

BANKING COMPETITION

**A COMPARATIVE STUDY ON STANBIC BANK AND CENTENARY BANK UGANDA
(2005-2011)**

BY

MAINA SHADRACK

BEAS/43483/101/DF

SUPERVISOR

PR. GODWIN SEMPEBWA

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DECLARATION

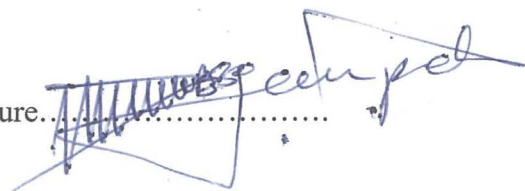
I, **Maina Shadrack** declare that this is my own piece of work and has not been presented and will not be presented to any other University for a similar or any degree award.

Signature.....

APPROVAL

This research report was read and approved and is now ready for submission under my supervision as a university supervisor.

Signature.....

A handwritten signature in blue ink, appearing to read 'Pr. Godwin Sempebwa', is written over a dotted line. The signature is stylized with a large, sweeping initial 'G'.

Name: **Pr. Godwin Sempebwa**

Designation: **Supervisor**

DEDICATION

To my beloved grandmother, mother, brother, relatives and all those who have loved, cared and supported me in my quest for knowledge.

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Great thanks go to the almighty God for the gift of life, his glory and blessings that he has bestowed upon me that has led me to great success in finishing my research project.

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LIST OF ABBRIVIATIONS

CERUDEB – Centenary Rural development bank

ANOVA – Analysis of Variance

Ltd – Limited

SCP - Structure-Conduct-Performance

SIDI – Soliderate Internationale Pour le Development et Investment

EH – Efficiency Hypothesis

PR – Panzar and Rose model

SPSS – Statistical Packages for Social Science

SS – Sum of squares

MS – Mean squares

DF – Degree of freedom

ABSTRACT

This research study is about banking competition in the banking industry. Taking Stanbic bank and Centenary bank as my case studies, the research will involve studying and comparing the rate of growth in the customer's deposits, loan lending, and accumulation of assets for a period of 6 years (2005 – 2011) for the two banks which are considered the giant banks in Uganda. The study will be conducted for four months and is to be submitted to Kampala International University.

Statistical analysis using time series analysis; Analysis of variance test (ANOVA) and regression analysis will be conducted to compare variables. On completion of the study, the researcher will be in a position to draw a conclusion and make recommendation on competition in Ugandan banking industry based on the findings.

The aim of the study is to measures competition and emphasizes the competitive conduct of banks without using explicit information about the structure of the market. The comparative study indicates that the Ugandan banking industry is highly concentrated which has encouraged competition in the market and enhanced performance. A major policy implication derived from this analysis is that the Ugandan banking system has been subject to deep structural transformation since the early 1990s. Advances in information technology, liberalization of international capital movement, consolidation and privatization have permitted economies of scale in the production and distribution of services and increased risk diversification. These forces have led to lower costs and, undoubtedly, higher efficiency thereby encouraging competition among firms.

CHAPTER ONE

1.0 INTRODUCTION

This chapter contains the background of the problem, statement of the problem, research questions, and the objectives of the study. It also intends to provide enough explanation concerned with significance and the scope of the study.

1.1 HISTORICAL BACKGROUND

From the 1940s to the 1970s, competition between financial institutions was severely limited by the regulation of rates, activities and investment, the separation between commercial banking insurance and investment banking restrictions on the activity of savings banks, and geographical segregation. The stability of this earlier period contrasts with the sizable increase in the number of failures and crises in the later period in which the sector was liberated and competition introduced. In tune with most banking systems in Africa, the commercial banking sector was heavily regulated in Uganda. The regulations affected market entry and exit, capital adequacy levels, reserve and liquidity requirements, deposit insurance and determination of interest rates on deposits and loans. The purported rationale for the regulations and restrictions was to aid the expansion of the reach of commercial banks, while preventing excessive competition for funds. The restrictions were expected to enhance bank safety and soundness by increasing their profitability.

The result of the liberization process has been an increase in competition both within and outside the banking industry. Market integration worldwide has contributed decisively to the increase in competition in wholesale and investment banking. The liberization process has resulted also in a tremendous expansion of intermediation with financial assets of intermediaries increasing sharply but bank assets have not declined in relation to total financial assets and with an increase in the incidence of crises. At the same time banking has transformed itself towards services provision and restructuring has tended to increase aggregate concentration. Competition is desirable because any form of market failure or anti- competitive behavior on the market part of banks has far-reaching implications for productive efficiency and maximization of social welfare. More recently however, the financial sector in Uganda has undergone reform and liberalisation in tune with changes affecting banking systems around the world. Financial sector reforms have impacted on the financial sectors in a number of ways. First, the reforms have

modified the environment under which banks operate. The reforms which have changed the operational environment include those deregulating interest rates, eliminating directed credits, liberalising foreign currency holding and introducing market based systems of monetary policy management. Second, the reforms have affected the productivity of financial institutions. The reforms that have affected the productivity of banks include those that have led to changes in management and ownership, those leading to more intense competition, and those underpinning new regulations on treatment of nonperforming loans and provisioning for loan recovery (Bonaccorsi di Patti and Hardy, 2005).

In other words, in a competitive market setting, there is allocative and productive efficiency as well as dynamic efficiency. However, banking sector has specific features that make it of particular importance to an economy and properties that may distinguish it from other industries. Banks contribute greatly to economic growth by playing an intermediating role between borrowers and lenders and providing financial resources to other industries and hence facilitating production. Banking system is also important since any instability in the banking system has the potential to lead to a financial instability and economic crisis. Hence, a well functioning banking system is regarded as a cornerstone of a market economy. Policymakers try to ensure that banking system is stable besides ensuring that it is competitive and efficient. A competitive banking system is therefore required to ensure that banks are effective forces for financial intermediation channeling savings into investment fostering higher economic growth.

Two widely used techniques for measuring the degree of competitive behavior in the market are those developed by Breshanan (1982) and Lau (1982) and Panzar and Rosse (1987). The Breshanan model uses market equilibrium model and is based on the idea that profit-maximizing firms in equilibrium will choose prices and quantities such that marginal costs equal their marginal revenue, which equals to demand price in case of perfect competition or industry's marginal revenue in case of monopoly. Panzar and Rosse model uses input prices to determine behavior of banks.

1.1.1 Centenary Rural Development bank (CERUDEB)

The Centenary Rural Development Bank Ltd. (CERUDEB) is a commercial bank that offers economically-disadvantaged Ugandans a full range of appropriate financial services including savings, credit and funds transfer services.

The origins of the Bank stem from an initiative of the Uganda National Council of Lay Apostolate in the early 1980's designed to promote the provision of a range of appropriate financial services to the rural population of Uganda. In 1983 the credit trust, Centenary Rural Development Trust (CERUDEB) as it was later to be called was registered as a financial institution and operations commenced. However success was long way to come and for nearly five years the bank made no profits. In 1989 the bank restructured its ownership. The French Investment bank, SIDI bought into the bank taking up 8% shareholdings as the 19% Dioceses retained 42% while the Catholic Secretariat held onto its 50. The Trust was transformed into a commercial bank in 1993.

The Ugandan banking industry underwent a major restructuring between 1999 and 2000 which saw some indigenous banks being liquefied or sold by the central bank after being declared insolvent, causing major shock to Centenary bank. This left bank as the largest indigenous bank in terms of network. Over the years it has become one of the fastest growing banks in Uganda with over one million borrowers and depositors. It has a large branch network with 41 branches countrywide and 7 service spread all over Uganda, 90 ATMs and about 1500 staffs. The bank's shareholding has since changed again although the Catholic Church continues to hold a substantial portion of the ownership. The current shareholders include: the Uganda Catholic Secretariat; the Catholic Dioceses of Uganda; the Development Finance Company of Uganda; Hivos-Tridos Fond; and SIDI, a French investment company.

1.1.2 Stanbic bank limited

Stanbic bank heritage goes back to 1906 when it operated as National bank of India. Several names changes followed over the years including that of Grindlays bank. In 1993, Standard bank Group bought Grindlays Network in Africa and named it Stanbic bank Uganda. In 2000 the Ugandan banking industry underwent a significant restructuring. Some indigenous commercial banks were declared insolvent, taken over by central bank and eventually sold or liquidated. Uganda commercial bank which was government owned and which operated a countrywide network of 67 branches at that time was initially privatized through a sale of the majority shares

and the Standard bank of South Africa bought 90% of the share with the government keeping the remaining 10% shares under its ownership. The now privatized Ugandan commercial bank was merged with the Grindlays bank which Standard bank already owned and had renamed Stanbic bank. The new combined bank is now known as Stanbic bank (Uganda) limited. As of 2008 the bank was the dominant commercial bank in Uganda with about 27% of all bank assets and 20% of all bank branches in the country.

1.2 STATEMENT OF THE PROBLEM

In a well functioning economy, banks tend to act as quality controllers for capital seeking successful projects, ensuring higher returns. It is therefore necessary for the banking system to be competitive forces for financial intermediaries channeling savings into investment fostering higher economic growth. The agency of competition as a problem in a bank leads to excessive risk taking of moral hazard and risk shifting incentives. Adverse selection in credit control and financial markets may lead to the failure of competition and even market breakdown. Very important frictions prevent banking from being perfectly competitive. Indeed asymmetric information creates barriers to entry or makes competition not to deliver efficient outcomes. Competitive banking is in general excessively fragile and measures such as lender of the last resort facility, deposit insurances, “too big to fail” policies and prudential regulation come to the rescue. These regulations have been put to promote competitiveness of the banking system and maintain competitive markets. This study is intended to enrich the debate of the nature of competition and market structure of Uganda’s banking. It analyzes the relationship between banks performance and their market shares.

1.3 PURPOSE OF THE STUDY

A high degree of competition and efficiency in the banking system can contribute to greater financial stability, product innovation, and access by households and firms to financial services, which can in turn improve the prospects for economic growth. In this respect, there is a concern that a monopolistic or oligopolistic, inefficient, and fragile banking sector in a country is of major hindrance to economic development. Identifying the kind of reforms and environments that may help to promote competition and efficiency in Uganda’s banking system is therefore

important. This research is intended as an overview of the level of competition in Ugandan banking industry. It highlights the questions that need to be asked and addressed in the banking industry.

1.4 OBJECTIVES OF THE STUDY

- i. To determine the degree of deposits and loan lending for both banks.
- ii. To determine the wealth in assets for the two banks.
- iii. To determine if there is a difference between the services offered by the two banks.

1.5 RESEARCH QUESTIONS

Basically the researcher will focus on obtaining appropriate answers from the units of the study based on the following questions:

- i. What is the degree of deposits and loan lending in both banks?
- ii. What is the wealth in assets for the two banks?
- iii. Is there a difference between the services offered by the two banks?

1.6 SCOPE OF THE STUDY

1.6.1 Study scope

The study has been approached from an analytical perspective. In this regard it will consider the extent to which banks have continuously, by ensuring competitiveness in the banking industry, contributed to the higher rise in economic growth.

1.6.2 Geographical scope

The assessment employs two giant commercial banks in Uganda's banking industry that is Stanbic Bank Uganda Limited which is a subsidiary of Stanbic Africa Holdings Limited owned by Standard Bank Group Limited and the Centenary rural development bank Uganda limited.

1.6.3 Time scope

The study focuses on annual deposits, loans, customers, assets, staffs and profits/losses of the two banks for a period of 6 years (2005 – 2011).

1.7 SIGNIFICANCE OF THE STUDY

1.7.1 Management

The information provided from this research will enable the management of respective banks to create more efficient budgets which will be focused on the most vital areas needed to improve credit performance. The researcher will further provide management with reliable information about the level of competition in the market.

With the data available, the Ugandan banking industry will be able to access if there is competition in the industry and emphasize on the competitive conducts of banks which will help track and control any existing monopolistic competition.

1.7.2 Researcher

The study will enable the researcher to acquire skills on research and also help him conduct successful analysis in the future. In addition, this will be a formulation for future research during a professional career, which the researcher is pursuing. It will enable the researcher fulfill the partial requirement for the award of Bachelor of Economic and applied statistics. The study will help the researcher to gain a true and fair view of the state of the bank's financial affairs, its profits; cash flows and also practical experience in such field of research enabling him exploit different opportunities and overcome challenges within the working environment.

1.7.3 Future Researchers

Research students will also be able to use this study for reference both in class and while carrying out research related studies.

1 8 HYPOTHESIS

Testable hypothesis in this study include;

- i) Uganda's banking sector is uncompetitive
- ii) Competition is negatively correlated with market structure.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION.

This chapter present different literature related to the subject matter through undergoing various books and other related sources in order to gain much awareness on the topic under study. Literature review in this study will entails the theory of different scholars in relation to competition. It also provides a theoretical and empirical review.

2.1 The concept of competition

The definition of competition is rather restrictive but it implies that it is firms and businesses that compete and not countries. The word competition refers to the fact that firms (or banks) contend for patronage by customers or the public by attempting to supply or work at more favorable conditions than rivals. Competition can be illustrated as the activity or condition of contesting against each other. Firms can compete using various instruments which can be distinguished based on the speed with which they can be changed (Tirole, 1988). First prices can often be altered in the short run. Second costs structures and product characteristics can usually be adjusted only in the long run. With respect to instruments that can be changed in short run, we can consider competition in quantities as an alternative to price competition. In that case each bank chooses an output quantity and the price results from the inverse market demand function. However, in real world we often observe banks competition in prices, i.e. interest rates instead of quantities.

Markets power is caused by a lack of competition and determines a firm's stability to charge a price above marginal cost and thus earns a positive profit. This ability depends on the elasticity of demand facing firm at the profit maximization quantity. If demand is highly elastic, a firm would lose a substantial amount of sales if it raised its price slightly. However with inelasticity demand, the firm loses fewer sales from the same price increase. A common measure for the market power is given by the Lerner (1934) index or relative markup. This index expresses the markup of price over marginal cost as a fraction of the price, that is

$$\text{Lerner index} = \frac{\text{Price} - \text{Cost}}{\text{Price}}$$

The greater the markup, the greater the Lerner index and the more market power a firm has. This shows that Lerner index is related to the elasticity of demand (Cowling and Waterson 1976).

2.2 Definition and benefits of banking competition

The concept of competition in banking industry plays an important role in fostering a higher economic growth. Competition in banking is defined as a process of rivalry between firms seeking to win customers' business over time (Whish 2005). The existence of macro- economic stability and favorable factor conditions are meaningless if industries are unable to take advantage of such favorable conditions to improve production in terms of quality and quantity and compete in sub-regional, regional or international level. Michael porter in "*Competitive Advantage of Nations*," (2009) observes that competition is driven by many factors such as the existing structure of the market, the effectiveness of policies, in particular, the implementation of such policies, the demand conditions, especially the attitude of consumers of the products and the rate of innovation.

The banking sector, as a key player of money market, is important for every market economy. Financial system allocates liquid resources to other sectors and existence of any developed industry is under question without this engine. According to Vives (2001), competition in banking sector is important. Deregulation, the decreasing influence of national borders and increasing concentration due to mergers have made competition in the banking industry major issue in the last decades. These changes attract much attention in the banking sector in particular. They do not only affect the individual banks profitability and efficiency but also the soundness and stability of the financial sector as a whole and thereby the effectiveness of monetary policy instruments. As in other industries, the degree of competition in the financial sector affects the efficiency of the production of financial services, the quality of financial products, and the degree of innovation in the sector. Despite the arguments on the trade-off between competition and stability, recent researches have shown that a more competitive banking industry has a macroeconomic benefit. Increased banking competition implies higher level of macroeconomic activities and less severe business cycle which stimulates economic growth by raising the availability of financial resources to other businesses. Smith (1998) presents a theoretical model to show that increased competition in banking may lead to a higher level of income and a reduction of severity of business cycle. Competitiveness of the banking sector affects the

efficiency of other groups and plays an important role in promoting long-term growth of the whole economy.

Social welfare is maximized in perfect competition and at this level of social welfare, Pareto efficiency is achieved which is defined as the situation in which it is not possible to make anyone better-off without making someone else worse-off. Under perfect competition, firms produce at the lowest cost and on a more efficient basis in order to earn higher profits (Motta 2004; Whish 2005). It has also been shown, both theoretically and empirically, that the degree of competition in the financial sector can matter for the access of firms and households to financial services and external financing, in turn affecting overall economic growth.

In the absence of economies of scale and scope for all products and services, it would be possible for numerous banks to operate in a highly competitive market under certain circumstances. There is also room in the market for various banks if customers perceive the products and services offered to be heterogeneous rather than homogeneous. In less competitive markets, it is assumed that banks adjust interest rates more quickly in response to cost increases than to cost decreases. These studies also explore whether the same bank always sets an example for the others in order to test the level of market dominance.

2.3 Measures of competition

Despite many approaches in its measurement, the literature on the measurement of competition can be divided into two major strands:

- i. Structural models
- ii. Non-structural models

2.3.1. Structural models

The structural approach to modeling competition consists of the Structure-Conduct-Performance (SCP) paradigm and the efficiency hypothesis. These models have been frequently applied in empirical estimations, even though they lack a formal theoretical derivation. The SCP assumes a link between market structure, behavior of banks and profitability. A highly concentrated market is thought to lead to collusive behavior among larger banks resulting in superior market performance (Goldberg and Rai, 1996). The line of reasoning is that large banks abuse their

market power to increase profits. The paradigm states that increased concentration fosters collusion and anti-competitive practices.

The efficiency hypothesis (EH) postulates that efficient banks are able to increase their market share due to their higher profitability. Consequently, the degree of concentration increases ‘automatically’. A bank with a higher degree of efficiency than its competitors can adopt two different strategies. The first option is to maximize profits by maintaining the present levels of prices and company size. The second alternative is to maximize profits by reducing prices and expanding the size of the company. If the bank chooses the second option, the most efficient banks will gain market share and bank efficiency will be the driving force behind the process of market concentration without necessarily reducing the competitiveness. The contestability theory stresses that a concentrated banking industry can behave competitively if the hurdles for new entrants to the market are low (Baumol, 1982). Only the threat of potential entry forces banks with large market shares to price their product competitively under certain conditions.

2.3.2 Non-structural models

These types of models include the *Bresnahan model* and the *Panzar and Rose H-statistics* (1987) model also known as the *PR model*, as well as frameworks addressing the dominance in price setting behavior in retail markets. These models belong to the New Empirical Industrial Organization approaches. They focus on the competitive conduct of banks without employing explicit information about the structure of the market.

The *Bresnahan model* breaks down to a simultaneous estimation of a market demand or a market supply function and a price setting equation using industrial aggregate figures. From this exercise, a parameter indexing the oligopoly solution concept (λ) is identified by standard econometric methods. The comparative static factors of equilibrium, such as price and quantity are moved by exogenous variables and reveal the degree of market power. If λ equals zero, perfect competition exists. If $\lambda = 1$, there is a perfect cartel. Intermediate λ 's correspond to other oligopoly solution concepts.

The *PR model* on the other hand requires company-specific data. This approach leads to the construction of a so called H-statistic to make a quantitative assessment of the competitive nature of banking markets and the market power of banks. It measures the degree of competition as the

extent to which a change in factor input prices is reflected in revenues earned by a specific bank in equilibrium, that is, the sum of elasticity of the bank's total revenue with respect to the bank's input prices. The H-statistics ranges between 0 and 1 and is calculated from reduced-form revenue equations. The PR model shows that this statistic can reflect the structure and conduct of the market in which the bank operates. Under perfect competition, an increase in input prices raises both marginal costs and total revenues by the same amount as the rise in costs. Under a monopoly, an increase in input prices will increase marginal costs, reduce equilibrium output and consequently reduce total revenues (Claessens 2009). The H-statistic is estimated from a reduced form bank revenue equation as the sum of the elasticity of the total revenue of the banks with respect to the bank's input prices.

Interpretation of the H-statistics

$H = 0$: monopoly

$0 < H < 1$: monopolistic competition

$H = 1$: perfect competition

The PR model treats banks as single-product companies, using deposits and other funding costs as inputs to produce merely loans and other interest-earning assets. This reflects the intermediation role of banks. It should be noted that the optimum size, the size of the market and, on the demand-side, the perception regarding the extent to which the products on offer differ determine the number of viable banks and the natural level of concentration. A natural monopoly will eventually emerge if only one producer is able to produce all products at minimum cost. If, however, there is space for more than one producer, an oligopoly will obviously develop. Moreover, if the banking market is characterized by increasing returns to scale, the optimum size of an individual bank will constantly increase with expanding demand. In this situation, consolidation is the result of a dynamic market process. This natural tendency to concentrate activities would ultimately lead to the survival of only one viable bank and a concentration ratio of one.

2.4 Theoretical review

The theory of industrial organization has shown that the competitiveness of an industry cannot be measured by market structure indicators alone, such as number of institutions, or Herfindahl and

other concentration indexes (Baumol and others, 1982). A bank can be alone on the market but charge price equal to marginal cost like in case of perfect competition, while several banks can form a cartel and charge monopolist's price. So, the threat of entry can be a more important determinant of the behavior of market participants (Besanko and Thakor 1992).

The Economic theory suggests that performance measures, such as the size of banking margins, interest spreads, or profitability, do not necessarily indicate the competitiveness of a banking system. The degree of competition in the banking system should be measured with respect to the actual behavior of banks (Hauner and Peiris, 2005). As it has already been mentioned, Panzar and Rosse (1987) model uses input prices to determine behavior of banks. In case of perfect competition, increase in input prices will increase the marginal cost and revenue by the same amount. In case of a monopoly an increase in input prices will result in increased marginal cost but will decrease the revenue. Measuring joint significance of inputs prices and showing joint influence of the independent variables (input prices) on dependent (revenue) one in this model determines the degree of competition from zero, for monopoly to one for perfect competition. Monopolistic competition is a case between monopoly and perfect competition.

2.5 An assessment of the existing empirical research

A number of studies have applied either the Bresnahan or the Panzar and Rosse methodology to the issue of competition in the financial sector, although mostly to the banking system specifically. For example, Shaffer (1989) studies a sample of US banks and finds results that strongly reject collusive conduct, but are consistent with perfect competition. Using the same model, Shaffer (1993) finds that the Canadian banking system was competitive over the period 1965–1989, although being relatively concentrated. Shaffer (2001) uses the Bresnahan model for 15 countries in North America, Europe, and Asia during 1979–91. He finds significant market power in five markets and excess capacity in one market. Estimates were consistent with either contestability or Cournot type oligopoly in most of these countries. Shaffer (1982) applies the PR model to a sample of New York banks using data for 1979 and found monopolistic competition. Nathan and Neave (1989) studies Canadian banks use the PR methodology and found results consistent with the results of Shaffer (1989) using the Bresnahan methodology, i.e., rejection of monopoly power. Several papers have applied the PR methodology to European banking system (Molyneux et al., 1994; De Bandt and Davis, 2000). Generally, these studies reject both perfect

collusion and perfect competition, and find mostly evidence of monopolistic competition. Tests on the competitiveness of banking systems for developing countries and transition economies using these models are few to date.

The application of the SCP in the banking literature has been criticized on various occasions (Reid, 1987; Vesala, 1995). The criticism refers to the form of the model rather than to the specification of the various variables. Much criticism is related to the one-way causality from market structure to market performance of the original model as it is still applied in many banking studies. In fact, most studies that apply the SCP framework neglect the – strategic – conduct of banks. Banks attempt to distinguish themselves from competitors by following divergent strategies and presenting different corporate images. Reasonable measures of concentration are also very difficult to construct for universal banks and nation-wide banking conditions because banks operate in many different product and geographical markets. In addition, national measures of concentration should ideally be adjusted to the size of the market.

The availability of the required banking data and the length of the series are often limited. These data are also difficult to compare due to inconsistencies in the definition of the underlying markets across countries. This is why empirical investigations of competitive conditions and concentration in banking industries are scarce. The consequence of the poor availability and quality of data is, however, that the outcomes must be assessed with great caution. It is unwise to use the findings for policy conclusions or recommendations.

2.6 Criticisms of competition in banking sector

Competition in the banking sector is not necessarily a good thing from a social point of view. Banks differ from standard firms in several ways. They compete on both the output and the input market, i.e. they are not price takers of inputs as many ordinary firms are. This type of competition, first for inputs or deposits and then of outputs or loans may cause inefficiency by itself. Competition for deposits results in capacity constraints for the second stage of competition on the loan market. If the second stage demand is relatively inelastic, banks have market power which implies inefficiency (Stahl, 1988).

Increased competition may also lead to excessive risk taking by banks (Breckner, 1990; Besanko and Thakor, 1993). Banks use debt contracts with depositors, so they have limited liability which

generally distorts incentives and implies excessive risk taking. This effect is however significant if competition is stronger and profits are lower. In general, a less competitive banking sector is more efficient than a competitive one (Allen and Gale, 2000). A concentrated banking sector with a small number of large banks coordination and monitoring by the regulators will be easier than a competitive banking industry with many small banks. Further, larger banks are less vulnerable because of their greater ability to diversify their portfolio and spread risks. This suggests that there is trade-off between competition and stability in banking.

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

This chapter discusses the methodological approach and procedures that were used by researcher during the study design, data collection and analysis. It includes research design, sampling and data collection techniques.

3.1 RESEARCH DESIGN

To accomplish the aforementioned research objectives, the data for this study was gathered from the bank's financial statements as published by Stanbic bank limited Uganda and Centenary bank Uganda. The annual financial reports for both banks for a period of 6 years (2005-2011) are used for calculating key financial ratios in order to assess the performance of the banks in terms of loans, deposits, customers, staffs, profits and losses. In addition, another source of data was through reference to the library and the review of different articles, papers, and relevant previous studies. This study uses a descriptive financial analysis to describe, measure, compare, and classify the financial situations of both banks. The sample of this study contains of two banks, Stanbic and Centenary bank, and the number of the selected banks should not be considered as a shortcoming of the study since its title focused on Ugandan banks. Banking competition is the dependent variable, and is measured by financial performance, that is, return on assets and the interest income size. The independent variables of this study are the following:

- i. The Bank Size measured by the total assets of the bank.
- ii. Operational Efficiency measured by the operating efficiency ratio (total operating expenses divided by net interest income).

In order to classify the Ugandan banking sector, this study uses the major banking activities and is comprised of total deposits, total credits, total assets, total shareholder equity, return on equity, and return on deposits. Also, this study tries to explore any kind of variance according to its different variables. Therefore, correlations and simple regression were applied to examine and compare the impact of independent variables on the dependent variable. Analysis of variance (ANOVA) was used in testing the hypotheses and to measure the differences and similarities

between the sample banks according to their different characteristics. Pearson correlation coefficient also used to investigate the correlation between the paper variables at 5% level of confidence according to the SPSS software package.

3.1.1 Experimental Design

ANOVA provides a method of data analysis that is motivated by consideration of the experimental design. The design of an experiment should be determined by the scientific question that is being addressed and be balanced by the practical constraints of the experimental system. The method of analysis of the data should follow naturally from the design and should directly address the question that motivated the experiment. Replication is an essential feature of experimental design that allows us to draw statistically valid conclusions. The type of replication used in an experiment has important implications for the types of inferences that one can make.

The real power of ANOVA is most apparent in the analysis of multiple factor experiments. It allows you to test the hypothesis that all the means in a study are equal by comparing two estimates of the variance. ANOVA predicts a single dependent variable on the basis of one or more predictor variables and to predict if those predictors are good predictors or not. In our simple example, competition which is measured through performance is a factor with various levels. Multiple factor experiments in which the effects of several variables are interrogated simultaneously are often more efficient and more comprehensive.

We are going to carry out an F -test. The null hypothesis (H_0) will be: there is no competition between the Centenary bank Uganda and the Stanbic bank Uganda. The hypothesis will be stated as;

$$H_0: \mu = \mu_1 = \dots = \mu_n$$

In other words, the null hypothesis is that all means are equal to each other and to the grand mean (μ), and that all treatment effect to zero. This hypothesis is being tested against the alternative hypothesis (H_A) that there is a competition between the two banks.

$$H_A: \mu \neq \mu_1 \neq \dots \neq \mu_n$$

ANOVA calculations are based on sums of squares.

The hypothesis will be tested at the 0.05% level of significance

$$\alpha = 0.05$$

The variance is a sum of squared deviations from the mean (a ‘sum of squares’) divided by the number of degrees of freedom. We work with sums of squares because they are additive, whereas mean squares and variances are only additive if they are based on the same number of degrees of freedom. First, we calculate SS_{total} (‘total sum of squares’) — the sum of squares of all the observations (the summed squared deviations of each observation from the overall mean), regardless of which treatment group the observations came from.

$$SS_{\text{total}} = \sum (X - \bar{X})^2$$

We then calculate $SS_{\text{treatment}}$. This represents the summed squared deviations of the treatment mean from the mean of all treatment means, summed over each data point. (Or, in terms of totals, the summed squared deviations of each total from the mean of the treatment totals, all divided by the number of observations per total.)

$SS_{\text{treatment}} = \sum n(X_i - \bar{X})^2$, where n is the number of observation per treatment and X_i is the i^{th} observation. \bar{X} is the mean of the treatments.

The sum of the SS_{error} (square sum of errors) represents the sum of the squared deviations of each point from its group mean. Since $SS_{\text{total}} = SS_{\text{treatment}} + SS_{\text{error}}$, then the SS_{error} can be calculated by the formula;

$SS_{\text{error}} = SS_{\text{total}} - SS_{\text{treatment}} = \sum (X - \bar{X}_i)^2$ where X is the observation and \bar{X}_i is the mean of the i^{th} treatment.

The degrees of freedom for the SS_{total} given N observations will be $(N - 1)$ and that of the $SS_{\text{treatment}}$ will be $(a - 1)$. The degree of freedom for the error will be calculated by;

$$df_{\text{error}} = df_{\text{total}} - df_{\text{treatment}}.$$

To calculate the mean squares, we will divide the square sum by the corresponding degree of freedom.

The F -statistics that is distribution $(a - 1)$, $a(n - 1)$ will be calculated by the formula;

$$F = \frac{MStreatment}{MSerror}$$

The ANOVA results are presented in a summary table like this;

Source	Df	SS	MS	F- Statistics
Treatment	$a - 1$	$SS_{treatment}$	$SS_{treatment}/df_{treatment}$	$MS_{treatment}/MS_{error}$
Error	$a(n - 1)$	$SS_{treatment}$	SS_{error}/df_{error}	
Error	$N - 1$	SS_{total}	SS_{total}/df_{total}	

3.2 Area of study

The study is focused on the banking industry and how it embraces competition by influencing the markets and channeling savings into investment hence fostering higher economic growth of the country, Uganda.

3.3 Study population

The sample population will include; annual deposits into the various accounts, annual loans acquired annual profit or losses and annual number of customers.

3.4 Data sources

Information will be obtained from two sources of data namely; primary data sources and secondary data sources.

3.4.1 Primary Sources

This is the kind of data that will be collected directly from the field of study, and will never been published anywhere else. The most important component here will be observation and interviews.

3.4.2 Secondary Sources

Secondary data is the kind of data that will be sourced from the works of other researchers who have previously extensively studied the same or similar topic as the researcher. The important sources will be publications about banking competition, and various libraries like the one at Kampala International University, British council Library, newspapers and other journals.

Important information will also obtain from the internet, especially from online journals and news papers.

3.5 Data collection methods and tools

3.5.1 Interviews

An interview is a method of data collection which involves verbal interaction between the researcher and respondents. An interview can either be carried out face to face with the respondent or through telephone calls. The researcher will use both face to face interviews and telephone interviews in collecting data and this will be the main source of primary data.

3.6 Data processing, presentation and analysis

3.6.1 Data Processing and Analysis

The data will be processed using statistical tools such as EXCEL and SPSS. Prior to processing, the data will be sorted, edited, coded.

3.6.2 Data Presentation

The data will then be summarized and presented in simple statistical diagrammatical, tabular and graphical representations from which conclusions will be made at the end of the study.

3.7 Limitations of the study

In the course of doing a study the researcher faced the following problems which on one way or another they have been the hindrances in fulfilling the study:-

- i. There had been difficulties in collecting data especially when researcher needed get the financial statements.
- ii. Also financial problem was a hindrance in fulfilling the objective of the study.

CHAPTER FOUR

RESEARCH FINDINGS AND ANALYSIS

4.1 INTRODUCTION

With the Ugandan economy registering a nominal 6.3% growth in the year 2010/2011, 0.5% above the slowdown in the year 2009/2010 in an environment of a record high inflation, a depreciating shilling and high and volatile interest rates in the country amidst the lingering effects of the global financial crisis, Centenary Bank recorded a strong financial performance highly attributed to the banks strong capitalization and healthy liquidity profile that has put it in a position to take advantage of business opportunities to grow its market share. Stanbic bank also experienced a significantly improved performance achieved through a combination of significant revenue growth and cost containment which also saw the banks customer deposits increase by 3% in a tight monetary policy environment.

Table 1: Structure of the Ugandan commercial banking industry

Year	No. of banks	No. of branches	Market share for the Centenary & Stanbic banks			Total assets in the commercial banking sector (billions)
			Loans	Deposits	Assets	
2005	15	142	24.4	33.8	32.6	3,676
2006	15	157	32.6	40.8	38.4	4,003
2007	19	194	36.7	41.5	34.5	4,820
2008	20	332	35.8	37.6	31.4	6,504
2009	21	349	35.1	35.7	29.8	8,273
2010	22	390	35.3	34.9	30.7	10,443
2011	23	398	31.4	29.6	27.1	13,494

The table above shows the structure of the Ugandan commercial banking sector. The number of new entries in the market has been increasing though at a very low rate. The entry of the new banks into the Ugandan market has been contributed by continuous improvement in competition in the financial sector. The presence of added players in the financial sector over the period 2005-2011 in the sector has increased competition and generated higher efficiency in the financial market. This is evident from the increase in the total assets of the whole commercial banking sector over the years with 2011 having a record of Shs13, 394 billions.

4.2 Products

Various banks offer different products to its customers. In the Ugandan banking sector banks offer services ranging from deposits to credits. Some other commercial banks extend their rendering of services to offering microfinance banking services. The table below shows the various services/products offered by Centenary bank and Stanbic bank in the Ugandan banking sector.

Table 2: Representing various products and services of Centenary and Stanbic bank

Stanbic bank products & services	Centenary bank products & services
Local currency deposit products -personal currency account -Transact plus -Visa debit card -Credit card	Local currency deposit products -savings account -current account -fixed deposit account -Cente plus account -Cente junior account
Foreign currency accounts	Foreign currency products & services -foreign current account -foreign savings account -foreign fixed deposit account
Fixed term loans	Credit product
Revolving term loan	Personal & Special loans
Revolving credit	E- banking services
Home loan	Money transfer services
Vehicle asset finance	E – payment
Salary earner scheme	Other services – safe custody services -automated bulk salary processing -standing orders -school fees payment services

The table shows that there similar services that are offered by both banks but the banks have gone an extra mile to introduce new services and products in the quest to provide their customers with maximum satisfaction. The banks have also participated in charitable services that have contributed in lifting the welfare of the society.

4.3 Total deposits for the two banks

Table 3: Total deposit for the two banks for the period 2005 – 2011 in millions

Year	Centenary	Percentage increase/decrease compared to previous year	Stanbic	Percentage increase/decrease compared to previous year
2005	178,915		687,661	
2006	217,096	21.3	895,183	30.2
2007	264,557	21.9	1,072,858	19.8
2008	344,544	30.2	1,289,674	20.2
2009	443,444	28.7	1,459,425	13.2
2010	630, 814	42.3	1,840,918	26.1
2011	699,351	10.1	1,902,948	3.4

Source: calculated from financial statements of the banks (2005 - 2011)

Interpretation

The customers deposit which consist of current accounts, savings account and time deposits, make up the banks' main source of funding increased from Shs.687, 661 million in 2005 to Shs.1, 902,948 million in 2011 in Stanbic bank compared to Centenary bank where the deposits grew from Shs.178, 915 million in 2005 to Shs.699, 351 million in 2011. Centenary bank had an average increase of 25.7% over the period 2005-2011 compared to Stanbic bank which had an average increase of 18.8% in the same period.

4.4 Assets

Table 4: Total assets for the two banks in millions

Year	Centenary	Percentage increase/decrease compared to previous year	Stanbic	Percentage increase/decrease compared to previous year
2005	221,632		1,218,88	
2006	270,030	21.7	1,265,717	3.7
2007	339,431	25.7	1,321, 511	4.4
2008	443,681	30.7	1,596,318	20.8
2009	582,689	31.3	1,880,513	17.8
2010	807,238	38.5	2,400,148	27.6
2011	944,044	16.9	2,713,272	13.0

Source: calculated from financial statements of the banks (2005 - 2011)

Interpretation

The total assets of banks are mostly attributed to the profits of the bank and the net loans and advances. Centenary bank's total assets grew from Shs.222 billion in 2005 to Shs.944 billion in 2011, a year which witnessed National Elections, high energy costs and power outages and acute escalating food prices in Uganda. For Stanbic bank, the total assets grew to Shs.2, 713 billion in 2011 up from Shs.976 billion in 2005. Centenary bank has achieved a larger growth in its asset with an average of 27.5% per year for the period 2005-2011 compared to Stanbic bank whose assets grew at an average of 18.9% in the same period.

4.5 Net loans and Advances

Table 5: Total net loans and advances for the two banks in millions

Year	Centenary	% contribution of centenary loans on its assets	Stanbic	% contribution of Stanbic loans on its assets
2005	93,497	42.1	202,661	20.7
2006	144,843	53.6	340,612	26.9
2007	193,890	57.1	477,590	36.1
2008	287,357	64.8	730,865	45.8
2009	343,148	58.9	927,373	49.3
2010	395,820	49.0	1,204,690	50.2
2011	515,421	54.6	1,531,859	56.5

Source: calculated from financial statements of the banks (2005 - 2011)

Interpretation

The net loans and advances for the two banks have increased over the years but at a decreasing rate. On the other hand the loans have contributed highly on the total assets of Centenary bank over the seven years compared to Stanbic over the same period. According figure above, centenary bank has an average of 54.3% loans contribution on the total assets compared to Stanbic bank 40.8%.

4.6: Ratio of loan to deposits

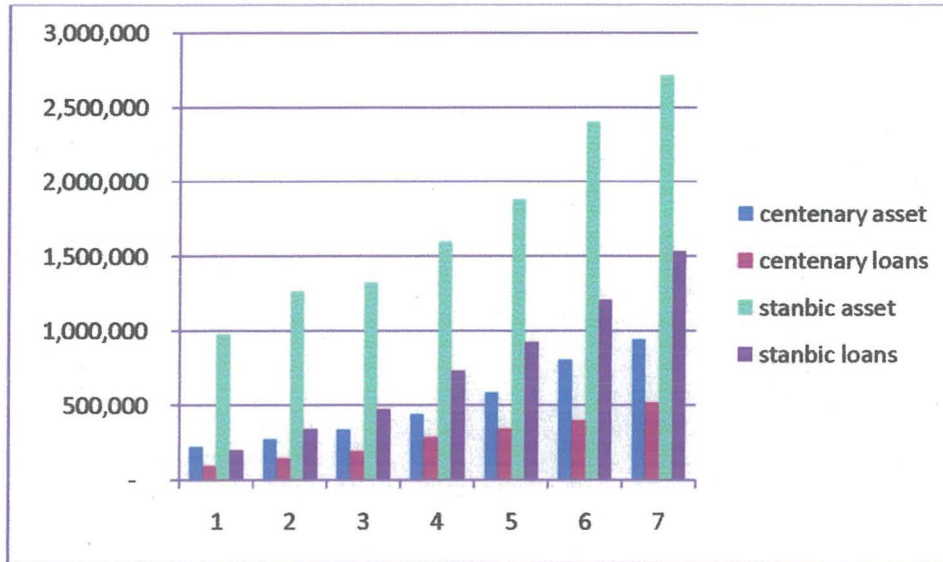
The Uganda banking industry policy on loans-to-deposit ratio

Table 6: % ratio of loans to deposits of the Centenary and Stanbic bank

Years	% ratio of Centenary bank loans to deposits	% ratio of Stanbic bank loans to deposits
2005	52.3	29.4
2006	66.7	38.0
2007	73.3	44.5
2008	83.4	56.7
2009	77.4	63.5
2010	62.7	65.4
2011	74.2	80.5

The total loans of banks are major constituents of total assets of the bank. The table above shows that Centenary bank's share of loans to total assets is slightly higher than Stanbic bank's indicating a higher ratio of loans to its assets.

Figure 1: A graph showing contribution of loans and advances on total assets



Source: Author's calculations

The graph above shows that Centenary bank's loans have contributed greatly on the banks total assets when compared to Stanbic bank's loans. However, in Stanbic bank the loans and advances contribution on total assets has continued to increase over the years and in the year 2011, the loans contribution increased to 56.5% compared to 50.2% the previous year. Centenary bank's loans contribution on its total assets has also grown but it has not changed much over the years.

4.8 Profits

Table 7: Total profit for the two banks in million

Year	Centenary	Percentage increase/ decrease compared to previous year	Stanbic	Percentage increase/ decrease compared to previous year
2005	5,272		30,926	
2006	8,592	63.0	39,519	27.8
2007	16,430	91.2	53,017	34.2
2008	20,423	24.3	78,550	48.2
2009	23,483	15.0	95,298	21.3
2010	29,397	25.2	72,082	-24.4
2011	47,931	63.0	121,172	68.8

Source: calculated from financial statements of the banks (2005 - 2011)

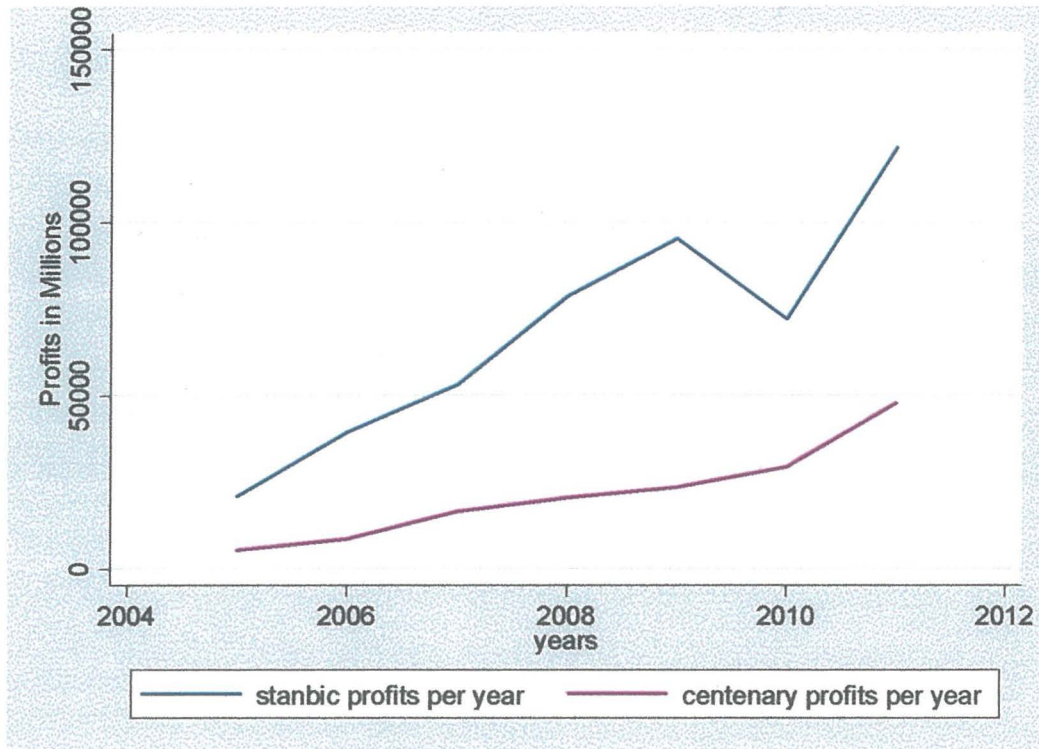
Interpretation

Net profits in Stanbic have increased gradually over the years largely due to high interest margins, increases in fees and commissions. This however has been offset by reduction in trading income high operating costs. The bank's profit was increasing over the period 2005-2009 but in 2010 the bank experienced a loss of 24.4% but in the next year the profits increased by 68.8%. Centenary bank has had an average of 47% increase in its profits over the period 2005-2011 compared to Stanbic bank's 29.3% over the same period.

Interpretation of the profit graph

The graph below shows profit growth over the period 2005-2011 for the two banks. Stanbic bank's graph is shows a significance growth between 2005-2009 but drops in 2009/2010 and then increases the next year. However, Centenary bank reveals a steady growth in its profit over the period 2005-2011 compared to Stanbic bank over the same period.

Figure 2: Representing profits for the two banks against years



4.9 Regression Analysis of Total assets, Loans and Profits

In banks, total assets are mostly attributed to the total profits and the total loans and advances. The analysis below is to determine how the total profits and total loans and advances affect the total assets of the bank. This will be done through an analysis of variance (ANOVA) and computation of the F-value that will be used to interpret the ANOVA table.

Table 8: Represents the Analysis of Variance for Stanbic bank

Source of Variation	Sum of Squares	df	Mean Square	F	Significance
Regression	2.394	2	1.197	372.501	0.000
Residual	1.285	4	3.213		
Total	2.407	6			

Source: Author's computation

Interpretation of the ANOVA table

The table above shows the analysis of variance (ANOVA) of the independent variable, Stanbic bank's annual assets with the predictors being; Stanbic bank's profits and the annual loans and advances. The dependent variable is the total annual assets for Stanbic in the Ugandan commercial bank sector. The ANOVA table splits the sum of square into its components.

Total sums of squares= residual sum of squares + regression(explained)sum of squares

$$\text{Thus } \sum_i (y_i - \bar{y})^2 = \sum_i (y_i - \hat{y})^2 + \sum_i (\hat{y} - \bar{y})^2$$

$$F_{\text{computed}} = \frac{\text{regression SS} / n-k}{\text{residual SS} / n-k} = \frac{2.394 / 2}{1.285 / 4} = 3.7261$$

$$F_{\alpha, (k-1, n-k)} = f_{0.05, (2, 4)} = 1.92$$

We reject the null Hypothesis since $F_c > F_{\alpha}$. The F- statistics computed is greater than the F tabulated therefore we reject the null hypothesis.

Table 9: Represents a Regression of the Coefficient

Model	R Square	Adjusted Square	R interpretation	Significance
1	0.995	0.992	Significant effect	0.025
Coefficient	Beta(β)	t-value	interpretation	Significance
Constant	796087.697	15.081	Significant effect	0.000
Annual loans in Stanbic bank	1.184	13.319	Significant effect	0.000
Annual profits in Stanbic bank	0.209	-2.352	No significant effect	0.078

Interpretation of the regression statistics table

$R^2 = 0.995$ which is the overall goodness of fit means that 99.5% of the variation of y_i (total annual assets) around \bar{y} (its mean) is explained by variable x_1 (total annual profits) and x_2 (total annual loans and advances).

The model of profits and loans and advances

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 \quad \text{Where } \beta_0 = 796087.697, \beta_1 = 1.184, \beta_2 = -0.209$$

$$\text{Therefore, } Y = 796087.967 + 1.184x_1 + 0.209x_2 + \varepsilon$$

One unit change in Stanbic loans changes the total assets by 1.184 whereas a unit changes in profits of the bank changes the total assets by 0.209.

Table 10: Represents the Analysis of variance for Centenary

Source of variation	Sum of Squares	df	Mean Square	F	Significance
Regression	4.376	2	2.188	47.805	0.002
Residual	1.831	4	4.577		
Total	4.559	6			

Interpretation of the ANOVA table

The analysis of variance (ANOVA) table above represents the independent variable, Centenary bank's annual assets with the predictors being; Centenary bank's profits and the annual loans and advances. The dependent variable is the total annual assets for Centenary in the Ugandan commercial bank sector. The ANOVA table splits the sum of square into its components

$$\text{Total sums of squares} = \text{residual sum of squares} + \text{regression(explained)sum of squares}$$

$$\text{Thus } \sum_i (y_i - \bar{y})^2 = \sum_i (y_i - \hat{y})^2 + \sum_i (\hat{y} - \bar{y})^2$$

$$F \text{ computed} = \frac{\text{regression SS} / \text{residual SS}}{n-k} = \frac{4.376 / 1.831}{2 / 4} = 4.7799$$

$$F_{\alpha, (k-1, n-k)} = f_{0.05, (2, 4)} = 19.2$$

We reject the null Hypothesis since $F_c > F_{\alpha}$. The F- statistics computed is greater than the F tabulated therefore we reject the null hypothesis.

Table 11: Represents a Regression of the Coefficient

Model	R Square	Adjusted R Square	Std. Error of the Estimate	
1	0.960	0.940	67,650.396	
Coefficient	Beta	t-value	interpretation	Significance
Constant	12811.78	0.178	No significant effect	0.867
Annual loans in Centenary bank	0.893	1.927	No significant effect	0.126
Annual profits in Centenary bank	0.088	0.190	No significant effect	0.858

Interpretation of the regression statistics table

$R^2 = 0.96$ which is the overall goodness of fit means that 96.0% of the variation of y_i (Centenary's total annual assets) around \bar{y} (its mean) is explained by variable x_1 (Centenary's total annual profits) and x_2 (total annual loans and advances).

The model of profits and loans and advances

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 \quad \text{Where } \beta_0 = 12811.78, \beta_1 = 0.893, \beta_2 = 0.088$$

$$\text{Therefore: } Y = 12811.78 + 0.893x_1 + 0.088x_2 + \varepsilon$$

A unit change in Centenary bank's total loans changes its total assets by 0.893 whereas a unit changes in total profits of the bank changes the total assets by 0.088.

4.10 Staffs

Table 12: Total numbers of staffs for the two banks

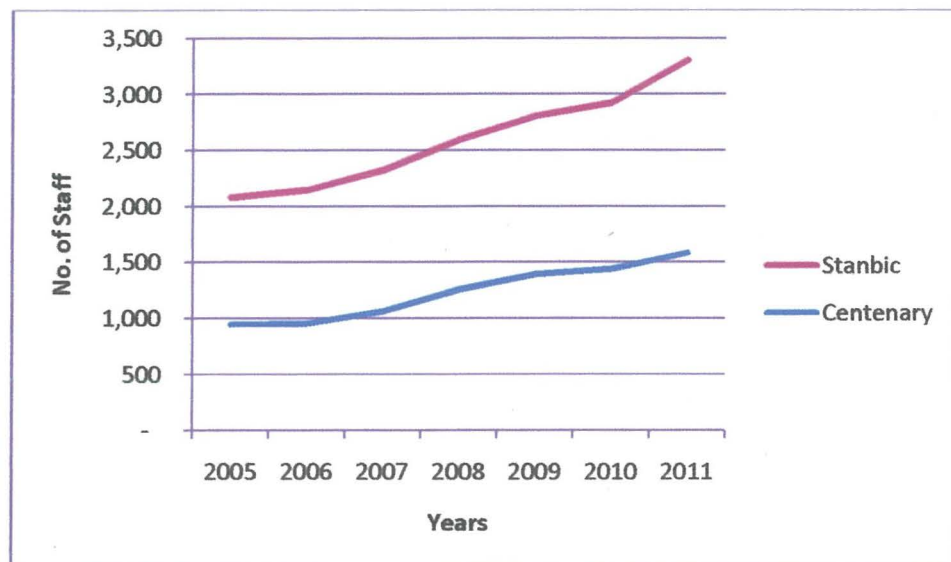
Year	Centenary	% change in No. of staff compared to previous year	Stanbic	% change in No. of staff compared to previous year
2005	946		1,132	
2006	956	1.1	1,191	5.2
2007	1,065	11.4	1,258	5.6
2008	1,255	17.8	1,339	6.4
2009	1,393	11.0	1,442	5.4
2010	1,438	3.2	1,612	5.2
2011	1,583	10.1	1,721	15.9

Source: calculated from financial statements of the banks (2005 - 2011)

Interpretation

The two banks have continued to offer employment to the country's citizen employing over 3,000 people by the year 2011. The table above shows that the rate of employment in centenary has not been consistent as it fluctuates often unlike in Stanbic bank where it has continued to rise gradually over the period 2005-2011. In 2011, staff employment in Stanbic bank increased by 15.9% compared to 5.2% in 2010. In centenary bank

Figure 3: A graph representing no. of staff for the two banks in the two periods.



The figure above reveals that the level of staff employment in the two banks has been increasing gradually over the years with Stanbic showing a high level of employment compared to Centenary.

4.11 Market share

Table 13: Market share in % for the two banks in terms of Deposits, Loans and Assets compared totals market share for commercial banks in Uganda.

Year	Centenary bank deposits	Stanbic bank deposits	Centenary bank loans	Stanbic bank loans	Centenary bank assets	Stanbic bank Assets
2005	7.0	26.8	7.7	16.7	6.0	26.6
2006	8.0	32.9	9.7	22.9	6.7	31.6
2007	8.2	33.3	10.6	26.1	7.0	27.4
2008	7.9	29.7	10.1	25.7	6.8	24.5
2009	8.3	27.4	9.5	28.6	7.0	22.7
2010	8.9	26.4	8.7	26.5	7.7	23.0
2011	7.9	21.7	7.9	23.5	7.0	20.1

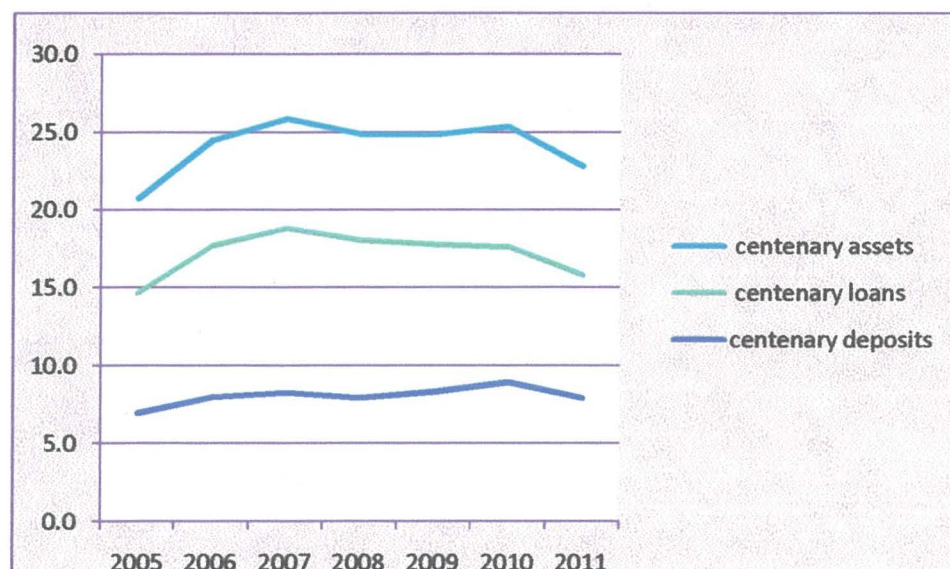
Source: Authors computation

Interpretation

The above table shows the total market share for both Centenary bank and Stanbic bank in terms of deposits, loans and assets in comparison to the whole commercial bank market in Uganda.

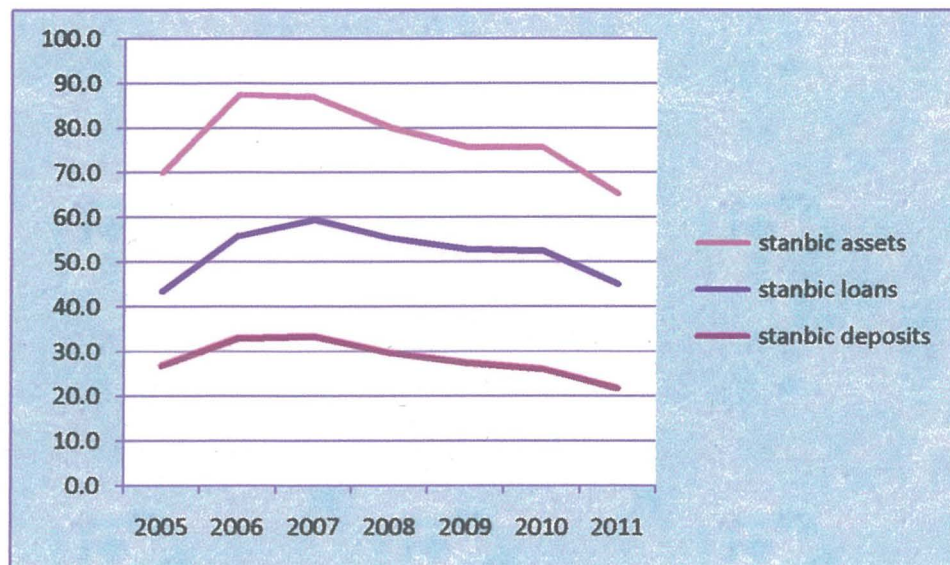
The table shows that Stanbic bank has a greater share of the market compared to Centenary bank and considering the fact that the bank has been in the market for a long time, it is regarded as the largest bank in Uganda. The market share for both banks had been increasing for the period from 2005 to 2007 recording an increase of 1.0% and 1.1% for Centenary and Stanbic bank respectively. There after their market share started to decrease, an indication of entry of new banks into the market increasing market concentration and competition. By 2011 Stanbic bank's assets market share in the Ugandan banking sector stood at 20.1% higher than that of Centenary bank, 7.0%.

Figure 4: Market share in % for Centenary bank compared totals market share for commercial banks in Uganda.



Centenary bank's market share had been increasing highly in the 2005/2006 but there after the rate of market penetration of the bank lowered fluctuating over the period 2007/2010. The banks market share decline during the period 2010/2011 which would have been caused by the high competition in the industry reducing its market penetration. The bank share of the market has been incredible over the period attributed to its wide spread all over the country by opening many branches to reach for more customers.

Figure 5: Market share in % for Stanbic bank compared totals market share for commercial banks in Uganda.



The markets was increasing at 2005/2006 period but later from 2007 started decreasing an indication market concentration due to entry of new banks in the market which increased competition.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter included summary of the study, conclusion, and recommendations. The study was made after the findings were presented and a discussion made.

5.1 Summary

The study was conducted on Centenary and Stanbic banks, which are one of the largest and dominating banks in the Ugandan banking industry. The researcher used secondary data for the analysis of the data. The secondary data was used to analyze and interpret data on the various products and services provided by the two banks which include deposits and credits.

The data collected included only quantitative which was analyzed and processed using SPSS and STATA to make it useful and understandable. Data was then tabulated and then analyzed using bar graph and line graph to find the level of each variable with time. The analysis of the data involved testing the relationship between loans and assets. The major findings of the study included finding out that the level of competition in Uganda is significant as it is shown by the increasing revenue of banks at a decreasing rate. The already highly concentrated financial market due to licensing of new banks, a total of 8 new banks for the period 2005-2011, and increase in number of credit giving institutions into the market over the years has contributed much to competition in the industry.

5.2 Conclusions

While Stanbic has dominated the sector in terms of its overall size and branch network, almost without exception all of its competitors are seeking to provide greater geographical coverage by opening new branches outside Kampala. The driving factor in this expansion has been the emergence of strong competition in the corporate banking market, which has in turn forced the larger banks to start looking for loan clients well below the thin tier of —blue chip corporate clients they have traditionally served. The conclusions of the study have been made in line with the objectives and findings of the study.

5.2.1 Degree of deposits

The first objective of the study was to determine the degree of deposits for both banks, Centenary and Stanbic bank. The deposits for the two banks have been reducing over the years which are attributed to presence of high competition in the banking sector. A high concentration in the market has also contributed to a slow growth in the deposits for the banks. Entry of new banks in the banking sector has increased the accessibility of banking services hence reducing the markets shares for deposits of the two banks.

5.2.2 Wealth in assets

The second objective was to determine the wealth in assets for the two banks. The assets of banks are mostly contributed by loans and profits off the bank. The correlation table between loans and assets reveals that there is a high relationship between the two variables with a 98% and 94.4% correlation in Centenary bank and Stanbic bank respectively. There is an indication of high significance in the relationship showing a high contribution of loans to total assets of the banks.

The study reveals an increase in competition and concentration in the banking sector over the period studied. This is concluded from the observation of the gradual increase in the value of the total assets at a decreasing rate. There have been fluctuations from year to year in the value of the assets which is a clear indication that other than external factors that might have contributed to the fluctuation, market concentration and competition has also had a share in the contribution of low growth in assets value. This is also evidence in the in the slow growth in loans and profits of the both banks.

5.2.3 Difference in services offered

The third objective was to find out there is a difference between the services offered by the two banks. The two banks provide a variety of services and products to their customers which range from credit to deposits. The competition and concentration in the banking sector have increased the creativity and new innovations in the market by banks to keep attract more customers into the market. Services like junior accounts, Automatic teller machine (ATM) and online banking services are some of the new innovations that have been introduced into the market. ATM

services have made customers' access to financial services very easy and efficient which has been used by banks as a tool for competition. Banks have ensured transactions in products such as deposit taking activities, electronic banking, cheque accounts and other lending products associated with the various points of contact channels such as ATMs, internet, and branches by establishing new branches and ATM points all over the country.

5.3 Recommendations

Basing on the conclusions reached from the entire study findings, the researcher wishes to make some recommendations. These recommendations will culminate into areas for further research arising from the more questions that have come in the study and have remained unanswered. The recommendations are as follows;

The banking industry should ensure competition in the banking sector to increase the quality and quantity of products and services provided by the banks. It should encourage new entry of banks into the market by enforcing monetary policies and laws that encourage and favor banks to join the market.

The Central bank as the body which is involved in licensing of new banks and the banking sector authorities should also control the level of competition in the sector to avoid monopolistic markets which would be dangerous to the banking industry. Even as they encourage competition by allowing concentration in the market, they should also monitor the level of competition exercised by the larger banks to protect not only the monopolistic existence of markets but also prevent exit of small banks which are unable to compete at the existing conditions.

The Uganda banking market should encourage banks to invest in new innovations in their products into the market by embracing technology. Banks should take the opportunity of the diverse use of electronic and internet services for a faster and reliable provision of quality products and services to its customers.

5.4 Area for further research

These research findings are not dogmatic assertions that cannot be challenged. They are subject for criticism, review or if found reasonable, be replicated in other similar studies. Since the study generated more questions than it labored to answer, there is still room for further research:

- i. My research covered a time scope of six years due to the availability of data. The time scope can be expanded in order to get a better comparison.
- ii. The study only covered only selected variables like loans, deposits, assets, and profits but there are other variables like investments, customer care and customer base that can also be included.
- iii. My research only concentrated on two large banks but the Ugandan banking sector is concentrated with many other large competitive banks therefore leaves room for more comparison.
- iv. In this research, I used commercial banks as my case study but there are also microfinance financial institutions and credit giving banks that contribute to competition in the banking industry.

REFERENCES

- Matthews K., Murinde V. and Zhao T., 2007, "Competitive conditions among the major British banks", Article in print, *Journal of Banking and Finance*.
- Matutes, Carmen, Vives, Xavier, 2000, Imperfect competition, risk taking and regulation in banking, *European Economic Review* 44, 184–216.
- Hannan, T.H., 1991, "Foundation of the Structure-Conduct-Performance Paradigm in Banking", *Journal of Money, Credit and Banking*, Vol.23 (1), pp.68-84.
- Allen, Franklin, Gale, Douglas, 2004, Competition and financial stability, *Journal of Money, Credit, and Banking*, Vol. 36, 433–480.
- Molyneux, P., Thornton, J., Lloyd-Williams, D.M., 1996. Competition and market contestability in Japanese commercial banking, *Journal of Economics and Business* 48, 33–45.
- Molyneux, P., and Forbes, W., 1995, "Market Structure and Performance in European Banking", *Applied Economics*, vol. 27(1), pp. 155-89.
- Vesala, J., 1995. Testing for competition in banking: Behavioural evidence from Finland. *Bank of Finland Studies, E:1*.
- Vivex, Xavier, 2001, Competition in the Changing World of Banking, *Oxford Review of Economic Policy* 17, 535-45.
- Thierry .B & Johan .M, 2005, Competition and Efficiency in Banking, *Behavioral Evidence from Ghana*, IMF working paper.
- Johannes .M.G & Wim .M.B, 2005, 'Competition in a Highly Concentrated Banking Sector; Theoretical. Empirical and Practical Considerations for the Netherlands'
- Bikker, J.A, and K. Haaf (2000), 'Measures of Competition and Concentration, a review of the literature', *De Nederlandsche Bank, Directorate Supervision, research Series* Supervision no. 30.
- Adam. M, "Market Structure and Performance in Uganda's Banking Industry" *Department of Economic Theory and Analysis Makerere University*
- Adam. M, 2010, 'Competition and Performance in Uganda's Banking System' *African Economics Consortium, Nairobi, AERC Research paper 20*
- Alexander. U, 2007, "Banking Competition: *The case of Georgia and Belarus.*"

- Medhat. T, 2006, "A Comparison of Financial Performance in the Banking Sector: Some Evidence from Omani Commercial Banks," *International Research Journal of Finance and Economics*, ISSN 1450-2887.
- Xavier. V, 2010, "Competition and Stability in Banking; IESE Business School," *Journal of Financial Services Research*.
- Allen, F. and Gale, D. (2000), "corporate governance and Competition" in Xavier Vives (ed :) corporate governance: *Theoretical and Empirical Perspectives*, Cambridge: Cambridge University Press.
- Stiglitz, J. E. (1994), 'The Role of the State in Financial Markets', *Proceedings of the World Bank Annual Conference on Development Economics 1993*, pp.19-52
- Buchs, Thierry, and Johan Mathisen (2005) "Competition and Efficiency in Banking: Behavioral Evidence from Ghana," IMF Working Paper No.05/17 (*Washington: International Monetary Fund*).
- Coccoresse P. (1998), "Assessing the competitive conditions in the Italian banking system: *some empirical evidence*", BNL Quarterly Review, 205, 173-191
- De Bandt, O., and E.P. Davis (2000) "Competition, Contestability and Market Structures in European Banking Sector on the Eve of EMU," *Journal of Banking and Finance*. Vol. 24, pp.1045-66.
- Vives, Xavier, 2001, "Competition in the Changing World of Banking," *Oxford Review of Economic Policy* (Vol. 17, No. 4), pp. 535-47.

APPENDICES

APPENDIX I: BUDGET OF THE STUDY

S/NO	PARTICULARS	COST (Ugx)
1	Collecting of data	30,000
2	Typing and printing	40,000
3	Phone calls	20,000
4	Bindings	40,000
5	Others	30,000
6	Total Cost	160,000

APPENDIX II: TIME FRAME OF THE STUDY

S/NO	Activities of the study	Time taken
1	Preparation of research proposal and presentation	4weeks
2	Data collection	3 weeks
3	Performing data processing and analysis	2 weeks
4	Editing the processed data	1week
5	Preparation of research report	2 weeks
6	Presentation of the research report	1 week
7	Total time taken	12 weeks (3 MONTH)

APPENDIX III: COMMERCIAL BANKS DEPOSITS, LOANS AND ASSETS

Year	Deposits in (billions)	Loans in (billions)	Assets in (billions)
2005	2,595.1	1,257.7	3,669.5
2006	2,961.2	1,702.6	4,438.1
2007	3,613.1	2,174.0	5,563.7
2008	4,695.6	3,404.8	7,496.4
2009	5,630.5	4,038.9	8,633.0
2010	8,041.7	5,464.1	11,310.5
2011	8,903.7	6,981.0	12,982.4

Source: Bank of Uganda Annual Supervision Report (2011)

APPENDIX IV: COMMERCIAL BANKS MARKET SHARE FOR DEPOSITS, LOANS AND ASSETS

