a questionnaire facilitates the use of uniform questions to respondents in each respondent category. Questionnaires are also easier and cheaper to use for data collection from primary sources.

### **3.3.7.2 Questionnaire Administration**

All questionnaires were administered by the researcher. The questionnaires were distributed to respondents personally. Mail was not used as it was not feasible, and because of its numerous disadvantages. Personal administration was adopted to enhance the response rate from respondents. Though completed questionnaires were picked up later by the researcher, a few questionnaires could not be retrieved. Questionnaires to the respondents were left at their offices. However, the respondents were notified of the questionnaires by telephone before sending to their offices. Follow-up calls were later made to remind respondents of the questionnaires and to find out when to pick them.

### **3.3.7 Questionnaire Administration Difficulties**

Administering questionnaires has certain difficulties. Bank officers are busy most of the time and administering questionnaires to them would mean finding time away from their busy routines to answer them. Taking employees off their tasks to answer the questionnaires was difficult. To remedy these difficulties, employees were presented questionnaires and picked up later.



### 3.3.8 Data Analysis

The study employed computer programmes such as Microsoft Excel and Microsoft Word to analyze the data obtained from the field. The study employed both qualitative and quantitative techniques to analyse the data. In addition, charts were employed when and where appropriate to analyse and present data. Views expressed by respondents were evaluated in the form of qualitative analysis.

### 3.3.9 Study Limitations

The limitation is a case study but it may have something to do with the entire banking industry. However, because the study focused on only SG-SSB Limited, generalisations to the whole banking industry should be cautiously done.

Also, some non-responses were present in the completed questionnaires received. This could be attributed to the sensitivity of the information required or otherwise. However, the number of non-responses was a few and does not significantly affect the outcome of this study.

## **CHAPTER FOUR**

### **PRESENTATION AND ANALYSIS OF DATA**

#### **4.1 Introduction**

This chapter presents a thorough discussion and analysis of the data obtained from the field as well as the findings of the study. The chapter is broken into two sections with each section consisting of various sub-sections. Essentially, graphs and tables were used to summarise the data obtained from the field and also for analyses and discussions.

The first section deals with the analysis of primary data which involves responses received from respondents through the administration of questionnaires. The second section deals with the analysis of the secondary data which were mainly financial statements of the bank for a five year period (2004-2008) with particular attention to loan advances and its corresponding bad debts.

#### **4.2 Analysis of Primary Data**

This section discusses the views of respondents on the effectiveness of credit risk management as a critical component of a bank's overall risk management strategy. In addition, the questionnaire was to investigate how much progress SG-SSB Limited is making in the development and deployment of a successful credit risk management strategy.

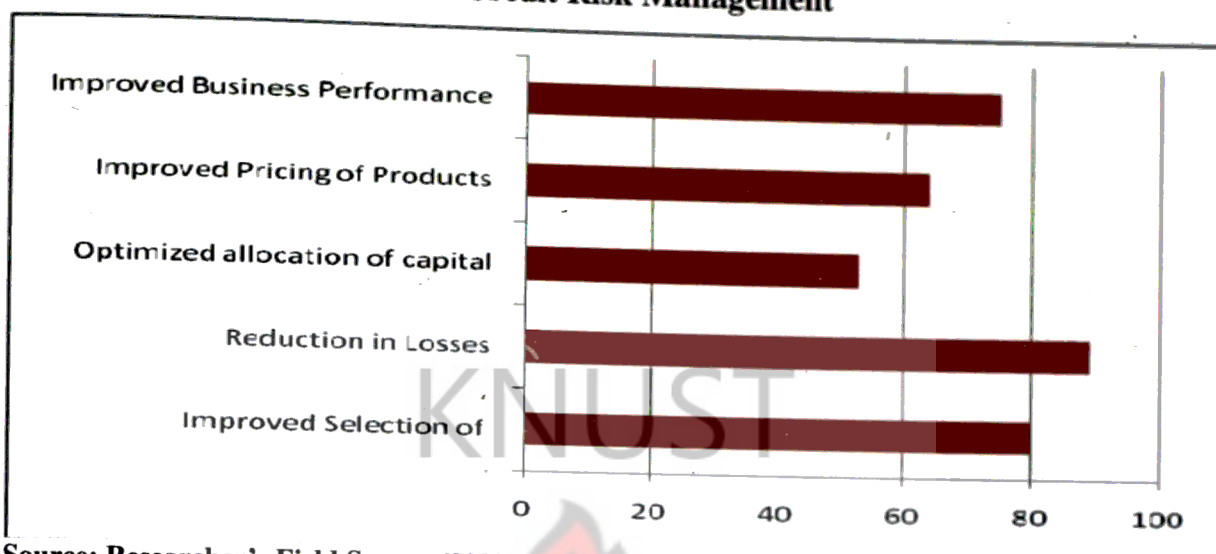
The analyses presented in this section were compiled from the interview conducted through the administration of questionnaires. In all, twenty-five questionnaires were sent out to employees who have knowledge, experience and whose jobs are related to Credit Risk Management in the bank. However, after a follow-up twenty-two questionnaires were received which represented an overall response rate of 96%. Interviewees were allowed to tick more than one variable where and when appropriate. Respondents overwhelmingly rated credit risk management as fundamental and on the critical path of the bank's business plan. The results are discussed in the subsequent pages. MS Excel was used to generate the tables of frequencies and the resulting graphs.

#### **4.2.1 Benefits of Effective Credit Risk Management**

The questionnaire first sought the opinions of staff on the benefits of an effective Credit Risk Management (CRM). The results are presented below in Figure 4.1 All the respondents answered that most important benefits of CRM included improved selection of customers (80%), reduction in losses (89%), optimized allocation of capital (53%), improved pricing of products (64%), and improved business performance (75%).

The results confirmed the bank's anticipation of the significant rewards it gets in CRM, and hence its importance as a critical path to the risk adjusted return of capital to the banking industry as whole.

**Table 4.1: Benefits of Effective Credit Risk Management**



Source: Researcher's Field Survey (2009)

#### 4.2.2 Key Components of effective Credit Risk Management

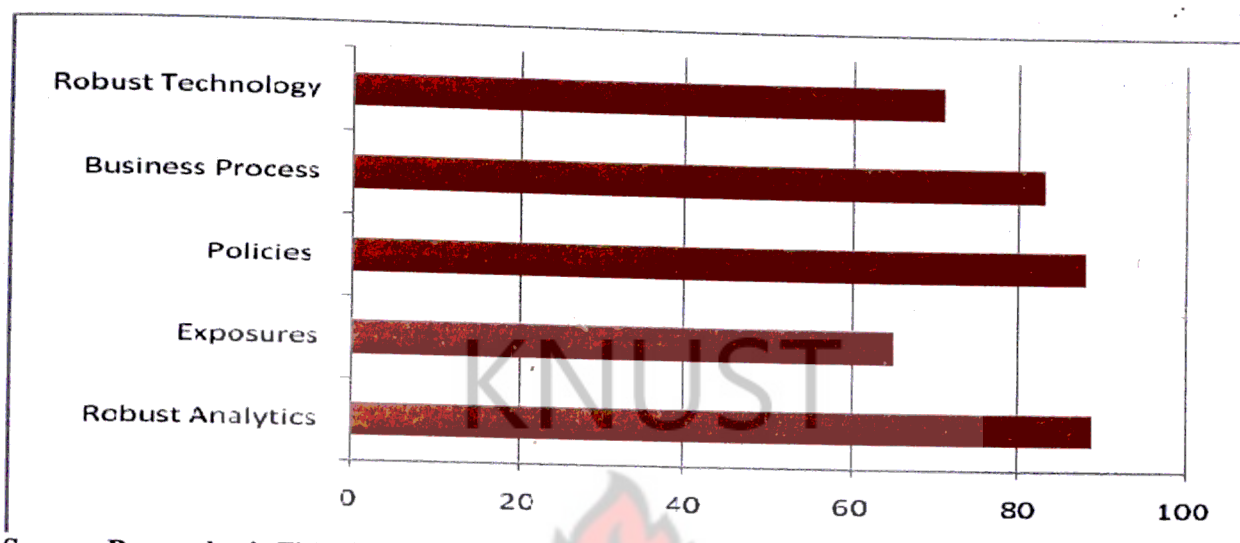
The second question sought to test the interviewees on the components of effective credit risk management.

#### 4.2.3 Robust technology and business processes

Robust technology was identified as a critical component of effective credit risk management by 71% of the interviewees. Banks identify measure, manage and validate counter party risk through the use of robust technology, although it is of little value without effective credit risk policies and business processes in place. About 83.5% rated business process as the most important component of Credit Risk Management.



**Table 4.2 Benefits of Effective Credit Risk Management**



Source: Researcher's Field Survey (2009)

#### **4.2.4 Policies**

When the respondents were interviewed, 88% of the respondents were of the view that having a comprehensive strategy and vision for credit policy is vital as it sets guidelines for businesses who can benefit from the banks' credit and those that do not, giving rise to effective credit risk management. These policies guidelines include a set of general principles that apply to all credit risk situations, as well as specific principles applicable to the different geographic areas and customer segment as well as the different transactions.

#### **4.2.5 Exposures**

Of all the 22 respondents who were interviewed, 65% stated that the ability to measure, monitor and forecast potential credit risk exposures across the entire firm on both counter party level and portfolio level is vital. The feedback from the bank demonstrates that centralization: standardization, consolidation, timeliness, active portfolio management and efficient tools for exposures are the key practices in credit risk management.

#### **4.2.6 Robust Analysis**

A key component of an effective credit risk management strategy as suggested by 89% of the interviewees is having robust risk analysis. Efficient and accurate credit analysis enables Risk Managers in banks to make better and more informed decisions. The availability of better and accurate information combined with timeliness in its delivery leads to more effective balancing of risk and reward and the possibility of higher long-term profitability.

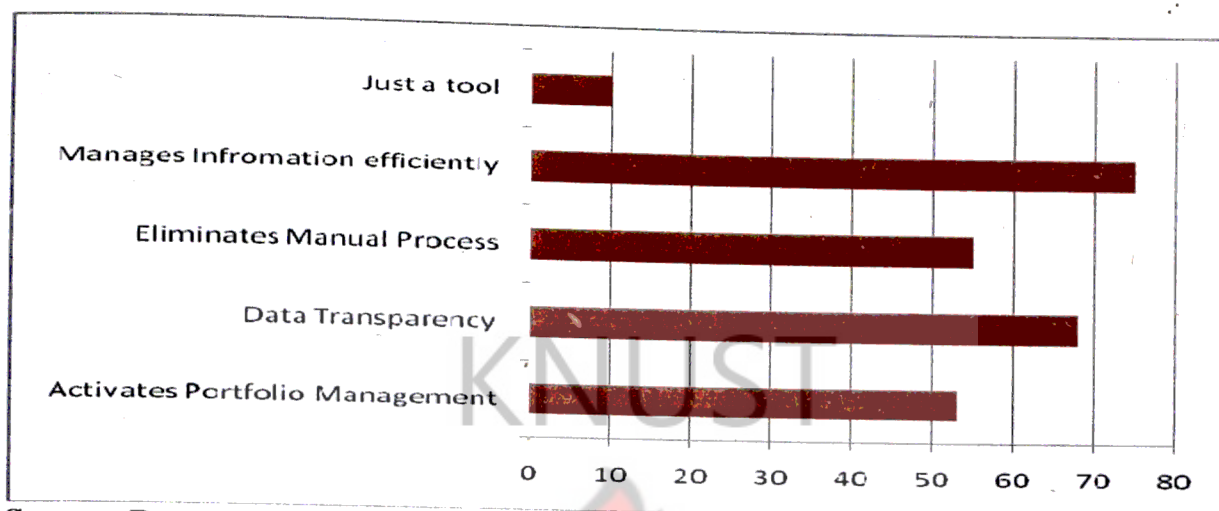
#### **4.2.7 Others**

The other ingredients of effective credit risk management were thought to include credit risk transparency, defined credit decision process, sophisticated risk measurement methodologies, stress testing, timeliness and accuracy of risk calculation as well as efficient credit risk reporting.

#### **4.2.8 Role of Technology in Credit Risk Management**

Technology was widely acknowledged to be a key component of effective credit risk management. It may be evident from figure 4.3 that about 53% of the interviewees acknowledged that technology plays a key role in enabling active portfolio management and assessment. This is followed by data transparency (68%). Subsequently, technology facilitates elimination of manual processes and allows information to be managed in an efficient and effective ways was given 55%. Furthermore, 10% stated that while technology can help banks to facilitate innovative credit risk management procedures, it is simply a tool and is useless if misused.

**Table 4.3 Role of Technology in Credit Risk Management**



Source: Researcher's Field Survey, 2009

#### 4.2.9 Drivers of Effective Credit Risk Management

Next, respondents were asked to rate factors in terms of their impact on the development of a credit risk management programme in the bank. Basel II was thought to have an impact on the local regulation as a main driver in shaping credit risk management in Ghanaian Banks. Investigations at Bank of Ghana revealed that staff of the Inspection Department had undergone thorough training on Basel II and its impact on inspection of Banks in Ghana by the Bank of Ghana.

It was felt that regulation primarily imposed disciplinary capital charges for procedural errors, limit violations and other operational risks. It also creates new pressure to ensure that effective credit risk management controls are in place. These may include information on its strategies, nature of credit risk in its activities and how credit risk arises in those activities as well as information on how they manage credit risk. The Bank is forced to provide more detailed disclosures in their periodic reports to Senior Management and the Bank of Ghana.



However, it was observed that the impact of Basel II is largely dependent on the environment that they are regulated under, as it is different for each country or region due to different laws and regulations. Although regulatory compliance is a significant driver, interviewers emphasized that Credit Risk Management aspirations span beyond this. Key players also seek to gain competitive advantage through effective credit risk management. When it comes to Global Banking such as the issuance of letters of credit under trade finance or money transfers, real time pre-deal checking, effective credit limits management and country risk management are key to good credit risk practice in the bank. However, this is largely dependent on the market the bank is targeting.

#### **4.2.10 Issues with Data Management**

This is seen as a challenge to achieving enterprise view of risk. Consistent, accurate and reliable data is the foundation of effective credit risk management. Inaccurate or inconsistent data may hinder the banks' ability to understand its current and future business problems. All the staff interviewed clarified that there are always some problems with data management.

Some of the major issues experienced by banks with regard to data management include data quality and standardization, assembling accurate data sets with minimum reconsolidation and back testing of ratings. The bank resolved data problems by having monthly and quarterly reviews to discuss and provide solutions to these problems. For example, the bank constantly strives to enhance their exposure numbers at a business level by making them more accurate and delivering them in a timely manner.



The Head of Credit Administration of the Bank explained that the BOG encourages banks to adopt a standardized format for all their information and reports, so that data issues can be mitigated. This also includes constantly refining the coverage and accuracy of their new technology or products as there are always some gaps. The bank has also recognized the need for a centralized customer database, as an example to achieve accuracy and transparency.

#### **4.2.11 Issues with Analytics**

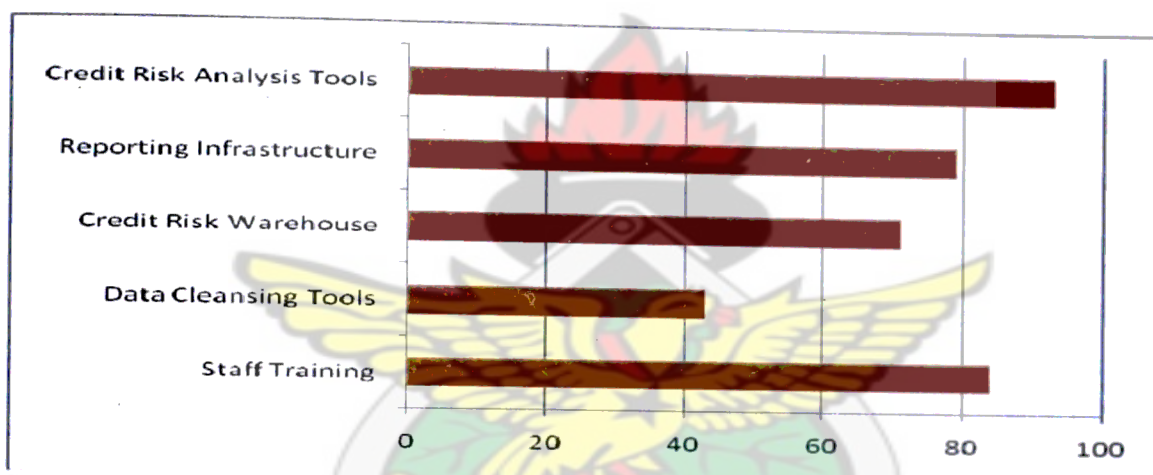
Issues with analytics are a concern for many banks, with 74% of the interviewees indicated that they have some problems in this area. In comparison, only 13% of staff said they do not have any problem with analytics.

#### **4.2.12 Issues with Reporting**

It is important to ensure accurate and transparent reporting. However, many banks find this to be challenging. 65% of the interviewed staff, all of which were at senior management level, said they are experiencing some problems with reporting, mainly relating to timeliness and consistency of terminology across the board. They also believed there were too many reports, which results in problems with identifying common trends. The bank is overcoming this issue by consolidating their existing reporting systems so that an enterprise-wide reporting tool can be obtained. The staff stated that if there were any existing issues with data, it would ultimately have a knock on effect on the coverage of the report. For that reason, the bank constantly tries to address this problem by enhancing their current reporting tools.

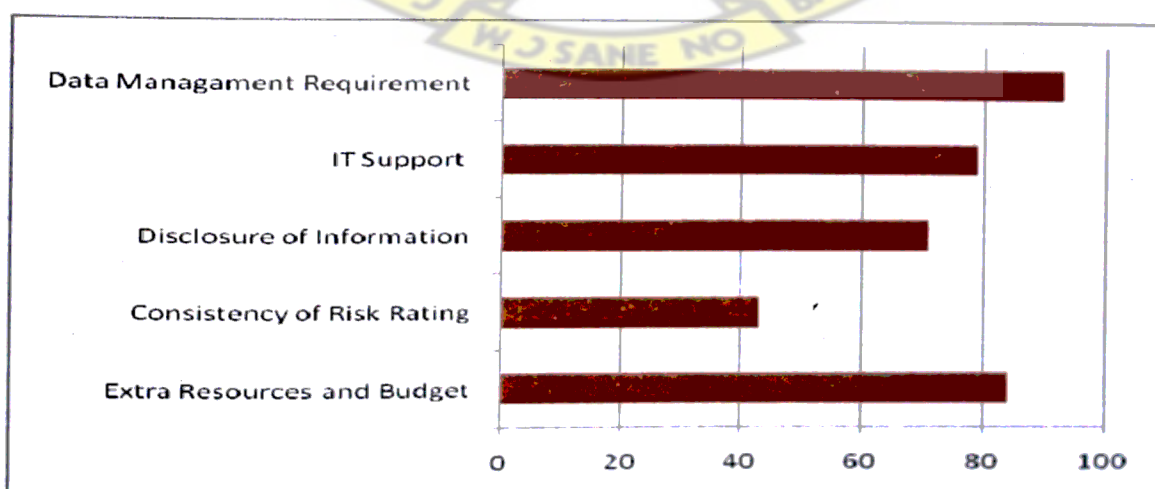
In contrast, according to our interviewees 78% of the interviewees stated that they generally do not experience major problems with their reporting. This is mainly due to the bank having good reporting infrastructure and global reporting systems in place. Thus far, one needs to keep in mind that from our extensive industry experience, no bank has so far achieved adequate ability to report aggregate credit exposures across the whole enterprise.

**Figure 4.4 Banks Investment into Credit Risk Management**



Source: Researcher's Field Survey, 2009

**Figure 4.5 Requirements for Successful Implementation**



Source: Researcher's Field Survey, 2009

#### **4.2.13 Shortcomings**

Some of the obstacles the bank has to overcome include dissimilar systems, decentralized model approval process, challenges associated with the global scale of their operations and different levels of maturity and size of individual businesses and loans.

While interviewees admitted that at the strategic level there should be a standardized approach, it is challenging to roll it out at individual business levels, where individual requirements are so far too specific. They gave an example of the lending book, saying that it is virtually impossible to summarize decisions for the whole of the lending book.

Furthermore, interviewees stated that it is hard to categorize things in a wider context. They are currently doing some analysis of broad economic capital implications; however they still believe that a single credit measure will never give them a full picture. The bank's main challenge with analytics is the ability to efficiently manage the products, accurately measure credit risk and achieve good quality data.

#### **4.3 Analysis of Secondary Data**

This section provides an analysis of the performance of the credit function of SG-SSB Limited during a five-year period (2004-2008). It involves an examination of the distribution of the Bank's credit facilities granted, analysis of loans and overdraft by type of customer, and an evaluation of the bank's credit risk.



#### **4.3.1 Credit risk management procedure followed by SG-SSB**

All applications from customers for facilities are submitted in writing to the bank through the various branches of the Bank. The contents of the application letter must include the type of facility, amount, and tenure of facility, the purpose of the facility, repayment terms and the details of the security to be offered. When the application is received, it is sent to the Business Banking Department and referred to the Appropriate Corporate Account Relationship Manager to begin the credit assessment process.

The Relationship Manager interviews the customer about his/her request. It is expected that through the interview the Relationship Manager will elicit more useful information to determine whether or not the application is worth submitting for consideration. If satisfied, the Relationship Manager initiates the credit appraisal process which covers the analysis and recommendations of customer's application.

The bank appraises the information of the borrowing Company's background i.e. date of Incorporation, date of commencement of business, nature of business, the type of business the company is authorized to undertake, shareholding structure, directors of the company and the management team. This is necessary since it gives an idea about the history of the company as well as the quality of the company's management.

These preliminary interviews are translated into a report and forwarded to the Business Credit Administration Department which carries out a detailed analysis of the last five years' audited financial statements of the prospective borrower by calculating the



necessary banking financial ratios and interpreting them. Projected cash flows statements covering the repayment period is also analysed. Key financial ratios calculated include liquidity, profitability, efficiency and leverage ratios.

These reports are forwarded to the Head of the Business Credit Administration and then to the Head of Business Banking Department for the necessary authorization. It is then forwarded to the Risk Department for a detailed analysis of the risk components of the business the prospective borrower is engaged in.

After all these financial, non financial and risk analyses, the Relationship Manager comments on the customer's account performance. This entails whether credit facilities granted to the customer were repaid on scheduled, the credit turnover of the customer and revenue obtained. When all these are satisfactory the Relationship Manager ascertains whether the customer has adequate security in place to secure the facility.

For landed property, it is only legal mortgage which is permissible under the Mortgage Decree of 1972 (NCRD 96). When a property is being proposed as security, the bank takes possession of the title deeds. The title deeds are then forwarded to the Legal Department of the bank to conduct a search at the Lands Commission to ensure that it is not encumbered. At the same time, the bank's certified valuer is notified for a valuation report on the property. If the interest of the applicant in the property is a leasehold the Legal Department ensures that all ground rents due have been paid up to date.

In respect of debentures, the bank takes a fixed and floating charge of the Company's assets. Also by a letter of hypothecation, documents of title to goods may be pledged as security for a facility. It confers on the bank the power to sell the goods and to insure it and warehouse them at the customer's expense. The bank is also empowered to apply the proceeds of any goods sold in repayment of the customer's facility.

If it becomes necessary that the customer must sell the goods to repay the facility, the bank would release the documents of title to the customer against a 'trust receipt'. By this, the customer acknowledges the receipt of the documents of title agrees to hold the goods in trust for the bank and undertakes to pay the proceeds of sale to the bank.

- (vi) Liquid securities such as treasury bills, fixed deposits, certificate of deposits and cash balances are also accepted as security. The bank takes a lien on them and the customer is requested to sign a lien form.
- (vii) Contract proceeds are also assigned to the bank when contractors are given credit facilities.

The Bank invariably does a SWOT analysis to bring out the strengths and weaknesses of the company as well as any opportunity and threats that may arise.

After the credit application has been received, the Relationship Manager comes out with a recommendation as to whether the facility should be granted or not. The credit application is signed by the Relationship Manager, Head of Business Credit Administration and Head of Corporate Banking with the approval from Head of Risk and Director of Risk and it is forwarded to the Managing Director for the final

approval.

The size of the proposed credit facility determines the level at which the credit approval must be obtained. The board of directors has delegated credit approval authority to the Managing Director, the Credit Committee and the Loans and Investment Committee. The Managing Director's limit is restricted to 7.5% of total shareholder's funds. The Credit Committee is limited to 20% of shareholders funds and the Loans Investment Committee is empowered to deal with amount in excess of 20% of shareholders funds. The Credit Committee meets twice in a month and the Loans and Investment Committee meets once a month. Credit exposure no matter the approval authority shall be reported to the Board at its sitting. In the case of credit approval by the Managing Director it shall in the first instance be reported to the Credit Committee.

After an application has been considered and approved by the appropriate approving authority, the Relationship Manager informs the customer in writing. The terms and conditions under which the facility is granted are stated in the letter. The facility will not be put at the disposal of the customer until the terms and conditions under which it is approved have been fully met.

The Legal Department prepares a deed of mortgage for execution by the customer if the security proposed is a landed property. The property has to be insured against all risk and the bank's interest noted as loss payee. After the customer has executed the mortgage documents, it is registered and stamped at the Lands Registry. Where the security is a debenture, the Legal Department processes the documents in a similar



way as the legal mortgage. Where it is a liquid security the customer will execute lien forms. After all the terms and conditions of the facility have been met, the facility is disbursed to the customer.

The bank's Credit Manual lays down procedures for monitoring credit facilities. Relationship Managers are expected to monitor the account performance of borrowers and ensure prompt repayment of all facilities granted. They are also responsible for the recovery of outstanding and non-performing facilities.

#### **4.3.2 Gaps in SG-SSB's Credit Risk Management procedure**

Firstly, the process involved in assessing credit facilities is not only cumbersome but also time consuming. Approval of loans takes a long time since applications go through a lot of channels. Considering the current level of competition in the banking sector, it is imperative on the part of the bank to review its process of granting credit facilities. The processing of the application should as far as possible be simple, less cumbersome and time consuming. By so doing, the bank will not only be able to grant the needed credit facilities to support the development of the various sectors of the economy especially when the bank has one of the lowest lending rates in the industry but also earn the needed interest income.

Secondly, given the fast changing, dynamic global economy and the increasing pressure of globalization, liberalisation and competition, it is essential that SG-SSB Limited develops a very robust credit risk management policies and procedures that are sensitive and responsive to these changes. This seems not to be the case since the



bank is still applying rudimentary methods of appraisal techniques in its credit delivery.

Also, the bank can shorten its credit delivery process by increasing the business and economic acumen of the Corporate Relationship Managers through refresher courses and training programmes. This could eliminate the other departments involved in credit delivery like the Business Credit Administration and the Business Banking Departments from the approval process. The understanding of business economics will increase the knowledge base of the Corporate Relationship Managers who can identify the risks and opportunities of the various sectors of the economy in respect of credit delivery which can be finalized by the Legal Department with the introduction of the required covenants depending on the dynamics of the business or industry. This will make it unnecessary for the involvement of the other departments in the process thereby shortening the credit delivery process.

The banks should also not over rely on the use of security especially collateral security as a basis for granting loans but should treat each customer on a case-by-case basis. Once applicants for loans have been able to satisfy some of the most important requirements of loan delivery, partial disbursement could be recommended while steps are taken by the customer to perfect his/her title against the background of long period involved in perfecting title in the country. This is because collateral security is beyond the ability of most small-scale businesses and other innovative securities could be demanded as substitutes for the landed property.

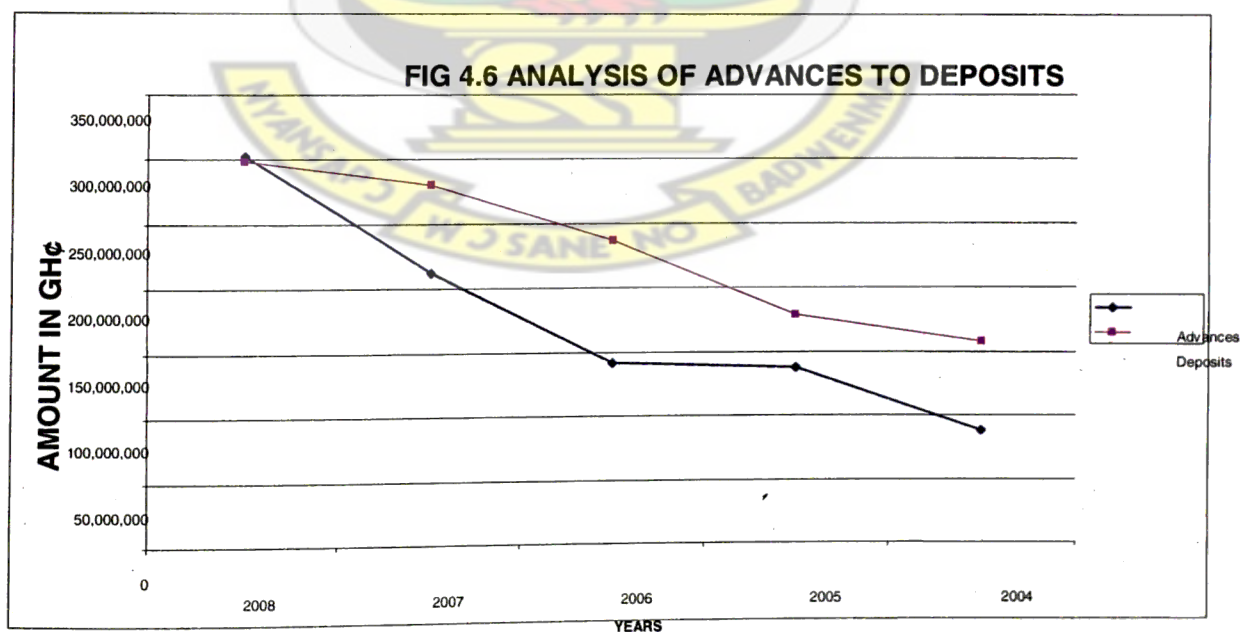
### 4.3.3 Evaluation of the Bank's Credit Risk

In evaluating the Bank's credit risk position during the period of study, an analysis is made of the ratio of the Bank's advances (loans and overdrafts) to total deposits, provision for bad and doubtful debts loans, non-performing loans to advances and advances to total assets.

**Table 4.1 Analysis of Advances to Deposits**

	2008	2007	2006	2005	2004
Advances	302,281,191	212,444,163	141,648,623	137,362,000	88,155,100
Deposits	298,858,563	279,740,749	236,604,626	178,725,000	157,992,300
Advances/Deposits Ratio(%)	101.15	75.94	59.87	76.86	55.80

Sources: Compiled from SG-SSB Limited Annual Financial Reports



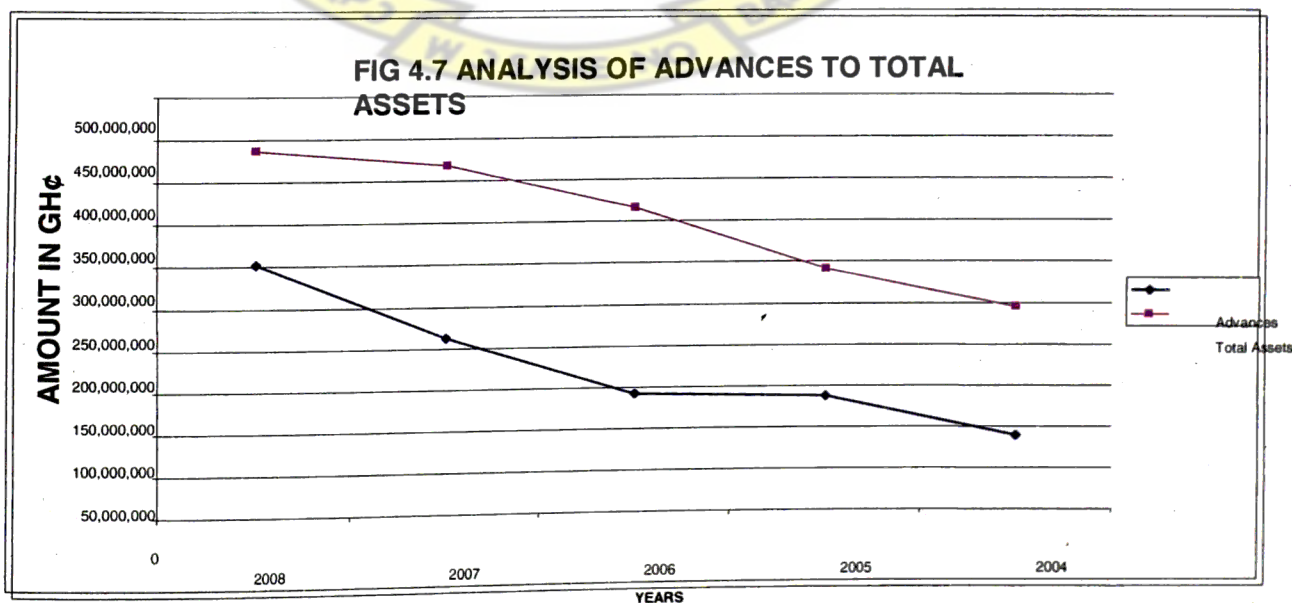
Sources: Generated from SG-SSB Limited Annual Financial Reports

The Bank's ratio of advances to total deposits increased from 55.8% in 2004 to 101% in 2008. However, with the exception of the year 2008, the bank's loan to deposits ratio have been well below 100%. It can be observed from the table and the graph above that the growth in the banks Advances doubled between the periods of 2006-2007 by 49.9% thus moving faster than the growth in the Bank's Deposits. This fast growing trend in Advances continued in the next year, increasing by 42.3% as against a rise in deposit by 6.8 over the same period. The 101% attained in the year 2008 is a clear indication that the bank has lent out more than borrowed, and also a signal that the bank is lending from its reserves.

**Table 4.2 Analyses of Advances to Total Assets**

	2008	2007	2006	2005	2004
Advances	302,281,191	212,444,163	141,648,623	137,362,000	88,155,100
Total Assets	436,765,130	417,856,827	366,110,338	291,452,600	243,916,600
Advances/Total Assets Ratio(%)	69.21	50.84	38.69	47.13	36.14

**Source: Compiled from SG-SSB Annual Financial Reports**



**Source: Generated from SG-SSB Annual Financial Reports**



The ratio of Advances to Total Assets which is an indication of the extent to which the banks total assets has been financed by their loans and advances; increased by 33.1% from the periods 2004 to 2008. However, it can be observed that the ratio exceeded the 50% mark from 2007 to 2008 which shows the shift of the bank to higher yielding rate of return i.e. as against Investments, irrespective of the risk.

**Table 4.3 Analysis of Non –Performing Advances to Total Advances**

	2008	2007	2006	2005	2004
Non-Performing Loans & Advances	14,881,200.00	18,579,300.00	13,725,500.00	13,610,500.00	15,331,300.00
Gross Advances	302,281,191	212,444,163	141,648,623	137,362,000	88,155,100
NPA/Advances (%)	4.92	8.75	9.69	9.91	17.2

**Source: Compiled from SG-SSB Limited Annual Financial Report**

In a bid for most Banks to ensure the sustenance of the soundness of their assets as well as their profit performance, it is important for this ratio to be computed and monitored, and to pursue the appropriate risk management and steadily move the non-performing loans off the balance sheet.

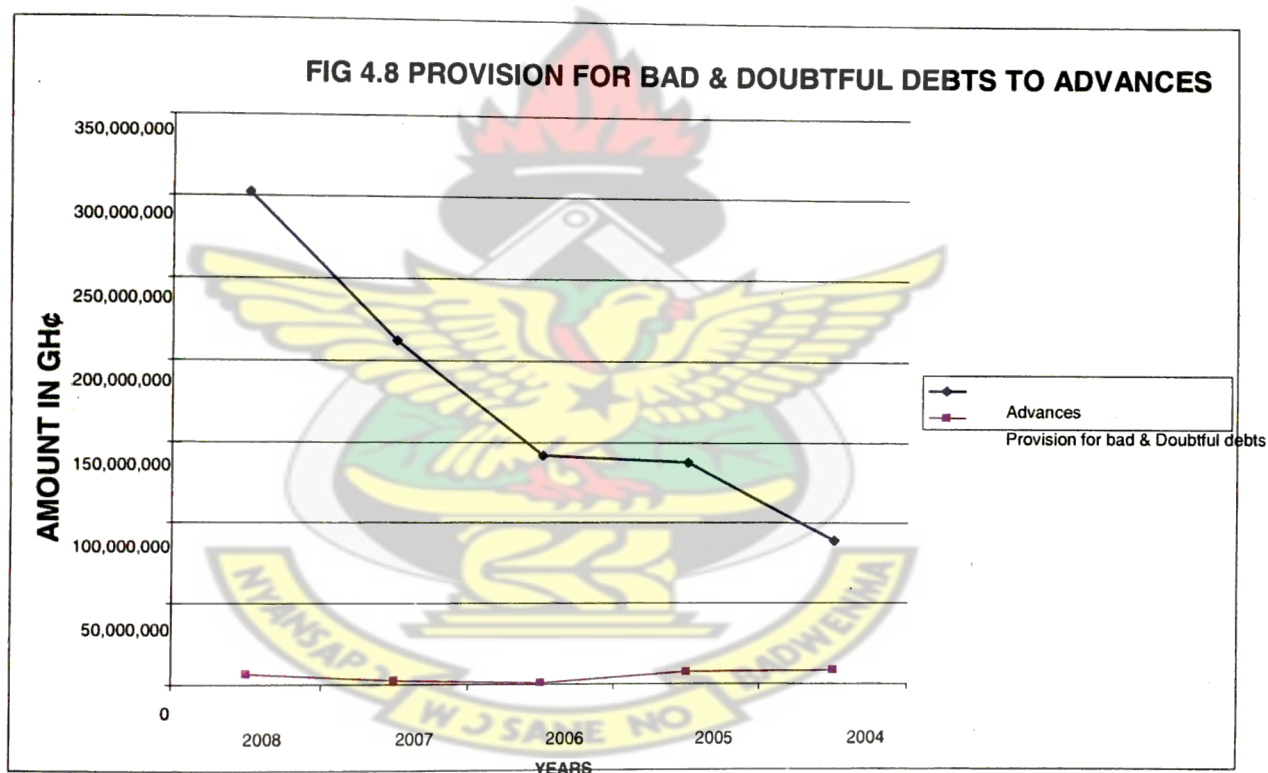
From the ratio figures indicated above, it can be observed that with the exception of the year 2004 which had its ratio well above 15.0%, this ratio has subsequent reduced considerable over the five years to a low of 4.92%. This shows that even though the bank has increased its loan portfolio, it has also taken steps to reduce the associated risk i.e. have a significantly low non-performing loan.



**Table 4.4 Provision for Bad and Doubtful Debt and Interest in Suspense to Advances**

	2008	2007	2006	2005	2004
Advances	302,281,191	212,444,163	141,648,623	137,362,000	88,155,100
Provision for bad & Doubtful debts	6,393,070	2,297,610	917,400	7,093,300	7,817,900
PBD/Advances Ratio (%)	2.11	1.08	0.65	5.16	8.87

**Source:** Compiled from SG-SSB Annual Financial Report



**Source:** Generated from SG-SSB Annual Financial Report

Recoveries made on the non-performing advances were generally not stable during the period from a high of 7.24% in 2004, a fall to 4.8% in 2006 then the significant increase to 12.37% in 2007, and finally to 5.13% in 2008. The year 2007's high ratio of 12.37% can be attributed to the impressive recovering of over 2 million Ghana cedis of it loans.

#### 4.3.4 Credit Distribution

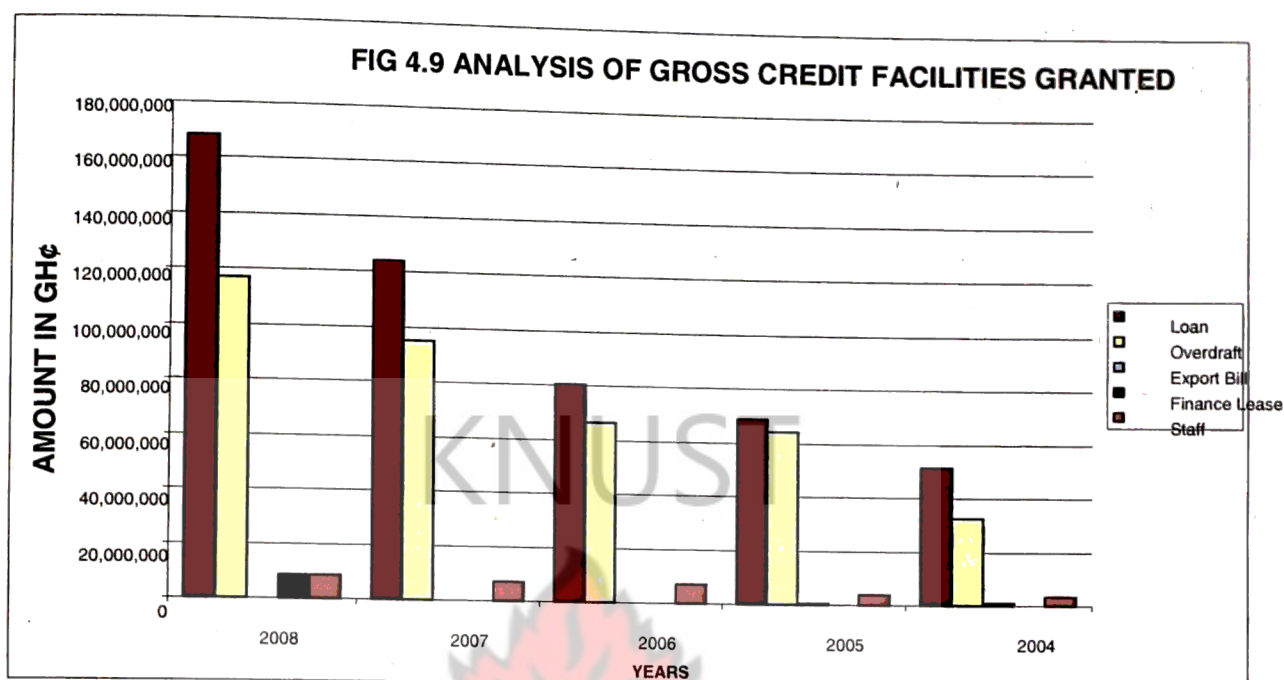
The distribution of the Bank's credit facilities can be determined by the proportion of loanable funds that was given out as loans, overdrafts, guarantees and letters of credit. It can be determined by the type of customer and the sector of the economy that obtains them. Table 4.5 and Figure 4.9 provide the loan distribution across the major loan categories from 2004 to 2008.

**Table 4.5 Analysis of Gross Credit Facilities Granted**

<u>LOAN</u> <u>CLASSIFICATIONS</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>2005</u>	<u>2004</u>
	<u>GHe</u>	<u>GHe</u>	<u>GHe</u>	<u>GHe</u>	<u>GHe</u>
Loan	168,199,803	123,811,620	80,383,713	69,017,400	51,211,700
Overdraft	117,064,503	95,408,114	66,227,302	63,932,400	32,495,100
Export Bill	42,678	151,139	213,397	618,300	946,500
Finance Lease	8,459,149				
Staff	8,515,058	7,186,658	7,040,973	3,793,900	3,501,800
<b>TOTAL</b>	<b>302,281,191</b>	<b>226,557,531</b>	<b>153,865,385</b>	<b>137,362,000</b>	<b>88,155,100</b>

Source: SG-SSB Annual Financial Reports

Figure 4.9 shows that 'loan' and overdraft constitute the bulk of the bank's total loan portfolio. The steady increasing trend in gross loan portfolio over the period was mainly driven by loan and overdraft portfolios which increased by 55% and 41% respectively. It is worth noting the significance of the newly introduced Equipment Finance Lease in 2008 which accounted for 2.87% of gross loans.



**Source: Generated from SGSSB Annual Reports**

The distribution of the Banks loans and advances can be determined by the type of customer and the sector of the economy that obtained them. Table 4.6 and Figure 4.10 show the allocation of gross loans and overdrafts by customer type while Tables 4.8 and 4.9 as well as Figure 4.11 show the sectoral allocation of loans for the period 2004 to 2008. It may be evident from the Table that a greater percentage of the bank's loans are given to private enterprises.

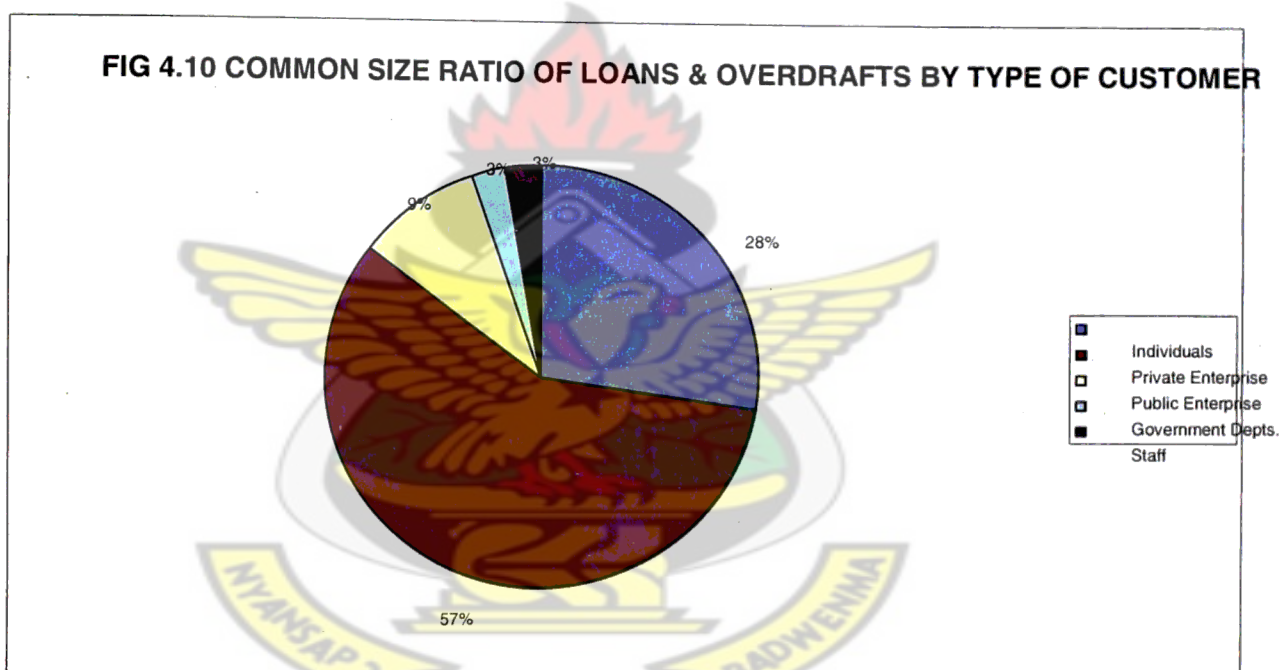
**Table 4.6 Analysis of Gross Loans and Overdrafts by type of Customer**

Customer	2008	2007	2006	2005	2004
Individuals	83,217,918	78,605,507	42,623,500	31,777,700	17,946,500
Private Enterprise	174,621,442	109,835,229	85,265,400	76,717,400	57,818,900
Public Enterprise	28,242,843	28,345,895	18,933,100	24,849,300	8,794,800
Government Depts.	7,683,931	2,583,761	2,385	223,700	93100
Staff	8,515,057	7,187,145	7041000	3,793,900	3,501,800
<b>TOTAL</b>	<b>302,281,191</b>	<b>226,557,537</b>	<b>153,865,385</b>	<b>137,362,000</b>	<b>88,155,100</b>

**Source: SGSSB Annual Reports**



Figure 4.10 shows that about 57% of all loans are advanced to private enterprises with 9% given to public enterprises. The Private Enterprise were followed, but far behind by individuals whose ratio was 20.36 in 2004 and increased to 34.70% in 2007. This ratio however declined to 27.53% in 2008. Loans and overdrafts to the public sector averaged 12.44%. Lending to the Government Departments improved from 0.10% in 2004 to 2.54% in 2008 and averaged about 0.79% for the period under review.



Source: Generated from SG-SSB Annual Reports

**Table 4.7 Share of total loan by type of customer**

Customer	2008 %	2007 %	2006 %	2005 %	2004 %
Individuals	27.53	34.70	27.70	23.13	20.36
Private Enterprise	57.77	48.48	55.42	55.85	65.59
Public Enterprise	9.34	12.51	12.30	18.09	9.98
Government Depts.	2.54	1.14	0.00	0.16	0.11
Staff	2.82	3.17	4.58	2.76	3.97
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source: Compiled from SG-SSB Limited Financial Statement.



**Table 4.8 Analysis of Loans and overdrafts advances by Sector**

Sector	2008	2007	2006	2005	2004
Agriculture, Forestry and Fishing	32,955,966	39,481,269	22,470,602	21,407,200	2,651,900
Mining & Quarrying	2,608,310	8,612,209	3,573,300	3,234,000	414,000
Manufacturing	45,849,158	40,444,195	30,751,000	27,647,800	16,844,000
Construction	7,091,362	6,461,900	7,913,683	10,184,900	11,008,700
Electricity, Gas and Water	3,807,396	1,444,376	853,200	963,500	426,800
Commerce & Finance	109,917,548	39,510,766	36,846,600	33,305,600	28,089,400
Transport, Storage & Comm.	16,067,116	14,069,148	7,458,100	5,931,100	5,850,100
Services	59,087,195	48,864,936	26,802,100	26,842,700	12,049,700
Miscellaneous	24,897,140	27,668,738	17,196,800	7,845,200	10,820,500
<b>TOTAL</b>	<b>302,281,191</b>	<b>226,557,537</b>	<b>153,865,385</b>	<b>137,362,000</b>	<b>88,155,100</b>

**Source: Compiled from SG-SSB Annual Financial Report**

From Table 4.8 above, total gross credits of GH¢302,281.7 thousand in 2008 was up by GH¢75,723.7 thousand or 33.4% from the December 2007 position and also, further up from the December 2004 position by GH¢ 214,105.7 thousand (243.1%). The significant growth can be due to a revamping of the bank's credit approval in order to enhance credit portfolio growth and also the higher rate of return.

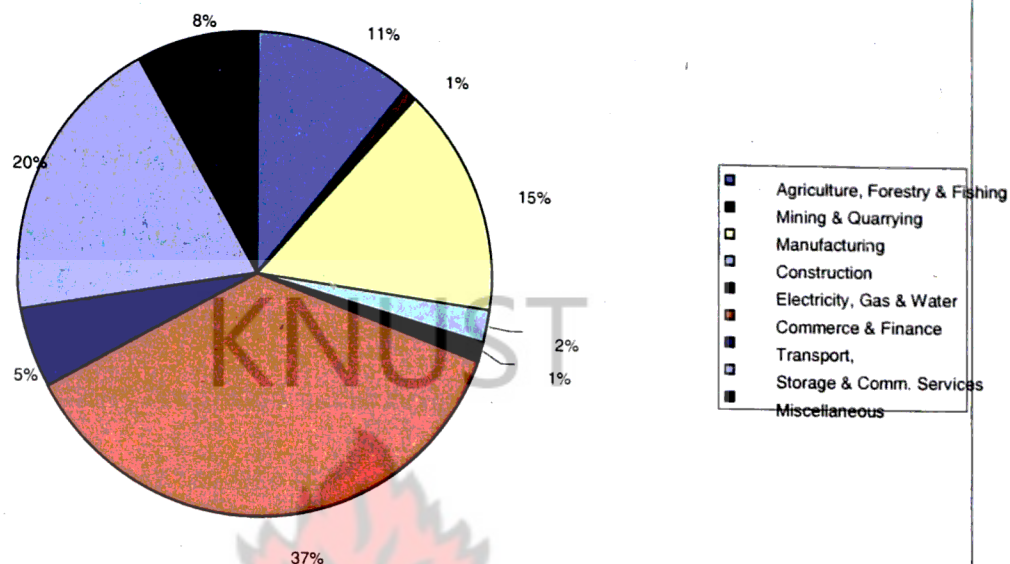
**Table 4.9 Common Size ratio of Loans and over draft by Sector**

Sector	2008	2007	2006	2005	2004
Agriculture, Forestry & Fishing	10.90	17.43	14.60	15.58	3.01
Mining & Quarrying	0.86	3.80	2.32	2.35	0.47
Manufacturing	15.17	17.85	19.99	20.13	19.11
Construction	2.35	2.85	5.14	7.41	12.49
Electricity, Gas & Water	1.26	0.64	0.55	0.70	0.48
Commerce & Finance	36.36	17.44	23.95	24.25	31.86
Transport & Comm	5.32	6.21	4.85	4.32	6.64
Services	19.55	21.57	17.42	19.54	13.67
Miscellaneous	8.24	12.21	11.18	5.71	12.27
<b>TOTAL</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

**Source: Compiled from SG-SSB Annual Financial Report**

Figure 4.11 provides loan distribution by specific sectors of the economy. Except the year 2007, commerce and finance sector were the highest loan recipient from the bank. Figure 4.11 shows that about 37% of the bank's loans and overdrafts went to the commerce and finance sector, followed by storage and communication services.

**FIG 4.11 COMMON SIZE RATIO OF LOANS & OVERDRAFT BY SECTOR**



**Source: Generated from SG-SSB Annual Financial Report**

The upward trend in Loans and Advances has been steady as a result of increased lending to the institutional and private sector. Commerce & Finance Sector recorded the highest percentage share throughout the period with an average over the five-year period of 26.8%. The banks advances to the Manufacturing, Agriculture and the Storage & Communication services sectors were also significant throughout the periods under review also averaging 18.5%, 12.3% and 18.4% respectively. This can be linked to the fact that in Ghana the growth in the trade sector (which includes manufacturing, commerce, etc) is the fastest and the sector with the largest concentration of market players.



### 4.3.5 Interest Income

The Bank derives its interest income from three main sources namely, loans and overdrafts, investments and short term funds. Table 4.10 and Figure 4.12 provide a trend analysis of interest income from 2004 to 2008. The growth over the five year period in Interest Income is influenced largely by a continuous rise in Loans and Advances Income due to the increase in the quantum of Net credits of GH¢75,723.7 thousand (33.4%) over the period under review; Coupled with a higher base rate of 24.25% compared with an average of 18.9% over the previous periods.

**Table 4.10 Analysis of Interest Income**

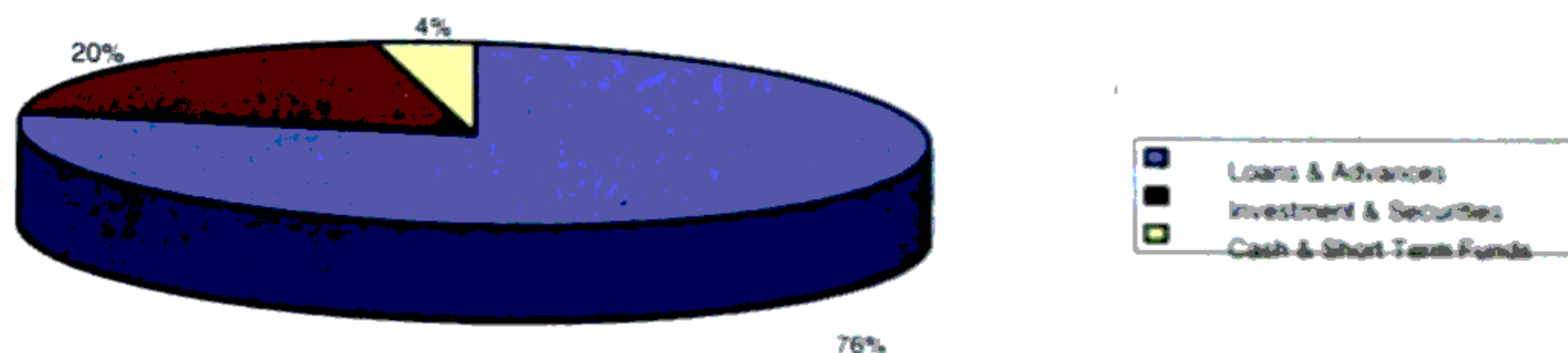
Interest Income	2008	2007	2006	2005	2004
	<u>GH¢</u>	<u>GH¢</u>	<u>GH¢</u>	<u>GH¢</u>	<u>GH¢</u>
Loans & Advances	36,391,662	24,796,320	22,105,638	16,542,000	15,109,400
Investment & Securities	9,399,259	14,764,400	16,287,777	18,339,000	14,945,800
Cash & Short Term Funds	1,742,403	2,790,301	1,515,385	1,391,100	1,659,500
<b>TOTAL</b>	<b>47,533,324</b>	<b>42,351,021</b>	<b>39,908,800</b>	<b>36,272,100</b>	<b>31,714,700</b>

**Source: Compiled from SG-SSB Annual Financial Reports**

The percentage share of income from Investments and Securities declined from 50.55% in 2005 to 19.77% in 2008 (Figure 4.12). The reduction in Investment was the consequence of boosting up the banks' Credit which has a higher rate of return. Short-term funds experienced marginal average growth of 4.6% over the period. However, it is worth noting that this culminates into a higher risk as against a risk free treasury bill



**Figure 4.12 Common Size ratio of Interest Income**



**Source: Generated from SG-SSB Annual Report**

#### **4.3.6 Classification of Overdue Debts**

The overdue debts or non-performing accounts of the Bank are classified in accordance with the Bank of Ghana qualitative and quantitative guidelines. The classifications are:

##### **(i) Substandard Loans /Overdrafts**

These are advances that exhibit all the weaknesses inherent in substandard advances with the added characteristics that they are not well-secured making collection or liquidation in full highly questionable or impossible. Non-performing loans and receivables which are at least 90 days but less than 180 days overdue are also classified as such.

##### **(ii) Doubtful Advances (Bad and Doubtful Debts)**

These are advances that exhibit all the weaknesses inherent in substandard advances with the added characteristics that they are not well-secured making collection or liquidation in full highly questionable or impossible. Non-performing loans and receivables which are at least 180 days but less than 540 days overdue are also

classified as such.

### (iii) Loss Advances (Overdue Debts)

These are advances considered as uncollectible and of such little value that their continuation as recoverable advances is not warranted. They include advances to companies that have been liquidated and loans to insolvent firms with negative working capital and cash flow. Non-performing loans and receivables which are 540 days or overdue are also classified as such. Table 4.11 and Figure 4.13 show the trend in the various categories of non-performing loans from 20004 to 2008.

**Table 4.11 Analysis of Non-Performing Loans (NPL) in GH¢**

<b>LOAN CLASSIFICATIONS</b>	<b>2008 GH¢</b>	<b>2007 GH¢</b>	<b>2006 GH¢</b>	<b>2005 GH¢</b>	<b>2004 GH¢</b>
Sub-Standard	3,047,800.00	5,955,300.00	4,822,000.00	1,020,000.00	858,800
Bad & Debt	3,200,000.00	6,156,700.00	4,505,700.00	3,952,300.00	5,668,500.00
Loss	8,633,400.00	6,467,300.00	4,397,800.00	8,638,200.00	8,804,000.00
<b>TOTAL NPA</b>	<b>14,881,200.00</b>	<b>18,579,300.00</b>	<b>13,725,500.00</b>	<b>13,610,500.00</b>	<b>15,331,300<sup>a</sup></b>

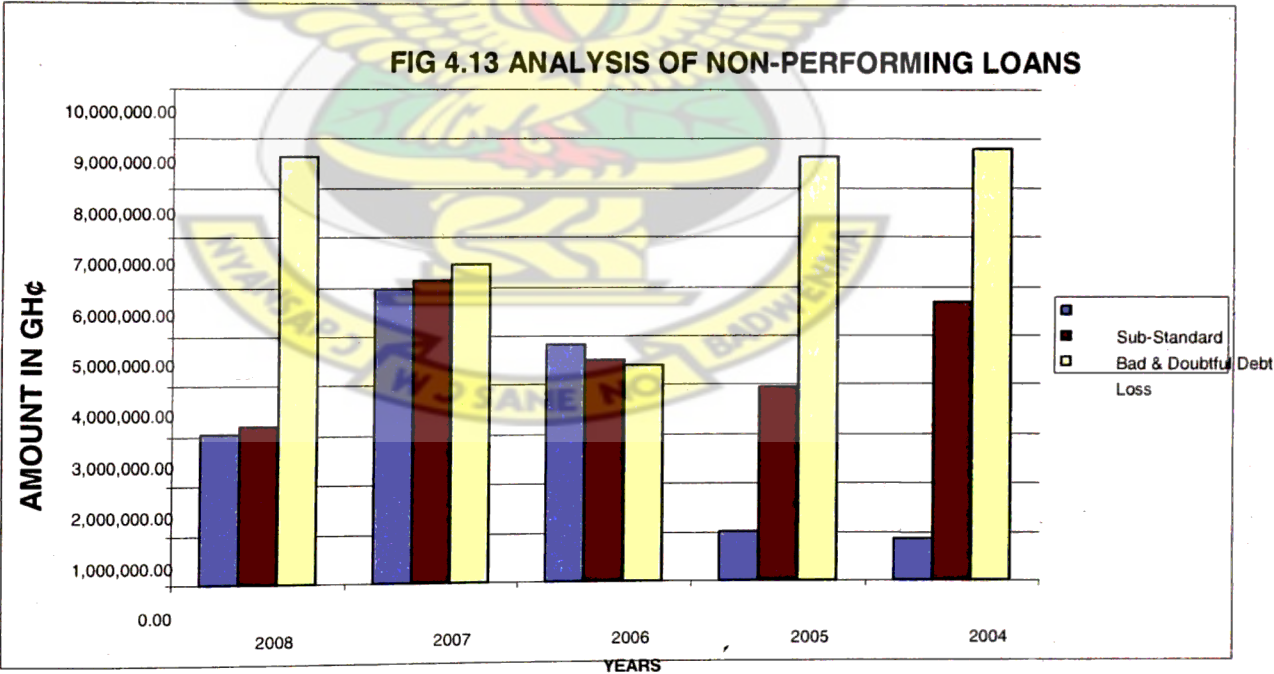
Source: SG-SSB Annual Financial Reports

It may be evident from Table 4.11 above that total non-performing loans decreased from about GH¢ 15.33 million in 2004 to about GH¢13.73 million in 2006 after which it increased by about 35% to an annual amount of GH¢ 18.58 million in 2007. The year 2007 had the worst non-performing loan position over the five-year period and this can be principally attributed to the increase in banks bad debt position over this same period. The situation was normalized in the subsequent year (i.e. 2008) with a



decrease of 19.9%. This is an indication of an effective system of Risk Management and efficient recoveries over the past year.

From Figure 4.13 below, it is observed that apart from 2006 actual loan losses formed the greatest percentage of total non-performing assets of the bank; the fraction was lowest (32%) in 2006 and highest (63.5%) in 2005. Substandard loan which was very low in 2004 and 2005 became a relatively bigger proportion of total non-performing loan in the last three financial years (from under 10% to more than 20%). The growth in total non-performing assets and the various categories may signal a weakness in the bank's credit risk management system.



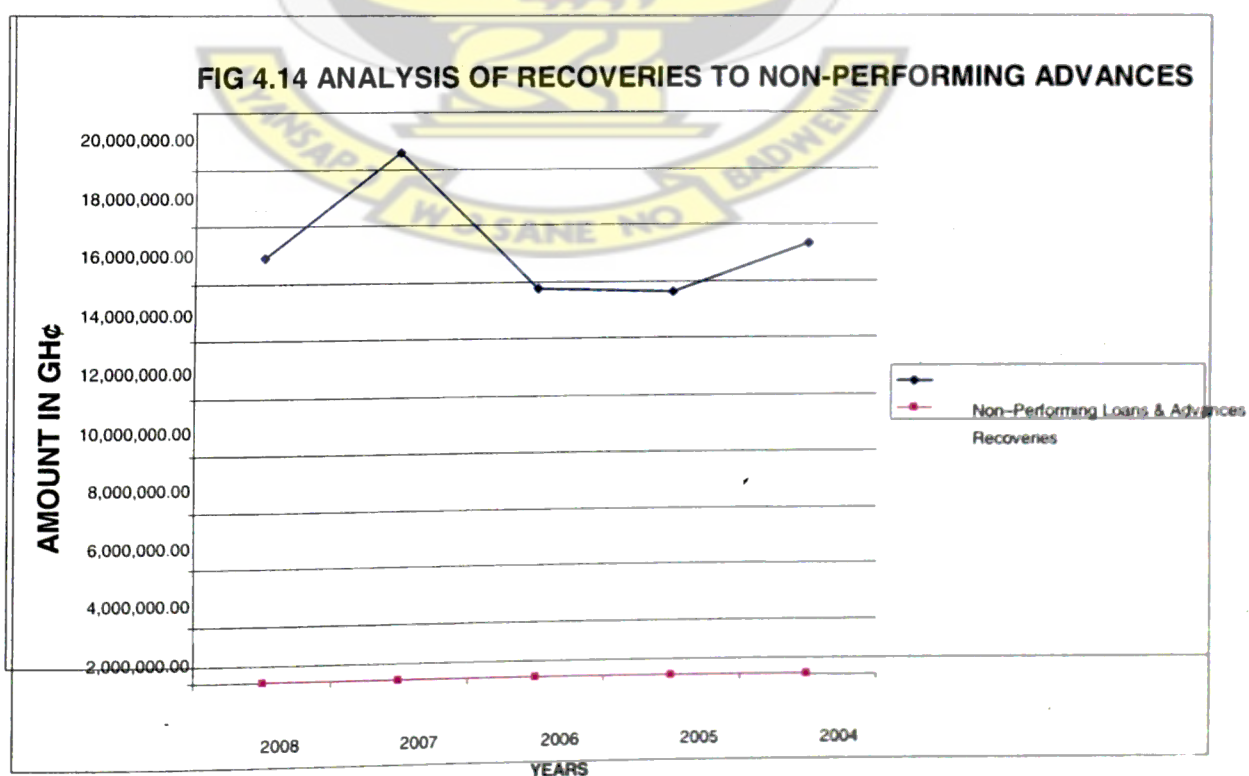
Source: Generated from SG-SSB Annual Financial Reports

### 4.3.7 Recovery of Overdue Debts

The recovery of over-due loans is centralized at the Recoveries Management Department at the Head Office. The Corporate Account Relationship Managers assist in this recovery. Thus, when an account is classified substandard, it is referred to the external solicitor upon the Head of Recoveries' recommendation to initiate legal action. Similar treatment is given to accounts in the substandard and loss categories. At other times, the Credit Management Department comes out with a workout arrangement with a delinquent customer. Advances which offer no potential for recovery are written off.

**Table 4.12 Analysis of Recoveries to Non-Performing advances**

	2008	2007	2006	2005	2004
	GHe	GHe	GHe	GHe	GHe
Non-Performing Loans & Advances	14,881,200.00	18,579,300.00	13,725,500.00	13,610,500.00	15,331,300.00
Recoveries	763,843.00	2,297,610.00	660,530.74	957,148.39	1,110,342.00
Recoveries/NPL(%)	5.13	12.37	4.81	7.03	7.18





Recoveries made on the non-performance advances were generally not stable during the period, from a high of 7.24% in 2004, a fall to 4.8% in 2006 then the significant increase to 12.37% in 2007, and finally to 5.13% in 2008. The year 2007's high ratio of 12.37% can be attributed to the impressive recovering of over 2 million Ghana cedis of it loans.

#### **4.3.7 Summary of Findings**

An appraisal of the Bank's Credit Management procedures during the period 2004–2008 has shown that the bank took adequate measures to strengthen its credit management procedures and techniques. Among the measures taken were;

- (i) The review of a Credit Policy Manual to provide guidance and focus to make the bank's lending activities easily accessible and to guide Credit officers in the efficient performance of their jobs.
- (ii) The introduction of software for an elaborate credit analysis procedure for requests. Requirements in the Business Loan Application (BCA) form are detailed enough for effective credit analysis to be carried out on loan applicant's financials to determine their ability and capacity to honour their obligation.
- (iii) The establishment of separate departments for monitoring loans and recovery of non-performing loans. At the same time, external solicitors were engaged to assist in recoveries.

- (iv) Continuous training of Account Managers to update their knowledge. In-house training at the Bank's training centre, credit management courses organized by local consultants and the National Banking College were also made available to the credit staff.
- (vi) The bank also established a well-structured credit approval process based on the level of authority.
- (vii) The bank obtained security. That is, proper collateral interest on most of the advances.

Despite the above measures, the study has identified some constraints in the Bank's Credit Risk Management. These are;

- (i) Most customers do not keep proper records to assist the Account Managers in undertaking effective monitoring. They do not prepare management accounts and projected cash flows submitted are most often not realistic.
- (ii) The Bank's software is very limited and can not generate some of the reports needed by the Corporate Account Relationship Managers to assist in the monitoring process.
- (iii) Some businesses could not generate adequate cash flow to enable the facility to be repaid on schedule due to poor financial management.

- (iv) It was observed that the Bank until recently was not taken the various sectors of the economy into consideration in the determination of lending rates, instead the same lending rate was applied no matter the sector in which the customer is operating.
- (v) There is no policy on sectoral lending analysis. This can lead to a high concentration of funds in a particular sector of the economy which makes the Bank more vulnerable in case of any adverse happening.
- (vi) Some customers were misapplying the funds by diverting them to their personal use instead of the business and the Bank was having difficulty in verifying what purpose the money was applied.
- (vii) When a customer uses a landed property to secure a facility, and a valuation has to be done on the property, the customer does the valuation at its own choice of Valuer. This could result in an overvaluation of the property.
- (viii) There is a high turnover of staff in the Business Banking Department. The Relationship Managers resign very often and as such do not grasp the work properly. This indirectly affects the customer since just as they begin to establish a relationship with the Relationship Managers he/she resigns.

From the observations made out of the analysis in this chapter, it is clear that CRM issues are the biggest challenge facing banks, and continuous efforts are constantly made to ensure a balance between the level of risks, the quality of the banks loan book, and



performance. The following and final chapter would discuss suggested recommendations made to improve Credit Risk Management in the Ghanaian Banking Industry in general and SG-SSB Ltd in particular.

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## CHAPTER FIVE

### FINDINGS, RECOMMENDATIONS AND CONCLUSION

#### 5.1 Introduction

The fifth and last chapter of this report presents the conclusions drawn from the analysis in the fourth chapter. It reviews key concepts pertinent to this study and also summarises the major findings obtained from the study. It further provides recommendations based on the findings to help improve on effective management of credit at SG-SSB Limited.

#### 5.2 Findings

The study sought to have a general overview of how banks manage their credit risk with particular reference to SG-SSB Limited Loan portfolio. It also focused on analysing the credit risk management procedures followed by SG-SSB Limited and to identify the gaps if any in SG-SSB's credit risk management process with a view to improving the safety of the Bank's credit risk management process.

Data for the study were obtained from both primary and secondary sources. A survey using questionnaires was used to collect primary data from employees involved in the credit risk management of the Bank. The main findings of this study are as follows;

- (i) It was found in the study that the Bank grew its loans and advances significantly by 243.1% between 2004 and 2008. The significant growth can be due to a revamping of the bank's credit approval in order to enhance credit

portfolio growth and also the higher rate of return as compared with investments.

- (ii) The study revealed that the major beneficiary of the Bank's loans and advances was the Private Enterprise comprising the individuals and other Private Enterprises averaging 56.61% share of the loans and advances.
- (iii) It was also discovered in the study that the Commerce & Finance Sector recorded the highest percentage share throughout the period with an average over the five-year period of 26.8% followed directly by the Manufacturing, Agriculture and the Storage & Communication Services sectors.
- (iv) The study showed that the growth over the five-year period in Interest Income is influenced largely by a continuous rise in Loans and Advances Income due to the increase in the quantum of Net credits of GH¢75,723.7 thousand (33.4%) over the period under review. Coupled with a higher base rate of 24.25% compared with an average of 18.9% over the previous periods.
- (v) The Bank's Advances grew faster than its Deposits, thus leading to the 101% attained in the year 2008 is a clear indication that the bank has lent out more than borrowed, and also a signal that the bank is lending from its reserves.
- (vi) The years 2007 and 2008 witnessed a situation where over 50% of the bank's total assets were financed primarily from its advances.



- (vii) The analysis of the non-performing advance to total advances indicates that even though the bank has increased its loan portfolio, it has also taken steps to reduce the associated risk i.e. has a significantly low non performing loan.
- (viii) A discovery was made in the study that over the five year-period the provision for bad and doubtful debt has averaged low of 3.4%. It can be said that the Bank has made adequate provisions in view of the quality of the advances portfolio and coupled with the fact that the Bank is proactive in declaring loan and advances non-performing.
- (ix) The overall decrease in SSB's non-performing loans by 2.9% over the five-year period (2004 to 2008) is an indication of an effective system of Credit Risk Management and efficient recoveries over the past year.
- (x) Over the five-year period, the analysis of non-performing loans to recoveries indicates that ratio indicated that the bank recoveries in relation to its non-performing loans were relatively low. However, the bank made an impressive recovery during the year 2007.
- (xi) The credit risk management procedure and techniques of SG-SSB Limited is on the average and therefore the techniques employed could still require improvement considering the fact that the banking industry is clearly evolving to higher level of risk management techniques and approach.

- (xii) Finally, the study showed that weakness exists in the loan approval process since all loan proposal received at the branches have to be forwarded to the Business Credit Administration for processing and approval. This unnecessary delays the loan granting process.

### **5.3 Recommendations**

The Banking Industry is clearly evolving to a higher level of risk management techniques and approaches than had been in place. Yet, as this study indicates, there is significant room for improvement. Before the areas of potential value added are enumerated, however, it is worthwhile to reiterate an earlier point. The risk management techniques of SG-SSB Limited are on the average, and therefore, the techniques employed could still require some improvement. What the banking industry should strive for is the Credit Risk management approaches that are relatively sophisticated, with good precision and significantly analytic. The recommendation is that banks should possess the following tools that would enable them to work on their Credit Risk Management more easily so as to improve the system:

#### **5.3.1 Credit Rating System**

A credit rating /credit grade is the banks' assessment of the likelihood of default by the counter party, which not only takes into account the ability and the willingness of the counterparty to pay its dues, but also the type of facility and collateral etc. The most important feature of a rating system is consistency. That is, all counter parties assigned

the same risk grade must have a similar likelihood of default. Only a consistent rating system will enable a bank to group counter parties by risk grades, for further analysis.

With the existence of the quantitative credit rating system as suggested here, the banks would be able to arrive at numerical measure of the Probability of Default (PD) of each rating. The PD enables a bank to estimate the probability that a counter party will default. In the International scene, credit rating institutions such as Standard and Poor's Rating serve as guides.

The banks should construct their own quantitative rating models rating scale and calculate the Probability of Default for each rating. Such a task presupposes the existence of a vast body of credit histories at the banks' end, because only a sufficiently large volume of data will give accurate estimates of the Probability of Default for each risk grade. Once a bank has built its own rating scale, it must check whether the counterparties that have been assigned various ratings, do in fact default in a manner consistent with the predicted Probability of Default, by periodically back-testing the output of the model. If they do not default as per the predicted Probability of Default, then the rating process should be amended to ensure that rating is being done in a manner consistent with the predicted Probability of Defaults.

Generally Ghanaian banks including SG-SSB Limited are yet to adopt quantitative credit risk models that can calculate Probability of Default of counter parties. The quantitative rating systems that they use depend on the subjective judgement and expertise of their credit analysis team. In light of the fact that quantitative credit risk



models are still fairly new, almost all banks prefer to depend heavily on the skills of their credit analysts.

### **5.3.2 The Establishment of Credit Reference Bureaus**

In addition, the establishment of credit reference agencies or credit bureaus is also recommended to aid the Ghanaian financial system. These are companies that assign credit scores to individual borrowers. A credit score measures credit worthiness, the ability to pay back a loan and such an assessment determines the interest rate applicable to loans. Interest rates are not the same for everyone, but instead are based on risk-based pricing, a form of price discrimination based on the different expected costs of different borrowers, as set out in the credit rating.

Credit bureaus collect and collate personal financial data on individuals, from financial institution which they have a relationship. The data are aggregated and the resulting information is made available on request to contribution companies for the purposes of credit assessment and credit scoring. Low loan portfolio quality, especially in Ghanaian banks, is due primarily to the absence of Credit Reference Bureau(s). If this is available in Ghana, most banks and other credit-granting institutions would subscribe to one or more of these organisations to ensure the quality of their lending.

The passing of the Credit Reporting Bill Act (Act 726) which is to provide a legal regulatory framework for credit reporting in Ghana is therefore in the right direction. Financial institutions will be eligible to access a credit bureau's database for credit risk management purposes. The availability of credit information is generally accepted to

be crucial for the development and maintenance of an effective financial sector.

The establishment of credit information system in Ghana would therefore provide timely, accurate, and up-to date information on the debt profile of and repayment history of borrowers and would lead to a number of benefits.

### **5.3.3 Market Data**

The bank should also have access to accurate and timely market data about various risk factors such as inflation, interest rates, exchange rates, equity indices, etc. Accurate data for each of these risk factors is required to estimate the value of each loan in the bank's credit portfolios especially those in the trading book.

The last few years has seen stable monetary policy introduced by the government to boost the banking sector and help government achieve its objective of encouraging private enterprise so as to reduce poverty in the country. However a lot still needs to be desired. For example, although Bank of Ghana prime rate is about 18.5% banks base rates still average about 29%.

Credit losses, currently vaguely related to credit rating, need to be closely tracked. As in any vibrant financial system, credit pricing, credit rating and expected loss ought to be demonstrably closer. However, the Ghanaian banking industry currently does not have a sufficiently broad database. This upsets the linkages between credit pricing, credit rating and expected loss. Banks in Ghana need to be price sensitive in order to achieve the optimal returns for the risk taken, particularly if credit losses is be minimized. This can only be achieved if banks would have sufficient market data base

on time and accurately.

#### **5.3.4 Consultations between Banks and Financial Institutions**

During the process of identifying risk factors and likely stress scenarios, risk managers should involve other experts in the bank such as relationship managers, economist and other staff whose duties are involved with risk issues. As stated already, a good loan appraisal would include analyzing the credit worthiness of the customer, which is sometimes absent. The current competitive mood of banks in Ghana does not help the situation very much since the traditional status enquiry normally sought among banks is no longer happening. Banks does not easily reply to references made by their fellow banks to for their opinion on their customers. Banks should be more open to each other so as to build good loan portfolios.

#### **5.3.5 Leverage on strengths and organisations**

The strengths of SG-SSB Ltd amongst others included: having reputable institutional shareholders, integrity of management and staff in the financial market, reputation for innovativeness, as well as having a diversified range of financial products and well positioned to offer the full range of universal banking products and services. This gives the bank a strong position to capitalize on them as the critical success of its Credit Risk Management. This is particularly so when it comes to using the training of its experienced staff in credit analysis.



### 5.3.6 Information Systems and analytical techniques

Information systems and analytical techniques enable management to measure the credit risk inherent in all on-and off-balance sheet activities. The management information system could provide adequate information on the composition of the credit portfolio, including identification of any concentrations of risks.

The effectiveness of a bank's credit risk measurement process is highly dependent on the quality of management information system. The information generated from such systems enables the board and all levels of management to fulfil their respective oversight roles, including determining the adequate level of capital that the bank should be holding.

Therefore, the quality, details and timeliness of information are critical. In particular, information on the composition and quality of the various portfolios, including on a consolidated bank basis, should permit management to assess quickly and accurately the level of credit risk that the bank has incurred through its various activities and determine whether the bank's performance is meeting the credit risk strategy.

The banks should monitor actual exposures against established limits. It is important that banks have a management information system in place to ensure that exposures approaching risk limits are brought to the attention of senior management. All exposures should be included in risk limit measurement system. The bank's information system should be able to aggregate credit exposures to individual borrowers and counterparties and report on exceptions to credit risk limits on a

meaningful and timely basis.

Banks should have information systems in place that enable management to identify any concentrations of risk within the credit portfolio. Business line managers and senior management should ensure that it is sufficient to the complexity of the business should review the adequacy of scope of information on a periodic basis. Increasingly, banks are also designing information systems that permit additional analysis of the credit portfolio, including stress testing.

The impact of various factors on credit risk should be stress tested to evaluate multiple scenarios, using a framework that may include both qualitative and quantitative techniques. The complexity of the bank's stress testing process may depend upon the complexity of the bank's portfolios. The stress testing process should include quantitative techniques when practical, and should always include qualitative analysis. Regardless of the stress testing methodology employed by the bank, worst-case scenarios should be identified and effective contingency plans established.

Credit assessment models (qualitative and quantitative) should be back tested in order to evaluate their accuracy and the inherent model risk. In certain circumstances where insufficient data exist concerning default cycles or other relevant factors, alternative model validation methods might be appropriate.

## 5.4 Conclusion

Since credit risk endangers the largest proportion of the total risk of any well-diversified bank, it is imperative that banks adopt a comprehensive approach to managing it. Such a comprehensive approach involves managing credit risk at the counterparty and portfolios levels.

From the analysis and observations presented in this study, it is encouraging to note that SG-SSB Limited has made progress in the management of credit risk. The study has also shown that SG-SSB Limited had adequate credit risk management procedures and techniques in place during the period under review. In spite of these procedures and techniques Ghanaian banks including SG-SSB Limited are still some distance away from installing quantitative risk rating and portfolio models, and using these systems to allocate economic capital, calculate RAROC and manage portfolio credit risk. They are also yet to institute credit stress test.

It is hoped that this study will encourage Risk Managers and the Top Management of Banks to start building quantitative credit risk tools and models. Also, the bank should always remember that the banking industry is a dynamic one, and continues review of their Credit Risk Management procedures and techniques would contribute significantly to the bank's performance.

Further, some of the most important benefits of Credit Risk Management come from the intense discussions that take place within a bank when analyzing the features of the portfolio, building scenarios and setting limits. It is of the believe that improvements



made in the area of quantitative credit risk tools and the benefits derived from the structures would have an added advantage and beneficial to effective Credit Risk Management in the banking industry.

If deployed correctly and effectively, credit risk management could be a value-enhancing activity that goes beyond regulatory compliance and could provide a competitive advantage to banks that execute it appropriately.



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## APPENDIX: QUESTIONNAIRE

### Credit Risk Management in the Ghanaian Banking Industry: The case study of SG-SSB Ltd

The questionnaire is to enable the student of the KNUST conduct a study into how SG-SSB Limited is managing its Credit Risk Management System. Note: Results from this study will be used primarily for research purposes and your responses status will be treated confidentially. Your kind co-operation will be very much appreciated. Please complete the questionnaire, (tick where appropriate).

(On a scale where A="of high importance" and D="of no importance").

**A. What do you see as the most important benefits of improved credits risk management?**

- |  |   |   |   |   |
|--|---|---|---|---|
| i. Improved business and performance management                  | A | B | C | D |
| ii. Improved pricing of products                                 | A | B | C | D |
| iii. Optimized allocation of economic capital                    | A | B | C | D |
| iv. Reduction in losses  | A | B | C | D |
| v. Improved selection of clients according to their risk profile | A | B | C | D |

**B. Rate the following factors in terms of their impact on the development of a credit risk management program in your bank.**

- i. Concern over exposure concentrations and ability to identify and control them along with a variety of other business issues and internal management concern.

A      B      C      D

- ii. Prudent distribution of Credit portfolio to ensure profitable operations.

A      B      C      D

- iii. Conformance with regulatory requirements

A      B      C      D

- iii. Concerns over the level of policy exceptions and to reduce impact of subjectivity in the credit delivery process

A      B      C      D

iv. Increased shareholder pressure for credit risk management performance.

A B C D

v. internal best practices benchmarking exercises

A B C D

vi. Concern over increased levels of losses

A B C D

vii. Acceptable collateral based on relative ease of realisability

A B C D

viii. Concern over exposure concentration and ability to identify and control them

A B C D

ix. Basel II and related domestic regulation

A B C D

**C. Rate the following key components of credits risk management in order of importance in your opinion.**

i. Credit Software rating system

A B C D

ii. Business Processes/Industry Analysis

A B C D

iii. Compliance to Policy

A B C D

iv. Financial Statement Analysis

A B C D

iiiv. Business proposal

A B C D

**D. How important is Information Technology for achieving best practices in Credit Risk Management**

i. Just a Tool

A B C D

ii. Manage information efficiently

A B C D

iii. Eliminates Manual Process

A B C D

iv. Data Transparency

A B C D

v: Portfolio Management

A B C D

**E. In your opinion where do you think the investment in risk management systems should be going into be in the bank?**



- a. It should be spent on a portfolio credit risk analysis tools.

A B C D

- b. It should be spent on the reporting infrastructure.

A B C D

- c. It should be spent on developing the credit risk warehouse in terms of data management.

A B C D

- d. It should be spent on data cleansing tools.

A B C D

- e. Plan to train staff

A B C D

- F. Which Credit risk tools have been implemented, are being implemented or will next 12 months? Be implemented among respondents**

Answer

.....  
.....

- G. Rate the following requirements to a successful implementation of the bank's credit management systems on a scale of A ( of high importance) to D ( no importance).**

- i. Data and data history (counter-party data history requirement of at least 5years loss data)

A B C D

- ii. Data management requirement

A B C D

- iii. Core IT infrastructure to support data management requirement.

A B C D

- iv. Disclosure of information

A B C D

- v. Reporting technology to support

**A      B      C      D**

vi. Integration of systems across departments

**A      B      C      D**

vii. Consistency of risk rating approaches across portfolio and a systematic way of calculating probability of default, exposure at default and loss given.

**A      B      C      D**

viii. Requires extra resources and budget

**A      B      C      D**

