

THE EXTENT OF USE OF FINANCIAL STATEMENT ANALYSIS IN
CORPORATE LENDING: A SURVEY OF COMMERCIAL BANKS IN
KENYA.

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DECLARATION

This research project is my original work and has not been presented for examination to any other university.

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This research project has been submitted for examination with my approval as the University Supervisor

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DEDICATION

To my mother Teresa Waitherero, my brothers and sisters for all the sacrifices you made in making sure I got a decent education. To my late father Francis Mwangi for teaching me the meaning of "value".

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LIST OF ABBREVIATIONS

ABC	Activity Based Costing
AICPA	American Institute of Certified Public Accountants
APs	Analytical Procedures
C&I	Commercial and industrial
CBK	Central Bank of Kenya
CEO	Chief Executive Officer
DEA	Data Envelopment Analysis
DPS	Dividends per Share
E/P-ratio	Earnings Yield or the Earnings-Price ratio
EBDIT	Earnings before Depreciation, Interest and Taxes
EBIT	Earnings Before Interest and Taxes
EPS	Earnings per Share
FASB	Financial Accounting Standards Board
FAT	Fixed Asset Turnover
FIFO	First In First Out
GAAP	Generally Accepted Accounting Principles
GPM	Gross Profit Margin

ICPAK	Institute of Certified Public Accountants of Kenya
LIFO	Last In First Out
NI	Net Income
NPLs	Non-Performing Loans
NPM	Net Profit Margin
NPV	Net Present Value
NWC	Net Working Capital
OE	Operating Expense
OP	Operating Profit
P&L	Profit and Loss
P/V Ratio	Profit/Volume Ratio
PAT	Profit After Taxes
PBT	Profit Before Tax
RoA	Return on Assets
RoCE	Return on Capital Employed
RoE	Return on Equity
RoI	Return on Investment
RoIC	Return on Invested Capital

RoNA

Return on Net Assets

SFAS

Statement of Financial Accounting Standard

SPSS

Statistical Package for the Social Scientists

ABSTRACT

The way lending decisions by commercial banks in Kenya is made remains a mystery to most borrowers. Banks are known to follow very stringent rules in lending risk appraisal. Financial statements analysis on the borrower is a key step in lending decisions. Such analysis seeks to establish the ability and the reliability of the borrower to repay loans. However, every bank may have its own level of emphasis on the use of the financial statements and also differ in the aspects emphasized on the same statements. The question as to whether corporate lending decisions are by and large a product of financial statements was the focus of this study.

A descriptive research design was used in this study and involved a survey of 26 banks in Nairobi, out of a population of 43 banks currently operating under the Banking Act. A questionnaire was used as a tool for data collection. The data was analyzed using both descriptive and inferential statistics. The arithmetic mean and eta were used to interpret data. Results of analysis were presented in form of statistical tables, charts and frequency tables.

The study established that the income statement is the single most important statement in lending risk analysis which is supplemented with projected cash flow statement and the balance sheet and other non-financial information on the client. The study concludes that, a combined 82% of the lending decisions are based on these three financial statements as indicated in the measure of association, while 18% can be said to go to other factors. The study satisfied the objectives of the study which focused on establishing the extent of use of financial statements in lending decisions. Corporate lending decisions can be said to be, at least in part, products of financial statements analysis.

The study recommends that commercial banks devise a self assessment form with benchmarks on the key areas of assessments to be codified within a document for clients to read and use it for self assessment. From such assessment banks can develop categories for customers, based on the amount it can lend, the security expected and term of the loan. This would serve to minimize on the time taken in lending risk analysis.

1.0 INTRODUCTION

1.1 Background

Financial analysis entails provision of private information (Brennan and Hughes, 1991) and information intermediation through use of accounting information in preparation of earnings forecasts and buy-sell recommendations (Lang and Lundholm, 1996). Stickel (1989) and Barron and Stuerke (1998) suggest that analysts' forecast revisions both represent reactions to accounting releases and provide pre-disclosure information to the market. Stickel (1989) finds fewer forecast revisions before interim earnings announcements and more revisions after. He concludes that analysts intentionally delay revisions until after earnings are announced, implying that these revisions are likely to be based, at least in part, on the information in the accounting release.

Relative performance evaluation, as suggested by Giacomino and Mielke (1993), proceeds from the assumption that with the comparison of a company's performance to a norm, general uncertainties are eliminated and only specific performances with regard to the company remain. The performance of other companies or the industry then provides information regarding a specific company's performance. Cash flow information also enhances the comparability of the operation performance of a company with different companies.

The lending function is considered by the banking industry as the most important function for the utilization of funds. Since banks earn their highest gross profits from loans, the administration of loan portfolios seriously affects the profitability of banks. Indeed, the large number of non-performing loans is the main cause of bank failure. Banks are learning to review their risk portfolios using the criteria laid down by Basel II. Basel's goal was to induce bankers to improve their risk management capability, including how the firms price products, reserve for loss and operations control (Rehm, 2002).

It is expected that bankers, being providers of short- and long-term credit to firms will be concerned by their long term solvency and survival (Pandey, 1999). They will thus analyze a firm's profitability over time, its ability to generate cash to be able to pay loan principal and interest and its capital structure relationships. Albeit long term creditors like banks do analyze

historical financial statements to obtain trends, they place greater emphasis on projected or pro forma financial statements to make projections about future solvency and profitability.

Lending being a high return business line for banks is also a high risk area thus the need for application of credit risk appraisal on potential borrowers. Analysis of financial statements in addition to gauging financial strength of performance and position can help detect unusual trends in those financial statements. Ng'ang'a (2006) notes that accounting information can be manipulated through recording fictitious transactions or amounts, recording transactions either early or late, misstating percentages or amounts involved in a transaction, misstating the amounts of assets or liabilities, changing accounting methods or estimates for no substantive reason and using related parties to alter reported profits.

Regarding the utility of information contained in financial statements to making lending decisions, Hernández (2004) notes that there is a generalised opinion that the most commonly used statements are those that are purely budgetary, or connected with the budget, along with those related to liquidity; not only their greater use being obvious, but also their greater utility. The statement of financial performance and the balance sheet are, in fact, the financial statements that are least relevant to financial institutions' indebtedness operation decision making. In indebtedness operation decisions, both in the short and in the long term, the budgetary settlement statement is of most use, followed, in the former, by the cash surplus statement and, in the latter, by the debt statement.

Credit institutions will, however, not rely purely on financial statement analysis. Adam (2003) noted that other information contained in the annual report such as the directors' report, the chairperson's or the chief executive officer's report and the auditors' report are used in credit risk appraisal. In addition to that he observed that the character and management skills of the borrower (directors), the purpose to which the borrowed funds will be put as well as the type of security or collateral were all used in the lending process.

All this shows the preference the credit institutions have for the risk analysis of the local entities for the statements that reflect the budgetary and cash flows, as well as the volume of debt in its composition. The restrictions regarding the utility of this information lie mainly in: the lack of adequate external control or audits; the information's lack of timeliness; the fact that all the

compulsory information is not always produced; and the lack of credit institution staff specialised in public financial reporting. Thus, a greater reliability and timeliness of the financial information supplied by the local entities would improve the evaluation of risk for the credit institutions (Hernández, 2004).

1.2 Statement of the Research Problem

Analytical procedures (APs) have been posited to be a useful tool for identifying financial fraud (Thornhill, 1995). Analytical procedures are the name used for a variety of techniques analysts can use to assess the risk of material misstatements in financial records. These procedures involve the analysis of trends, ratios, and reasonableness tests derived from an entity's financial and operating data. Analytical procedures are performed with an objective of identifying the existence of unusual events, amounts, ratios and trends that might indicate matters that have financial statement implications (American Institute of Certified Public Accountants [AICPA], 1988).

In their quest to reduce non performing loans, commercial banks in Kenya can employ analytical procedures. Mayston (1992) considers that a great step forward would be to study what financial information is relevant in order to protect the individual interests of each information-user group, instead of analyzing the users and their needs. This would allow an optimization of the financial information that is to be produced. In view of the role of APs and Mayston's observations above, one of the ways that banks in Kenya can improve the quality of their asset positions is to base their lending decisions on information obtained from special financial statements tailored to meet their lending requirements.

It is thus the purpose of this study to determine the extent to which commercial banks in Kenya rely on financial analysis of financial reports, in making lending decisions. Local literature relating to various issues regarding financial statements exists. Adam, 2003 sought to establish the sections of the annual reports which credit risk analysts found most useful in credit risk appraisal and found financial statements to be highly used. Macharia, 2003 studied the predictive ability of financial statements in appraising cooperative societies. She found gearing and profitability ratios to have the highest power in discriminating between performing and non-performing societies. Nyangweso, 2003 in a study of the role of financial ratios in forecasting the

success or failure of a rights issue found that financial ratios of successful firms outperformed those of less successful ones. Marangu, 2004 found a statistically significant relationship between price to book value and different financial ratios. Nganga, 2006 sought to establish the quality of earnings in financial statements of companies listed at the Nairobi Stock Exchange. He found a low earnings quality thus concluded that financial statements are compromised and not reliable to investors and other users. However, none of these studies touch on the role of financial statement analysis in making corporate lending decisions, which is the gap that this study seeks to fill.

1.3 Objectives of the Research

To establish the extent to which corporate lending decisions by commercial banks in Kenya are based on financial statement analysis.

To determine the specific techniques and ratios emphasized by different commercial banks in Kenya in making lending decisions from financial statements.

In order to meet the above research objectives, this study will be guided by the following research questions:

1. What financial statements are used in credit granting decisions?
2. What is the degree of usefulness of each of those financial statements and financial statement analysis procedures in corporate lending?

1.4 Significance of the Research

Bank management will be able to clearly envision from the study, the most important information available in financial reports that they base their lending decisions on. They will also be able to dimension the strengths and weaknesses of financial reports regarding their usefulness in making lending decisions.

Policy makers in accounting and finance, such as the Institute of Certified Public Accountants of Kenya (ICPAK), will be able to assess the appropriateness of the accounting standards employed

in formulating financial reports with a view to improving the information content to help provide relevant information to commercial banks for lending purposes.

Based on the research findings, corporate borrowers will be able to customize the financial information content in their reports to be able to better satisfy the information needs of their bankers. Finally, the study will develop knowledge in the field of accounting and finance and provide a basis for further empirical investigations of the role of financial statements in providing viable information for lending purposes.

The remainder of this research project paper is organised as follows: Chapter two deals with review of the literature on the subject matter of lending and financial statement analysis. Firstly, the basic lending process used by credit institutions, together with the need for credit risk analysis are discussed. Secondly, a definition of the various financial statements as well as the analytical procedures performed on them, are discussed. Chapter three has dealt with the methodology applied in answering the research questions including the research design, population of study as well as the data collection and analysis methods. Chapter four has dealt with the findings of the research and their interpretation. Finally, chapter five addresses conclusions and recommendations.

2.0 LITERATURE REVIEW

2.1 Introduction

The lending function is considered by the banking industry as the most important function for the utilization of funds. Since, banks earn their highest gross profits from loans, the administration of loan portfolios seriously affects the profitability of banks. Indeed, the large number of non-performing loans is the main cause of bank failure. Banks are learning to review their risk portfolios using the criteria laid down by Basel II with the goal of improving risk management capability, including the pricing of products, reserve for loss and operations control (Rehm, 2002).

With respect to performance, banks now use various measures to assess bank efficiency and related functions in the bank lending process. Traditionally, banks determined operating efficiency by using measures of bank profitability, such as return on equity (RoE), return on assets (RoA), and return on investment (RoI); also, banks used operational ratios, such as monetary output per staff member, and total operating expenses per unit of output.

Banks adopted data envelopment analysis (DEA) in the 1990s as the principal method for assessing bank efficiency. DEA is a linear-programming method initially developed by Charnes et al. (1978) to measure the comparative performance of homogeneous organizations. The objective of DEA was to build an efficiency frontier of inputs and outputs, where production is maximized under fixed costs or costs are minimized under restricted production. Thanassoulis (1999) concluded that banks were increasingly using DEA as a tool for assessing, monitoring, and improving performance.

Athanassopoulos and Giokas (2000) used the DEA method to assess bank branch performance. Kantor and Maital (1999) combined and integrated activity based-costing (ABC) and DEA management tools for measuring costs and performance of bank branches. Grasing (2002) described the efforts of the Nolan Company to develop benchmarks for commercial banks involving many of the top performing banks. The goal of establishing the benchmarked banks was to establish drivers of high performance. The cost per each completed loan, the cost per thousand dollars of loans, the non-interest revenue from each loan per each thousand dollars, the

total number of loans per employee, and the dollar amount of loans per employee were used as the performance measures for commercial banking.

As reported by Boucher (1996), measuring the productivity of a loan officer is the key to improving commercial lending performance. The productivity measure of a loan officer is quarterly loan sales. The manager can use this information to analyze the loan officers' quarterly productivity. Perro and Ruoff (1997) used the value tree to depict some of the values and risk drivers for commercial lending. The drivers of lending revenue are operating fees and interest income that are driven by new loans and existing loan volumes. The drivers of lending expenses consist of interest expense, operating expense, loss revenues and unexpected losses in commercial loans.

2.2 The Lending Process

Koch and Macdonald (2000) pointed out that the activities of the process of Commercial and Industrial (C&I) loans follow eight steps. These steps are application, credit analysis, decision making, document preparation, closing, recording, servicing and administration and collection. The first step of the C&I loan process is the application, which is conducted by a loan officer. This step covers the initial interview and screening of a loan request. Initially, the loan officer obtains as much information as possible about the situation of the borrower, for example, his or her previous credit history, current outstanding loans and current financial statement. The loan officer gathers company information, including legal status, principal employees, main products or services sold, production techniques employed, important competitors, and directors of the company.

The second step is the credit analysis conducted by the credit department. First, the analyst in the credit department receives the financial information of the borrower gathered by the loan officer; then he or she conducts a comparative and historic analysis of the company's financial data. After finishing the financial comparative analysis, the analyst prepares a recommendation report for the loan officer about whether the loan should be granted, rejected, or qualified.

In the third step, the loan officer obtains the credit analysis report and determines whether the report accurately describes the borrowing capacity and characteristics of the borrower. The loan

officer then grants the loan with or without considerations of collateral. The loan officer notifies the borrower of his or her decision and proceeds to negotiate loan terms if the loan is to be granted. When the loan officer and the borrowing company are in agreement, the fourth step is the loan operation. Here it is necessary to prepare primary notes, agreements, collateral or non-collateral agreements. If collateral is required, the amount of collateral and additional collateral documentation are indicated.

In the fifth step, the loan officer obtains the borrower's signatures and receives collateral; then the loan operation is closed and the loan proceeds. The sixth step is the recording of the loan conducted by the loan operation and credit department staff. A loan operation clerk classifies and codes the loan for entry into the commercial loan system, and he or she reviews the loan for compliance with the bank's loan policies. Finally, the loan operation clerk and credit department staff member file the loan notes, authorization, and receipts in designated files.

The seventh step is loan servicing and administration conducted by a loan operations operator, a loan officer, a credit department staff member, and a financial analyst. The loan operation staff person prepares the loan payment notices to notify the borrower and is responsible for receiving periodic payments. The loan officer makes periodic visits and customer calls to obtain new financial statements from the borrower and provides that information to credit department and reviews the loan for compliance with the loan agreement. A credit department financial analyst also receives and reviews the borrower's periodic financial statements.

In the eighth stage, the loan officer may receive periodic delinquency information and need to follow up on this with borrowers. The loan officer also needs to adjust loan terms and conditions as deemed necessary, and to take legal action if non-collectible procedures and foreclosure on the loan are required. After analyzing these lending activities, a value chain of lending activities can be identified, and the rationale for determining how values are created can be determined.

2.3 Need for Credit and Risk Analysis in Lending Process

Moral hazard is an ever present risk in a lending-borrowing transaction. Moral hazard is the risk that a party to a transaction has not entered into the transaction in good faith, has provided misleading information about its financial or credit capacity or has incentive to take unusual risks

in an attempt to earn an unfair gain against the counterparty. The problem can be present any time two parties come into an agreement with one another. Each party in the agreement may identify an opportunity to gain by acting contrary to the provisions of the agreement. Information asymmetry exists between lenders and borrowers as well as other participants in the securities market. Information asymmetry refers to the information gap between two parties to a transaction whereby one party has more or better information than the other. Because borrowers are likely to possess better quality information about their businesses than lenders, lenders need to carry out credit and risk analysis before lending to them.

Generally Accepted Accounting Principles (GAAP) offer some flexibility in preparing financial statements and give financial managers some freedom to select among accounting policies and alternatives. Earnings management uses the flexibility in financial reporting to alter the financial results of a firm (Ortega and Grant, 2003). In other words, earnings management is manipulating earnings to achieve a predetermined target set by the management. It is a purposeful intervention in the external reporting process with the intent of obtaining some private gain (Schipper, 1989).

One way of managing earnings is to switch from one generally accepted accounting method to another. While a firm cannot make the same type of accounting changes too frequently, it is possible to make several different types of accounting changes either together or individually over several periods. Conservative accounting means choosing the accounting method that keeps the carrying values of the assets relatively low. As such, Last In First Out (LIFO) accounting for inventories is conservative relative to First In First Out (FIFO) (if inventory prices are increasing). Through use of financial ratios, banks can detect instances where such cases of earnings management occur as they will perform trend analysis and other financial analysis techniques to reveal inconsistencies in reporting.

Levit (1998) defines earnings management as a grey area where the accounting is being perverted; where managers are cutting corners; and, where earnings reports reflect the desires of management rather than the underlying financial performance of the company. Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Whalen, 1999). Magrath and Weld (2002) indicate that

abusive earnings management and fraudulent practices begins by engaging in earnings management schemes designed primarily to “smooth” earnings to meet internally or externally imposed earnings forecasts and analysts’ expectations.

Even if earnings management does not explicitly violate accounting rules, it is an ethically questionable practice. An organization that manages its earnings sends a message to its employees that bending the truth is an acceptable practice. Executives who partake of this practice risk creating an ethical climate in which other questionable activities may occur. A manager who asks the sales staff to help accelerate sales one day forfeits the moral authority to criticize questionable sales tactics another day. Earnings management can also become a very slippery slope, with relatively minor accounting gimmicks becoming more and more aggressive until they create material misstatements in the financial statements (Clikeman, 2003)

Earnings management behaviour may affect the quality of accounting earnings, which is defined by Schipper and Vincent (2003) as the extent to which the reported earnings faithfully represent Hichsian economic income, which is the amount that can be consumed (i.e. paid out as dividends) during a period, while leaving the firm equally well off at the beginning and the end of the period. Assessment of earning quality requires sometimes the separations of earnings into cash from operation and accruals, the more the earnings is closed to cash from operation, the higher earnings quality.

2.4 Reasons for Earnings Management

In general, analysts’ expectations and company predictions tend to address two high-profile components of financial performance: revenue and earnings from operations. The pressure to meet revenue expectations is particularly intense and may be the primary catalyst in leading managers to engage in earning management practices that result in questionable or fraudulent revenue recognition practices. Ironically, it is often the companies themselves that create this pressure to meet the market’s earnings expectations by providing earnings estimates to analysts and investors. Management is then faced with the task of ensuring their targeted estimates are met. Mckay and Brown (2002) observe that companies like Coca-Cola have taken a contrary stance and no longer provide quarterly and annual earnings estimates to analysts. .

Some firms have the incentive to avoid volatile earnings-based debt covenants. If violated, the lender may be able to raise the interest rate on the debt or demand immediate repayment. Consequently, some firms may use earnings-management techniques to increase earnings to avoid such covenant violations. On the other hand, some other firms have the incentive to lower earnings in order to minimize political costs associated with being seen as too profitable. For example, if gasoline prices have been increasing significantly and oil companies are achieving record profit level, then there may be incentive for the government to intervene and enact an excess-profit tax or attempt to introduce price controls.

For many years it has been believed that a firm should attempt to reduce the volatility in its earnings stream in order to maximize share price. Because a highly volatile earning pattern indicates risk, therefore the stock will lose value compared to others with more stable earnings patterns. Consequently, firms have incentives to manage earnings to help achieve a smooth and growing earnings stream (Ortega and Grant, 2003).

Healy (1985) provides the evidence that earnings are managed in the direction that is consistent with maximizing executives' earnings-based bonus. When earnings will be below the minimum level required to earn a bonus, then they are managed upward so that the minimum is achieved and a bonus is earned. Conversely, when earnings will be above the maximum level at which no additional bonus is paid, then earnings are managed downward. The extra earnings that will not generate extra bonus this current period are saved to be used to earn a bonus in a future period. When earnings are between the minimum and the maximum levels, then earnings are managed upward in order to increase the bonus earned in the current period.

Earnings management usually occurs around the time of changing management, the Chief Executive Officer (CEO) of a company with poor performance indicators will try to increase the reported earnings in order to prevent or postpone being fired. On the other hand, the new CEO will try to shift part of the income to future years around the time when his/her performance will be evaluated and measured, and blame the low earning at the beginning of his contract on the acts of the previous CEO.

2.5 Financial Statements

The most important source of information for evaluating the financial health of any firm is its financial statements consisting of the balance sheet, cash flow statement and the income statement (or profit and loss-p&l). The balance sheet is a snapshot, at any point in time, of all the assets a firm owns and all claims against those assets in form of liabilities and shareholder's equity. The assets portion represents the effects of a firm's past investment decisions, while the liabilities section represents the effects of a firm's past financing decisions (Stickney, 1996). The basic relationship is:

$$\text{Assets} = \text{Liabilities} + \text{Owners Equity}$$

This tells us that a firm's assets balance with the claims on those assets by creditors and shareholders (hence the term balance sheet).

Assets, representing economic resources, are the value-added possessions of the firm. Tangible assets include property, plant and equipment while intangible assets include patents and goodwill. Assets may be classified as current assets and non-current assets. Current assets represent cash or those assets that can be converted to cash within the accounting period (one year duration) or the operating cycle of the business. Operating cycle is the time taken to convert inputs into outputs and outputs to cash. Current assets include cash, marketable securities, accounts receivable, pre-paid expenses and accrued income, inventories of raw materials, work-in-process and finished goods (van Horne, 1998).

Non-current assets are held for longer than the accounting period and are used for business. Tangible non-current assets include land, machinery, building etc. Intangible non-current assets represent the firm's rights and include trademarks, trade names, franchises, copyrights etc. Costs of intangible non-current assets are amortized over their useful lives. Long term investments represent the firm's investment in shares, debentures bonds for profit and control. Deferred charges are prepayments for services and benefits for periods longer than the accounting period and are classified as non-current assets.

Current liabilities are debts payable within an accounting period and include creditors, bills payable, bank overdrafts, tax payable, outstanding expenses and prepaid income. Long term

liabilities are obligations or debts payable in a period of time greater than the accounting period. They include debentures, bonds and secured long-term loans from financial institutions (Broadbent and Cullen, 2003). Equity represents the financial interest of the owners in the firm. This interest is residual in nature since owners claim to the firm's assets comes after that of creditors and preference shareholders. Owner's claims change with the firm's fortunes; they rise when the firm's earnings rise and vice versa. Equity consists paid-up share capital, i.e. the amount contributed directly by shareholders and reserves and surplus, which are the total; undistributed earnings of the firm.

A statement of changes in financial position on a cash basis is known as a cash flow statement and it summarizes the causes of changes in cash position between the dates of two balance sheets. The cash flow statement reports the net cash flow from the three principal business activities of operating, investing and financing (Gill, 1990). Firms may be cash strapped when cash-outflows exceed inflows owing to a mismatch between maturing obligations and expected cash inflows from sales-in essence, a timing problem. It is therefore important that the firm keep track of its cash flows to avoid finding itself unable to meet its obligations and being declared insolvent.

Cash flows are also classified according to whether the activity performed is that of operating, investing or financing (Stickney, 1990). Cash flows from operations reflect the extent to which operating activities have generated more cash than they have used. Non-current assets need to be replaced as they wear out and when sold, generate cash inflows while acquisition of new assets results in cash outflows. The third major component reported in the cash flow statement represents cash obtained from short- or long-term borrowings and from issuing capital stock. This cash is used to repay debt, dividends and to reacquire shares of capital stock outstanding.

An analysis of cash flows is required for short-term planning. Sufficient cash will be required to service debts, pay interest and other expenses and pay dividends to shareholders. Projections of cash inflows and outflows can be made to determine availability of cash, which is then matched with the firms need for cash over a given period and thereafter, arrangements, can be made to raise the deficit or invest any surplus.

The income statement, also known as the profit and loss statement (p&l) provides the lenders and analysts with information about the operating performance of a firm over a particular period of time. Net income equals revenues and gains less expense and losses. Revenues measure the inflow of net assets from selling goods and services while expenses measure the outflow of net assets that a firm uses or consumes in generating revenues (van Horne, 1998). Gains and losses arise from the sale of assets or settlement of liabilities that are only marginally related to the firm's core business. They will arise when the firm pays or receives a value different from the book value.

The p&l represents a flow of economic data, or a flow of revenues and expense over a given time period, in accordance with the model $\text{total revenues} - \text{total expenses} = \text{net profits}$ (Pandey, 1999). It measures net profits by matching revenues and expenses according to the basic accounting principles and finally, communicates information regarding the results of the firm's activities to interested parties.

There are other types of statements tailored for specific lending evaluation criteria. Hernández (2004) in an investigation of the relevance of financial reports targeting Spanish credit institutions found out that the most commonly used compulsory financial statements are-with percentages of over 70%-in descending order, the debt statement, the budget settlement statement and the cash position statement. Following these, with percentages of over 60%, was the expenditure commitments related to future budgets statement, the expenses earmarked for specific purposes statement, the cash surplus statement, the closed budget statement and the statement of sources and applications of funds. Finally, and at considerable distance, were the operative statement and the balance sheet.

2.6 Financial Statement Analysis

Rose (1991) outlines the 6C principles of basic lending as character, capacity, capital, collateral, conditions and control, which are also important reference indexes for banks when making a credit analysis to decide whether or not a borrower is worthy of a loan. The activity of credit analysis has as its primary outputs, the financial analysis and the recommendation reports. The credit analyst has to proceed with financial analysis first in accordance with the business

financial reports and related documents collected by the loan officer, and turn them into relevant financial reports that will form a basis for further decision making.

The lending decision is based on an evaluation of the borrower's financial position and future prospects, in a process known as credit risk analysis. More technically speaking, credit risk analysis consists in estimating the probability that a borrower fails to return credit in accordance to the terms agreed (probability of default) and the expected loss that the bank would incur in case of default (loss given default) (Guimón, 2005). The process involves estimation of the firm's future cash flow and of the value of the assets that could be provided as collateral or security for the credit in the event of default.

Ratio analysis is widely used by managers, regulators, investors and creditors. This technique can give insights into a firm's operation. Whereas mechanistic computation of ratios may not yield important insights about a modern firm's complex operation, when combined with other knowledge of the firm's management and economic circumstances, these techniques can yield valuable information. Financial ratios have no single correct value; the observation that a ratio is too high, too low or just right will depend on the lender's perspective and the firm's competitive strategy. As such, the important underlying consideration is whether the chosen strategy is the best for the given firm (Higgins, 2001).

Financial ratios summarize large quantities of financial data and help the lender make qualitative judgements about the firm's financial performance. Ratio analysis entails comparisons for a useful interpretation of financial statements. Standards of comparison may consist of past ratios i.e. those calculated from previous years financial statements; competitors' ratios, i.e. ratios of progressive and successful competitors at the same point in time; industry ratios, i.e. ratios of the industry to which the firm belongs; and projected ratios, i.e. ratios developed from *pro forma* or forecasted financial statements of the same firm (Pandey, 1999).

The process of comparing financial ratios over time is called trend- or time-series analysis. These reveal performance changes over time and lead the analysts understanding the underlying reasons for change. Cross-sectional analysis entails comparing the ratios of a firm with those of other firms at a given point in time enabling an assessment of relative performance. Industry analysis entails comparing the firm's ratios with its industry's averages. However, industry

averages are difficult to get and if available, may be of low utility as they are averages of weak and strong firms. Lastly, if the industry employs different accounting standards, the ratios may be meaningless. Lastly, *pro forma* analysis compares the current ratios with projected ratios.

2.6.1 Profitability Ratios

Profit is the difference between revenue and expenses over a period of time and it's the ultimate 'output' of the firm. Profitability ratios are computed to measure the operating efficiency of firms. Lenders are highly interested in these ratios as they reflect the firm's ability to repay interest and principal regularly. The income statement has been singled out as most important for investment decision making by Anderson (1981), Abdelsalam (1990) and Anderson and Epstein (1995). Abu-Nassar and Rutherford (1996) found that Jordanian bank loan officers read the income statement and the balance sheet more than other parts of the corporate annual reports. Two major types of profitability ratios calculated are those that measure profitability in relation to sales on the one hand and in relation to investments on the other (Pandey, 1999).

There are various measures of profitability. Gross profit is the difference between sales and cost of goods sold. Profit After Taxes (PAT) or Net Income (NI) is a common measure. Since taxes are not controlled by management Profit Before Tax (PBT) may be computed. If the firm's profits are to be examined from the point of view of all investors (lenders and owners) the appropriate measure of profitability is Operating Profit (OP). OP is the equivalent of EBIT when the firm does not have non-operating income. This measure of profit shows earnings arising directly out of the firms commercial operations of the business without the effect of financing. Profit due to investors is given by EBIT (1-*t*) where *t* is the corporate tax rate.

Return on Equity (RoE) is defined as the ratio of net income to shareholders equity. It is the efficiency with which the firm employs owners capital and is by far, the most popular yardstick of financial performance among investors and managers alike (Higgins, 2001). RoE measures the earnings per dollar of invested equity capital. RoE can also be expressed as:

$$\text{RoE} = \frac{\text{Net Income}}{\text{Share holders Equity}} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Share holders Equity}}$$

Or

$$\text{RoE} = \frac{\text{Net Income}}{\text{Share holders Equity}} = \text{Profit Margin} \times \text{Asset Turnover} \times \text{Financial Leverage}$$

Thus, management has three levers for controlling RoE: the earnings squeezed out of each dollar of sales (profit margin); sales generated from each dollar of assets employed (asset turnover); and the amount of equity used to finance the assets (financial leverage).

In order to compare like quantities in the numerator and denominator, RoE is computed by deducting all amounts due to senior claimants from the net income figure. Since accountants do subtract interest expense on debt when measuring net income, lenders need only subtract preference dividends to obtain income attributable to common shareholders. Common shareholders equity equals total shareholders equity less the par value of preferred stock; since firms seldom issue preferred stock significantly above par value, analysts can assume that the amount in the additional paid in capital account relates to common stock

Whereas RoE may be similar across firms, the combination of profit margin, asset turnover and financial leverage tend to vary greatly, a fact attributable to competition in any given industry. Attainment of a high RoE by a firm attracts competitors anxious to emulate the firms superior performance, which in turns drives the industry's RoE back towards the average; conversely, low RoE repels new entrants and drives unsuccessful competitors out of the market, and in time, the industry's RoE moves back towards the sector average.

Higgins (2001) observes that RoE is limited in terms of what he calls the timing, risk and value problems. RoE has a timing problem in that it focuses on historical, single period measures and fails to capture the impact of multi-period decisions. RoE also does not tell us about the riskiness of an enterprise; different firms may have similar or same RoE values but may have differing degrees of financial leverage and thus, business risk. As such, a firm that has invested in say, government securities is less risky than one that has put its money in growth stocks albeit the two may have the same or similar RoE figures. Lastly the value problem arises because RoE measures returns on shareholders investment using book values rather than the market value of equity

To circumvent the distorting effects of leverage on RoE and RoA, Higgins (2001) recommends use of return on invested capital (RoIC) also known as return on net assets (RoNA), given by:

$$\text{RoIC} = \text{RoNA} = \frac{\text{EBIT} (1 - t)}{\text{Interest - bearing Debt} + \text{Equity}}$$

The numerator is the earnings after tax the company would report were it all equity financed and the denominator is the sum of all sources of cash to the firm on which a return must be earned regardless of whether it is debt or equity.

It is crucial to relate profitability to the amount of funds employed in making those profits. The Return on Capital Employed (RoCE) is the ratio of profits to capital employed; that is:

$$\text{RoCE} = \frac{\text{EBIT}}{\text{Capital Employed}}$$

Capital employed equals shareholders' funds plus creditors' amounts falling due after one year plus any long term provision for liabilities and charges (or total assets less current liabilities). The ratio compares like with like, i.e. EBIT contains the interest from loan capital, which is part of capital employed. Yearly changes in RoCE will tell us about the company's performance; also, computing the RoCE of competitors lets us know about the firms' relative performance compared to the industry.

Lastly, from RoCE, it is possible to tell whether extra borrowings will be viable depending on whether the firm will make profits to justify such borrowings or whether or not it is getting value for money from its current borrowing. A high RoCE figure could indicate positive returns with regard to all these factors. It also means that the company will have enough earnings after interest and taxes to repay debt obligations and earn its shareholders respectable returns. A high RoCE may be due to undervaluation of non-current assets in the balance sheet, resulting in a low capital employed figure, therefore interpreting this value needs care.

In profitability analysis, it is useful to distinguish between fixed and variable costs; the latter fluctuates with sales while the former is constant. Firms with high fixed costs will suffer major profit shocks when sales decline as they cannot vary their fixed costs. Higgins (2001) observes that it is safe to assume that most of the expenses in cost of goods sold are variable while most of the other operating costs are fixed. The gross profit margin (GPM) thus enables a crude distinction between fixed and variable costs and is defined as the ratio of gross profit to sales

(gross profit = sales – cost of goods sold). This ratio tells the analyst the proportion of each sales dollar available to pay for fixed costs and add to profits. This ratio is also known as the Profit/Volume Ratio (P/V ratio or the contribution ratio), where cost of goods sold is equated to variable expenses.

The gross profit margin reflects the efficiency with management produces each unit of product and it gives us the spread between cost of goods sold and revenues. Kennedy and McMullen (1968) note that a high gross profit margin may be due to higher sales prices, cost of goods sold remaining constant; lower cost of goods sold, sales prices remaining constant; a combination of variation in sales process and cost of goods sold, the margin widening or an increase in the proportionate volume of higher margin items. A low gross profit margin may indicate a higher cost of goods sold due to expensive raw materials, inefficient utilization of plant and machinery or overinvestment in the same, a fall in market prices or a trade-off between sales price and volumes.

The net profit margin (NPM) is obtained by dividing the profit after tax with sales (where net profit is the gross profit less operating expenses, interest and taxes) (Pandey, 1999). This ratio is important to operating managers since it represents the company's pricing strategy and its ability to control operating costs. Where the non-operational income is substantial, it is reduced from PAT to see profit arising directly from sales. The NPM indicates management's efficiency in manufacturing, administering and selling the products. Net profit margin also tells the lender about the firms' ability to withstand adversity i.e. a high ratio indicates a firm that is able to survive falling sales prices, rising production costs or falling demand and likewise in the case of a low ratio.

When the GPM and NPM are considered jointly, they give more meaningful information. For example, if the GPM has been increased and the NPM is constant or declining or has not increased proportionately, the implication is that operating expenses relative to sales have been increasing. Operating expenses is the only item that can be controlled by management whereas interest and taxes may change spuriously. Thus, both these ratios should be analyzed and all expense items investigated to identify causes of decline.

Interest is tax deductible and firms that pay more interest pay less tax (Gill, 1990). Tax saved on account of payment of interest is called *interest tax shield*. Since PAT excludes interest from borrowings, then the NPM is affected by the firm's financing policy and can be misleading if firm's with different debt ratios are compared. For a true comparison of the operating performance of firms, the effect of interest and its tax effect (financial leverage) should be ignored. Thus, the modified NPM becomes:

$$\frac{\text{EBIT} (1 - t)}{\text{Sales}}$$

where t is the corporate tax rate. $\text{EBIT} (1 - t)$ is the after-tax operating profit assuming that the firm has no debt.

The operating expense (OE) ratio is computed by dividing OE (cost of goods sold plus selling, general and administrative expenses (excluding interest) by sales (Pandey, 1999). This ratio gives us the proportion of sales consumed by OE. Subtracting from one gives the proportion of sales left to cover interest, taxes and earnings to owners. Variations in the OE ratio may be due to changes in sales price or product demand; changes in administrative or selling expenses or changes in proportionate share of sales of different products with varying gross margins.

Since the OE ratio reflects the average aggregate variation in expenses, the ratio of each individual operating expense to sales is computed to know the behaviour of specific sales items which can then be compared over time to uncover impact of management policies. For instance, increasing sales expenses without a corresponding increase in sales may imply uncontrolled sales promotional expenditures or increasing sales expenses. The OE ratio cannot be used as a test of financial condition for firms where non-operating revenue or expenses form a substantial part of the total income.

Earnings per Share (EPS) is found by dividing the PAT with the number of common shares outstanding; it shows the firm's profitability on a per share basis. Dividends per Share (DPS) are the earnings distributed to ordinary shareholders divided by the number of ordinary shares outstanding. The dividend-payout ratio is the DPS (or total dividends) divided by EPS (or PAT). Earnings not paid out are retained in the business and thus, retention ratio = $1 - \text{payout ratio}$. Multiplying the retention by the RoE figure gives the growth in owner's equity as a result,

Dividend yield is the DPS divided by the market value per share while earnings yield (or the earnings-price-E/P-ratio) is the EPS divided by the market value per share. These two ratios evaluate the shareholders return in relation to the market value of the share.

$$\text{Earnings Yield} = \frac{\text{Earnings per Share}}{\text{Market Value per Share}}; \quad \text{Price-Earnings Ratio} = \frac{1}{\text{Earnings Yield}}$$

Higgins (2001) observes that as a measure of performance, earnings yield suffers from a timing problem that limits its effectiveness. Stock prices are very sensitive to investor expectations of future returns; the higher those expectations, the more the investors are prepared to pay. Thus, for high potential stocks, earnings yield may be low owing to the high market value of the stock. Thus a low E/P ratio does not necessarily indicate poor performance. The P/E ratio on the other hand is the price of a shilling of current earnings and is a means of normalizing stock prices for different earnings levels across firms.

A firms P/E ratio depends on its future earnings prospects and the associated risk with the stock price and thus the P/E ratio rising with improved earnings prospects and falling with increased risk. Sometimes, a firms earnings may be weak but stock prices remain buoyant since investors may believe that the situation is temporary, resulting in a high P/E ratio. In summary, this ratio tells the lender little about a firms financial performance but indicates a lot about what investors believe regarding its future prospects.

2.6.2 Financial Leverage Ratios

Raising the proportion of debt relative to equity increases a company's financial leverage. The nature of a company's business and its assets influence the financial leverage it can employ. In general, businesses with highly predictable and stable operating cash flows can safely undertake more financial leverage than firms facing a high degree of market uncertainty. Also, businesses such as commercial banks, which have diversified portfolios of readily saleable, liquid assets, can also use more financial leverage than the typical business (Higgins, 2001).

Higgins (2001) notes that financial leverage is a means of increasing owners' returns through the prudent substitution of fixed-cost debt financing for owners equity. However, if operating profits are below a critical value, financial leverage will reduce, not increase, equity returns. Financial

leverage thus not only increases expected return to owners but also increases their risk. The substitution of debt for equity financing increases fixed costs in the form of higher interest and principal payments, but because creditors do not share in company profits, it also reduces variable costs. Increased financial leverage thus has two effects: more operating income is required to cover fixed financial costs, but once breakeven point is reached, profits grow more quickly with additional operating income.

The most common measures of financial leverage compare the book value of a company's liabilities. This gives rise to the *debt-to-assets* and *debt-to-equity* ratios. The debt-to-assets ratio tells us how much money creditors contribute for every shilling of assets bought. Assets will consist of non-current assets at their balance sheet value plus current assets while debts consist of all creditors, whether they fall due within a year or more. A useful guide to debt ratio is 50% debt (Pandey, 1999). The debt-to-equity ratio is the ratio of the total liabilities to the shareholder's equity. This ratio tells us how much creditors supply for every unit of currency supplied by shareholders. The rule of thumb is a debt-to-equity ratio of 1:1 (van Horne, 1998)

Higgins (2001) observes that debt financing also has a tax advantage, known as the interest tax shield, arising from the fact that interest payable on debt is tax deductible and is reduced from Earnings Before Interest and Taxes (EBIT). Thus, *ceteris paribus*, firms that employ debt pay less tax than those that employ equity and more income is available to the shareholders in the former case.

Capital gearing is concerned with a company's long term capital structure. Long term capital emanates from either shareholder's funds (ordinary shares plus reserves and preference shares) or long term debt capital (creditors funds falling due after more than one year). The *capital gearing ratio* is a measure of the company's share capital that is prior charge capital. It is the ratio of prior charge capital to total capital. Prior charge capital refers to those payments deductible from EBIT ahead of dividend payouts to ordinary shareholders and includes loan capital and preference dividends. Total capital on the other hand, is ordinary share capital and reserves plus prior charge capital plus any long term liabilities or provisions. A gearing ratio exceeding 50% is said to be high while below 50% is low (Stickney, 1996), albeit too high gearing may affect a firm's ability to borrow more unless it can boost its share capital.

The financial burden a company faces through use of debt financing ultimately depends not on the size of its liabilities relative to assets or equity but its ability to meet the annual cash payments the debt requires. For a going concern, we thus need to compare the annual burden the debt imposes on the cash flow available for debt service, giving rise to what are known as coverage ratios the most common of which are times interest earned and times burden covered. *Times interest earned* is the ratio of EBIT to Interest expense. EBIT and interest expense are pre-tax quantities and we are thus comparing like quantities.

If a firm fails to pay its principal repayments when due, it is in default and creditors can force it into bankruptcy. The times burden covered ratio reflects this reality by including debt principal repayments under annual financial obligations. Also, like times interest earned, all values should be expressed on a pre-tax basis; since principal payments are not tax deductible, the before tax burden of the principal repayment is found by dividing the repayment by $(1-t)$ where t is the company's tax rate, or doing what is called grossing up the principal Higgins, 2001. Thus, the formula for times burden covered is:

$$\text{Times Burden Covered} = \frac{\text{EBIT}}{\text{Interest} + \frac{\text{Principal Repayment}}{1 - \text{Tax Rate}}}$$

If companies could always roll over their maturing obligations by taking out new loans as they repaid old ones, the net burden of the debt would be merely the interest expense and times interest earned would assume greater importance. However, when capital markets decline or firm fortunes dwindle, creditors may refuse to advance more funds and the debt burden will entail both interest and principal. As such, in situations where a firm will pay all its maturing loans to zero, then times burden earned is too conservative and conversely, where the company will be able to roll over maturing debt, then the times interest covered becomes too liberal

An interest cover of twice or less would be low and should really exceed 3 times before the company's interest costs are considered to be within acceptable limits. Higgins, (2001) however argues that firms with ready access to cash in form of unused borrowing capacity or liquid assets can operate safely with lower coverage ratios than firms without such amenities. Also, coverage should be proportional to the business risk faced by firms; companies operating in dynamic, turbulent environments like information technology which have trouble forecasting in the

medium to long-term will need higher coverage ratios than those that operate in stable environments with stable cash flows e.g. utilities. Leverage ratios that relate a company's liabilities to the market value of its equity or the market value of its assets are also used.

Market Value of Equity:

$$\frac{\text{Debt}}{\text{Market Value of Equity}} = \frac{\text{Debt}}{\text{Number of Shares of Stock} \times \text{Price per Share}}$$

Market Value of Assets:

$$\frac{\text{Debt}}{\text{Market Value of Assets}} = \frac{\text{Debt}}{\text{Market Value of Debt} + \text{Equity}}$$

Since market values are based on investor's expectation about future cash flows, market value ratios can be thought of as coverage ratios extended over many periods; these ratios compare today's value of expected future income to today's value of future financial burdens. Market value ratios are helpful when assessing the financial leverage of rapidly growing, start-up businesses. Even when such firms have poor coverage ratios, lenders may still advance them credit if they believe future cash flows will be able to service the debt.

Market value ratios are accurate indicators of a firm's indebtedness at a point in time. However, they ignore rollover risk i.e. when creditors are of the view that debt should be repaid in cash and not promises of future cash flows. Also they are not widely used to set financing policy or monitor debt levels because stock price volatility can make them appear arbitrary and beyond management control.

2.6.3 Short Term Liquidity Risk

Liquidity is the amount of cash a company can put its hands on quickly to settle its debts. Liquid funds consist of cash, short-term investment for which there is a ready market, short-term fixed deposits, trade debtors and bills of exchange receivable (Gill, 1990). In summary, liquid assets are current asset items that will or could soon be converted into cash, and cash itself or liabilities

that must be repaid in the near future. Companies can obtain liquidity from share sales issues, loans or sale of non-current assets. Profits do not always lead to liquidity because they may be reinvested in the business or paid out as dividends.

The standard test of liquidity is the *current ratio* which is the ratio of current assets to current liabilities. This ratio compares the assets that will turn into cash within the year to the liabilities that must be paid within the year and it is a measure of short-term solvency. A low current ratio implies that the firm cannot reduce its current assets for cash to finance maturing obligations and must instead rely on outside financing and operating income. Pandey (1999) notes that as a conventional rule, a current ratio of 2:1 is considered satisfactory. Current ratio represents a margin of safety for creditors; the higher the current ratio, the greater the margin of safety.

In practice, a ratio comfortably in excess of 1.0 should be expected as firms should be able to meet their maturing obligations, albeit the actual value will differ depending on the type of business. In the 1980s, due to high interest rates, firms stretched accounts payables and permitted suppliers to finance their receivables lowering current ratios towards 1.0, which has today become a common value (Stickney, 1996).

Although this may seem to indicate increased risk, it is important to remember that inventories, a major component of current assets, are reported at acquisition cost by accountants, which means that actual cash generated from inventories is larger than is used to compute current ratio, indicating a higher risk tolerance. Sometimes, firms with a high current ratio may be doing poorly while those with a low current ratio may do well. This is explained by the fact that if current assets consist of doubtful slow moving debtors or obsolete stock of goods, then the firms ability to pay its bills is impaired; obviously, liabilities do not decrease in value and must be paid making such a firms position precarious.

The quick ratio, that is, the ratio of current assets less inventory to current liabilities, is a more conservative measure of liquidity. Inventory is subtracted because it is frequently illiquid and has values that tend to fluctuate. In liquidation sales, sellers typically receive 40% or less of the book value of inventory (Higgins, 2001). Analysts should however exercise discretion regarding whether or not to include inventories in the analysis of quick ratios as their liquidity will depend on the type of business. In general, a quick ratio of 1:1 is considered a satisfactory current

financial condition (Pandey, 1999). However, sometimes, the quality of receivables may be poor and may affect the ability of the firm to pay despite having a good quick ratio; alternatively, companies with low quick ratios may prosper if they have a high inventory turnover.

The limitations cited above of using current assets as indicators of short term liquidity risk can be overcome by using cash flow from operations instead. Cash flow ratio is the ratio of cash from continuing operations to current liabilities; cash flow from operations, reported on the statement of cash flows, indicates the excess amount of cash derived from operations, after funding working capital needs and paying maturing obligations on current liabilities. Casey and Bartczak (1984) in an empirical study found that a cash ratio of 0.40 or more was common for healthy manufacturing or retail firms.

Interval measure is another liquidity risk ratio that relates liquid assets to average daily operating cash outflows. The daily operating expenses equal costs of goods sold, plus selling, administrative and general expenses less depreciation and other non-cash expenditures divided by the number of days in the year.

$$\text{Interval Measure} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Average Daily Operating Expenses}}$$

This ratio tells us how much liquid assets a firm has to finance its operations even when it does not receive any cash (Pandey, 1999).

2.6.4 Working Capital Activity Ratios (Efficiency Ratios)

Borrowed funds are invested in various assets to generate sales and profits. Activity ratios are used to assess the efficiency with which firms manage and utilize their assets to this end. Financial performance improves as asset turnover rises which is in keeping with the fact that, other than during liquidation, a firm's value lies in the income stream it generates over time and high assets turn reflects the efficiency with which assets are used to achieve this goal. Thus, contrary to misguided opinion, many assets do not necessarily imply high firm value but rather, the quality of those assets and the income they generate.

The inventory turnover ratio reflects the efficiency of the firm in producing and selling its product. It is the ratio of the cost of goods sold divided by average inventory. Average inventory is the average of the opening and closing balances of inventory. It reflects the rate at which the firm is turning its finished goods into sales (Pandey, 1999). Sometimes the cost of goods figure may not be available to an outsider and the sales may be used instead. Cost of goods figure is however preferred as the sales will contain a profit mark-up absent from inventory and the two are thus not comparable. Dividing this ratio by 365 gives the days of inventory holding i.e. after how long a given inventory is emptied.

High inventory turnover could indicate good inventory management. It could also imply low inventory holdings that lead to frequent stock outs, or replacement of inventory in too many small lot sizes, both situations being costly for firms. Low turnover may imply excessive inventory levels or a slow moving obsolete inventory which affect the working capital and liquidity of firms. Computing turnovers for individual components of inventory may help detect imbalances in the various inventory components.

Debtors (or accounts receivable) turnover ratio is found by dividing credit sales with average debtors. The higher the value is, the more efficient the credit management. Since information regarding credit sales and the opening and closing debtors may not be available, debtors' turnover may be found by dividing total sales by the year end balance of debtors. The inverse of debtors' turnover ratio is the collection period which gives us the average time lag between credit sales and receipt of cash from these sales. This format is much more informative since it allows us to compare a firm's collection period with its terms of sale (Higgins, 2001). The figure obtained should be compared with a firm's credit terms and policy to judge its credit and collection efficiency.

A collection period that exceeds a firm's credit terms is indicative of a liberal and inefficient credit and collection performance. This impairs liquidity and increases the chances of bad or doubtful debts. Conversely, too low a collection period is not necessarily favourable as it may indicate a restrictive credit and collection policy. Such a policy entails lending only to those customers that are guaranteed to make payment; albeit this succeeds in avoiding bad debts, it severely curtails sales, profitability and growth (Pandey, 1999). For a detailed idea about

debtor's quality, an aging schedule which breaks down individual debtor items according to the length of time outstanding can be used.

Additionally, firm's collection periods should be compared with industry figures to determine the relative position of the firm; significant divergence between firm and industry figures will alert lenders to potential problems or opportunities in lending to the firm. In summary, the collection period assists analysts in determining the collectibility of debtors and thus, the efficiency of collection efforts and in ascertaining the firm's comparative strength and advantage relative to its credit policy and performance vis-à-vis the competition.

The relation between sales and assets is called asset turnover. Profit margin and asset turnover tend to vary inversely; companies with high profit margins tend to have low asset turns and vice versa (Higgins, 2001). Companies that add significant value to products, such as utility firms, require many assets and as such, have lower asset turnovers. On the other extreme, firms like groceries that add little value to products have high asset turns as they require fewer assets. Thus, with regard to RoE, it should be noted that a high profit margin is not necessarily better or worse than a low one as RoE is determined by a combination of both profit margin and asset turnover.

Imputed in the above discussion is the Return on Assets (RoA) which is the ratio of net income to assets. The RoA can also be expressed as the combination of profit margin multiplied by asset turnover, i.e.:

$$\text{RoA} = \text{Profit Margin} \times \text{Asset Turnover}$$

RoA is a measure of the efficiency with which a firm allocates and manages its resources, independent of their financing. It differs from RoE in that it measures profit as a percentage of the funds provided by owners and creditors as opposed to owner's funds only. Utility firms produce their RoA by combining high profit margins with low to moderate asset turns while other firms such as groceries adopt the reverse strategy. This ratio is a measure of capital-intensity, with a low asset turn denoting a capital-intensive business and vice versa.

The fixed asset turnover (FAT) ratio is a measure of the relation between sales and investment in plant, property and equipment. It is the ratio of sales to average non-current assets. A low or

decreasing rate of FAT may indicate a firm making investments in non-current assets in anticipation of future growth. Conversely, a firm may cut back on its capital expenditures if the near term outlook for its product is poor resulting in an increase in the FAT ratio.

A firm's ability to produce a large volume of sales for given quantity of net assets is the most important aspect of its operating performance. Superfluous assets increase costs of financing and maintenance expenses. However, the value of non-current assets is given net of depreciation (Pandey, 1999) meaning that older assets with low book (depreciated values) values may create a misleading impression of high turnover without any sales improvement. Gross non-current assets may instead be used. Interpreting the reciprocal of the FAT ratio, one may say that for generating sales of 1 shilling, the firm needs so much investment in non-current assets.

2.6.5 Cash Flow Ratios

With the introduction of the cash flow statement as an integral part of financial statements new information became available to be included in financial evaluation. After investigation it was found that many authors agree that cash flow information is a better indicator of financial performance than traditional earnings. For example, Largay and Stickney (1980) and Lee (1982) showed that although profits were increasing, W. T. Grant and Laker Airways had severe cash flow problems prior to bankruptcy.

According to the Financial Accounting Standards Board (FASB), the primary purpose of the cash flow statement is to assess a company's liquidity, solvency, viability and financial adaptability. According to Everingham et al. (2003) operating cash flow ratios are indicators of performance. They determine the extent to which a company has generated sufficient funds to repay loans, maintain operating capabilities, pay dividends and make new investments without using external financing. Larry (1992) underscored the importance of cash flow information to bankers, suggesting that cash flows and not profits, repay the loan. Hence, according to Larry (1992) operating cash flows is important financial information for purposes of assessing the borrowers' creditworthiness.

Cash flow ratios can be used to answer questions on a company's performance since debt obligations are met with cash. Such an analysis will result in adequate lines of credit, unrestricted

cash availability, debt maturity schedules with respect to financing requirements and the willingness to issue common equity. It will allow an analyst to examine a company's financial health, and how the company is managing its operating, investment and financing cash flows (Palepu et al., 2000).

During periods of high levels of inflation raising selling prices is expected to generate sufficient additional cash. However, this is not always the case. Rising costs, increased investment in working capital and the higher replacement cost of non-current assets contributes to placing more pressure on cash flows. Inflation, coupled from time to time with a recessionary climate, has resulted in management and users of financial statements focusing more closely on cash flow information than in the past (Everingham and Hopkins, 1984).

With the promulgation of the cash flow statement, a structured format was provided for deriving useful ratios to complement traditional ratio analysis. Accrual accounting does not measure cash flows. A lack of cash flow data has caused problems for investors and analysts in assessing a company's performance, liquidity, financial flexibility and operating capability (Figlewicz and Zeller, 1991).

Investigation on cash flows revealed that many authors (for instance Mossman et al., 1998) agree on the importance of cash flow information. Cash flow may be viewed as the lifeblood of a company and the essence of its very existence (Rujoub et al., 1995). Zeller and Stanko (1994) report on the uniqueness and stability of operating cash flow ratios relative to accrual based financial ratios to measure a company's ability to pay. Jones *et al.* (1995) surveyed, among others, managers, investors and creditors in Australia to determine which information in the financial statements they considered most useful. The creditors in the study were found to use the cash flow statement substantially more than the others included in the study. Research by Billings and Morton (2002) confirmed the importance of operating cash flows in assessing credit risk. Kwok (2002) also found that cash flow information is the second most used information item by bank loan officers in Hong Kong, after notes to the financial statements.

The concept of cash based performance ratios is not new to accounting. What is new is the availability of cash flow data. The cash flow statement offers measures to evaluate performance. If cash flow information is useful but unused, the logical conclusion is that analysts are not

analysing available data properly (Carslaw and Mills, 1991). Many new cash flow ratios were used in financial statements in countries where the cash flow statement is mandatory. To date, no comprehensive set of cash flow ratios has been agreed upon for the evaluation of the cash flow statement. Different users may employ different financial ratios even when used for the same purpose. When different financial ratios are employed comparison of results is made unduly complex (Gombola and Ketz, 1983).

Giacomino and Mielke (1993) proposed nine cash flow ratios to evaluate a company's performance. They suggested these set of cash flow ratios for relative performance evaluation using the operating activities that are the primary activities of a company as a component of each ratio. These ratios are then used to evaluate the sufficiency and efficiency of operating cash flows. Sufficiency means the ability of a company to provide for its cash requirements and efficiency means the extent to which cash is generated over time and relative to other companies.

These ratios are: debt coverage ratio: The debt coverage ratio estimates how many years, at the current level of cash from operations, it will take to retire all debt; impact of depreciation write-off ratio: indicates the percentage of cash flow from operating activities that arises from adding back depreciation, adjustments and other write-offs; reinvestment ratio: evaluates the sufficiency of cash flow for re-investment and maintenance of asset structure-the reinvestment ratio should exceed the depreciation write-off ratio over several years to indicate sufficient replacement of assets at higher current costs (Giacomino and Mielke, 1993).

Other ratios are: cash flow to sales ratio: is a cash-flow-based measure of return on sales. It measures the percentage of each sales-dollar or sales-rand realized as cash from operations; operating index ratio: compares cash from operations to income from continuing operations. It measures the cash-generating productivity of continuing operations; cash flow return on assets: measures cash generated from assets used. This ratio can also be compared with the accrual return on asset ratio; cash flow adequacy: evaluates the ability to generate sufficient cash to meet primary obligations; long term debt repayment: evaluates the sufficiency of cash flow to settle long term debt and dividend pay-out: evaluates the sufficiency of cash flow to pay dividends.

2.7 Using Ratios in Determining Credit Worthiness

A common method used by lenders to rate the creditworthiness of firms is through credit rating using simple or multiple discriminant analysis (Pandey, 1999). Through simple discriminant analysis, Gupta's (1979) empirical analysis showed that the ratio of Earnings before Depreciation, Interest and Taxes (EBDIT) to sales is significant in discriminating financially good customers from bad ones by calculating these ratios, arranging them in order of magnitude and setting a cut-off value to divide the array into credit worthy and non-creditworthy customers. The cut-off value is selected through visual inspection and the lender can then consider advancing credit to firms above this cut-off value.

Pandey (1999) further suggested using two factors, such as ratio of EBDIT to sales and operating cash flow to sales, as better indicators of firms' financial health rather than one ratio alone. A combination of these ratios can then be plotted on a graph for paying and non-paying customers care being taken to separate the two groups of customers by a straight line (regression analysis) in a manner that there are minimum misclassifications. This line will then tell us how much importance should be given to each ratio through the discriminating index.

Multiple discriminant analysis arises out of the recognition that the creditworthiness of firms depends on many interacting factors. This technique combines many factors according to the weight given to each and determines a composite differentiating score. Altman (1968) derived the following discriminant function:

$$Z = 0.012 \left\{ \frac{NWC}{TA} \right\} + 0.014 \left\{ \frac{RE}{TA} \right\} + 0.033 \left\{ \frac{EBIT}{S} \right\} + 0.006 \left\{ \frac{MV}{D} \right\} + 0.010 \left\{ \frac{S}{TA} \right\}$$

Where: NWC=Net Working Capital; TA=Total Assets; RE=Retained Earnings; S=Sales; MV=Market Value of Equity; D=Book Value of Debt. On the basis of statistical analysis, Altman's model determined a cut-off Z score of 2.675; firms with a score greater than this are financially strong while those below have a high likelihood of bankruptcy.

Pandey (1999) observes that the simple and multiple discriminant analysis are based on objective criteria and help lenders quickly isolate good from bad clients. However, they can mislead as they are based on historical ratios and will not give an insight on the future scenario. In order to

overcome this possibility, the firm should use the Net Present Value (NPV) rule to decide; if NPV is positive, grant credit.

Macharia (2003) in a study to determine the predictive ability of information contained in financial statements of the Co-operative Bank of Kenya Ltd found financial ratios to be reliable in performing and non-performing co-operative societies. She sought to find out the set of ratios that maximise the difference between a performing and a non-performing society by employing a multivariate analysis of twelve financial ratios. She found the information contained in financial statements to be useful in determining the creditworthiness of these societies. She found the ratios Debt/Equity, Current Assets/Current Liabilities, Advances/Deposits, Expenses/Income and Return on Equity to have the highest discriminating power.

Ng'ang'a (2006) compared the EPS with stock returns of companies listed at the NSE in a study to establish the quality of earnings in the financial statements. Earnings quality is the ability of the reported earnings to reflect the company's true earnings as well as the usefulness of reported earnings to predict future earnings, Jodi. Giakomino and Akers (2005). Marangu (2004) found a statistically significant relationship between price to book value ratio with dividend payout ratio, ROTA, ROE, EPS, DPS and growth rate of earnings after tax, with the best predictor variables being ROA, ROE and DPS.

It can thus be concluded that financial statements are reliable indicators of financial performance and together with qualitative analysis, should be a backbone of any lender's decision making criteria.

2.8 Limitations of Financial Statement Analysis

One limitation is the lack of reliability that the economic and financial statements of firms generally have for the credit institutions. These relate to the extent to which accounting information is submitted to adequate external controls or audits. These will limit the usefulness of any financial information extracted from such statements in situations where this information is doctored to represent favourable performance. There is need for more wide-ranging and agile

external controls so that the banks can obtain reports that give social credibility to financial statements (Hernández, 2004).

Another limitation of financial statement analysis is industry variations in accounting and reporting standards which result in incorrect performance observations designed to mislead the credit issuers. Additionally, statements may be vague leading to scanty information of certain key areas that the banks may need to focus on, for instance, within the balance sheet's fixed assets, a differentiation should be made between those assets that are not destined to public use nor are earmarked to a specific public service, since they could be the object of foreclosure; and the cash surplus statement should be more detailed, above all in terms of presentation and calculation of doubtful debtors and off-budget liabilities and the debt statement should be more detailed. This will reflect the emphasis banks place on having available more complete information about the volume and composition of debt, the classification of fixed assets, and the sources and application of collection and payment.

Additionally, financial statement analysis may be hampered due to lack of say, a net savings statement, in which full details are given of their components and calculations, along with statements that shows the revenue that has been affected as a guarantee of indebtedness, so as to avoid that same revenue being earmarked by more than one indebtedness operation.; forecasting statements; in other words, the need to have information regarding mid- and long-term investment plans or projects, as well as cash plans and overall information regarding the activity managed directly or indirectly by means of consolidated yearly accounts (Hernández, 2004). This would provide more valuable overall information than that drawn from the yearly accounts.

Non-accounting information, highlighting the fact that the financial statements analysts take into account both financial and non-financial variables should also be provided by borrowers; in other words, the financial information is not the only data the credit institutions need, since having qualitative information is also of great relevance. Again, the timeliness of qualitative and quantitative information may also be an issue, with outdated information exposing users to increased financial risk.

3.0 METHODOLOGY

3.1 Research Design

A survey study design was used for purposes of this research. Kotler and Armstrong (2000) observe that this method is the best suited for gathering descriptive information; where the researcher wants to know about preferences concerning one or more variables through direct query.

3.2 Population of Study

The population of study is composed of all banks registered in the Banking and Financial Institutions Directory as at 01st June 2007, a total of 43 banks. Since the population is small, a census study is preferable.

3.3 Data Collection Method

Data were collected by means of a standardized questionnaire consisting of open-ended and closed-ended questions. The questionnaire is ideal for the exploratory survey, as it will enable quick collection of similar data across a relatively dispersed population. Using a pre-designed questionnaire ensured that information sought was relevant to the objectives of the research, was standard and focused the research on collecting the required information rather than thinking about what information to collect.

The questionnaire was administered to senior managers in the Credit and Risk divisions of the various banks. The 'drop and pick later' method was employed in administering the questionnaires. Where the respondents required advice on completion the researcher visited and made the required clarifications as necessary while at the same time making follow up via telephone. A list of definitions of the various analytical procedures (Appendix 2) was availed to the respondents for reference. Data collected from Part 1 was expected to provide information on the ownership composition of the banks. It also helped explore how lending policies are dependent on other non-accounting information such as loan size, loan term, collateral and borrower character.

Part 2 of the questionnaire provided information about the level of importance of different financial statements to the banks; the extent to which financial analysis techniques (e.g. cross-sectional analysis etc) are used for risk analysis; and the extent to which different financial ratios are used for making lending decisions.

3.4 Procedures and Timeframe

A letter of introduction was sought from the University of Nairobi. This facilitated easy interaction with the banks through formal procedures. The questionnaire was administered by the researcher with the help of one research assistant. This was considered necessary due to time constraints. The data collection was carried out over a one-month period. Initially, the questionnaire was pre-tested using a sample of 10% of the sample size. These respondents were from a selected sample similar to the population under study. Procedures used in pre-testing the questionnaire were similar to those used in the actual study. This helped in clarifying questions and in refining the data analysis methods (Mugenda and Mugenda, 1999). The purpose of pre-testing is to check whether the questionnaire is stated clearly and has the same meaning to all respondents.

3.5 Data Analysis Method

A variable is a measurable characteristic that takes different values among subjects (Mugenda and Mugenda, 1999). In this research design, the variables are the various financial statements and analytical techniques as well as the extent of their usage or importance. The variable was measured by asking the respondents to tick, from a given list of analytical procedures, the ones they used when making corporate lending decisions. The extent of usage was measured by asking the respondents to rank on a five point Likert scale the level of importance placed on each of the techniques they use. According to Mugenda and Mugenda (1999) rating scales are useful in ranking the subjective and intangible components of a research, in this case, the attitude of lenders towards the importance of the various analytical procedures. Data analysis was executed using SPSS software. Descriptive statistics were generated. These included the mean, standard deviation, frequencies and percentages. The mode and mean values enabled the researcher identify those financial statement analysis techniques that were most used by the banks. The standard deviations informed the study on the extent of deviation from the average. Percentages

and frequencies informed the study on how often various analysis techniques recur and the level of importance placed on them by the lenders in making corporate lending decisions.

Eta and eta squared were computed to establish the extent of influence of the various financial statements as well as analytical procedures in lending decisions. This helped in data reduction by extracting and grouping together the key variables that operationalize those financial statement analysis tools and techniques that receive the highest level of emphasis in terms of usage and reliability. From this, it was possible to analyze effectively the relationship between these underlying groups of factors and lending related factors such as collateral requirements, size of lending categories, risk profile and borrower's character.

4.0 FINDINGS AND DISCUSSIONS

4.1 Introduction

The study sought to investigate the extent to which commercial banks in Kenya rely on the analysis of financial statements in their lending risk appraisal. In this study all commercial banks operating under the Banking Act were studied, which totalled 43. The findings have been presented in form of tables and charts based on the topics covering the study objectives with brief discussions. The results of findings form the basis of conclusions well explained in the next chapter. The chapter is structured based on the variables of the study.

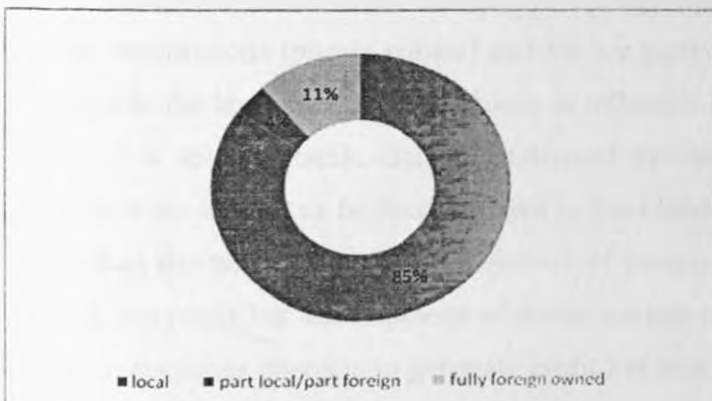
4.2 Response Rate

The field responses were that out of 43 questionnaires administered, 26 were filled and returned. Therefore the response rate was 60% (26/43), which was satisfactory to make conclusions for the study. This response rate can be attributed to the data collection procedure, where the researcher personally administered questionnaires, waited for the respondents to fill, and picked the filled questionnaires.

4.3 General Information

4.3.1 Ownership Composition

Chart 4.1: Distribution of Ownership Composition of the Respondents Banks

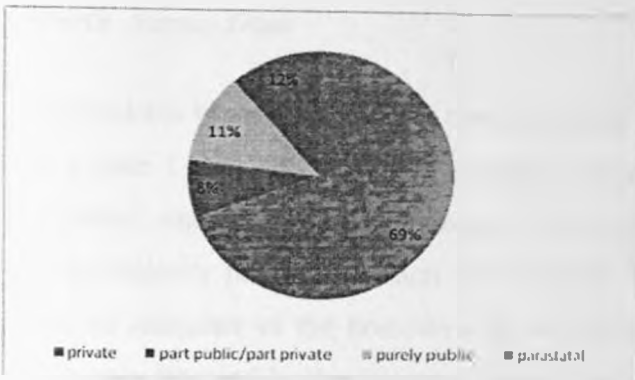


Source: Survey Data

Of the respondents, more banks (85%) are locally owned while only 15% had mixed local or purely foreign ownership. It is likely that such ownership differences are could influence lending decisions as more local banks focus on local economy and governmnt develoment initiatives, while multinationals mainly focus on the their parent companies agenda abroad. Although there is no documented evidence, locally owned banks are likely to offer soft collateral conditions than their multinational banks .

4.3.2 Type of Ownership

Chart 4.2 : Distribution of Type of Ownerhip of Respondent Banks



Source: Survey Data

Chart indicates that of the banks studied, 69% are privately owned and 12% are parastatal banks 11% are corporations (purely public) and 8% are partly private and partly public. This diverse ownership in the banking industry is likely to influence lending decisions depending on the goal /motive of a specific bank. Banks established by the government or partly owned by the government are known to be less stringent in their credit analysis of their clients. This may be attributed to the wider government objective of enhancing credit access to the people and the motive is not profit but development of certain sectors of the economy. Such banks may not be relying on customer deposits to generate credit but may be receiving grants and loans from the government directly or international organizations in order to offer cheap credit to the people.

However, purely privately owned banks must rely on customer deposits and lending to customers is their main business. These banks must at all costs minimize their lending risks and therefore they may subject clients to more stringent and thorough analysis in their credit risk appraisal.

4.3.3 Lending Considerations

Table 4.1: Ranking of Factors Considered in Lending Risk Analysis

	Collateral	Size Of Borrower(Revenue)	Loan Term Required By Borrower	Loan Size	Character Of Borrower	Other
N	26	26	26	26	26	26
Mean	3.27	3.12	3.35	3.38	3.19	3.69
Mode	5	5	4	4	5	3

Source: Survey Data

Respondents were asked to rank the factors that are considered in lending decisions by their bank on a scale 1 – 5, where 1- not important, 2-somewhat important, 3- important, 4- significantly important, and 5- critically important. The results were interpreted according to the mode taken as the majority ranking for each factor. Table 4.1 indicates that collateral, size of the borrower and the character of the borrower are critically important (mode =5). However, loan size and loan term required by the borrower were found to be significantly important (each with a mode of 4) while other factors were just important (mode =3).

The findings imply that all factors (collateral, size of borrower, loan term, character of the borrower were significantly or critically important in lending risk analysis. However, other factors are also important in assessing the credit risk for lending.

4.3 Analysis and Discussions of the Study Objectives

4.3.1 Financial Statements that are used in Credit Granting Decisions

Table 4.2: Descriptive Statistics on Considerations of Financial Statement for Lending

Financial statement	N	Min.	Max.	Mean	Std. Deviation
Rank Financial Statements---Balance Sheet	26	1	5	4.00	1.356
Rank Financial Statements---Income Statement	26	1	5	4.04	1.371
Rank Financial Statements---Cash Flow Statement	26	1	5	3.08	1.129
Rank Financial Statements---Projected Balance Sheet	26	1	5	3.40	1.364
Rank Financial Statements---Projected Income Statement	26	1	5	3.35	1.263
Rank Financial Statements---Projected Cash Flow Statement	26	1	5	3.73	1.218
Rank Financial Statements---Other	26	2	5	3.54	.811

Source: Survey Data

Respondents were asked to rank the factors that are considered in lending decisions by their bank on a scale 1 – 5, where 1- not important, 2-somewhat important, 3- important, 4- significantly important, and 5- critically important. The results were interpreted according to average the taken as the mean ranking for each factor.

The findings in Table 4.2 were interpreted according to the following means scale:

1 to 1.99 implies, that the respondent bank considers the financial statement as 'not important' for analyzing lending risk, 2 to 3.49 implies that the respondent bank considers the financial statement as 'important' for lending risk analysis and finally a mean score between 3.5 to 5 means that the respondent banks consider the financial statement to be 'critically important' in lending decisions.

Table 4.2 indicates that the following financial statements are considered critically important for credit risk analysis; balance sheet (4.0), the income statement (4.04) and the projected cash flow statement (3.73). The high usage of the income statements contradicts Nganga (2006) who found

low earnings quality hence income statement not reliable to users of published accounts. However, the following statements were only found to be important on the credit analysis; historical cash flow statement (3.08), projected income and projected balance sheets, (3.35) and (3.40) respectively. However other factors not related to the financial statements were also found to be critically important (3.54) for credit risk analysis. The study concludes that the traditional financial statements that banks consider for the purposes of lending are not exhaustive and banks will always probe further for projections and other important information for the purposes of lending risk analysis.

4.3.2 Financial Statements that are used in Term Loan Lending Decisions

Table 4.3 Measure of Association between the Ranking of Financial Statements and Loan Term

Financial Statement	Eta	Eta Squared
Balance Sheet	.495	.245
Cash Flow Statement	.395	.156
Projected Balance Sheet	.267	.071
Projected Income Statement	.130	.0169
Projected Cash Flow Statement	.500	.250
Income Statement	.573	.329
Other Factors	.289	.084

Source: Survey Data

To establish the relationship between the rankings of financial statements to the loan term, eta was computed and to determine the explained variation in the loan term, resulting from the type of financial statement ordinal eta squared was calculated. The measure of association was meant to indicate the size of effects on the lending decision based on the either the loan being short or long term. The larger eta indicates greater influence of the financial statement in determining the term of the loan.

Table 4.3 indicates that the current income statement has the greatest influence in determining the term loan (eta = .573) and further indicates that the decision to grant a short or a long term loan is influenced 32.9% (eta = .329) by the income statement produced by a borrower. Secondly, the projected cash flow statement is ranked second in influencing term of the loan (eta

= .500 and eta squared = .25) and finally in the balance sheet (eta = .495). The combined effect size of the balance sheet, income statement and the projected cash flow account for 82% of the influence on the term of a loan (combined eta squared = .82). Other factors account for less than 10% (eta = .084). However, they are also important in determining the term of the loan granted to a client.

The study concludes that, while there are other factors that determine the term of a loan, financial statements forwarded by the customer remain most important. And in their order of priority, the income statement is the most important and seconds the projected cash flow statement and finally the balance sheet. Apparently, the banks are more interested in future cash flow to determine the term of the loan and not the past cash flow statements which have a lower effect size in influencing term loan decisions. This finding was similar to Hernandez and Perez (2004) who found a preference by credit institutions for statements that are budgetary in nature, in credit appraisal.

4.4 Techniques for Financial Analysis used in Lending Decisions

Table 4.4 Descriptive Statistics on the use of financial statements analysis by respondent banks

Techniques Of Analysis	N	Minimum	Maximum	Mean	Std. Deviation
Time Series Analysis	26	1	5	3.46	1.392
Cross Sectional Analysis	26	1	5	3.31	1.123
Industry Analysis	26	3	9	4.23	1.275
Pro-forma Analysis	26	1	5	3.42	1.332
Other Techniques	26	2	4	3.23	.863

Source: Survey Data

Respondents were asked to indicate the extent to which certain financial statement analysis techniques are considered in lending decisions by their banks on a scale 1 – 5, where 1- least

extent, 2-moderate extent, 3- fairly high extent, 4- high extent, and 5- great extent. The findings in Table 4.4 were interpreted according to the following means scale:

1 to 1.99 implies, that the respondents bank use the type financial statement analysis 'the least extent' for analyzing lending risk, 2 to 3.49 implies that the respondent bank uses the financial statement analysis 'to a moderate extent' for lending risk analysis and finally a mean score between 3.5 to 5 means that the respondent banks uses the specific financial statement analysis to the 'greatest extent' for lending decisions.

Table 4.5 indicates that industry analysis is the most used technique at the greatest extent. (4.23) while all other techniques are used with moderate extent which include, time series analyses (3.46), cross sectional analysis (3.31), pro-forma analysis (3.42) and finally other methods specific to a bank (3.23).

The study concludes that banks are keen in using industry analysis in appraising their customers for lending purposes. The industry analysis is likely to bring out the threshold for lending decisions and the competitiveness of the borrower in the market. The study concludes that commercial banks do rely of other techniques for analyzing financial statements in order to make lending decisions and this may vary from bank to bank depending on its lending policy.

4.5 Type of Financial Ratios Used In Lending Risk Analysis

4.5.1 Profitability Ratios

Table 4.5 Descriptive Statistics on the Use of Profitability Ratios in Determining Business Performance for Lending Decisions

Ratio	N	Minimum	Maximum	Mean	Std. Deviation
Dividend yield	26	1	5	2.88	1.423
Dividend pay out	26	1	5	3.00	1.414
Dividend per share	26	1	5	3.35	1.548
Earnings per share	26	1	5	3.42	1.332
Earnings yield	26	1	5	3.58	1.391
Gross Profit to Sales	26	1	5	4.38	1.061
Net Profit Margin	26	2	5	4.38	.983

Operating Profit to Sales	26	1	5	4.12	1.306
Return on Capital Employed	26	2	5	4.31	.838
Return on Equity	26	2	5	4.23	.951
Profit/Volume Ratio	26	1	5	3.32	1.197
Other	26	2	5	3.49	1.158

Source: Survey Data

Respondents were asked to indicate the extent to which they relied on profitability ratios in guiding lending decisions by their bank on a scale 1 – 5 , where 1- least extent , 2-moderate extent, 3- fairly high extent, 4- high extent, and 5- great extent. The findings in Table 4.5 were interpreted according to the following means scale: - 1 to 1.99 implies, that the respondents bank use the type of profitability ratio ‘the least extent’ for analyzing lending risk, 2 to 3.49 implies that the respondent bank uses the profitability ratio ‘to a moderate extent’ for lending risk analysis and finally a mean score between 3.5 to 5 means that the respondent banks uses the specific profitability ratio to the ‘greatest extent’ for lending decisions.

Table 4.5 indicates that the key profitability ratios used by commercial banks studied in lending decisions are used at a greater extent and include: gross profit (4.38). the net profit (4.38), operating profit (4.12), the ROCE (4.31) and finally the ROE (4.23). Other s includes the Earnings yield (3.58), the others specific to bank considerations (3.69). Apparently, all these statements focus on the income statement which was ranked as the most important financial statement for lending decisions. Other profitability ratios which emphasize investors return like DPS, EPS and Dividend pay out and Dividend yield are given a second consideration and used moderately in the lending decisions. The study concludes that, profitability ratios that indicate the performance of the business of a client are important for lending decisions. This finding supports Macharia (2004) who found profitability ratios (ROE and expenses to income) to have high discriminating power between performing and non-performing borrowers.

4.5.2 Leverage ratios

Table 4.6: Descriptive Statistics on the Use of Leverage Ratios in Determining Business Performance for Lending Decisions

Ratio	N	Minimum	Maximum	Mean	Std. Deviation
Capital Gearing Ratio	26	3	5	4.27	.827
Debt-To-Equity Ratio	26	2	5	4.42	.809
Debt-To-Total Assets(Book Value)	26	2	5	4.12	.993
Debt-To-Market Value Of Equity	26	1	5	3.50	1.334
Debt-To-Market Value Of Assets	26	1	9	3.77	1.773
Times Burden Covered	26	1	5	3.42	1.137
Times Interest Earned	26	1	5	3.65	1.164
Other	26	2	4	3.15	.881

Source: Survey Data

Respondents were asked to indicate the extent to which certain gearing ratios were used to assess performance considered in lending decisions by their bank on a scale 1 – 5, where 1- least extent, 2-moderate extent, 3- fairly high extent, 4- high extent, and 5- great extent. The findings in Table 4.6 were interpreted according to the following means scale:

1 to 1.99 implies, that the respondents bank use the type gearing ratio is used to 'the least extent' for analyzing lending risk, 2 to 3.49 implies that the respondent bank uses the type of gearing ratio 'to a moderate extent' for lending risk analysis and finally a mean score between 3.5 to 5 means that the respondent banks uses the specific gearing ratio to the 'greatest extent' for lending decisions.

Table 4.6 indicates that the following gearing ratios are to the largest extent relied upon for analyzing risk in lending decisions and may be supplemented by other ratios. The gearing ratios measures the risk inherent in an investment and studied banks indicated that they focus mainly on the capital gearing ratio (4.27), debt –equity ratio (4.42), debt to total assets ratio-book value (4.12) and debt to market value of equity (3.50), debt to market value of assets (3.77) and finally the times interest earned .

The study concludes that commercial banks use the gearing ratios to a great extent to estimate the inherent risk associated with lending. The focus on market value or equity and market value

of assets relative to debt demonstrate that the banks also put into account the likelihood of recovering their loans from the liquidation proceeds. That explains their assessments of market value of fixed assets that would be released if the client business goes under. Secondly, the use of times interest earned may be used to measure the earning strength of a client business as the result indicate that commercial banks are very much interested in stability of profits. This also supports Macharia (2004) who found debt to equity ratio to have high discriminating power.

4.5.3 Liquidity Ratios

Table 4.7 Descriptive Statistics on the Use of Liquidity Ratios in Determining Business Performance for Lending Decisions

	N	Minimum	Maximum	Mean	Std. Deviation
Current Ratio	26	2	9	4.54	1.240
Quick Ratio	26	2	9	4.69	1.225

Source: Survey Data

Respondents were asked to indicate the extent to which certain liquidity ratios are considered in lending decisions by their bank on a scale 1 – 5, where 1- least extent, 2-moderate extent, 3- fairly high extent, 4- high extent, and 5- great extent. The findings in Table 4.7 were interpreted according to the following means scale:

1 to 1.99 implies, that the respondents bank use the type of liquidity ratio to 'the least extent' for analyzing lending risk, 2 to 3.49 implies that the respondent bank uses the specific liquidity ratio 'to a moderate extent' for lending risk analysis and finally a mean score between 3.5 to 5 means that the respondent banks uses the specific liquidity ratio to a 'great extent' for lending decisions.

The study result tabulated in table 4.7 indicates that the current ratio and the quick ratio are both used by commercial banks to a great extent meaning that the two ratios are critical for analyzing performance for lending decisions. Both ratios have a mean score of close to 5, meaning that there are very significant ratios in the lending decisions. The study concludes that the liquidity ratios are a must in the analysis of performance in credit lending decisions.

4.5.4 Activity Ratios

Table 4.8: Descriptive Statistics on the Use of activity Ratios in Determining Business Performance for Lending Decisions

Activity ratio	N	Minimum	Maximum	Mean	Std. Deviation
Accounts Receivable Turnover	26	2	5	4.12	.909
Debtors Collection Period	26	3	5	4.46	.706
Inventory Turnover	26	1	5	4.08	1.129
Fixed Assets Turnover	26	1	5	3.35	1.231
Total Assets Turnover	26	1	5	3.45	1.231
Net Assets Turnover	26	1	5	3.39	1.158
Other	26	2	4	3.15	.784

Source: Survey Data

Respondents were asked to indicate the extent to which certain activity ratios were used in lending decisions by their bank on a scale 1 – 5, where 1- least extent, 2-moderate extent, 3- fairly high extent, 4- high extent, and 5- great extent . The findings in Table 4.8 were interpreted according to the following means scale:

1 to 1.99 implies, that the respondents bank uses the particular activity ratio to 'the least extent' for analyzing lending risk, 2 to 3.49 implies that the respondent bank uses the specific activity ratio 'to a moderate extent' for lending risk analysis and finally a mean financial score between 3.5 to 5 means that the respondent banks uses the specific activity ratio to the 'greatest extent' for lending decisions.

Table 4.8, indicates that the following activity ratios are extensively used to gauge the performance of a client for lending decisions:- debt collection period (4.46), debtor turnover (4.12), inventory turnover (4.08). This could be attributed to their liquidity implications that were found to be of much importance in lending decisions by commercial banks. Other activity ratios are moderately used for lending decisions are total assets turnover, fixed assets turnover, net assets turnover and other activity ratios specific to banks perhaps because of their indirect link to cash flows but generally to the efficiency of management in running the business. The study

concludes that the activity ratios are to a fairly high used in the analysis of business performance for lending decisions.

4.5.5 Cash Flow Ratios

Table 4.9: Descriptive Statistics on the Use of Profitability Ratios in Determining Business Performance for Lending Decisions

	N	Minimum	Maximum	Mean	Std. Deviation
Cash flow adequacy	26	1	5	4.56	.098
Cash Flow Return On Assets	26	1	5	4.04	1.183
Cash Flow To Sales Ratio	26	2	5	4.23	.951
Other	26	2	4	3.64	.916

Source: Survey Data

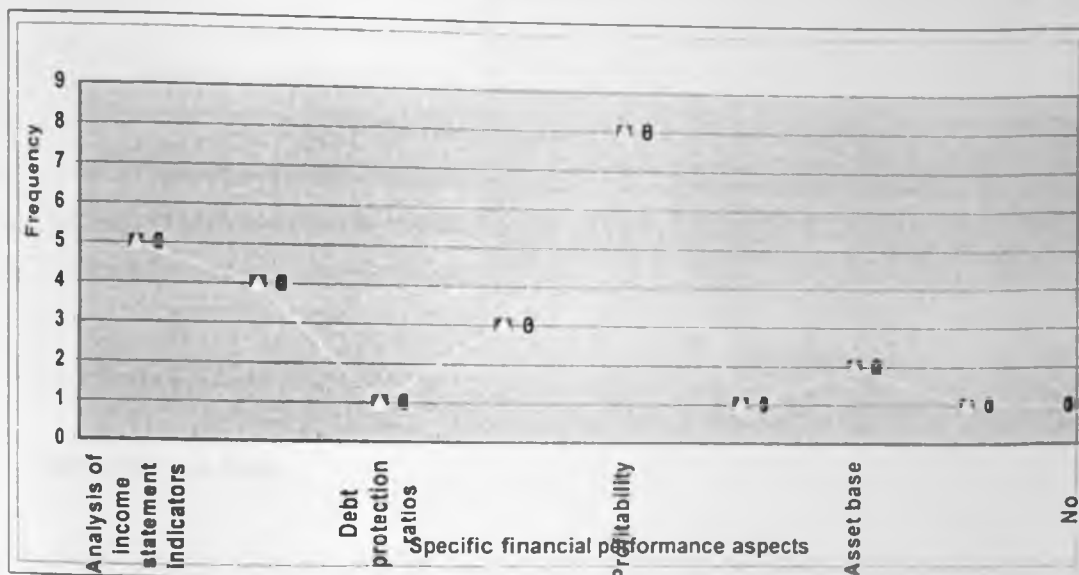
Respondents were asked to indicate the extent to which certain cash flow ratios are used for analyzing performance considered in lending decisions by their bank on a scale 1 – 5 , where 1- least extent, 2-moderate extent, 3- fairly high extent, 4- high extent, and 5- great extent. The findings in Table 4.9 were interpreted according to the following means scale: - 1 to 1.99 implies, that the respondents bank uses the type of cash flow ratio to ‘the least extent’ for analyzing lending risk, 2 to 3.49 implies that the respondent bank uses specific cash ratio ‘to a moderate extent’ for lending risk analysis and finally a mean score between 3.5 to 5 means that the respondent banks uses the specific cash flow ratio to the ‘greatest extent’ for lending decisions.

The result findings tabulated in table 4.9 indicates that all cash flow ratios are used to a great extent. This means that cash flow ratios to commercial banks are important in analyzing performance form the purposes of lending. This is expected considering that, cash flow statement was found in this study to be one of the most important financial statements after profit statement for analyzing performance for lending decisions.

The study concludes that cash flow ratios that focus on how cash was generated and used are key determinants in lending decisions. However, projected cash flow statement was found to have a higher association with the term loan – lending decision than historical cash flow statement.

4.6 Specific Aspects of Financial Performance Emphasized in Lending Decisions

Chart 4.3: Specific Financial Performance Aspects and Positions Emphasized When Making Lending Decisions

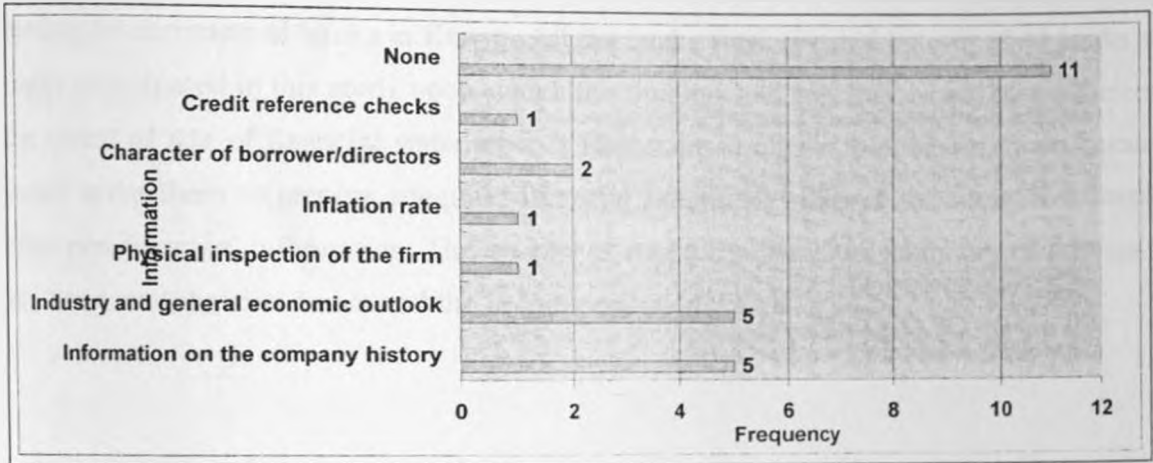


Source: Survey Data

The study results indicate that banks have certain aspects of financial performance which they emphasize when making decisions on lending to their corporate clients with a majority of 8 (31%) citing profitability, 5 (19%) mentioned analysis of income statement indicators, 4 (15%) cash flow indicators, 3 (12%) demonstrated ability to pay, 2 (8%) asset base, while 1 (4%) each of the banks mentioned debt protection, liquidity, balance sheet and another one gave no response. This underscores the importance of profitability and cash flow analysis in credit risk appraisal.

4.7 Information Considered by Lenders but not included in Financial Statements

Chart 4.4: Information Necessary for Corporate Lending Decisions and Not Included In Financial Statements



Source: Survey Data

Information considered by the banks for corporate lending decisions but is not in financial statements included information on the company history and industry and general economic outlook according to 5 (19%) each of the respondents while 2 (8%) of respondents cited character of borrowers/directors, while 1 (4%) each of the banks mentioned physical inspection of the firm, inflation rate, and credit reference checks. Surprisingly, a big percentage 11 (38%) did not find any additional importance not included in the financial statements necessary in credit risk appraisal.

5.0 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study sought to establish the extent of use of financial statement analysis in corporate lending by commercial banks in Kenya. All the banks were targeted but out of 43 banks only 26 banks participated in this study upon which the findings and conclusions are based. Determining the extent of use of financial statements is important to clients looking for credit because this would serve them to prepare adequate financial statements while at the same time considering other non-financial information. The chapter is structured based on; summary of findings on the key areas, conclusions drawn and the recommendations made.

5.2 Summary of Findings

The study established that collateral, size of the borrower and the character of the borrower are critically important in commercial banks in making lending decisions. In addition, the financial statements found to be critically important for credit risk analysis; were the balance sheet, the income statement. The information from the these financial statements was found to be supplemented with other factors not related to financial statements in credit risk analysis

The study further established that the current income statement has the greatest influence in determining the term loan ($\eta = .573$) and further indicated that the decision to grant a short or a long term loan is influenced 32.9% of times by the income statement. Secondly, the projected cash flow statement is ranked second in influencing term of the loan ($\eta = .500$ and $\eta^2 = .25$) and finally in the balance sheet ($\eta = .495$). The combined effect size of the balance sheet, income statement and the projected cash flow account for 82% of the influence on the term of a loan (combined $\eta^2 = .82$). Other factors account for less than 10 % ($\eta = .084$). However, they equally important in determining the term of the loan granted to a client.

On the type of analysis done by commercial banks, the industry analysis is the most used technique in credit risk assessment while all other techniques which are used with moderation include time series analysis, cross sectional analysis, pro-forma analysis and other methods specific to the bank. The studied banks were also found to rely more heavily on certain ratios for risk lending analysis than other. From the study results, it was established that the gross profit, the net profit, operating profit the ROCE and finally the ROE are the mostly used profitability ratios for gauging performance of a client for the purposes of lending decisions. Apparently, all these statements focus on the income statement which was ranked as the most important financial statement for lending decisions. Other profitability ratios which emphasize investors return like DPS, EPS and Dividend pay out and Dividend yield are given a second consideration and used moderately in the lending decisions.

The study findings also indicated that the gearing ratios considered critical for analysis include the capital gearing ratio, debt –equity ratio, debt to total assets ratio-book value and debt to market value of equity, debt to market value of assets and finally the times interest earned. On the other hand current ratio and the quick ratio are both used by commercial banks to a greater extent, meaning that the two ratios are critical for analyzing performance for lending decisions. Some activity ratios are also considered important in assessing performance of client for lending. The most common activity ratios that were found to be greatly used were the debt collection period, debtor turnover and inventory turnover probably because of their liquidity link.

The result findings indicated that all cash flow ratios are used to greater extent. This means that cash flow ratios to commercial banks are important in analyzing performance form the purposes of lending. This is expected considering that, cash flow statement was found in this study to be one of the most important financial statements after profit statement for analyzing performance for lending decisions.

Other critical aspects of financial information which commercial banks emphasize when making decisions on lending to their corporate clients indicated that 31% cited profitability, 19% mentioned analysis of income statement indicators, 15% cash flow indicators, 12% demonstrated ability to pay, 8% asset base, while 4%, each of the banks mentioned debt protection, liquidity and balance sheet.

The study further established that banks also consider other information for corporate lending decisions not in financial statements. Such information included information on the company history and industry and general economic outlook according to 5 (19%) each of the respondents, while 8% of respondents cited character of borrowers/directors, and 4% each of the banks mentioned physical inspection of the firm, inflation rate, and credit reference.

5.3 Conclusions

The study concluded that that all factors (collateral, size of borrower, loan term, character of the borrower were significantly or critically important in lending risk analysis. However, other factors are equally important in assessing the credit risk for lending. The study further concludes that the traditional financial statements that banks consider for the purposes of lending are not exhaustive and banks will always probe further for projections and other important information for the purposes of lending risk analysis.

In addition it is worth concluding that, while there are other factors that determine the term of a loan, financial statements forwarded by the customer remain most important. And in their order of priority, the income statement is the most important and secondly the projected cash flow statement and finally the balance sheet. Apparently, the banks are more interested in future cash flow to determine the term of the loan and not the past cash flow statements which have a lower effect in influencing term loan decisions.

It can also be inferred from the findings that banks are keen in using industry analysis for appraising their corporate borrowers' performance for lending purposes. The industry analysis is likely to bring out the competitiveness of the corporate borrower in the market. It also came out clearly that commercial banks do rely on other techniques for analyzing financial statements in order to make lending decisions and this may vary from bank to bank may be depending on its lending policy.

The profitability ratios are the best measure of performance of a business in lending decisions. In addition, commercial banks use the gearing ratios to estimate the inherent risk associated with particular loan. The focus on market value or equity and market value of assets relative to debt demonstrate that the banks also put into account the likelihood of recovering their loans from the liquidation proceeds. That explains their assessments of market value of fixed assets that would be released if the client business goes under. Secondly, the use of times interest earned may be used to measure the earning strength of a client business as the result indicate that commercial banks are very much interested in stability of profits.

Finally the study concludes that the liquidity ratios are a must in the analysis of performance in credit lending decisions. It also can be inferred that certain activity ratios are importantly used in the analysis of business performance for lending decisions but mostly are those activity ratios which point towards the liquidity health of the business. This further confirms that cash flow ratios that focus on how cash was generated and used are key determinants in lending decisions. However, projected cash flow statement was found to have a higher association with the term loan – lending decision than historical cash flow statement.

The income statement remain the single most important statement in lending risk analysis which is supplemented with projected cash flow statement and the balance sheet and other non-financial information on the client . The study therefore concludes that, a combined 82% of the lending decisions are based on these three financial statements as indicated in the measure of association, while 18% can be said to go to other factors. The study satisfied the first and the second objectives of the study which focused on establishing the extent of use of financial statements in lending decisions. The corporate lending decisions can be said to products of financial statements analysis.

5.4 Recommendations

Based on the conclusions above, the study recommends the following,

1. Commercial banks should have a common credit reference bureau where financial statement analysis and other critical information of a borrower can be found well analyzed. This would serve to minimize the hassle of credit appraisal that clients experience with commercial banks.

This would also minimize the over-reliance by commercial on financial statements for credit risk analysis as other factors such the potential and credibility of the client take center stage in lending decisions.

2. Commercial banks should also share information amongst themselves in appraising a client performance. Such information would include the creditworthiness of a client and character of borrower. This would serve to minimize lending risks which are not explicit in any financial statements analysis.

3. The commercial banks should come up with a self evaluation method for clients so that prospective borrowers do not have to waste time of the bank officers in asking for appraisal. A self assessment form should be devised .The benchmarks on the key areas of assessments to be codified within a document for clients to read and use it self assessment. For example, the bank can benchmark its lending analysis on: business turnover, disposable income, income from property, value of assets , among others where it can develop categories for customers , the amount it lend , the security expected , term of the loan etc.

5.5 Limitations of the Study

A major limitation of this study is that a questionnaire was used. Personal interviewing, observation and content analysis of credit risk analysts' report would provide richer responses.

5.6 Suggestions for Further Studies

The study concentrated the study on the commercial banks operating under the Banking Act and also the findings were based on a sample. Further research can be done by expanding the scope to cover all commercial banks, and other non-bank organizations like savings and credit cooperative societies, micro financial institutions, building societies and generally other players in the financial market involved in lending. Such a study would serve to explain the differences and similarities between the institutions in making lending decisions. This study can also be replicated by taking into account the sectorial nature of the borrowers, that is, whether the same observations would be made across manufacturing, service, agricultural and other sectors in which the corporate borrowers lie.

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Appendix 1: Questionnaire

Part 1:

1. Indicate the ownership composition of your Company

- Local; Part-Local/Part-Foreign; Fully Foreign Owned

2. Kindly indicate whether your company ownership is:

- Private; Part private/part public;
 Public; Parastatal

3. Rank each of the lending considerations listed below in the order of their importance to your bank for purposes of analysis for lending risk appraisal.

	1	2	3	4	5
Collateral					
Size of borrower (in terms of revenue)					
Loan term required by borrower					
Loan size					
Character of borrower					
Other (indicate and rank)					

Part 2:

3. Rank each of the financial statements listed below in the order of their importance to your bank for purposes of analysis for lending risk appraisal.

1=Not Important; 2=Somewhat Important; 3=Important;

4=Significantly Important; 5=Critically Important

Statement Type

Level of Importance

	1	2	3	4	5
Balance Sheet					
Income statement					
Cash flow statement					
Projected balance sheet					
Projected income statement					
Projected cash flow statement					
Other (Indicate & Rank)					

4. Rank the financial statements listed above in order of importance, starting with the most important, those that demonstrate a higher grade of usefulness in making corporate lending decisions in relation to loan term

	Long term borrowing		Short term borrowing
1		1	
2		2	
3		3	
4		4	
5		5	

5. Rank the extent to which the financial statement analysis techniques below are used as tools for lending risk evaluation

1=No Extent; 2=Moderate Extent; 3=Fairly High Extent;

4=High Extent; 5=Great Extent

Analysis Technique

Extent

	1	2	3	4	5
Time series analysis					
Cross sectional analysis					
Industry Analysis					
Pro forma Analysis					
Other (Indicate & Rank):					

6. Indicate the extent to which the profitability ratios below are used in determining business performance for lending risk analysis decisions.

1=No Extent; 2=Moderate Extent; 3=Fairly High Extent;

4=High Extent; 5=Great Extent

Profitability Ratio Type	Extent				
	1	2	3	4	5
Dividend yield					
Dividend-payout					
Dividends per Share					
Earnings per Share					
Earnings yield					
Gross Profit to Sales					
Net Profit Margin					
Operating Profit to sales					
Return on Capital Employed					
Return on Equity					
Profit/Volume Ratio					
Other (Indicate & Rank):					

7. Indicate the extent to which the leverage ratios below are used in determining business performance for lending risk analysis decisions.

1=No Extent; 2=Moderate Extent; 3=Fairly High Extent;

4=High Extent; 5=Great Extent

Financial Leverage ratio Extent

	1	2	3	4	5
Capital gearing ratio					
Debt-to-equity					
Debt-to-Total Assets (book value)					
Debt to Market Value of Equity					
Debt to Market Value of Assets					
Times burden covered					
Times interest earned					
Other (Indicate & Rank)					

8. Indicate the extent to which the liquidity ratios below are used in determining business performance for lending risk analysis decisions.

1=No Extent; 2=Moderate Extent; 3=Fairly High Extent;

4=High Extent; 5=Great Extent

Liquidity Ratio

Extent

	1	2	3	4	5
Current ratio					
Quick ratio					
Other (Indicate & rank)					

9. Indicate the extent to which the activity ratios below are used in determining business performance for lending risk analysis decisions.

1=No Extent; 2=Moderate Extent; 3=Fairly High Extent;

4=High Extent; 5=Great Extent

Activity Ratios

Extent

	1	2	3	4	5
Accounts receivable turnover					
Debtors collection period					
Inventory turnover					
Fixed assets turnover					
Total Assets turnover					
Net assets turnover					
Other (Indicate & Rank);					

10. Indicate the extent to which the cash flow ratios below are used in determining business performance for lending risk analysis decisions.

1=No Extent; 2=Moderate Extent; 3=Fairly High Extent;

4=High Extent; 5=Great Extent

Cash Flow Ratio

Extent

	1	2	3	4	5
Cash flow adequacy					
Cash flow return on assets					
Cash flow to sales ratio					
Other (Indicate & Rank):					

11. What specific aspects of financial performance and position do you emphasize on when making lending decisions?

12. What information which you consider necessary for corporate lending decisions is not included in financial statements as drawn up?

Thank you for completing the Questionnaire

Appendix 2: Financial Ratios

Profitability Ratios

$$\text{Dividend Yield} = (\text{Dividend per Share}) / (\text{Market Value per Share})$$

$$\text{Dividend-Payout Ratio} = (\text{Dividends per Share}) / (\text{Earnings per Share})$$

$$\text{Dividends per Share} = (\text{Total Dividends}) / (\text{Number of Common Shares Outstanding})$$

$$\text{Earnings per Share} = [\text{EBIT} (1-t)] / (\text{Number of Common Shares Outstanding})$$

$$\text{Earnings Yield} = (\text{Earnings per Share}) / (\text{Market Value per Share})$$

$$\text{Earnings Yield} = (\text{Earnings per Share}) / (\text{Market Value per Share})$$

$$\text{Gross Profit} = (\text{Sales} - \text{Cost of Goods Sold})$$

$$\text{Net Profit margin} = [\text{EBIT} (1-t)] / (\text{Sales})$$

$$\text{Operating Expense} = (\text{Cost of Goods Sold} + \text{Selling, General and Administrative Expenses} - \text{Interest}) / (\text{Sales})$$

$$\text{Price-Earnings Ratio} = 1 / (\text{Earnings Yield})$$

$$\text{Return on Capital Employed} = (\text{EBIT}) / (\text{Capital Employed})$$

$$\text{Return on Equity} = (\text{Net Income}) / (\text{Shareholders Equity}) = (\text{Net Income}/\text{Sales}) * (\text{Sales}/\text{Assets}) * (\text{Assets}/\text{Shareholders Equity})$$

$$\text{Return on Invested Capital} = [\text{EBIT} (1-t)] / (\text{Interest-bearing Debt} + \text{Equity})$$

Leverage Ratios

$$\text{Capital Gearing Ratio} = (\text{Prior Charge Capital}) / (\text{Total capital}) = (\text{Loan Capital} + \text{Preference Capital}) / (\text{Total Capital})$$

Market Value of Assets = (Debt) / (Market Value of Assets) = (Debt) / (Market Value of Debt + Equity)

Market Value of Equity = (Debt)/(Market Value of Equity) = (Debt) / (Number of Shares * Price per Share)

Times Burden Covered =
$$\frac{\text{EBIT}}{\text{Interest} + \frac{\text{Principal Repayment}}{1 - \text{Tax Rate}}}$$

Times Interest Earned = (EBIT) / (Interest Expense)

Liquidity Ratios

Current Ratio = (Current Assets) / (Current Liabilities)

Interval Measure = (Current Assets - Inventory) / (Average Daily Operating Expenses)

Quick Ratio = (Current Assets - Inventory) / (Current Liabilities)

Activity Ratios

Accounts Receivable Turnover Ratio = (Credit Sales) / (Average Debtors)

Asset turnover = (Sales) / (Assets)

Collection Period = 1 / (Accounts Receivable Turnover Ratio)

Fixed Asset Turnover Ratio = (Sales) / (Average Non-Current Assets)

Inventory Turnover Ratio = (Cost of Goods Sold) / (Average Inventory)

Return on Assets = Profit Margin * Asset Turnover

Cash Flow Ratios

Cash Flow Adequacy: evaluates the ability to generate sufficient cash to meet primary obligations

Cash Flow Return on Assets: measures cash generated from assets used. This ratio can also be compared with the accrual return on asset ratio; **cash flow adequacy:** evaluates the ability to generate sufficient cash to meet primary obligations;

Cash Flow to Sales Ratio: is a cash-flow-based measure of return on sales. It measures the percentage of each sales-dollar or sales-rand realized as cash from operations;

Debt Coverage Ratio: how many years, at the current level of cash from operations, it will take to retire all debt;

Dividend Pay-Out: evaluates the sufficiency of cash flow to pay dividends.

Impact of Depreciation Write-Off Ratio: indicates the percentage of cash flow from operating activities that arises from adding back depreciation, adjustments and other write-offs;

Long Term Debt Repayment: evaluates the sufficiency of cash flow to settle long term debt and dividend pay-out: evaluates the sufficiency of cash flow to pay dividends

Operating Index Ratio: compares cash from operations to income from continuing operations. It measures the cash-generating productivity of continuing operations;

Reinvestment Ratio: evaluates the sufficiency of cash flow for re-investment and maintenance of asset structure-the reinvestment ratio should exceed the depreciation write-off ratio over several years to indicate sufficient replacement of assets at higher current costs .

Financial Statement Types and Terms

Asset backed securities are bonds or notes that are based on pools of assets, or collateralised by the cash flows from a specified pool of underlying assets.

Budgetary Settlement statement is a statement showing budgeted cash outflows for already finalised engagements e.g. loans already taken.

Bullet payments: This is where, for the tenure of a loan, the borrower pays only interest, with the principal being paid as a block when the loan matures.

Callable debt is where the lender can repurchase a loan at a given price.

Cash Flow Statement is a financial statement that places sources and uses of cash into either cash flow from operating, investing or financing activities.

Cash Position Statement shows the overall cash balance of the firm. It could be a cash surplus or cash deficit.

Cash Surplus Statement is a statement that represents the excess of cash generated over cash usages.

Collateral trust bonds are non-fixed assets such as stocks, notes and bonds pledged by a company in exchanged for loan capital.

Debentures are financial instruments not secured by any specific assets owned by the issuer.

Debt Statement gives the company's total debt and repayment position.

Expenses Earmarked for Specific Purposes Statement is a projection of how funds have been allocated among different projects or activities.

Future Budgets Statement is a description of a financial plan. It is a list of estimates of revenues to and expenditures by an agent for a stated period of time.

Guaranteed bonds are those backed by the guarantee of a firm other than the issuer.

Income Statement is a record of income generated and expenditure incurred over a period of time, usually one year.

Mortgage bond is a bond that gives the holder a claim on assets pledged by a borrower

Projected cash flow statement is a statement of projected future cash inflows and outflows.

Projected income statement is a projected future income and expenditure statement.

Sinking funds are amounts deposited into a fund to gradually repay a loan.

Appendix 3: List of Commercial Banks in Kenya as at 01st June 2007

1	African Banking Corporation	ho@abcthebank.com
2	Bank of Africa Ltd	
3	Bank of Baroda Kenya Ltd	barodabk_ho@kenyaweb.com
4	Bank of India	boi@calva.com
5	Barclays Bank of Kenya Ltd	info@barclays.com
6	CFC Bank Ltd	cfcbank@cfcgroup.co.ke
7	Chase Bank Kenya Ltd	info@chasebank.co.ke
8	Citibank N. A.	
9	City Finance Bank Ltd	
10	Commercial Bank of Africa Ltd	
11	Consolidated Bank of Kenya Ltd	headoffice@consolidated-bank.com
12	Co-operative Bank of Kenya Ltd	coopbankmd@form-net.com
13	Credit Bank Ltd	
14	Development Bank of Kenya Ltd	dbk@africaonline.co.ke
15	Diamond Trust Bank Kenya Ltd	user@dtbkenya.co.ke
16	Dubai Bank Kenya Ltd	info@dubaibank-kenya.com
17	EABS Bank Ltd	
18	Equatorial Commercial Bank Ltd	ecb@saamnet.com
19	Equity Bank Ltd	
20	Family Bank Limited	
21	Fidelity Commercial Bank Ltd	customerservice@fidelitybankkenya.com
22	Fina Bank Ltd	banking@finabank.com
23	First Community Bank Limited	Latest entrant
24	Giro Commercial Bank Ltd	gcbl@swiftkenya.com
25	Guardian Bank Ltd	moiavenue@guardian-bank.com
26	Habib Bank A.G. Zurich	habibbank@form-net.com

27	Habib Bank Ltd	hbironbi@africaonline.co.ke
28	Imperial Bank Ltd	
29	Industrial Development Bank Ltd	bizcare@idbkenya.com
30	Investment & Mortgages Bank Ltd	
31	Kenya Commercial Bank Ltd	caffairs@kcb.co.ke
32	K-Rep Bank Ltd	registry@k-repbank.com
33	Middle East Bank Kenya Ltd	
34	National Bank of Kenya Ltd	info@nationalbank.co.ke
35	National Industrial Credit Bank Ltd	info@nic.bank.com
36	Oriental Bank Ltd	delphiskenya@iconnect.co.ke
37	Paramount Universal Bank Ltd	publ.bank@africaonline.co.ke
38	Prime Bank Ltd	headoffice@primebank.co.ke
39	Southern Credit Banking Corporation Ltd	admin@ho.southern-credit.com
40	Stanbic Bank Kenya Ltd	stanbic@africaonline.co.ke
41	Standard Chartered Bank Kenya Ltd	
42	Transnational Bank Ltd	tnbl@form-net.com
43	Victoria Commercial Bank Ltd	victoria@vicbank.com