

**RELATIONSHIP BETWEEN CORE CAPITAL AND
PROFITABILITY OF COMMERCIAL BANKS IN KENYA**

BY

KIAMBI MARTIN MWENDA

STUDENT NO: D61/72863/2009

SUPERVISOR:

ANGELA KITHINJI (MRS)

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DECLARATION

This project is my original work and has not been presented for a degree in any other university.

Signature:..... Date:.....

**KIAMBI MARTIN MWENDA
D61/72863/2009**

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

Signature:..... Date.....

**ANGELA KITHINJI (MRS),
LECTURER, DEPARTMENT OF FINANCE AND ACCOUNTING,
SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI.**

DEDICATION

To my parents Mr. and Mrs. Stephen Kiambi for their encouragement, ceaseless prayers and for laying a strong foundation and desire to achieve great things in life.

To my Wife, Assumpter Ndunge for her love and patience and to my Daughter, Natalie Makena for endless smiles during the course of the project

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ABSTRACT

Capital adequacy has been the focus of many studies and regulator as it is considered to be one of the main drivers of any financial institution's profitability. In Kenya, the government, through the Central Bank of Kenya has put requirements that all commercial banks should gradually increase their capital base to one billion Kenya shillings from the current 250 million Kenya shillings by 2012. This means that the level of capital has some implication on the performance and bankruptcy of a bank.

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long-run. So measuring current and past profitability is very important. The objective of the study was to establish the relationship between Core Capital and profitability of commercial banks in Kenya. The nature of the data collected necessitated the use of empirical research design.

Secondary data were collected from the banks' annual reports and financial statements for the period 2001-2010 obtained from the banks supervision department of the Central bank of Kenya. The data was analyzed using descriptive statistics, regression and correlation analysis. From the findings of the study, it can be concluded that core capital is linearly related with profitability as measured using Return on Equity (ROE) across all the three tiers of banks, tier group one, tier group two and tier group three used in the study. The study has also concluded that core capital is not a major determinant of profitability (ROE) across all the three tiers of the banks which is supported by the weak values of both correlation coefficient and coefficient of determination analyzed using simple linear regression and correlation analysis.

Based on the study findings, it is recommended that a number of the independent variables be included and a multiple linear regression model be used. Similar studies need to be done in non commercial banks operating in the Kenyan banking industry and the results be compared to establish whether the models are consistent among the various categories of the banks.

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Abbreviations

BCBS	Basel Committee on Banking Supervision
CAR	Capital Adequacy Ratio
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CCF	Credit Conversion Factors
Coef.	Coefficient
CRD	Capital Requirements Directives
EU	European Union
FIRB	Foundation Internal Rating-based
FSA	Financial Supervisory Authority
GDP	Gross Domestic Product
ICAAP	Internal Capital Adequacy Assessment Process
IFRS	International Financial Reporting Standards
IRB	Internal Rating-based
LGD	Loss Given Default
MPT	Modern Portfolio Theory
N	Number (of Observations)
NI	Net Income
NPL	Non-performing Loan
NPLR	Non-performing Loan Ratio
PD	Probability of Default
P value	Probability Value
R ²	R-squared
ROTA	Return on Total Assets
ROE	Return on Equity
RORAC	Return on Risk Adjusted Capital
RWA	Risk Weighted Asset
TL	Total Loan
TSE	Total Shareholders' Equity
USA	United States of America

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

In an effort to promote efficiency in the banking industry and after a period of worldwide liberalization and deregulation, the Basel Capital Accord of 1988 (Basel I) which led to the endorsement of a new capital adequacy framework (Basel II) in 2004 (operational from 2007) marked the beginning of a new phase of re-regulation with an attempt to bring about an international harmonization of banking regulations (Bichsel and Blum, 2005). Kenyan banks are by and large yet to adopt model based approaches to assessing their capital adequacy needs (Central Bank of Kenya, 2008a).

The capital requirement is a bank regulation, which sets a framework on how banks and depository institutions must handle their capital. The categorization of assets and capital is highly standardized so that it can be risk weighted. Internationally, the Basel Committee on Banking Supervision housed at the Bank for International Settlements influence each country's banking capital requirements. In 1988, the Committee decided to introduce a capital measurement system commonly referred to as the Basel Accord. This framework has been replaced by a significantly more complex capital adequacy framework commonly known as Basel II. After 2012 it will be replaced by Basel III.

Capital adequacy has been the focus of many studies and regulator as it is considered to be one of the main drivers of any financial institution's profitability (Bourke, 1989; Berger, 1995; Navapan and Tripe, 2003; White and Morrison, 2001). In contrast, other studies argue that in a world of perfect financial markets, capital structure and hence capital regulation is irrelevant (Modigliani and Miller, 1958). However, White and Morrison (2001) posited that the regulator ensures that banks have enough of their own capital at stake. Bichsel and Blum (2005) supported this proposition arguing that these regulations help in reducing negative externalities (e.g., disruptions to the payments system and a general loss of confidence in the banking system) in addition to boosting the slow economic growth hence the Gross Domestic Product (GDP). These propositions leads to the question: what then do prudential capital requirements accomplish in the

banking sector? This study suggests that these requirements have something to do with a bank's performance. In Kenya, the government, through the Central Bank of Kenya has put requirements that all commercial banks should gradually increase their capital base to one billion Kenya shillings from the current 250 million Kenya shillings by 2012 (currently, 1US\$ = 77.20 Kenya shillings) (Central Bank of Kenya, 2008b). This represents a 300% increase. This means that the level of capital has some implication on the performance and bankruptcy of a bank, a subject which is being investigated by this study.

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long-run. So measuring current and past profitability is very important. Profitability is measured with income and expenses. Income is generated from the activities of the business. A business that is highly profitable has the ability to reward its owners with a large return on the investment (Waweru and Kalani, 2009)

A profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Important changes in the operating environment particularly credit risk is likely to affect bank profitability. Empirical analysis finds that both bank- specific as well as macroeconomic factors are important determinants in the profitability of banks (Westerfield, 2008). Brealey and Myers (2003) argue that there are various important measures in determining profitability of an organization. These include; Net Profit Margin, Return on Assets and Return on Equity. In 1972 David Cole introduced a procedure for evaluating bank performance via ratio analysis (MacDonald and Koch, 2006). This procedure enables an analyst to evaluate the source and magnitude of banks profits relative to selected risks taken. David Cole employed return on equity model to analyze bank profitability and identified specific measures of credit risk, liquidity risk, interest rate risk, operational risk and capital risk (MacDonald and Koch, 2006).

1.1.1 Banking Industry in Kenya

The Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central

Bank of Kenya (CBK). The banking sector was liberalized in 1995 and exchange controls lifted (CBK Website). The CBK, which falls under the Minister for Finance docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. As at December 2009 there were forty four banks and non bank institutions, fifteen micro finance institutions and one hundred and nine foreign exchange bureaus (CBK Website).

The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby group for the banking sector's interest's .The KBA serves a forum to address issues affecting members for instant government legislation. Over the last few years, the Banking sector in Kenya has continued to growth in assets, deposits, profitability and products offering. The growth has been mainly underpinned by an industry wide branch network expansion strategy both in Kenya and in the East African community region and automation of a large number of services and a move towards emphasis on the complex customer needs rather than traditional 'off-the-shelf' banking products (CBK, 2006).

Players in this sector have experienced increased competition over the last few years resulting from increased innovations among the players and new entrants into the market. To further strengthen the banking system and enhance surveillance in the industry, the Central Bank took the following actions: Bank Supervision Department was strengthened to enhance closer surveillance aimed at detecting banking problems early enough so as to take preventive action. Guidelines for risk classification of loans were revised and issued to facilitate better credit risk assessment. The Central Bank has recently licensed credit reference and credit rating agencies in order to enhance credit risk assessment. The disclosure of the financial performance was enhanced as a way of ensuring better market discipline. The banks are now required to publish non-performing loans as well as facilities to directors (CBK, 2006).

The Banking Act was amended further in 1999 so as to be in tandem with the regional and international banking regulations as follows: A capital requirement was adopted in

order to be in line with the Basel Committee Accord and International Supervisory practice. Restrict advances, credit and guarantees to or in form of an insider or associate in excess of 20% of core capital of the banking institutions. Central Bank may prescribe limits on the preparation of core capital that may be invested in purchase or acquisition of land. Institutions required disclosing to the Central Bank the full particulars of the individuals who hold shares in the banking institutions (CBK, 2004).

Performance of commercial banks in Kenya has improved tremendously as banks continue to report very good returns in their annual financial statements. This is as a result of the fact that in the recent past, the economy has enjoyed a favourable macroeconomic environment consistent with low and stable interest rates, strengthening shilling exchange rate and falling inflation. The stability of the sector is attributed to the stable macro- economic environment and improved supervisory oversight. The general outlook of the sector is positive in view of the adequate capitalization, sound risk management systems, strong asset quality and profitability, (CBK, Bank Supervision Annual Report 2009).

During the period ended 31st December 2009, the Kenyan Banking Sector registered a significant growth in asset base largely supported by growth in deposits, injection of capital and retention of profits. The sector registered high capital adequacy and liquidity ratios and a decline in the level of non-performing loans compared to 2008. The overall performance of the banking sector was rated strong in December 2009; a similar rating was attained in December 2008. The Total net assets grew by 14.3%, customer deposits increased by 16.4% and profit before tax rose by 12.9% compared to performance in 2008. Institutions maintained capital adequacy ratios above the minimum requirements of 12.0%. However, return on equity dropped to 24.9% from 26.1% registered in December 2008 occasioned by an increase in equity at a higher rate than increase in income. The overall performance of the banking sector rated strong in December 2009, a similar rating attained in December 2008, (CBK, Bank Supervision Annual Report 2009).

The Central Bank of Kenya (as the regulatory authority), applies the CAMEL rating system to assess the soundness of financial institutions which is an acronym for Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity. In its market share analysis, institutions were classified into the following three peer groups based on asset size: Large with assets above Kshs. 15 billion, medium with assets valued at between Kshs. 5 billion and Kshs. 15 billion and Small with assets valued at less than Kshs. 5 billion. Nineteen (19) financial institutions were classified as large, fourteen (14) institutions were medium and twelve (12) institutions were small. Going forward, the sector's growth trajectory is expected to increase on the backdrop of new opportunities in the domestic and regional markets. On the domestic arena, new opportunities are expected to be created by the adoption of agent banking, credit information sharing and mobile phone technology innovations. Institutions are also expected to explore and venture into regional markets as regional integration initiatives intensify, (CBK, Bank Supervision Annual Report 2009).

1.2 Statement of the Problem

The relationship between Core Capital and Profitability is of considerable importance to all firms. Banks are especially sensitive to changes in financial leverage due to their low level of equity capital to total assets. In addition, the capital structure of banks is highly regulated, and the largest class of bank liabilities is retail deposits, which are insured by the public. Various local studies conducted have failed to establish any relationship between Core Capital and profitability in commercial banks in Kenya. The study by Mwege (2009) had sought to determine global crises and its effect on policy on financial institutions in Kenya. Maina (2003) conducted a survey on risk based capital standards and the riskiness of bank portfolio in Kenya. Ndung'u (2003) in a study on the determinants of profitability of quoted commercial banks in Kenya finds that sound asset and liability management had a significant influence on profitability.

While the above research outcome provides valuable insights on Core capital, they have not induced a clear relationship between Core Capital and profitability in Commercial banks in Kenya. Given the gaps poised by the above empirical studies, this study poses

the research question: “what is the relationship between Core Capitals and profitability in commercial banks in Kenya?” The study hypothesizes that commercial Banks capital is negatively (positively) related to ROE/profits. To answer the above question, the study seeks to establish a relationship between Core Capital and profitability; this will be done by reviewing various profitability measures and in particular the ROE ratio. ROE has an important indicator to measure the profitability of the banks has been discussed extensively. Foong (2008) indicated that the efficiency of banks can be measured by using the ROE which illustrates to what extent banks use reinvested income to generate future profits.

Navapan and Tripe (2003) asserted that the proposition that there should be a negative relationship between a bank’s ratio of capital to assets and its return on equity may seem to be self-evident as to not need empirical verification. It is therefore important to note that Berger (1995) found evidence for a positive relationship that is, the ratios of capital to assets and returns on equity were positively related. Various studies have been carried out to ascertain various capital structure facets in Kenyan firms. Kamere (1987) found out that stability of future cash flows, level of interest rates in an economy, asset structure of a firm, the need for outside capital, lender attitudes towards a firm and attitudes of management towards risk adjust towards some debt equity ratios. Omondi (1996) also found out that the mean debt equity ratios were not significantly different for firms studied. He tested quite a number of factors (industry class, asset structure, profitability, interest charges, size, and growth, changes in cash flows, age and ownership) and found out that the industrial class was not statistically significant and that the capital structure of firms on sectoral basis was quite different.

Kiogora (2002) sought to find out whether capital structures of quoted companies were consistent over time and to ascertain whether companies quoted on the Nairobi stock Exchange in the same industry had similar capital structures. He found out that there were differences in capital structure among industry groups: there was a negative relationship between returns of firms quoted on the Nairobi Stock Exchange and their level of leverage and that companies in the Agricultural sector had consistent levels of

equity from year to year. Firms within a given sector tended to cluster towards some target Equity/Total Assets ratio implying that an optimal capital structure exists. He also found out that returns increased with increased leverage hence supporting the traditionalists' view of an optimal capital structure.

The local studies analyzed are biased towards the general capital structure in the NSE. The studies did not establish a clear relationship between Capital Structure and profitability. In addition, the studies have not discussed measures of profitability and Capital structure (Core Capital) in Banks. From the literature review it can be deduced that there is no relationship between profitability and core capital in banks which are major parameters for stability thus necessitating the study. The study investigated the relationship between Core Capital and profitability of commercial banks in Kenya.

1.3 Objective of the Study

The objective of this study was to establish the relationship between Core Capital and profitability of commercial banks in Kenya.

1.4 Importance of the Study

The study was important to various stake holders as indicated here below:

Banking Industry: The industry would obtain information on the relationship between Core Capital and profitability. This information would be especially useful to future investors in the industry and Senior Management.

The Government: The government would obtain information on the importance of implementation of various legal frameworks in relation to Capital management i.e. Basel Accords.

Academicicians: In addition to contributing to the body of knowledge, the research would also help and encourage continuity as far as doing further research is concerned.

Regulatory Body: Central Bank of Kenya would further acknowledge the importance of Capital Adequacy in management in banks.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

In this chapter, previous studies related to the topic are reviewed. The chapter begins with theoretical orientation on capital structure theories to inform the study further. In addition, the researcher will discuss various empirical studies done in the same field. It further looks at determinants of commercial bank profitability and finally the relationship between profitability and capital as a summary of the literature review.

2.2 Capital

Capital (equity and long-term debt) represents a source of funds to the bank along with deposits and borrowings. Pringle (1971) observed that an undercapitalized bank will find itself subjected to high levels of short-term borrowing at potentially high excess costs during periods of tight money. Flamini et al. (2009) postulated that bank returns are affected by macroeconomic variables, suggesting that macroeconomic policies that promote low inflation and stable output growth do boost credit expansion. According to Christian et al. (2008), capital adequacy measures provide significant information regarding a firm's returns, while a few of the individual variables representing asset quality and earnings are informative. Size and growth and loan exposure measures do not appear to have any significant explanatory power when examining returns.

Further in relation to the analysis, banks capital shall be deemed to be:

Core Capital (Tier 1) which refers to paid-up ordinary share capital/Assigned Capital. This is the nominal value of the ordinary shares issued and fully paid, or capital assigned to Kenyan branch (es). Non-repayable share premium/ (discount) which is the difference between the nominal price and purchase price of shares, which is not refundable/recoverable. Retained earnings/ accumulated losses which represent retained earnings or accumulated losses from the profits/losses of the prior years. They should however exclude reserves arising from revaluation of investment properties and cumulative unrealized gains and losses on financial instruments.

Current year 50% un-audited after tax profits refers to a scenario of 50% of the current year to date un-audited after tax profits. The institution must have made adequate provisions for loans and advances, depreciation, amortization and other expenses. In arriving at the applicable figure, any proposed or interim dividends have to be taken into account. This should however exclude reserves arising from revaluation of investment properties and cumulative unrealized gains and losses on financial instruments. In case of a loss, full amount should be included.

Non-cumulative irredeemable preference shares are shares, which have a standing claim on the company every year, but the claim is not carried forward in event of not being paid and they are not redeemable. Other reserves are all other reserves, which have not been included above. Such reserves should be permanent, unencumbered, uncallable and thus able to absorb losses. Further, the reserves should exclude cumulative unrealized gains and losses on available-for-sale-instruments.

To prevent multiple uses of the same capital resources in different banking institutions both in Kenya and abroad, the institutions should deduct any investment in subsidiaries conducting Banking business and equity instruments of other banking institutions.

2.3 Theoretical Orientation

2.3.1 Net Income Approach (NI-approach)

This approach has been suggested by Durand. According to this approach a firm can increase its value or lower the overall cost of capital by increasing the proportion of debt in the capital structure. In other words, if the degree of financial leverage increases the weighted average cost of capital will decline with every increase in the debt content in total funds employed, while the value of firm will increase. Reverse will happen in a converse situation.

Net income approach is based on the following three assumptions that, there are no corporate taxes; the cost of debt is less than cost of equity or equity capitalization rate and the fact that the use of debt content does not change at risk perception of investors as a result both the (debt capitalization rate) k_d and (equity-capitalization rate) k_c remains constant.

The value of the firm on the basis of Net Income Approach can be ascertained as follows:

$$V = S + D$$

Where, V is value of the firm, S is market value of equity and D is the market value of debt

Under, NI approach, the value of the firm will be maximum at a point where weighted average cost of capital is minimum. Thus, the theory suggests total or maximum possible debt financing for minimizing the cost of capital.

2.3.2 Net operating Income (NOI) Approach

This approach has been suggested by Durand. According to this approach, the market value of the firm is not affected by the capital structure changes. The market value of the firm is ascertained by capitalizing the net operating income at the overall cost of capital which is constant. The market value of the firm is determined as follows;

Market value of the firm (V) = (Earnings before interest and tax)/ (Overall cost of capital). The value of equity can be determined by the equation;

Value of equity (S) = V (market value of firm) – D (Market value of debt) and the cost of equity = (Earnings after interest and before tax)/ (market value of firm (V) - Market value of debt (D))

The Net Operating Income Approach is based on the assumptions that, the overall cost of capital remains constant for all degree of debt equity mix, the market capitalizes the value of the firm as a whole. Thus the split between debt and equity is not important and that the use of less costly debt funds increases the risk of shareholders. This causes the equity capitalization rate to increase. Thus, the advantage of debt is set off exactly by increase in equity capitalization rate.

2.3.3 The Modigliani–Miller Theorem

The Modigliani–Miller theorem (of Franco Modigliani, Merton Miller) forms the basis for modern thinking on capital structure. The basic theorem states that, under a certain

market price process (the classical random walk), in the absence of taxes, bankruptcy costs, agency costs, and asymmetric information, and in an efficient market, the value of a firm is unaffected by how that firm is financed. It does not matter if the firm's capital is raised by issuing stock or selling debt. It does not matter what the firm's dividend policy is. Therefore, the Modigliani–Miller theorem is also often called the capital structure irrelevance principle. Modigliani was awarded the 1985 Nobel Prize in Economics for this and other contributions. Miller was a professor at the University of Chicago when he was awarded the 1990 Nobel Prize in Economics, along with Harry Markowitz and William Sharpe, for their "work in the theory of financial economics," with Miller specifically cited for "fundamental contributions to the theory of corporate finance."

2.3.4 Traditional Approach

Traditional approach is an intermediate approach between the net income approach and net operating income approach (Navapan and Tripe, 2003). According to this approach, an optimum capital structure does exist, market value of the firm can be increased and average cost of capital can be reduced through a prudent manipulation of leverage and that the cost of debt capital increases if debts are increased beyond a definite limit. This is because the greater the risk of business the higher the rate of interest the creditors would ask for. The rate of equity capitalization will also increase with it. Thus there remains no benefit of leverage when debts are increased beyond a certain limit. The cost of capital also goes up. Thus at a definite level of mixture of debts to equity capital, average cost of capital also increases. The capital structure is optimum at this level of the mix of debts to equity capital.

The effect of change in capital structure on the overall cost of capital can be divided into three stages; in the first stage the overall cost of capital falls and the value of the firm increases with the increase in leverage. This leverage has beneficial effect as debts are less expensive. The cost of equity remains constant or increases negligibly. The proportion of risk is less in such a firm. The second stage is described as a stage which is reached when increase in leverage has no effect on the value or the cost of capital, of the firm. Neither the cost of capital falls nor the value of the firm rises. This is because the

increase in the cost of equity due to the added financial risk offsets the advantage of low cost debt. This is the stage wherein the value of the firm is maximum and cost of capital minimum. The third stage contends that beyond a definite limit of leverage the cost of capital increases with leverage and the value of the firm decreases with leverage. This is because with the increase in debts investors begin to realize the degree of financial risk and hence they desire to earn a higher rate of return on equity shares. The resultant increase in equity capitalization rate will more than offset the advantage of low-cost debt. It therefore follows that the cost of capital is a function of the degree of leverage. Hence, an optimum capital structure can be achieved by establishing an appropriate degree of leverage in capital structure (White and Morrison, 2001).

2.3.5 Static Trade Off Theory

In static trade off theory (STT), firms decide for a predetermined capital structure and try to stick to it through time. The firm is viewed as setting a target debt-to-value ratio and gradually moving towards it. This target would be set up as a trade-off between the cost and benefit of debt. In addition, Myers (1984) suggests that adverse selection costs overwhelm the forces that determine the optimal leverage in the trade-off theory.

A firm's optimal debt ratio is usually viewed as determined by a trade off of the costs and benefits of borrowing, holding the firm's assets and investment plans constant. The firm is portrayed as balancing the value of interest tax shields against various costs of bankruptcy or financial embarrassment. The firm is supposed to substitute debt for equity, or equity for debt, until the value of the firm is maximized

The firm has no well-defined target debt-to-value ratio. Too much debt can destroy value by causing financial distress and underinvestment, others have argued that *too little* debt—especially in large, mature companies—can lead to *overinvestment* and low returns on capital. Claims that tax shield benefits of debt financing need to be adjusted for financial distress costs that rise with increasing debt levels, creating an optimal capital structure that balances both forces. Issuing equity means moving away from that optimum and should therefore be interpreted as bad news.

2.3.6 Pecking Order Theory

The pecking order theory was developed by Stewart, Myers and Nicholas (1984). It states that companies prioritize their sources of financing (from internal financing to equity) according to the principle of least effort or least resistance, preferring to raise equity as a financing means of last resort. Hence internal funds are used first, and when that is depleted, debt is issued, and when it is not sensible to issue any more debt, equity is issued (Modigliani and Miller, 1958). This theory maintains that business adheres to a hierarchy of financing sources and prefers internal financing when available and debt is preferred over equity if external financing is required.

The firm prefers internal to external financing and debt to equity if it issues securities. In the pure pecking order theory, the firm has no well-defined target debt-to-value ratio. The theory holds that firms that are more lucrative are naturally less indebted since they can finance their new projects without the need to issue debt or equity. The reluctance in issuing new equity is mainly due to asymmetric information between managers and new stockholders. It is based on the idea of asymmetric information between managers and investors. Managers know more about the true value of the firm and the firm's riskiness than less informed outside investors (Westerfield, 2008).

To avoid the underinvestment problem, managers will seek to finance the new project using a security that is not undervalued by the market, such as internal funds or riskless debt. Therefore, this affects the choice between internal and external financing. The pecking order theory is able to explain why firms tend to depend on internal sources of funds and prefer debt to equity if external financing is required. Managers are better informed than investors (MacDonald and Koch, 2006). Investors might see an external equity issuance as a bad news about the company, assuming that managers want outside shareholders to share the loss, thus investors will react to this issuance negatively, increasing the issuance cost of external equity.

2.3.7 Market Timing Theory

The theory perceives that managers issue securities depending on the time varying costs of relative equity and debt and thus issuance decisions have a long term effect on capital structure because the observed capital structure at any particular date is the outcome of prior issuance decision thus firms prefer to issue equity when the relative cost is low and prefer to issue debt when equity cost is high (Kwast and Rose 1982). Since the promised payments to bondholders are fixed, stockholders are entitled to what is left over after the fixed payments; stock prices are more sensitive than bond prices to any proprietary information about the firm's future performance. If management has favorable information that is not yet reflected in market prices, the release of such information will cause a larger increase in stock than in bond prices, and so the current stock price will appear more undervalued to managers than current bond prices (Molyneux and Thornton 1992).

To avoid diluting the value of existing stockholders claims, companies that have profitable uses for more capital but believe their shares to be undervalued will generally choose to issue debt rather than equity. Conversely, managers who think their companies are overvalued are more likely to issue equity and, what amounts to the same thing, to make stock-for-stock acquisitions. What is important for management to recognize here is that most companies issuing new equity those that are undervalued as well as those that are overvalued should expect a drop in their stock prices when they announce the offering.

2.4 Important Considerations in Capital Structure

2.4.1 Costs of Financial Distress

Emery (1988) defined financial distress as the disruption of normal operating and financial conditions as a result of impending solvency. Such a situation can lead to bankruptcy. Excessive borrowing can lead to financial distress, which is ordinarily reflected in the legal and administrative costs. Such costs can affect the cost of debt and equity. Altman (1984) found out that distresses were peculiar to leveraged firms and they

could be high especially in companies with fixed costs. These companies become financially distressed when its cash flows are insufficient to cover its capital requirements. In principal, as much as debt financing could present firms with tax shield benefits (debt is a tax deductible expense), there is a limit to which firms can use debt financing. Excessive borrowing may lead to bankruptcy. Brigham and Gapenski (1990) enumerate some events that may occur when a firm is faced with financial distress. These include: arguments that claimants often delay the liquidations of assets thus leading to obsolescence of inventory and fixed assets, legal fees, court costs, and administration expenses could absorb a large part of firm's value. Employees of a firm generally loose their jobs and when a firm fails and stake holders (line customers and suppliers) may take evasive action when they realize a firm is facing financial difficulties. The higher the financial distress costs, the lower the value of the firm. Non-optimal managerial actions associated with the financial distress as well as costs imposed by customers, suppliers and capital providers are referred to as indirect costs of financial distress.

2.4.2 Agency Costs and Capital Structure

Stockholders, because of their rights, may take undue advantage over bond holders in an attempt to maximize their fortunes in a firm. Bond holders are therefore compelled to protect themselves from such contingencies. Such covenants adversely affect the corporate legitimate operations to some extent through the costs of lost efficiency and other costs. Although Modigliani and Miller (1963) recommends that firms should maximize their debt financing opportunities, such a situation does not hold in the long run due to such agency problems between stake holders. Therefore costs related to protective covenants are substantial and rise with the increase in debt financing.

2.5 Determinants of Capital Structure

Titman and Wessels (1988) enumerated the main attributes in determining capital structure. They include asset structure, growth, uniqueness, industry classification, size earnings and volatility. The following are some of the main factors that guide a firm to choose its optimal capital structure:

2.5.1 Growth Opportunities

Growth is likely to place greater demand on internally generated funds and push the firm into borrowing. According to Marsh (1982) firms with high growth will capture relatively higher debt ratios. On the other hand management of growth firms are more likely to expropriate through asset substitution. This view predicts that high growth firms will find it hard to get willing lenders and will have to rely on owners for financing. Kamere (1987) found that firms in Kenya did not follow the pecking order theory in their capital structure decisions. He found out that predictions of growth on capital structure were in contrast with the theoretical predictions.

2.5.2 Firm size

Larger firms are more diversified and hence have lower variance of earnings making them able to tolerate high debt ratios. Smaller firms may find it relatively more costly to resolve information asymmetries with lenders thus may present lower debt ratios. Titman and vessels concluded that large firms should be highly leveraged. Kamere (1987) found a positive correlation between size and long term debt.

2.5.3 Asset structure of the company

The degree to which firms' assets are tangible should result to the firm having greater liquidation value; hence firms with more tangible assets that can serve as collateral should find it easy to borrow at friendlier terms. By pledging the firms assets as collateral the cost associated with adverse selection and moral hazards are reduced. Malitz (1983) found a significant correlation between the rate of capital expenditure in fixed plant and equipment and the level of borrowing.

2.5.4 Age of the firm

A measure of reputation in many capital structure models as affirm continues longer in business it establishes itself as a going concern and thus increases its capacity to take more debts.

2.5.5 Profitability

From the profitability we expect negative relationship between profitability and leverage from the perspective of trade off model, profitable firms should employ more debts since they are more likely to enjoy tax shield advantages of interest. In addition to profitable firms are capable of tolerating high level of debts since they are in a position to service it anytime.

The more volatile the firms earnings stream, the more chances of defaulting on its debt obligations. According to Johnsons (1997) firms with more volatile earning may experience more situations in which cash flows are too low for debt services. Kim and Sorensen (1986) also observed that firms with high degree of operating risk have less capacity to sustain financial risk and thus use less debt.

2.5.6 Ownership structure

Managerial insiders should be more sensitive to bankruptcy risk that debt financing induces and are therefore more inclined to minimize this risk by using less debt in the firm's capital structure (Berger 1995). As a result therefore when financial decisions are dictated by the management, equity will be favoured over debt because of managers' inclination to avoid the performance pressure associated with debt commitments (Bessis, 2005). On the other hand if control rests with investors who are not part of management, the company may take on more debt to limit the scope of managerial discretion.

2.6 Profitability

Bessis (2005) defines profit as the surplus left over from revenue after covering expenses. Profitability is the measure of profit generated on an ongoing basis. Profit is generally measured in shilling terms. Profitability ratios show a company's overall efficiency and performance. Profitability can be measured using ratios of margins and returns. Ratios that show margins represent the firm's ability to translate sales dollars into profits at various stages of measurement. Ratios that show returns represent the firm's ability to

measure the overall efficiency of the firm in generating returns for its shareholders (Bessis, 2005).

2.6.1 Profitability Measure in Banks

The profitability in this case is presented and measured using ROE. In other words, the amount of net income (NI) returned as a percentage of (Total Shareholders Equity) TSE. The ROE is defined as the company's annual net income after tax divided by shareholder's equity. NI is the amount of earnings after paying all expenses and taxes. Equity represents the capital invested in the company plus the retained earnings. Essentially, ROE indicates the amount of earnings generated from equity. The researcher chose it as profitability indicator because ROE comprises aspects of performance, such as profitability and financial leverage (Foong, 2008). The measurement of bank performance has been developed over time. At the beginning, many banks used a purely accounting-driven approach and focused on the measurement of NI, for example, the calculation of ROTA. However, this approach does not consider the risks related to the referred assets, for instance, the underlying risks of the transactions, and also with the growth of off-balance sheet activities. Thus the riskiness of underlying assets becomes more and more important. Gradually, the banks notice that equity has become the scarce resource. Thereby, banks turn to focus on the ROE to measure the net profit to the book equity ratio in order to find out the most profitable investments to put their money in. (Joetta, 2007).

ROE is commonly used to measure the profitability of banks. The efficiency of the banks can be evaluated by applying ROE, since it shows that banks reinvest its earnings to generate future profits. The growth of ROE may also depend on the capitalization of the banks and operating profit margin. If a bank is highly capitalized through the risk-weighted capital adequacy ratio (RWCAR) or Tier 1 capital adequacy ratio (CAR), the expansion of ROE will be retarded. However, the increase of the operating margin can smoothly enhance the ROE (Foong, 2008) ROE as an important indicator to measure the profitability of the banks has been discussed extensively in the prior studies. Foong (2008) indicated that the efficiency of banks can be measured by using the ROE which

illustrates to what extent banks use reinvested income to generate future profits. According to Risk bank's Financial Report (2002), the measurement of connecting profit to shareholder's equity is normally used to define the profitability in the banks.

ROE also hinges on the capital management activities. If the banks use capital more efficiently, they will have a better financial leverage and consequently a higher ROE. Because a higher financial leverage multiplier indicates that banks can leverage on a smaller base of stakeholders fund and produce higher interest bearing assets leading to the optimization of the earnings. On the contrary, a rise in ROE can also reflect increased risks because high risk might bring more profits. This means ROE does not only go up by increasing returns or profit but also grows by taking more debt which brings more risk.

Thus, positive ROE does not only represent the financial strength. Risk management becomes more and more significant in order to ensure sustainable profits in banks (Sam and Magda, 2009). Furthermore, the paper "Why Return on Equity is a Useful Criterion for Equity Selection" by Kee (2008) has mentioned that ROE provides a very useful gauge of profit generating efficiency. Because it measures how much earnings a company can get on the equity capital. The increased ROE may hint that the profit is growing without pouring new capital into the company. A steadily rising ROE also indicates that the shareholders receive more each year for their investment. All in all, the higher ROE is better both for the company and the shareholders. In addition, ROE takes the retained earnings from the previous periods into account and informs the investors how efficiently the capital is reinvested (Kee, 2008).

In accordance with the study by Waymond (2007), profitability ratios are often used in a high esteem as the indicators of credit analysis in banks, since profitability is associated with the results of management performance. ROE and ROA are the most commonly used ratios, and the quality level of ROE is between 15% and 30%, for ROA is at least 1%. The study of Joetta (2007) presented the purpose of ROE as the measurement of the amount of profit generated by the equity in the firm. It is also mentioned that the ROE is an indicator of the efficiency to generate profit from equity. This capability is connected to how well the assets are utilized to produce the profits as well. The effectiveness of

assets utilization is significantly tied to the amount of assets that the company generates for each shilling of equity.

2.6.2 Performance Measures

Performance measures derive directly from the income statement. There are various measures of profitability. The ratio of net income to equity is the accounting Return on Equity (ROE). It often serves as a target profitability measure at the overall bank level. Market Return on Equity, is a price return, or the ratio of the price variation between two dates of the bank's shares. Under some specific conditions for example, when the Price Earnings ratio remains constant, it can serve as a profitability benchmark. Both ROE and the market return on equity should be in line with shareholders expectations for a given level of risk of the bank's shares. A current order of magnitude for the target ROE is 15% after tax, or about 25% before tax (Bessis, 2005). Return on Assets (ROA) is another measure of profitability for banking transactions. The most common calculation of ROA is the ratio of the current periodical income, interest income and current fees, divided by asset balance (Bessis, 2005). ROA can be decomposed into four constituent's parts by an accounting identity:

$$\text{Profitability} = \text{ROA} = \text{NI/TA} + \text{NII/TA} - \text{OV/TA} - \text{LLP/TA}$$

Where, NI is Net Interest Income, NII is non- interest Income, OV is non- interest overhead expenses and LLP is loan loss provisioning, (Westerfield, 2008). The Net Interest Margin (NI/TA) creates a wedge between returns to savers and investors and reflects the cost of bank intermediation services and the efficiency of the banking sector. In general, the higher the net interest margin, the higher are banks' profit margins and more stable is the banking sector. However, a higher net interest margin could reflect riskier lending practices associated with substantial loan loss provisions and could be an indication of inefficiency in the banking sector (Westerfield, 2008). The drawback of accounting ROE and ROA measures, and of the profit and loss of the trading portfolio, is that they do not include any risk adjustment, Hence, they are not comparable from one borrower to another, because their credit risk differs, from one trading transaction to

another, and because the market risk varies across products. This drawback is the origin of the concept of risk-adjusted performance measures. This is an incentive for moving, at least in internal reports of risks and performances to economic values, mark to market or mark to model values, because these are both risk and revenue adjusted (Bessis, 2005).

2.6.3 Determinants of profitability in Banks

Determinants of commercial bank profitability can be categorized into two categories, namely internal and external. Internal determinants of profitability, which are within the control of bank management, can be broadly classified into two categories, financial statement variables and non-financial statement variables. While financial statement variables relate to the decisions which directly involve items in the balance sheet and income statement; non-financial statement variables involve factors that have no direct relation to the financial statements. The examples of non-financial variables within this category are number of branches, status of the branch (e.g. limited or full service branch, unit branch or multiple branches), location and size of the bank. Number of branches, status of branches and location are considered controllable variables since decisions on those matters are within the discretion of management. In the case of a decision to establish new branches or services available where the locality is restricted by regulations, these variables are considered external to the bank. Similarly, the size of the bank is considered an internal determinant on the assumption that management of the bank is responsible for expanding their organization by acquiring additional assets and liabilities. Some researchers (Short, 1979 and Bourke, 1989) considered size as an external variable.

Bourke (1989) was the first researcher to include internal variables in a profitability study involving cross-country data. The internal variables used were capital ratios, liquidity ratios and staff expenses; whilst the dependent variables comprised of the net profit before taxes against total capital ratio and net profit before taxes against total assets ratio. Bourke reported that all internal variables were positively related to profitability. Molyneux and Thornton (1992) duplicated Bourke's study using all European banks as their sample and found similar results. Stienherr and Huveneers (1994) studied the

performance of banks in the US, UK, Western Europe and Japan. From the findings of their study, they concluded that overhead expenditure was positively correlated significantly with profitability. Liquidity relationship was significant in only certain countries. Similarly, investment in equity was positively correlated in certain samples but had an adverse relationship with others.

Hester and Zoellner (1966) included number of branches as one of the independent variables in their profitability study. They found that the number of branches had no effect on profitability. Emery (1971) studied the relationship between the status of the branch and profitability. The author divided his sample into three categories, namely unit branch, limited branch and state-wide branch. Using analysis of variance, Emery found out that there was a significant difference in terms of return among these three categories of branches. Vernon (1971) included location as one of the profitability determinants in his study and found out that location had a significant relationship with profitability. Kwast and Rose (1982) also included location as one the independent variables. The findings of Kwast and Rose revealed that location had a significant relationship with profitability, and their results confirmed the finding of Vernon (1971).

External variables are those factors that are considered to be beyond the control of the management of a bank. The banking industry is among one of the most heavily regulated industries in the world. The main reason for regulation is to provide a sound, stable and healthy financial system. Peltzman (1968) was among the first researchers to empirically test the effects of regulation on performance. Peltzman's findings indicated that a prohibition on interstate branching and a legal restriction to new entry had a significant impact on the market value of a bank's capital.

The effect of inflation on bank profitability was first discussed by Revell (1980). Revell believed that inflation could be a factor in the causation of variations in bank's profitability. This hypothesis was empirically tested by Bourke (1989) and Molyneux and Thornton (1992). Using the consumer price index (CPI) as a proxy for inflation, both studies found that inflation had a significant relationship with profit. Although the first

empirical testing on inflation was done by Bourke (1989), Heggsted (1977) tried to measure the effect of inflation on profitability in his study. Heggsted used per capital income as the independent variable instead of CPI. Heggsted's findings, did not establish any relationship between per capital income and a bank's profitability. The usage of scarcity of capital as one of the profitability determinants was introduced by Short (1979). Short believed that scarcity of capital can be used to measure the economy-wide profitability of all industries in a particular country. In his study, Short used both Central Bank discount rates and the interest rates on long-term government securities. He found that these hypothesis had a significant positive relationship with profitability. Short's hypothesis was further tested by Bourke (1989) and Molyneux and Thornton (1992). The findings of these two studies also found that capital scarcity had a significant positive relationship with profitability.

Emery (1971) and Vernon (1971) were among the earliest researchers to link bank size with profitability. Emery classified his sample according to total assets and found that the larger banks had greater returns. Similarly, Vernon used total assets as a proxy for size but found that there was no significant relationship between size and profitability. Vernon's finding was confirmed by Heggsted (1977), Kwast and Rose (1982) and Smirlock (1985).

2.7 The Relationship between Profitability and Capital

In banking as in any industry, it is common knowledge that higher leverage normally means higher returns (but also greater risk). Yet, two recent studies actually find a negative relationship between leverage and returns in banking. Berger (1995) reports a statistically significant positive relationship between return-on-equity (ROE) and the capital-asset ratio (CAR, the inverse of leverage) among American banks in the 1980s. Likewise, Demirgüç Kunt and Huizinga (1999) study 80 countries in the years 1988–1995, and they also report a statistically significant positive relationship between capital and returns. The fact that leverage increases returns seems to follow directly from the very nature of business. In its strongest form, the “leverage formula” predicts that return-on-equity should increase linearly with the debt-equity ratio (DER). How can this be

reconciled with the empirical results? Berger (1995) suggests that more capitalized banks were able to attract higher earnings because of lower expected bankruptcy costs, which enabled them to pay lower interest on uninsured debt. In a similar vein, Flannery and Rangan (2002) also report a capital build-up among US banks in 1986–2000, and they attribute this build-up to an increasingly competitive environment in the last two decades, promoting banks to hold capital beyond legislative needs (market discipline). Another possibility is that the negative correlation between leverage and profitability could reflect special circumstances of the 1980s and early 1990s. The 1980s was a decade of financial liberalization, and the early 1990s was a time of financial turmoil. In one decade there is small variation in banks' leverage. The difference in leverage among banks, at least in Europe and in North America, is small. Conceivably, successful banks could tend to be both more capitalized and more profitable in the short run, which could obscure the fundamental positive correlation between leverage and returns.

It is generally accepted (Berger, 1995; Barth et al., 1998) that the Capital Asset Ratio (hereafter CAR) is negatively correlated with Return on Capital (hereafter ROC). According to this hypothesis, the negative relationship is obtained, *ceteris paribus*, in a one-period model where deposit rates are not influenced by bank risks. However, assuming information symmetry between the depositors and the bank i.e., 'market discipline' exists and deposit and stock markets are perfect, a rise in CAR due, for example, to the substitution of equity and debt, should entail a reduction of the bank's risk to fail. In such a case, risk-averse depositors who regard capital as a cushion against unexpected losses will be satisfied with a lower interest rate on deposits. This in turn, *ceteris paribus*, should increase Net Interest Margin (hereafter NIM) and thus ROC. On the other hand, a rise in CAR increases capital, and therefore may reduce profitability either due to the increase in the denominator of ROC or due to the perception that the bank is safer. Thus, an increase in CAR might have an ambiguous effect on ROC. According to the Expected Bankruptcy Costs Hypothesis (henceforth EBCH), if a bank's capital is below its optimum level, a rise in capital should reduce the yield required on deposits. Consequently, the increase in net income (the numerator in ROC) will have a greater effect than the rise in capital (the denominator in ROC), *ceteris paribus*, and

altogether one can expect a positive relationship between capital and profitability. On the other hand, if capital is above its optimum level as perceived by depositors, the increase in capital reduces the interest rate required on deposits, so that the relationship between capital and profitability is expected to be negative. In general, EBCH assumes ‘market discipline’ either for well-capitalized or under-capitalized banks and ROC influenced by loans and deposits but not by operational activity e.g., commissions.

The concept of capital structure as used in Kenya refers not only to choices regarding capital structure (or the mix debt/equity) but also to the kind of securities used to structure the equity and the debt that is influenced by the outside context. In other words, it attempts to understand why certain choices regarding debt and equity are made (capital structure in a strict sense), while observing the ownership structure and debt structures. For this reason, some authors do not believe it is justifiable to analyze only capital structure as the mix of debt and equity, since it is strictly related to other aspects concerning the structure of equity and debt (Fluck, 1998, Heinrich, 2000). Njoroge (2001) examined the relationship between dividend payout and financial ratios. The results obtained were that the most significant variable in making dividend decisions is return on assets while return on equity and growth in assets are not considered in making dividend decisions. Maina (2000) carried out a study to establish whether there exists a relationship between dividend and investment decisions since both compete for internally sourced funds and given that funds obtained by debt are very expensive and not available to all firms.

According to the Signaling Hypothesis (Acharya, 1988), managers have ‘inside information’ regarding future performance. If their compensation packages include stocks and/or stock options it will be cheaper for a safe bank than for a risky bank to signal expected improved performance in the future by increasing capital today. Therefore, capital entails profitability. Stiroh (2000) gives another argument for this causation. When banks overcome high entry barriers by increasing their capital levels, they gain access to profitable activities such as issuing guarantees and subordinated notes, and acting as intermediators in derivative markets.

2.8 Conclusion

Managers are better informed than investors. Investors might see an external equity issuance as bad news about the company, assuming that managers want outside shareholders to share the loss, thus investors will react to this issuance negatively, increasing the issuance cost of external equity. In principal, as much as debt financing could present firms with tax shield benefits (debt is a tax deductible expense), there is a limit to which firms can use debt financing.

Titman and Wessels (1988) enumerated key attributes in determining capital structure. They include asset structure, growth, uniqueness, industry classification, size earnings and volatility. Profit is generally measured in shilling terms. Profitability ratios show a company's overall efficiency and performance. Determinants of commercial bank profitability can be categorized into two categories, namely internal and external. In banking as in any industry, it is common knowledge that higher leverage normally means higher returns (but also greater risk). It can be seen that there exist no local literature on the effects of capital structure on performance. This is the gap the study seeks to address by investigating the relationship between Core Capital and profitability of commercial banks in Kenya.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains research methodology that was used for the study. Research methodology gives details regarding the procedures used in conducting the study. The chapter discusses the research design, target population, sampling procedure and design, data collection instrument and procedures and data analysis.

3.2 Research Design

According to Kerlinger (1986) research design is the plan and structure of investigation so conceived so as to obtain answers to research questions. The plan is the overall program of the research and included an outline of what the investigator did from writing of the hypothesis and their operational implications for the final analysis of data. Cooper and Schindler (2003) summarize the essentials of research design as an activity and time based plan. Always based on the research questions, guided the selection of sources and types of information, a frame work for specifying the relationship among the study variables and outlines the procedure for every research activity.

According to Mugenda and Mugenda (1999), research design is the outline plan or scheme that is used to generate answers to the research problems. It is basically the structure and plan of investigation. The study was carried out through a cross-sectional survey. This research design was of empirical nature because of the nature of data collected. Empirical research methods course bridges the gap between the theoretical foundations of models and its practical application (Kerlinger 1986).

3.3 Target Population

According to Mugenda and Mugenda (1999), a target population is one the researcher uses to generalize the result of the study. Therefore the research comprised of all the commercial banks in Kenya as at 31st December 2010, licensed and registered under the

Banking Act. According to the Central Bank of Kenya, there were 44 licensed banks as at 31st December 2010 (Appendix).

A census was carried out to obtain the data of the study. Therefore the researcher took the 43 commercial banks (Excluding Charter House Bank under CBK Statutory Management). Stratified sampling was used to classify commercial banks in tier group 1, tier group 2 and tier 3group.

3.4 Data Collection Instruments and Procedures

The study used data from secondary sources. The data for the banks was extracted from the banks' annual reports and financial statements for the period 2001-2010. These were obtained from the banks supervision department of the Central Bank of Kenya.

3.5 Data Analysis

Statistical package for social sciences (SPSS) software version 17 was used to analyze the data. The quantitative data was analyzed by using descriptions statistics such as mean, range, standard deviation minimum and maximum values. Pearson Correlation Analyses was used to examine the relationship between dependent variables (banks profitability) and the independent variables (banks core capital structure). Further, linear regression dimension of independent variable and dependent variable was estimated

$$Y_t = \alpha + \beta_1 X_1 + e;$$

α = Constant and

Where: X_1 = Core Capital

Y = Profitability/ ROE.

β = Beta Coefficient,

t = is the proposed period lag,

e = Standard error

Parametric tests were estimated to determine the significance of the relationship and the coefficient of determination (r^2). Differences between commercial banks in the three different tier group categories were identified to determine whether there were differences in the findings in the different tier groups. The study used a simple linear equation to determine the relationship.

CHAPTER FOUR

4.0 DATA ANALYSIS AND DISCUSSIONS

4.1 Introduction

This section covers the analysis of the data, discussions and interpretations. The first step in analysing the data was through descriptive measures; this was done using SPSS. The results were as shown in Table 4.1 (descriptive measures for banks in tier one), Table 4.2 (descriptive measures for banks in tier two), table 4.3 (descriptive measures for banks in tier three) and Figure 4.1 (scatter plot for tier one banks), Figure 4.2 (a scatter plot for tier two banks), Figure 4.3 (a scatter plot for tier three banks),

Table 4.1: Descriptive Statistics – Tier one Banks

	Range	Min	Max	Mean		Std. Dev
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Core Capital(Kshs in Ms)	39,398.00	-4178.00	35,220.00	6,340.84	604.25	6,042.49
Profitability/ROE.	2,501.57	-2,089.50	412.07	54.62	22.83	228.28

Source: Research data, 2011

The average core capital during the period was mean of 6,340.84 and a standard deviation of 6,042.49. The maximum value of core capital was 35,220 and the minimum value was -4,178.00, resulting to a higher range of 39,398. On the other hand the average profitability/ROE during the period was mean of 54.62 and a standard deviation of 228.28. The maximum level of profitability/ROE was 412.07 and the minimum value was -2,089.50, resulting to a higher range of 2,501.57. There is a high variance for both core capital and profitability/ROE for banks in tier one as indicated by the values of range and standard deviation.

Table 4.2: Descriptive Statistics - Tier Two Banks

	Range	Min	Max	Mean		Std. Dev
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Core Capital(Kshs in Ms)	8158.00	308.00	8466.00	1298.20	115.93	1159.31
Profitability/ROE.	581.00	-287.75	293.25	42.37	7.46	74.57

Source: Research data, 2011

The average core capital during the period was mean of 1,298.26 and a standard deviation of 1,159.31. The maximum value of core capital was 8,466 and the minimum value was -308, resulting to a higher range of 8,158. On the other hand the average profitability/ROE during the period was mean of 42.37 and a standard deviation of 74.57. The maximum level of profitability/ROE was 293.25 and the minimum value was -287.75, resulting to a higher range of 581. There is a high variance for both core capital and profitability/ROE for banks in tier two as indicated by the values of range and standard deviation.

Table 4.3: Descriptive Statistics - Tier Three Banks

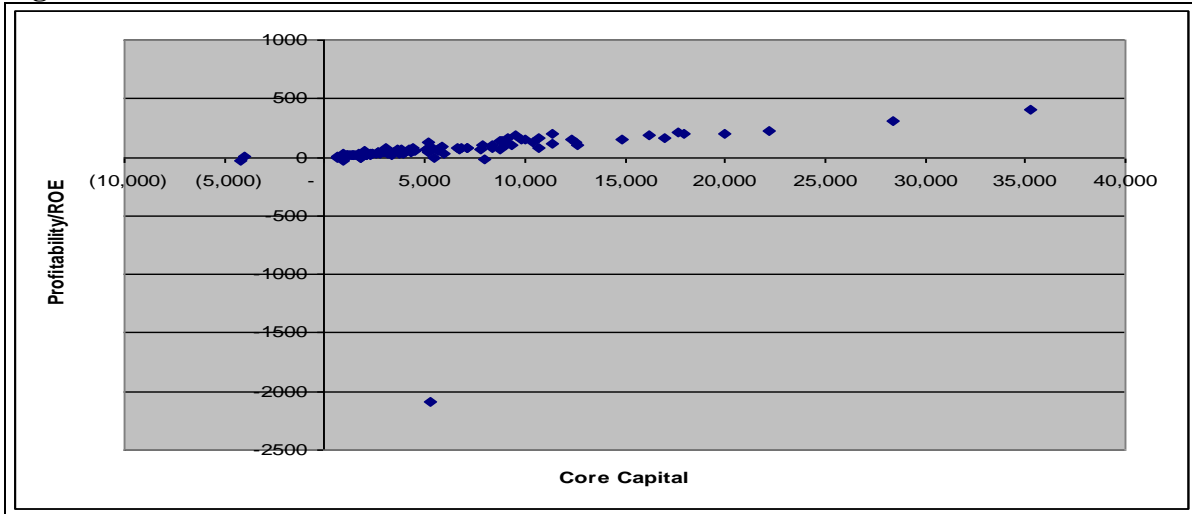
	Range	Min	Max	Mean		Std. Dev
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Core Capital	1774.00	-258.00	1516.00	627.81	21.62	287.69
Profitability/ROE	1430.00	-730.00	700.00	11.39	5.87	78.03

Source: Research data, 2011

The average core capital during the period was mean of 627.781 and a standard deviation of 287.69. The maximum value of core capital was 1,516 and the minimum value was -258, resulting to a higher range of 1,774. On the other hand the average profitability/ROE during the period was mean of 11.39 and a standard deviation of 78.03. The maximum level of profitability/ROE was 700 and the minimum value was -730, resulting to a

higher range of 1,430. There is a high variance for both core capital and profitability/ROE for banks in tier two as indicated by the values of range and standard deviation.

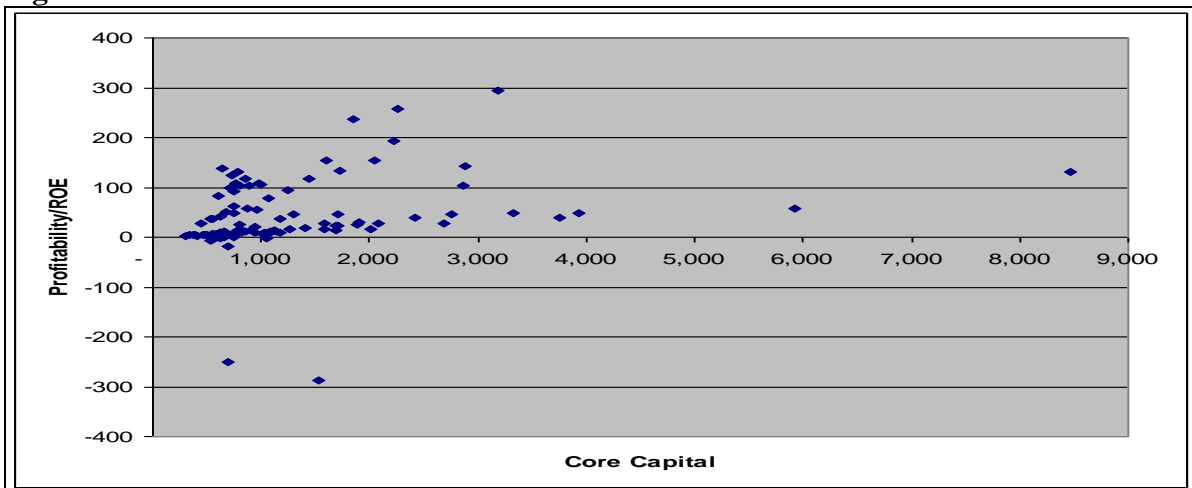
Figure 4.1: Scatter Plot-Tier one Banks



Source: Research data, 2011

The scatter plot shows a moderate upward trend. The trend seems to be linear and as such a linear regression analysis could be used for further analysis.

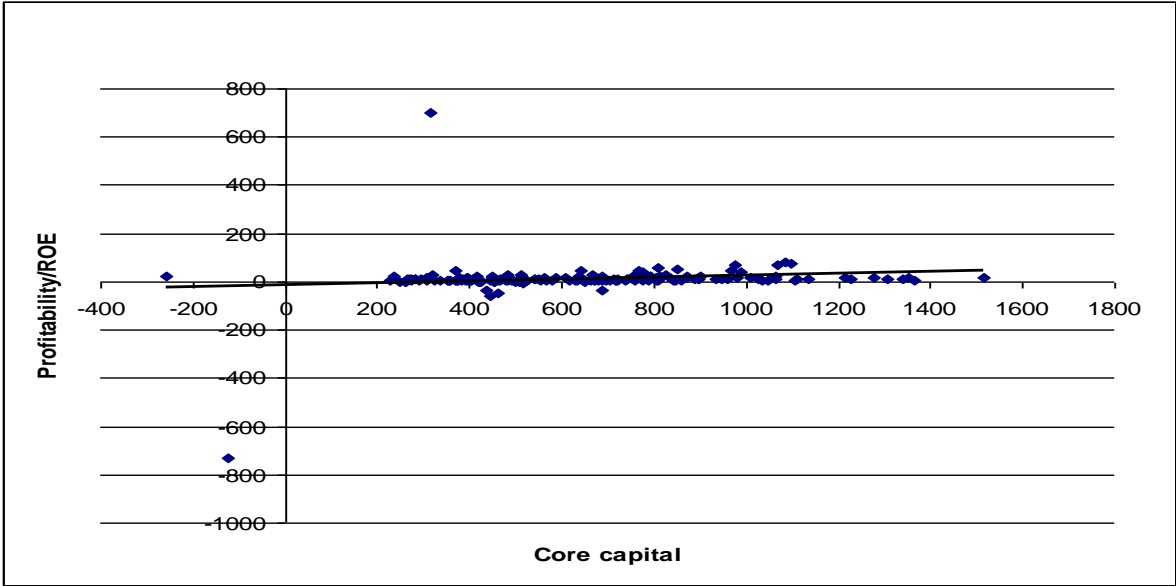
Figure 4.2: Scatter Plot-Tier two Banks



Source: Research data, 2011

The scatter graph shows upward trend with a break in between. The trend seems to be linear and as such a linear regression analysis can be used for further analysis.

Figure 4.3: Scatter Plot-Tier three Banks



Source: Research data, 2011

The scatter graph shows upward trend. The trend seems to be linear and as such a linear regression analysis can be used for further analysis. It can be noted there are some outliers mainly because the population that has been used is significantly large.

4.2 Correlation and Regression Analysis

The results from scatter graphs for all the three tiers of banks indicated a linear trend which facilitated the process of carrying out regression analysis on the data. This was done through correlation analysis, goodness of fit and the model equations. The results were as follows.

4.2.1: Pearson Correlation between Profitability/ ROE and Core Capital

Table 4.4 Pearson Correlation between Profitability/ ROE and Core Capital-One tier Banks

	Profitability/ ROE.	Core Capital(Kshs in Ms)
Profitability/ ROE.	1.000	
Core Capital(Kshs in Ms)	.311	1.000

Source: Research data, 2011

There is a moderately weak positive correlation of 0.311 between Profitability/ ROE and Core Capital. This is an indication that core capital weakly predict Profitability/ ROE for banks in the tier group one.

Table 4.5 Pearson Correlation between Profitability/ ROE and Core Capital-Two tier Banks

	Profitability/ ROE.	Core Capital(Kshs in Ms)
Profitability/ ROE.	1.000	
Core Capital(Kshs in Ms)	.297	1.000

Source: Research data, 2011

There is a weak positive correlation of 0.297 between Profitability/ ROE and Core Capital. This is an indication that core capital weakly predict Profitability/ ROE for banks in tier group two.

Table 4.6 Pearson Correlation between Profitability/ ROE and Core Capital-Three tier Banks

	Profitability/ ROE.	Core Capital(Kshs in Ms)
Profitability/ ROE.	1.000	
Core Capital(Kshs in Ms)	.149	1.000

Source: Research data, 2011

There is a very weak positive correlation of 0.149 between Profitability/ ROE and Core Capital. This is an indication that core capital very weakly predicts Profitability/ ROE for banks in tier group three.

4.2.2: Goodness of fit of the models

The strength of the model was tested by the coefficient of determination, that is, the percentage variation in the dependent variable being explained by the changes in the independent variables. The findings were as shown below.

Table 4.7: Model Summary – Tier one Banks

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.311 ^a	.096	.087	218.08912	.096	10.466	1	98	.002

a. Predictors: (Constant), Core Capital(Kshs in Ms)

b. Dependent Variable: Profitability/ ROE.

Source: Research data, 2011

The coefficient of determination (R^2) equals 0.096. This shows that core capital explain 9.6 percent of the variation in profitability/ROE leaving 90.4 percent unexplained. The P-value of 0.002 implies that the model is significant at the 5 percent significance level.

Table 4.8: Model Summary – Tier two Banks

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.297 ^a	.088	.079	71.56361	.088	9.496	1	98	.003

a. Predictors: (Constant), Core Capital(Kshs in Ms)

b. Dependent Variable: Profitability/ ROE.

Source: Research data, 2011

The coefficient of determination (R^2) equals 0.088. This shows that core capital explain 8.8 percent of the variation in profitability/ROE leaving 91.2 percent unexplained. The P-value of 0.003 implies that the model is significant at the 5 percent significance level.

Table 4.9: Model Summary – Tier three Banks

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.149 ^a	.022	.017	77.37694	.022	3.997	1	175	.047

a. Predictors: (Constant), Core Capital(Kshs in Ms)

b. Dependent Variable: Profitability/ ROE.

Source: Research data, 2011

The coefficient of determination (R^2) equals 0.022. This shows that core capital explain 2.2 percent of the variation in profitability/ROE leaving 97.8 percent unexplained. The P-value of 0.047 implies that the model is significant at the 5 percent significance level.

4.2.3: Regression equations

Using unstandardized coefficients (B values), the established multiple linear regression equation becomes:

Table 4.10: Coefficients - Tier one Banks

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-19.787	31.697		-.624	.534	-82.688	43.114
Core Capital(Kshs in Ms)	.012	.004	.311	3.235	.002	.005	.019

a. Dependent Variable: Profitability/ ROE.

Source: Research data, 2011

The coefficients in Table 4.10 above were used to write the regression equation for the Profitability/ROE as shown. Profitability/ROE (Tier one Banks) = -19.787 + 0.012 Core Capital, that is, Profitability/ROE at any time irrespective of the core capital would be -19.787 and this would be expected to increase at the rate of 0.012 per unit increase in core capital. The P- value of 0.02 implies that, core capital as an independent variable is linearly related with Profitability/ROE (significant at the 5 percent significance level).

Table 4.11: Coefficients - Tier two Banks

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	17.547	10.774		1.629	.107	-3.835	38.928
Core Capital(Kshs in Ms)	.019	.006	.297	3.082	.003	.007	.031

a. Dependent Variable: Profitability/ ROE.

Source: Research data, 2011

The coefficients in Table 4.11 above were used to write the regression equation for the Profitability/ROE as shown. Profitability/ROE (Tier two Banks) = 17.547 + 0.019 Core Capital, that is, Profitability/ROE at any time irrespective of the core capital would be 17.547 and this would be expected to increase at the rate of 0.019 per unit increase in core capital. The P- value of 0.03 implies that, core capital as an independent variable is linearly related with Profitability/ROE (significant at the 5 percent significance level).

Table 4.12: Coefficients - Tier three Banks

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-14.053	13.994		-1.004	.317	-41.671	13.566
Core Capital	.041	.020	.149	1.999	.047	.001	.081

a. Dependent Variable: Profitability/ROE

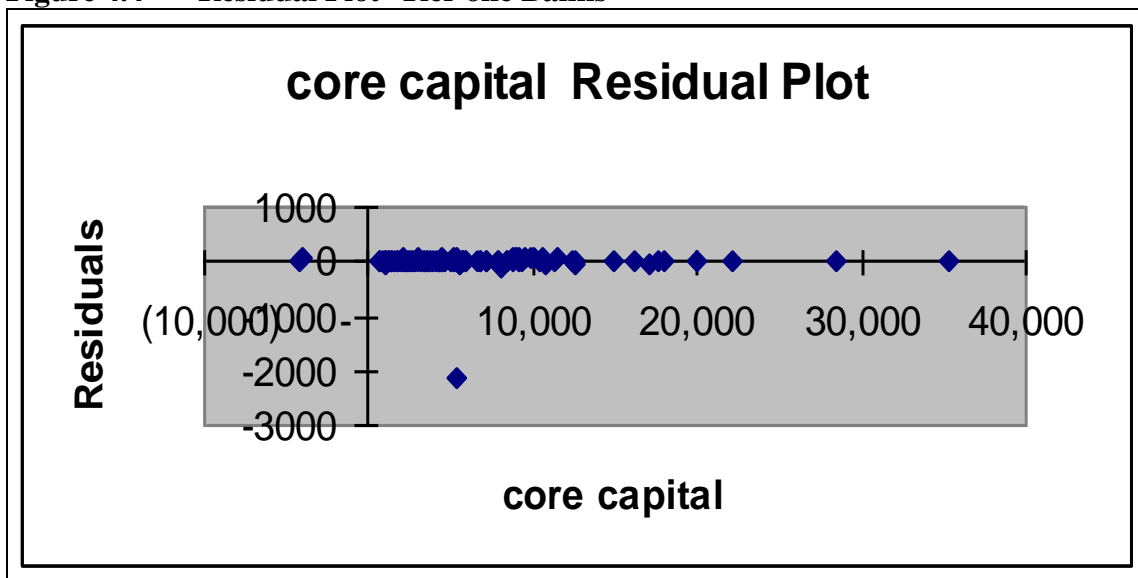
Source: Research data, 2011

The coefficients in Table 4.12 above were used to write the regression equation for the Profitability/ROE as shown. Profitability/ROE (Tier three Banks) = -14.053 + 0.041 Core Capital, that is, Profitability/ROE at any time irrespective of the core capital would be -14.053 and this would be expected to increase at the rate of 0.041 per unit increase in core capital. The P- value of 0.047 implies that, core capital as an independent variable is linearly related with Profitability/ROE (significant at the 5 percent significance level).

4.3: Second Order Conditions

In order to recommend the regression equations for forecasting it is necessary to test for the second order conditions. This includes the test of multicollinearity, heteroscedasticity and normality. Multicollinearity test on whether there is a correlation between the predictor variables used. In the analysis, only one predictor variable (core capital) was used and as such the test for the models does not violate the concept of multicollinearity. Heteroscedasticity refers to when the variance of the errors is not constant. This is indicated by the width of the scatter plot of the residuals as the predictor variable increases. If the widths of the scatter plot increases or decreases, then the assumption of constant variance is not met.

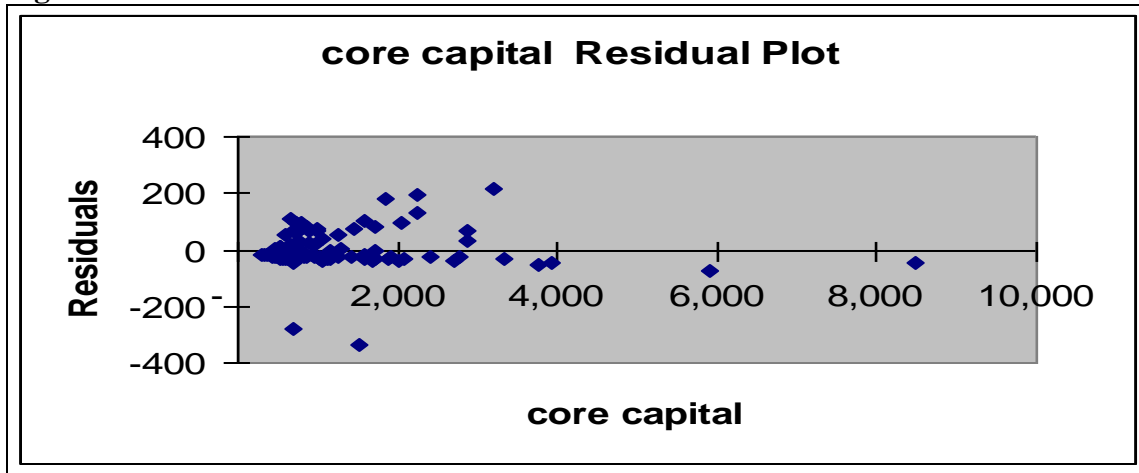
Figure 4.4 Residual Plot -Tier one Banks



Source: Research data, 2011

There is no clear pattern for the residual values for core capital for tier one banks, as shown in Figure 4.4 above.

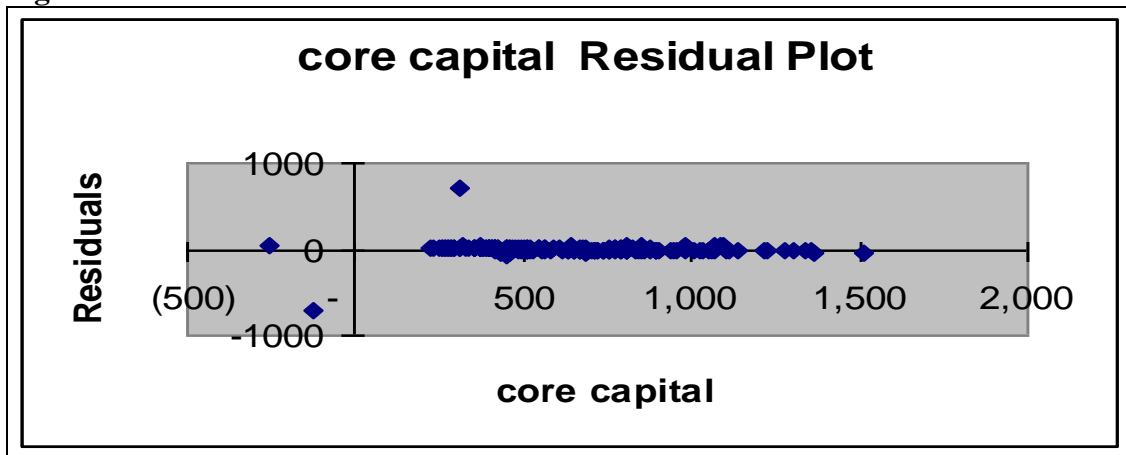
Figure 4.5 Residual Plot -Tier two Banks



Source: Research data, 2011

There is no clear pattern of residual values for core capital for tier two banks, as indicated in Figure 4.5 above.

Figure 4.6 Residual Plot -Tier three Banks

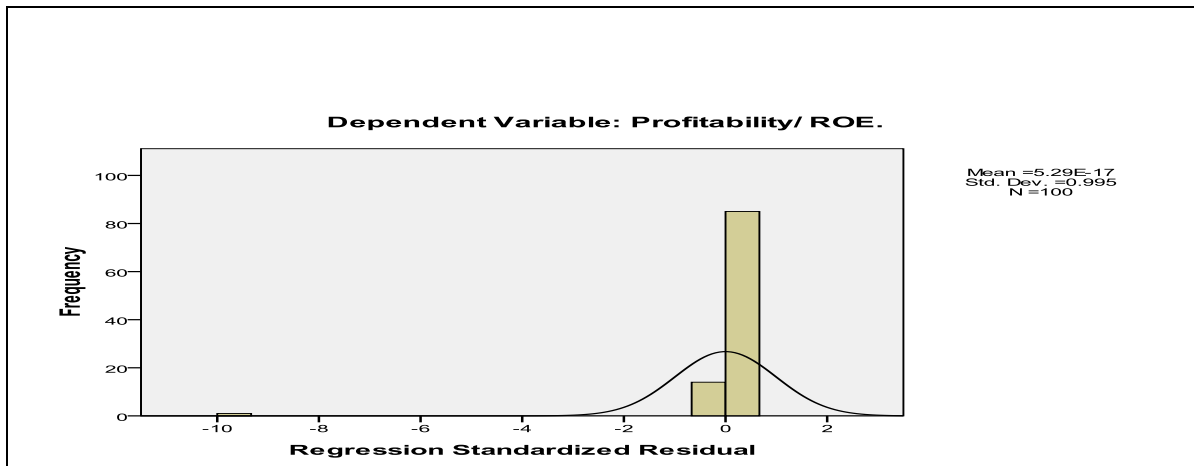


Source: Research data, 2011

There is no clear pattern of residual values for core capital for tier two banks, as indicated in Figure 4.6 above.

Normality uses histogram or plot of residuals. It is assumed that the distribution from the histogram will take the shape of a normal curve and the plot of the residuals will form 45 degrees diagonal line for the normality test.

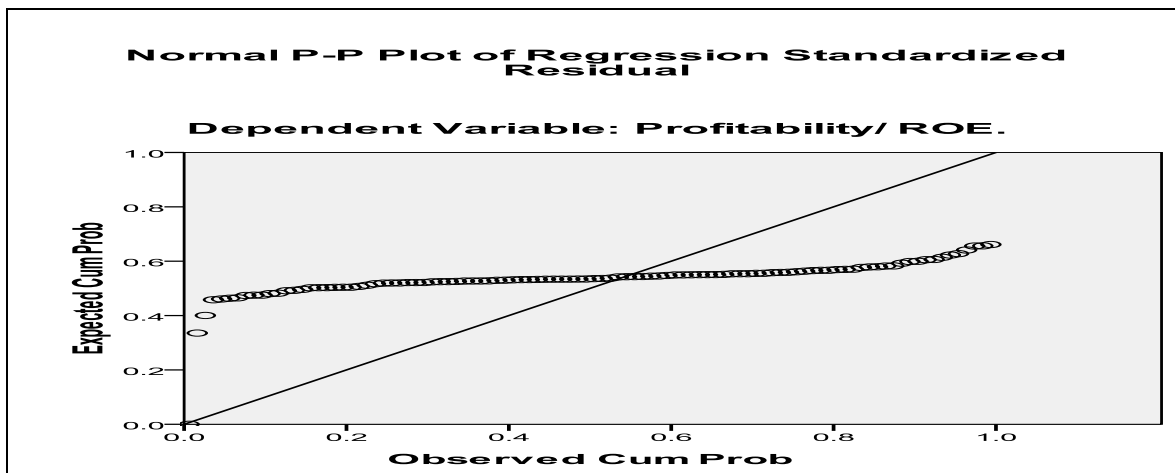
Figure 4.7: Histogram- Tier one Banks



Source: Research data, 2011

The histogram/frequency polygon depicts non normal distribution as shown in Figure 4.7

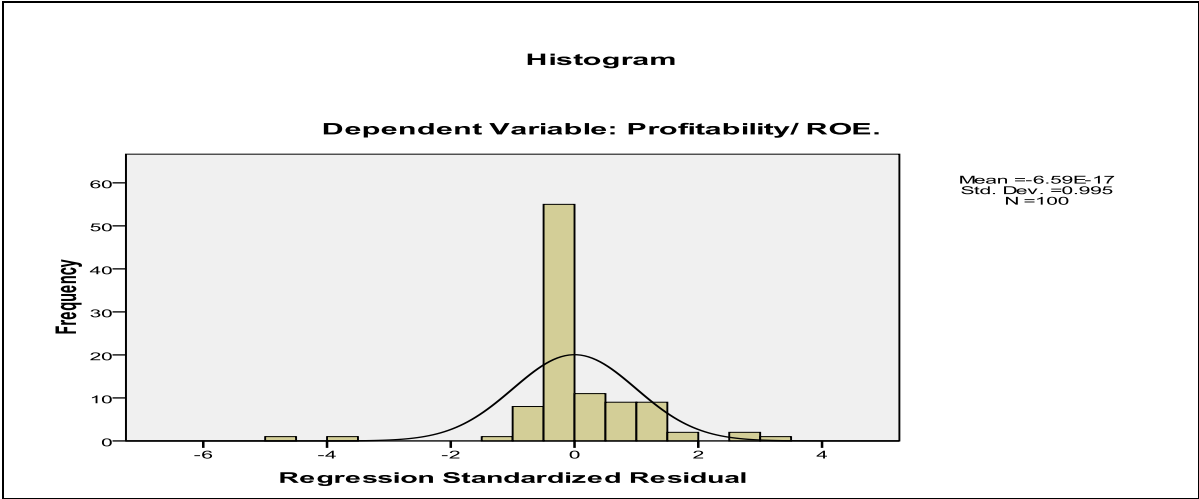
Figure 4.8: Normal P-P Plot of Regression Standard Residuals -Tier one Banks



Source: Research data, 2011

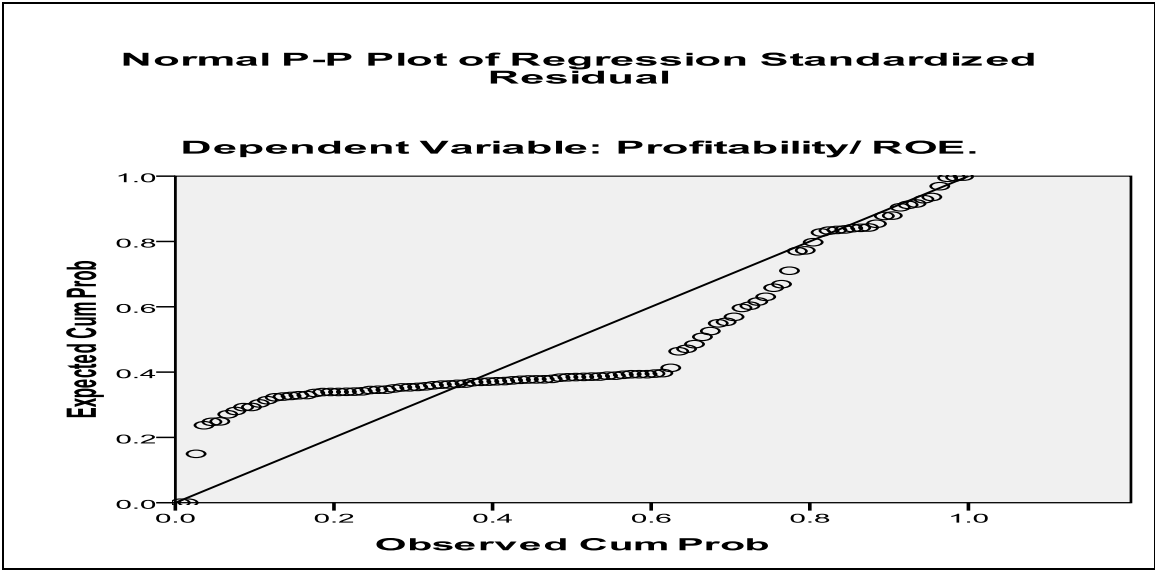
As shown in Figure 4.8, the data seem not to be clustered around the 45 degree line indicating that the tier one bank data is not normally distributed.

Figure 4.9: Normality- tier two banks



Source: Research data, 2011

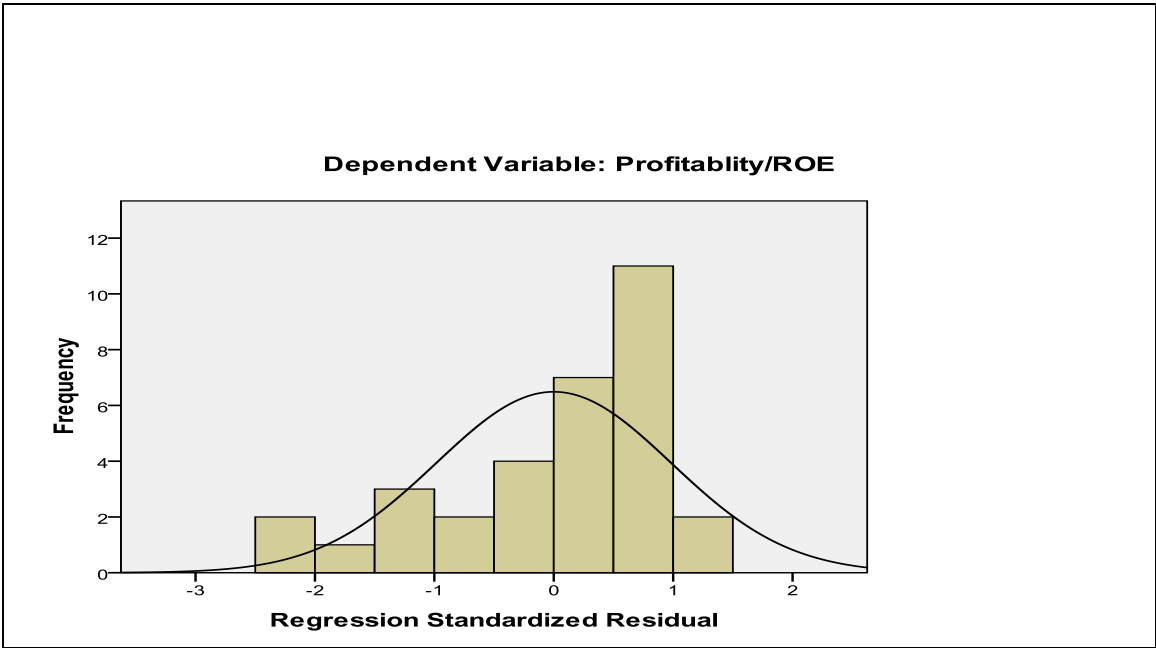
Figure 4.10: Normal P-P Plot of Regression Standard Residuals -Tier two Banks



Source: Research data, 2011

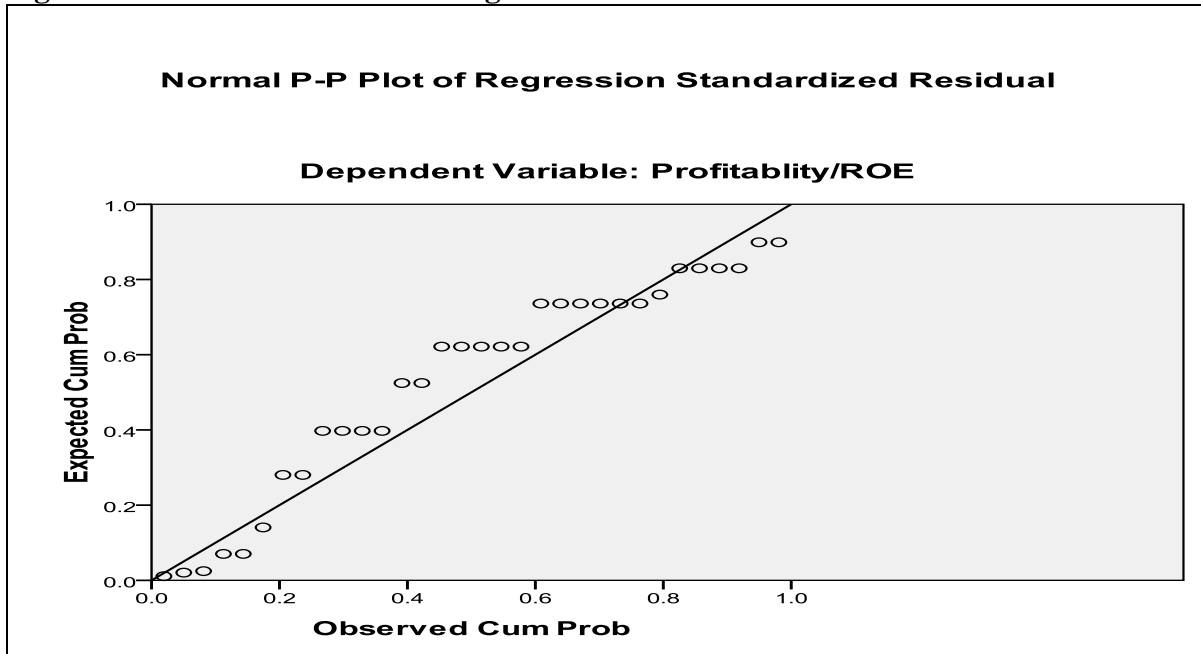
The histogram/frequency polygon depicts normal distribution as shown in Figure 4.9. Figure 4.10 shows, the data seem not to be clustered around the 45 degree line indicating that the tier two bank data is not normally distributed. However, since the data set is large (more than 30) the normality condition might not be of much concern because the central limit theorem applies which states as the sample size becomes large asymmetrical distribution tends to be normal.

Figure 4.11: Normality- tier three banks



Source: Research data, 2011

Figure 4.12: Normal P-P Plot of Regression Standard Residuals -Tier three Banks



Source: Research data, 2011

The histogram/frequency polygon depicts normal distribution as shown in Figure 4.11. Figure 4.12 also indicates that most of the data points are on the 45 degree line. This shows that tier three bank data are normally distributed.

The problem of normality occurred in all the three tiers. This problem was taken care of by using a large sample which factored in the effect of central limit theorem which states conditions under which the mean of a sufficiently large number of independent random variables, each with finite mean and variance, will be approximately normally distributed. The central limit theorem has a number of variants. In its common form, the random variables must be identically distributed. In variants, convergence of the mean to the normal distribution also occurs for non-identical distributions, given that they comply with conditions.

CHAPTER FIVE

5.0 SUMMARY OF FINDINGS AND CONCLUSION, AND SUGGESTIONS FOR FURTHER RESEARCH

5.1.1 Summary of Findings

The study used regression analysis to establish the relationship between Core Capital and profitability of commercial banks in Kenya. Forecasting models were developed and then they were tested for accuracy in obtaining predictions. One major finding of the study is that there is a weak relationship between Core Capital and profitability/ROE of commercial banks in Kenya. This is demonstrated in the part of the analysis where for all the three tiers, the R^2 was very low. In the case of tier one banks, the quantitative forecasting model developed using the methodology of this study did not predict the profitability/ROE level accurately, that is, a significant 90.4 percent of the variation in profitability/ROE could not be accounted for, tier two banks had 91.2 percent unaccounted for by the established model while tier three banks 97.8 percent of the variation in profitability/ROE was not accounted for. The usage of the models developed to forecast profitability/ROE is therefore not recommended as one might get predictions that are inaccurate as such the objective of the study is not fully achieved.

The results of the second order condition test indicated that, there were no major problems of multicollinearity and heteroscedasticity. However the problem of normality occurred in all the three tiers. This problem was taken care of by using a large sample which factored in the effect of central limit theorem.

5.1.2 – Conclusions

In conclusion the study came up with the model expressing the relationship between Core Capital and profitability of commercial banks in Kenya. the models do not take into account things like the changing environment. The state of the technology is changing and economic conditions are also changing. The models may fail to forecast accurately because of change in the business environment during the test period.

5.2 Limitation of the Study

The secondary data used in this study was obtained from published annual financial reports, one must be cautious of the limitations associated with such data. This data may to some degree be manipulated by the management of a firm to present a “rosy” view of the firm’s position. This kind of manipulation is known as “window dressing”. The possibility of window dressing has been controlled to some extent by use of many commercial banks financial information therefore the accuracy may not be guaranteed.

Apart from the accuracy other factors such as advertisements and promotions could have boosted the core capital; economic factors such as inflation would affect the purchasing power of the consumers and hence affect profitability/ROE of commercial banks. There is therefore room for isolating all these factors in order to generate better predictive profitability/ROE of commercial banks.

Researchers on the subject of core capital and profitability in commercial banks were few and little literature on the international arena was also not available on the subject, in addition much of the literature obtained related to the developed economies whose circumstances may be different from that of a developing economy like Kenya.

A few banks in the study did not have any published reports and some were licensed as commercial banks recently. Therefore there was no data available to cover the whole population of the study.

5.3 Recommendations to Policy Makers

In this study only one predictor variable (core capital) was singled out and used, it is recommended that a number of the independent variables be included and a multiple linear regression model be used. Similar studies need to be done in other non commercial banks operating in the Kenyan banking industry and the results be compared so as to establish whether the models are consistent among the various groups.

The study sought to establish the relationship of core capital and profitability in commercial banks in Kenya. Further research may be carried out to establish the relationship between other various determinants of core capital i.e. Growth Opportunities, Firm size, Asset structure of the company, Age of the firm.

The study applied only one independent variable in determining the results, a further study can be carried out by including more independent variables to the regression model. Use of more variables may better capture the strength of the relationship. Also the study could be further enhanced by examining Basel II effect on profitability of commercial banks upon full implementation. Profitability indicator could be developed by adding other relevant dependent variables to grasp the whole variations in profitability.

The study was only carried on all commercial banks as at 30th December 2010. There were forty four commercial banks in Kenya. A further census study should be carried out to evaluate if there is a substantial change of the findings.

5.4 Suggestions for further Study

A similar research study should be done incorporating the non banking financial institutions; that is Savings and Credit Co-operative Societies, Micro Finance institutions to evaluate any substantial difference in findings. Further, a research study where data collection relies on primary data i.e. in-depth questionnaires and interview guide is encouraged so as to complement this research.

Further research could also be done on the banking sector taking into considerations the foreign owned banks and locally owned banks to find out whether similar results will be obtained

A similar research study should be done on the financial institutions which are quoted in Nairobi Stock Exchange and unquoted banks to find out if similar results will be obtained

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Appendices

Appendix 1: Peer Ranking Of Banks

TIER 1 BANKS

- 1 Citibank
- 2 Equity Bank
- 3 Standard Chartered Bank
- 4 Commercial Bank of Africa
- 5 Barclays Bank of Kenya
- 6 NIC Bank
- 7 Kenya Commercial Bank
- 8 National Bank of Kenya
- 9 Diamond Trust Bank
- 10 Co-operative Bank of Kenya
- 11 CFC Stanbic Bank

TIER 11 BANKS

- 1 I &M Bank
- 2 Bank of India
- 3 Bank of Baroda
- 4 Family Bank
- 5 Imperial Bank
- 6 Prime Bank
- 7 Bank of Africa
- 8 Chase Bank
- 9 Fina Bank
- 10 Ecobank
- 11 HFCK

TIER 111 BANKS

- 1 Habib A G Zurich
- 2 Victoria Commercial Bank
- 3 Credit Bank
- 4 Habib Bank Limited
- 5 Oriental Commercial Bank
- 6 K Rep Bank
- 7 ABC Bank
- 8 Development Bank of Kenya
- 9 Middle East Bank
- 10 Equatorial Commercial Bank
- 11 Transnational Bank

- 12 Dubai Bank
- 13 Fidelity Commercial Bank
- 14 City Finance Bank
- 15 Paramount Universal Bank
- 16 Giro Commercial Bank
- 17 Consolidated Bank
- 18 Guardian Bank
- 19 Southern Credit Bank
- 20 Gulf African Bank
- 21 First Community Bank

Appendix II: Secondary data

Tier 1 Banks

Commercial Bank		Profit Before Tax	Core Capital(Kshs in Ms)-X	Return on Equity	Profitability/ROE (Y)
Barclays Bank					
	2001	4,235	8,728	29	146.03
	2002	2,550	8,723	37	68.92
	2003	4,764	9,565	26	183.23
	2004	5,591	10,449	43	130.02
	2005	5,401	11,377	45	120.02
	2006	6,475	12,375	41	157.93
	2007	7,079	17,019	44	160.89
	2008	8,016	19,980	40	200.40
	2009	9,002	22,186	39	230.82
	2010	13,553	28,424	43	315.19
Cfc Stanbic Bank					
	2001	-294	615	-47	6.26
	2002	32	628	-47	-0.68
	2003	-151	930	5	-30.20
	2004	153	1,764	-16	-9.56
	2005	444	2,014	9	49.33
	2006	921	2,658	22	41.86
	2007	1,194	3,144	34	35.12
	2008	1,313	5,952	36	36.47
	2009	1,333	6,741	19	70.16
	2010	2,104	7,915	20	105.20
Citibank N.A Kenya					
	2001	699	3,691	27	25.89
	2002	1,159	3,799	17	68.18
	2003	826	3,938	29	28.48
	2004	356	3,370	20	17.80
	2005	1,285	5,185	10	128.50
	2006	1,530	5,651	24	63.75
	2007	1,782	7,112	24	74.25
	2008	3,353	8,898	24	139.71
	2009	3,055	10,676	37	82.57
	2010	2,878	12,493	22	130.82
Co-Operative Bank Of Kenya					
	2001	-803	789	-113	7.11
	2002	104	1,837	-50	-2.08
	2003	181	1,710	5	36.20
	2004	356	2,973	8	44.50
	2005	714	3,605	11	64.91
	2006	1,256	4,361	18	69.78
	2007	2,094	5,882	24	87.25
	2008	3,359	12,613	31	108.35

	2009	3,736	14,823	24	155.67
	2010	5,559	17,971	27	205.89
Commercial Bank Of Africa					
	2001	515	1,384	24	21.46
	2002	382	1,404	29	13.17
	2003	568	1,486	23	24.70
	2004	437	1,700	29	15.07
	2005	369	2,117	22	16.77
	2006	1,343	3,030	16	83.94
	2007	1,416	3,459	36	39.33
	2008	1,765	4,295	30	58.83
	2009	1,926	4,545	34	56.65
	2010	2,695	5,728	36	74.86
Kenya Commercial Bank					
	2001	183	8,016	-10	-18.30
	2002	-4,179	5,257	2	-2089.50
	2003	877	5,454	-81	-10.83
	2004	1,074	7,810	16	67.13
	2005	1,948	9,802	13	149.85
	2006	3,167	9,169	19	166.68
	2007	4,226	10,046	27	156.52
	2008	6,013	16,187	32	187.91
	2009	6,300	17,674	29	217.24
	2010	11,538	35,220	28	412.07
National Bank Of Kenya					
	2001	-323	(4,006)	-75	4.31
	2002	390	(4,178)	-13	-30.00
	2003	492	1,199	20	24.60
	2004	743	2,081	23	32.30
	2005	859	2,732	28	30.68
	2006	934	3,368	27	34.59
	2007	1,610	4,442	24	67.08
	2008	1,797	5,672	32	56.16
	2009	2,159	7,099	29	74.45
	2010	2,698	9,082	27	99.93
Nic Bank					
	2001	377	2,130	20	18.85
	2002	340	2,308	16	21.25
	2003	359	2,288	14	25.64
	2004	373	2,349	14	26.64
	2005	403	2,385	14	28.79
	2006	677	2,700	14	48.36
	2007	1,050	4,058	22	47.73
	2008	1,484	5,070	22	67.45
	2009	1,527	5,382	22	69.41
	2010	2,416	6,874	30	80.53

Standard Chartered Bank	2001	3,232	4,223	51	63.37
	2002	3,212	4,397	58	55.38
	2003	4,010	5,087	56	71.61
	2004	2,691	5,191	62	43.40
	2005	3,513	8,388	44	79.84
	2006	3,810	8,367	37	102.97
	2007	4,910	8,967	38	129.21
	2008	4,720	9,332	45	104.89
	2009	6,728	10,656	41	164.10
	2010	7,668	11,394	38	201.79
	Diamond Trust Bank	2001	51	948	16
2002		113	974	4	28.25
2003		204	1,098	9	22.67
2004		263	1,160	15	17.53
2005		427	1,337	18	23.72
2006		681	2,531	26	26.19
2007		1,055	4,279	24	43.96
2008		1,588	4,457	19	83.58
2009		2,010	5,279	23	87.39
2010		2,871	6,637	35	82.03
Bank Of Africa					
		<u>Tier 11 Banks</u>			
	2001	63	708	11	5.73
	2002	45	752	9	5.00
	2003	1	740	6	0.17
	2004	139	649	1	139.00
	2005	7	652	21	0.33
	2006	61	746	1	61.00
	2007	158	800	6	26.33
2008	93	1,009	13	7.15	
2009	270	1,706	6	45.00	
2010	484	1,899	16	30.25	
Bank Of Baroda	2001	52	383	13	4.00
	2002	41	415	14	2.93
	2003	143	823	10	14.30
	2004	274	969	5	54.80
	2005	238	1,069	28	8.50
	2006	373	1,263	22	16.95
	2007	524	1,407	30	17.47
	2008	795	1,688	33	24.09
	2009	892	2,081	33	27.03

	2010	1828	3,319	38	48.11
Bank Of India	2001	94	308	29	3.24
	2002	116	480	30	3.87
	2003	63	591	8	7.88
	2004	176	623	20	8.80
	2005	123	818	13	9.46
	2006	124	941	14	8.86
	2007	278	1,168	27	10.30
	2008	474	1,690	36	13.17
	2009	609	2,009	36	16.92
	2010	991	2,694	36	27.53
Chase Bank	2001	30	334	8	3.75
	2002	47	366	9	5.22
	2003	59	471	13	4.54
	2004	-92	526	13	-7.08
	2005	65	560	-17	-3.82
	2006	111	622	11	10.09
	2007	180	665	17	10.59
	2008	247	763	25	9.88
	2009	318	1,137	29	10.97
	2010	535	1,586	33	16.21
Ecobank	2001	22	593	4	5.50
	2002	19	581	4	4.75
	2003	-754	687	3	-251.33
	2004	-62	604	-109	0.57
	2005	13	1,051	-10	-1.30
	2006	47	1,300	1	47.00
	2007	112	1,171	3	37.33
	2008	67	1,026	7	9.57
	2009	-1151	1,524	4	-287.75
	2010	188	2,758	4	47.00
Fina Bank	2001	52	498	11	4.73
	2002	73	548	10	7.30
	2003	106	624	13	8.15
	2004	-51	623	17	-3.00
	2005	107	685	-6	-17.83
	2006	151	779	11	13.73
	2007	150	852	13	11.54
	2008	139	913	10	13.90
	2009	160	951	8	20.00
	2010	151	1,121	11	13.73

African Banking Corporation	2001	41	352	11	3.73
	2002	44	382	12	3.67
	2003	66	425	12	5.50
	2004	119	503	16	7.44
	2005	124	579	24	5.17
	2006	140	670	23	6.09
	2007	185	808	21	8.81
	2008	224	959	23	9.74
	2009	258	1,135	20	12.90
	2010	342	1,338	25	13.68
Consolidated Bank Of Kenya					
	2001	-14	357	-4	3.50
	2002	77	435	-2	-38.50
	2003	12	453	12	1.00
	2004	-90	462	2	-45.00
	2005	-12	499	-16	0.75
	2006	16	516	-2	-8.00
	2007	26	543	2	13.00
	2008	85	666	3	28.33
	2009	122	740	10	12.20
	2010	258	896	17	15.18
Credit Bank Ltd	2001	38	335	8	4.75
	2002	31	370	11	2.82
	2003	49	404	8	6.13
	2004	47	419	12	3.92
	2005	90	464	11	8.18
	2006	90	458	19	4.74
	2007	131	521	18	7.28
	2008	80	646	23	3.48
	2009	83	704	12	6.92
	2010	34	898	3	11.33
Development Bank Of Kenya					
	2001	109	805	6	18.17
	2002	59	775	9	6.56
	2003	103	901	5	20.60
	2004	97	934	10	9.70
	2005	165	980	10	16.50
	2006	126	1,033	16	7.88
	2007	156	1,109	12	13.00
	2008	169	1,229	14	12.07
	2009	107	1,363	14	7.64

	2010	236	1,352	16	14.75
Equatorial Commercial Bank					
	2001	27	372	8	3.38
	2002	65	416	7	9.29
	2003	96	460	16	6.00
	2004	103	508	21	4.90
	2005	109	554	20	5.45
	2006	94	617	19	4.95
	2007	73	670	15	4.87
	2008	-10	648	11	-0.91
	2009	74	689	-2	-37.00
	2010	-176	809	-3	58.67
Fidelity Bank	2001	23	234	1	23.00
	2002	22	248	10	2.20
	2003	18	260	9	2.00
	2004	1	262	7	0.14
	2005	13	268	1	13.00
	2006	26	274	5	5.20
	2007	49	290	9	5.44
	2008	74	391	16	4.63
	2009	52	454	17	3.06
	2010	376	753	45	8.36
Guardian Bank	2001	56	632	9	6.22
	2002	64	663	9	7.11
	2003	52	681	10	5.20
	2004	53	715	8	6.63
	2005	56	757	7	8.00
	2006	48	788	7	6.86
	2007	25	805	6	4.17
	2008	44	835	3	14.67
	2009	114	873	5	22.80
	2010	112	948	11	10.18
Giro Commercial Bank					
	2001	30	375	6	5.00
	2002	33	397	8	4.13
	2003	33	415	8	4.13
	2004	14	426	8	1.75
	2005	-6	420	3	-2.00
	2006	59	446	-1	-59.00
	2007	41	484	12	3.42
	2008	126	564	8	15.75
	2009	185	808	21	8.81

	2010	634	1,278	37	17.14
Habib Bank					
A.G Zurich Ltd					
	2001	113	354	37	3.05
	2002	82	371	32	2.56
	2003	77	405	22	3.50
	2004	56	445	19	2.95
	2005	147	541	13	11.31
	2006	165	648	27	6.11
	2007	204	741	25	8.16
	2008	242	754	28	8.64
	2009	286	897	31	9.23
	2010	248	1,027	22	11.27
Middle East					
Bank (K) Ltd					
	2001	80	688	16	5.00
	2002	60	697	11	5.45
	2003	79	714	8	9.88
	2004	36	722	11	3.27
	2005	115	792	5	23.00
	2006	100	809	15	6.67
	2007	94	841	12	7.83
	2008	30	861	11	2.73
	2009	44	873	3	14.67
	2010	205	989	5	41.00
Southern					
Credit Banking Corporation Ltd					
	2001	-60	417	-7	8.57
	2002	14	418	-5	-2.80
	2003	49	451	3	16.33
	2004	61	493	11	5.55
	2005	31	509	13	2.38
	2006	32	526	6	5.33
	2007	-14	508	6	-2.33
	2008	6	452	-3	-2.00
	2009	-730	(125)	1	-730.00
	2010	6	-	0	
Trans-National					
Bank Ltd					
	2001	221	640	5	44.20
	2002	122	715	32	3.81
	2003	121	847	16	7.56
	2004	200	1,009	14	14.29
	2005	59	1,048	20	2.95

	2006	46	1,104	6	7.67
	2007	81	1,062	4	20.25
	2008	121	1,216	7	17.29
	2009	107	1,305	10	10.70
	2010	159	1,516	10	15.90
City Finance Bank(Jamii Bora)					
	2001	2	390	0	
	2002	15	396	2	7.50
	2003	11	406	1	11.00
	2004	11	417	2	5.50
	2005	-47	371	-1	47.00
	2006	-17	354	0	
	2007	-28	325	-5	5.60
	2008	-3	321	-0.1	30.00
	2009	-7	314	-0.01	700.00
	2010	-83	226	-16	5.19
Victoria Commercial Bank					
	2001	20	465	5	4.00
	2002	22	479	4	5.50
	2003	31	492	5	6.20
	2004	45	507	6	7.50
	2005	124	562	9	13.78
	2006	128	567	22	5.82
	2007	151	629	22	6.86
	2008	170	739	23	7.39
	2009	260	890	23	11.30
	2010	311	1,065	28	11.11
Dubai Bank					
	2001	10	296	1	8.20
	2002	-28	306	-4	7.51
	2003	9	355	1	7.83
	2004	31	373	3	9.20
	2005	29	386	3	11.53
	2006	20	397	2	12.48
	2007	14	395	1	15.44
	2008	7	396	0	16.39
	2009	9	451	1	15.96
	2010	3	586	0	18.74
K Rep Bank					
	2001	57	549	5	11.73
	2002	86	609	5	16.74

	2003	115	689	5	21.74
	2004	110	757	4	27.10
	2005	53	776	1	38.00
	2006	152	849	3	52.20
	2007	190	977	3	70.39
	2008	-494	1,084	-6	81.84
	2009	-289	1,069	-4	71.36
	2010	111	1,097	1	76.70
Oriental Commercial Bank					
	2001	-519	(258)	-24	21.60
	2002	-252	812	-11	22.45
	2003	-230	638	-11	21.11
	2004	-369	376	-23	16.30
	2005	-86	723	-6	13.76
	2006	-65	673	-4	14.49
	2007	177	786	10	16.95
	2008	68	791	3	22.89
	2009	33	824	1	30.52
	2010	206	969	5	45.58
Paramount UniversalBank					
	2001	12	267	1	13.60
	2002	9	274	1	12.62
	2003	11	280	1	12.08
	2004	12	282	1	13.27
	2005	15	306	1	14.94
	2006	31	415	1	21.97
	2007	43	449	2	23.67
	2008	51	483	2	26.46
	2009	42	512	1	31.00
	2010	280	768	6	44.20

NB: excluded from the data are the following banks

- 1 Equity Bank
- 2 Family Bank
- 3 First Community Bank
- 4 Gulf African Bank
- 5 UBA Bank.

The first two banks have been building societies hence no data is available for the period under study. The remaining three banks have been recently awarded licence hence their data is minimal to make any cross sectional study.