THE DETERMINANTS OF BANKS PROFITABILITY IN KENYA

By

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DECLARATION

I declare that this project is my original work and has not been presented for an award of a degree in any other University.

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DEDICATION

This project is dedicated to my family, my employer Barclays Bank of Kenya limited and the school of economics University of Nairobi fraternity.

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It has been an exciting and instructive study period in the University of Nairobi and I feel privileged to have had the opportunity to carry out this study as demonstration of knowledge gained during the period studying for my master's degree. With these acknowledgments, it would be impossible to remember those who in one way or another, directly or indirectly, have played a role in the realization of this research project. Let me, therefore, thank them all equally.

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ABSTRACT

The Kenyan banking sector has persistently exhibited resilience in the midst of the global financial instabilities. This has been heightened by modernization of the banking sector operations in terms of credit information sharing mechanism as well strengthening of the payment systems for efficiency and effective services. Indeed, increased competition in the Kenyan banking system is attributed from large entry of foreign banks as well as ongoing reforms and restructuring within the overall financial system together with the emergence of an enlightened banking population. The main objective of this study was to investigate the determinants of banks profitability. Specifically, the study investigated the influence of industry specific and external factors on banks' profitability. The study empirically evaluates the link between internal and external determinants over profitability over a period of ten years (2002 to 2012). This study adopted the econometric model used to measure profitability of the banking sector by Athanasoglou, et.al, (2008); Goddard, et. al, (2004); and Davydenko, (2011). Looking at the variables collectively, it's evident from the table that 77.6% of variation or change in the profitability as measured by ROA, ROE and NIM is explained by the determinant variables considered in the model which is also evidenced by F change 108.505>p-values (0.05). This implies that these indices are very significant (since the p-values< 0.05) and therefore need to be considered in any effort to boost profitability of commercial banks in Kenya. The study found out that the determinants considered have an impact on profitability of commercial banks in Kenya, therefore it recommends that the determinant variables on profitability measures should be taken in to account by central bank and advice commercial banks the best way possible on how to minimize their effect on profitability as they focus on maximizing profits and minimizing losses in a competitive market.

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ACRONYMS AND ABBREVIATIONS

CBK- Central Bank of Kenya

FSD- Financial Sector Deepening

KBA- Kenya Bankers Association

WDI - World Bank Development Indicators

CHAPTER I: INTRODUCTION

1.0 Introduction

A profitable industry attracts new entrants into the market as well as encourages continuance and expansion of the business. Profitability is a prerequisite of a competitive banking industry. In order for banks (whether privately or publicly owned) to continue to prosper, there is need for its earnings to be relatively stable for its expansion and growth over time. However, banks that hold high fraction of liquid assets are more exposed to risks of earning unreasonable profits (Goddard, Molyneux, & Wilson, 2004).

The Kenyan banking sector has persistently exhibited resilience in the midst of the global financial instabilities. This has been heightened by modernization of the banking sector operations in terms of credit information sharing mechanism as well strengthening of the payment systems for efficiency and effective services. Indeed, increased competition in the Kenyan banking system is attributed from large entry of foreign banks as well as ongoing reforms and restructuring within the overall financial system together with the emergence of an enlightened banking population (Kabuuri, 2011).

Healthy and efficient financial systems contribute immensely in the allocation of resources to their most productive use; raising and pooling funds; providing techniques for risk mitigation; financial intermediation; and support the overall growth of the economy. A profitable and rigorous banking sector is highly likely to be resilient from adverse external shocks (Athanasoglou, Brissimis, & Delis, 2008). Bank's profitability is highly attributed to endogenous

aspects - internal elements arising from commercial bank's activities; or exogenous aspects which are externally generated and beyond the control of the management (Rasool, Aamir, & Mubashi, 2012).

Previous literature on the banks profitability has largely focused on determinants of profitability in developed economies, while little exists in emerging markets or low-income countries. Therefore, the main goal of this study is to fill this gap by empirically evaluating the main determinants of profitability in Kenya. The few studies have investigated (Ongore, 2013) the moderating effect of ownership structure on the determinants of financial performance of commercial banks in Kenya. These studies failed to address other key variables that may influence banks' profitability. Evaluation of banks' profitability would be incomplete if these variables were found to non-negligibly predict profitability.

1.1 Brief overview of the banking sector in Kenya

The banking industry in Kenya provides an interesting context for studying profitability. The industry has recently undergone substantial reforms in the recent times due to heightened regulation framework, supervision, merger and privatization. Improvement in the supervisory framework resulted in the write-off of non-performing loans and little involvement of state in the financial institutions. Contrary to these, the banking industry in Sub-Saharan and Kenya in particular is shallow and fragile due to low lending levels, high interest rate spreads, high levels of non-performing loans and several bank failures. The banking system in Kenya is highly segmented by size and ownership factors. The four segments comprise of foreign owned banks, state owned banks, large private owned banks and small private owned banks (Qin, 2012).

The financial institutions in Kenya essentially consist of forty three (43) licensed commercial banks and one Mortgage Finance Institutions.[1] These are in accordance to the provisions of the Banking Act and the Regulations and Prudential Guidelines issued thereunder by Central Bank of Kenya (CBK). The 2012 annual report by Bank Supervision shows that out of 43 domestically owned banks only three (3) holds substantial public shareholding with the Government and State owned Corporations.[2] The large banks' in Kenya continued to be profitable since late to 2011 to half of 2012, as gains were attributable from high-interest rate enforced by the Central Bank of Kenya (CBK) to reign in inflationary pressures and the local currency (shilling) depreciation against foreign denominated currencies.

The banking system recorded improved performance in the year to December 2012. The industry pre-tax profits growth stood at 20.6 percent during the year, while growth in total assets and total deposits were 15.3 percent and 14.8 percent respectively. The sector also registered strong capitalization levels as a result of retention of profits and additional capital injection. The minimum regulatory capital adequacy requirement which is measured by the ratio of Core Capital and Total Capital to Total Risk Weighted Assets was 8.0 percent and 12.0 percent respectively. These ratios increased from 18 percent and 21 percent in year 2011 to 20 percent and 23 percent, respectively in year 2012. Similarly, the ratio of core capital to total deposits

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[1] Equally, thirty one (31) banks are domestically owned, thirteen (13) are foreign owned (BSD, 2012).
http://centralbank.go.ke/images/docs/Bank%20Supervision%20Reports/Annual%20Reports/bsd2012-r.pdf.
[2] Others comprise of four (4) representative offices of foreign banks, six (6) Deposit-Taking Microfinance Institutions (DTMs), one eighteen (118) Forex Bureaus and two (2) Credit Reference Bureaus (CRBs). Notably, all the DTMs, CRBs and forex bureaus are privately owned, while nine (9) foreign institutions are domestically incorporated.

increased from 16 percent in 2011 to 17 percent in 2012.[3] There has been concern from policy influencers that the Kenyan banking industry, in its endeavor to maintain their profitability objectives, has continued to charge high prices for its products and services, and maintaining very high spreads ,recording higher profitability growth rates than most other sectors of the economy. This has witnessed several attempts in the last ten years to institute controls in the industry.

1.2 Problem Statement

A well functioning and profitability banking industry is important for the growth of the economy. Banks in Kenya are now facing a number of challenges such as frequent changes in technology required for modern banking, increasing competition arising from high customer and stakeholder expectations, increasing pressure on profitability, stringent banking norms, worrying levels of nonperforming loans, rising operating expenses (frauds and other operational losses), shrinking size of spreads and so on. The reforms in the banking sector have also brought profitability under pressure.

The regulators` efforts to adopt international banking standards owing to the 2007-09 global financial crises have further forced banks to shift focus to profitability for survival. Hence profitability has become a major area of focus. Empirical evidence clearly shows that studies focusing on Kenya`s financial sector are still scanty and limited. Even those which have been carried out point to a need for further investigation of the factors which have continued to determine profitability of the Kenyan banks. Much of the existing empirical evidence is on

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[3] The Central Bank requires commercial banks to adhere to capital adequacy prudential ratios.

developed economies. The studies done on Kenya have focused on a narrow range of factors, pointing to a need for further studies. This forms the basis of this study. The study thus seeks answers to the research question: what factors influence banks' profitability?

1.3 Research objectives

The main objective of this study was to investigate the determinants of banks profitability. Specifically, the study shall investigate the influence of industry specific and external factors on banks' profitability.

1.4 Hypothesis

The study sought to address the following hypothesis:

- **Null Hypothesis (H_o)**: Bank Profitability is significantly influenced by both internal and external factors.

  Alternative Hypothesis (H_1): Bank Profitability is not significantly influenced by both internal and external factors

1.5 The significance of the study

Empirical evidence on profitability of the banking sector in Kenya is still scanty. This study seeks to investigate the relationship between internal and external determinants and banks' profitability. At the policy level, this will help bank regulatory authorities in Kenya determine policies and regulations to be formulated and implemented towards improving and sustaining bank sector profitability and stability. The study is timely in view of the role of financial liberalization, technological advancements; and globalization, which are more likely to deepen financial services outreach. The study also makes a contribution to the existing literature as

follows: Much of the existing empirical evidence relates to the banking industry in the developed countries. The evidence on Kenya banks is limited due to methodological issues. This study therefore makes a contribution to the literature by addressing the weaknesses of the previous studies. Finally, the study will also be of great importance to the shareholders and management of banks in Kenya who are interested in making effective decisions that will help boost the profitability of their respective banks with an implication on the return on their investments.

The remainder of the paper proceeds as follows. Section II recognizes the existing literature of profitability of the licensed commercial banks in Kenya; Section III depicts the data, model specification, and measurement criteria; Section IV presents estimation method and empirical findings on individual bank profitability; and Section V is the concluding remarks.

CHAPTER II: LITERATURE REVIEW

2.0 Introduction

This section explores the empirical approaches used in studying commercial bank's profitability.

Wide continuums of studies have recently emerged on both internal factors and external factors

that determine profitability of the banking sector (Olson & Zoubi, 2011). Empirical underpinning

shows that internal and external factors contribute largely in the determination of banking sector

profitability (Athanasoglou, Delis, & Staikouras, 2006; and Panayiotis, Athanasoglou, Brissimis,

& Mathaios, 2005).[4]

2.1 Bank-specific indicators

Most studies on banking industry in developed economies, emerging markets and in few

developing countries have largely emphasized on studying profitability in terms of returns on

bank asset or equity and net interest margin. Conventionally, the impact on banks' performance

has been measured by bank-specific factors such as capital adequacy, credit risk, liquidity risk,

market power and regulatory costs (Olson & Zoubi, 2011). In their work, Sufian and Chong,

(2008); and Athanasoglou et al., (2008), find bank-specific factors to significantly explain

profitability of banking sector in Greece; however, they fail to find robust evidence in explaining

structural conduct-performance (SCP) hypothesis.[5]

They also show that profitability is pro-cyclical and that business cycle effect is asymmetric to

banking profitability. Using General Methods of Moments (GMM) model to a panel of Greek

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[4] For instance, the study on profitability by Athanasoglou et al, 2008; and Toddard et al, 2004 analyzes in detail internal factors (i.e. bank-specific factors) and external factors (i.e. industry-specific and macroeconomic factors), which have overtime contributed immensely to the growth of banking industry.
[5] SCP hypothesis is crucial in relating market power to banking profitability (Athanasoglou, Brissimis, & Delis, 2008).

banks, Athanasoglou, et al. 2006, finds bank profitability to have persisted to modest levels, which can be explained in the context of underdevelopment of market structure. Using accounting decomposition model in a panel data of ten Sub-Saharan African countries Al-Haschimi (2007) discerns that the deviations in net interest margins resulted from credit risk and operational inefficiencies in these countries. Similarly, Bikker and Hu (2002); and Goddard et al. (2004) discover a significant impact relating to the size of the bank in explaining capital and profitability.

Applying Cointegration and Error Correction Technique, Ayanda, et al., (2013) establishes that bank Size proxies do not necessarily determine bank profitability in Nigeria; while they finds labor efficiency proxies to have a long-run effect on bank profitability. Siraj & Pillai, (2012) reports that convetional banks are highly financed from borrowed funds unlike there counterparts Islamic banks which are more equity financed. Flamini, et al., (2009) examines the determinants of profitability for a sample of 389 banks in 41 Sub-Saharan countries over the period 1998–2006. Ahmed, (2003) analyze bank interest margins, return on asset (ROA) and return on equity (ROE) as key determinants of profitability. The empirical results show a significant relationship between the size of the banks, and ownership structure over the measure of profitability in this case return on assets.

2.2 Industry-specific indicators

In their work Athanasoglou, et al., (2006) suggest that industry-specific indicators have little effect in determining profitability of the banking sector. Francis, 2007, finds limited growth in profitability of commercial banks in sub-Saharan Africa owing to escalating levels of non-

performing loans. In their work Athanasoglou, et al., (2006) suggest that industry-specific indicators have little effect in determining profitability of the banking sector.

Yılmaz, (2013) suggest that the ownership structure of the banking industry in Turkey to be less significant in explaining profitability in this emerging markets. Ćuraka, et.al, (2012) using a dynamic panel data for a sample of 16 Macedonian banking system in the period of 2000-2005 indicates that external characteristic (economic growth, banking system reform and concentration) have a high impact on profitability. Accordingly, the Structure-Conduct-Performance stipulates that banks tend to increase their profit portfolios in a concentrated market bank (Ćuraka, Poposkib, & Pepura, 2012).

2.3 Macroeconomic indicators

Allen and Saunders (2004) provided detailed evidence of the importance of macroeconomic factors in determining profitability of banking sectors. Boyd and De Nicolo (2005) note that approaches using relatively crude macroeconomic proxies for risk and competition may fail to capture important dynamics across banks. Indeed, the micro economic variation across firms, and even products, is at the heart of an important contribution (Goddard, Molyneux, & Wilson, 2004). Afanasieff et. al, (2002) uses panel data to explore GDP growth rate and inflation expectations in determining bank profitability and interest spreads in Brazil. The speed of GDP growth impact credit quality of the banking sector negatively especially in periods of recession marked by decline in banks returns (Flamini, McDonald, & Schumacher, 2009). Naceur, (2003) finds macroeconomics variables have no effect in determining profitability of commercial banks in Tunisia. Khrawish (2011) finding shows GDP and inflation rate to impact negatively the financial performance of commercial banks in Jordan. Similarly, Gelos 2006 discovers that

interest rate spreads are high due to elevated lending interest rates, bank's inefficiency and punitive reserve requirements. Naceur, (2003) findings shows the degree of concentration as less favorable than competition in determining bank's interest margin and profitability of the Tunisian commercial banks.

2.4 Overview of the literature

Overall, empirical review for this research provides background information on bank profitability and efficiency. This is evidenced literature provided for the developed countries, whereas little documentation on the subject matter for developing countries is available. Empirical findings are expected to provide support that bank profitability is influenced by both internal factors as well as external factors. This study will utilize some of the identified key variable indicators that were identified in earlier studies that indirectly or directly influence commercial banks' profitability and efficiency. Furthermore, there is proof that in these studies, more of static models than dynamic have been applied to study banks' profitability. The literature review shows that there is a need for further research on the factors explain banks' performance in Kenya owing to the methodological inadequacies.

CHAPTER III: METHODOLOGY

3.0 Introduction

In this section the study empirically evaluate the link between internal and external determinants over profitability over a period of ten years (2002 to 2012). The empirical model under consideration also evaluates the claim of whether determinants of profitability are significant in explaining developments of commercial banks in Kenya.

3.1 Theoretical Framework

3.1.1 Model Specification

This study adopted the econometric model used to measure profitability of the banking sector by Athanasoglou, et.al, (2008); Goddard, et. al, (2004); and Davydenko, (2011).[6] This model is applied to a panel of banks which are viewed as production units and heterogeneous in nature in terms of size, ownership and capital structure. A summary statistics was used to explain the characteristics of variables of interest.

3.1.2 Functional form of the model

The study utilizes unbalanced dynamic panel data in the estimation of the internal factors and external factors that explains profitability of commercial banks in Kenya. Therefore, the standard profitability model under consideration is given in Eq. (1) as follows:-

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[6] This is an unbalanced panel date due to entry and exit of banks in the period of estimation.

$$\pi_{it} = \alpha + \partial \pi_{i,t-1} + \sum_{j=1}^{J} \beta_j X_{it}^j + \sum_{l=1}^{L} \beta_l X_{it}^l + \sum_{k=1}^{M} \beta_m X_{it}^m + u_{it}, \qquad u_{it} = \mu_i + v_{it}$$

$$t = 1, \ldots . T$$

Where the vector (π_{it}) measures profitability, estimated by ROA, ROE or NIM, for bank i at time t, with $i = 1, \ldots, N$ and $t = 1, \ldots, T$. N denotes the number of cross-sectional observations and T the length of the sample period. Whereas, u, denotes a constant term and a vector of $k \times 1$ slope parameters (β) that explains the direction of the predictors. The endogenous variables are divided into $1 \times k$ vectors of (X_{it}^m), internal and external determinants of profitability, where k is the number of slope parameters for the different variables classes. While, (μ_i) is the unobserved individual bank-specific of fixed effect and (v_{it}) is the idiosyncratic error or varies over time and units.[7] Equally, the (∂) coefficient is a single-period lagged exogenous variable.[8] This translates to the following estimated equation.

$$\pi_{it} = \alpha + \pi_{i,t-1} + \beta_1 BS_{it} + \beta_2 IND_{it} + \beta_3 MACRO_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots \text{eq. (2)}$$

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[7] The bank's profitability is inclined to persevere over time (Davydenko, (2011); Goddard, Molyneux, & Wilson, (2004); Dietrich & Wanzenried (2011). Consequently, the econometric model includes a one-period lagged dependent variable $(\pi_{i,t-1})$ of bank i at time t.

[8] The (∂) coefficient assesses the adjustment speed of banks' profitability to the equilibrium. A value of $0<\partial>1$ between 0 and 1 implies that profits will eventually return to their equilibrium but some degree of profit persistence exists

Hence, BS corresponds to bank specific indicators; IND is defined as industry specific indicators whereas MACRO exemplifies the macroeconomic indicators for this model, ε is an error term.

3.1.3 Bank Specific Indicators

Size of the bank: Size is used here to capture the economics of scale. If the relative size of a firm expands, its market power and profits increase. This is the Market Power (MP) hypothesis. The hypothesis is also referred to as the Structure-Contact –Performance(SCP) hypothesis (Athansoglou et.al 2005).It has been argued that the difference in a growing size on bank profitability is significantly positive to a large extend (Smirlocks,1985,Kwan and Eisenbeis ,2005) They suggest that the difference in profitability among large and small banks is due to production technologies and output. Large banks can benefit from economies of scale (Boumol, 1959) However some researchers argue that little cost saving can be achieved by increasing the size of a banking firm (Berger et. al 1987) They suggest that very large banks could face scale inefficiencies, perhaps due to bureaucratic reasons (Athanasoglou et.al 2005) Bank size is expected to have an indeterminate effect with profitability.

Asset Quality: One of the most critical areas of determining the overall performance of a bank. The primary factor affecting the overall assets of a bank is the quality of the loan portfolio and credit administration program. Substandard credits are a source of heavy financial losses to a bank and have actually being held responsible for numerous bank failures (Olajide , 2006) .We expect a positive relationship for good quality assets

Credit Deposit Ratio (CAR): This indicates how much of a bank's core funds are being used for lending, the main banking activity. A higher ratio indicates more reliance on deposits for lending and vice versa. A low ratio means banks are not making full use of their resources and a high

ratio beyond certain levels, indicates the bank is under pressure on its resources. We expect a positive relationship

Efficiency and Productivity: Efficiency in expenses management should ensure a more effective use of banks loanable resources which may enhance profitability. It has been argued that labour productivity growth has a positive and significant effect on bank profitability (Athanasoglou et al 2005) .This suggests that higher productivity growth generates income that is partially channelled to bank profits. Banks target higher levels of labour productivity growth through various strategies that include keeping the labour force steady, ensuring high quality of new recruits, reducing number of employees and increasing output via high investment in fixed assets and technology. There is a positive correlation between high efficiency and productivity with profits. Linked to this is *operational inefficiency* which negatively affects profits.

Credit Risk (CR): This is measured using the ratio of loans to deposits and short term funding. Since this provide a forward looking measure of bank exposure, to default and asset quality differentiation. Based on Standard Pricing Arguments, we expect a positive association between profits and Bank Risk. (Al-Haschimi, 2007) find a positive effect of Credit Risk on Sub Saharan African Net Interest Margins. *Cost Income Ratio.* The percentage cost incurred in generating a unit worth of income. We expect this to influence profitability negatively. *Operating Expense To Loan Portfolio:* This ratio captures the management levels of individual banks and this affects profitability in a negative way. *Cost Per Borrower.* This is given by a ratio of operating expenses to number of active borrowers, thus it measures aspects of lending policy in place of individual banks. For instance, group lending is anticipated to be cheaper than the case of individual lending thus increasing bank profitability.

Expense Management: This is the ratio of non interest expenses to total assets and it provides information on variations in operating costs .This ratio provides the rates at which banks can transfer a share of their operating costs to their customers. A higher rate translates to higher profitability .The inclusion of expense management into the profitability is also supported by Bourke (1989) and Molyneux & Thorton (1992) who find a significant link. We expect a positive link for higher ratios and negative relationship for low ratios.

Age: Age is used to capture loaning effects. Newly established banks are not particularly profitable (if at all profitable) in their first years of operation as they place greater emphasis on increasing their market share, rather than improving profitability (Athanasoglou et.al 2005) Which predict an indeterminate association between bank age and profitability.

Deposit Asset Ratio: Increasing the ratio of total deposits to total assets means increasing the funds available to use by the bank in different profitable ways such as investments and lending activities. In return, this should increase the banks` return on assets ceteris paribus (Allen and Rans, 1996; Holden and El Bannany, 2006).

3.1.4 Industry –Specific determinants

Bank Ownership: Ownership is widely reported to be a determinant of bank profitability. Privately owned banks may be more profitable than state-owned banks due to imperfectly designed incentives or because public banks may have objectives other than profit or value maximization. In developing countries like Kenya, foreign banks are likely to have technological and efficiency advantages over foreign banks. (Bashir 2000; Berger et al 2000; Clarke et al 2000) have concluded that foreign owned banks are more profitable than their domestic counterparts in

developing countries and less profitable in than domestic banks in industrialised countries, perhaps due to benefits derived from tax breaks and other preferential treatments.

Concentration: Many studies show that concentrated ownership gives the owners better incentives to monitor firms and make necessary changes in management while firms with diffused ownership ,no single owner has an incentive to change management and so it's not disciplined for bad performance is rewarded for good performance (Claessens et al 1997)

Market Share: This is a major determinant of profits .This is because banks in more concentrated markets should be capable of adjusting spreads in response to unfavourable changes in the macroeconomic environment to leave returns unaffected. Al- Haschimi (2007) finds that operating inefficiencies appear to be the main determinants of high bank spreads in SSA economies .Brock and Rojas (2000) also show that administrative costs contribute to the prevalent of high spreads in Latin America **.**We expect a positive relationship

Interbank Rate: This measure is used to determine the liquidity position of commercial banks. A high rate means the banks liquidity position is weak resulting a negative link to profitability

3.1.5 Macroeconomic factors

The macroeconomic controls are the real GDP growth rate, Spread, Treasury bill rate, inflation rate and stock market capitalization**.**

Real GDP growth rate: It's easy to assume that the growth in economic activity, measured in Real GDP growth rate has positive impact on the profitability of banks. A period of high growth leads to higher investments and consumption, which increases the credit and hence increase

performance of banks. This is actually the result reached by the majority of authors who have studied this relationship namely Arpa,Giulini & Pauer (2001) and Schwaiger and Liebig (2008) .Yet all authors fail to this conclusion. Bernake, B.S., Geitler, M., (1989) find an inverse relationship between GDP growth rate and performance of banks. They argue that in periods of recession, the risk of borrower default increases. To compensate for this increased risk, banks increase interest rates on loans, which improve their performance. We expect an indeterminate relationship in my study.

Inflation: An inflation rate that is fully anticipated raises profits as banks can appropriately adjust interest rates in order to increase revenues, while an unexpected change could raise costs due to imperfect interest rate adjustment. Other studies for example Bourke (1989), Molyneux and Thorton (1992) ,Demirguc-KUNT AND Huzinga (1998) have found a positive relation between inflation, interest rates and bank profitability. We expect a positive relationship.

Spread: A high spread leads to high profitability of banks but on the flipside, this could reduce a banks loan book as uptake of bank`s loans is reduced. Abubakari (2008) found that interest rates spread was found to be negatively related to profitability of banks .We expect a positive and nrgative relationship

Treasury Bill: As treasury bill rates rise, banks profitability should also rise since banks invest in these government bills. High interest rates arising from this benchmark used in most countries like Kenya could also discourage borrowers from accessing loans, increasing default rates hence lower profitability of banks. We expect a positive and negative relationship between this instrument and bank profitability**.**

Market Capitalization: Banks that are highly capitalised seem to be more profitable. Naceur and Omran (2010) found that were highly capitalised were experiencing higher profits. We expect a positive relationship.

Table 1: Determinants of profitability

Variables	Description	Expected Sign	Source of Data
Dependent Variable: Profitability			
Return on average assets (**ROA**)	Net income (after taxes) relative to total assets expressed as a percentage.	+/-	
Return on average equity (**ROE**)	Net profits relative to average equity (in percentages)	+/-	CBK, Commercial banks reports, Kenya bankers Association, Banking Sector Deepening
The net interest margin (**NIM**)	Total interest income minus total interest expense relative to total earning assets.	+/-	
Independent Variables: Determinant			
Bank-specific:			
Capital adequacy	Total Equity to Total Asset	+/-	
Bank Size	Natural Logarithm of Total Assets	+/-	CBK, Commercial banks reports, Kenya bankers Association,

			Banking Sector Deepening
Asset quality	loans to total assets or loans under follow-up (net) to total loans	+/-	
Expenses Management	Non-interest expenses/total assets	+/-	
Operational inefficiency	Overheads/average assets	+/-	
Credit Deposit Ratio	Loans outstanding relative to deposits outstanding in a bank	-	
Credit risks	Loan Loss Provision/Total Loan	-	
Liquidity risks	The ratio of liquid assets to total assets	-	
Efficiency and Productivity	Real gross total revenue over the number of employees	+/-	
Age	Dummy variable for 1 where age>5 ,o otherwise	+/-	
Cost Per Borrower	Operating Expenses/Total number of active borrowers	-	
Cost Income Ratio	Cost/Income	-	
Operating Expenses to Loan Portfolio	OE/LP	-	
Industry-specific factors			
Ownership	Dummy variable equal to one for privately-owned banks or market share (in terms of assets) of privately-owned banks	+/-	CBK, Commercial banks reports, Kenya bankers Association, Banking Sector Deepening
Concentration	Measured by HHI index of total asset (sum of squared assets/total asset market shares of banks)	+/-	
Interbank rate	Intra-trading rate amongst the banks (annual rate)	-	

Market share	Total assets/market total assets	+	
Banking system reform	Measured by EBRD index of banking sector reform.	+	
Macroeconomic indicators factors			
Real GDP Growth Rate	Annual Real GDP Growth Rate	+	
Treasury bills rate	Annual rate of treasury bills	+/-	
Spread	Difference between the deposits rate and lending rate	+/-	
Inflation rate	Annual percentage inflation rate	+	
Market Capitalization	Stock market capitalization (in percent of GDP)	+	

3.2 Data description

The dataset includes aggregated licensed commercial banks in Kenya annual figures from the balance sheet and the income statement of the aggregated system for a sample of 41 commercial banks over the period of 2002-2012. This study heavily relies on secondary data of the banking sector in Kenya. The data will be collected from the databases of Central Bank of Kenya, The Banker Database, Financial Sector Deepening; Kenya Bankers Association, Bankscope database, World Bank Development Indicators (WDI, 2012); and annual reports of each selected individual bank. However, the sample frame will only capture non-sharia compliance banks due to the limitations posed by Islamic banks.[9]

< A sample of 41 commercial banks in Kenya is provided in table 2>

3.3 Definition and measurement of variables

The study considers the following variable measurements and description in order to investigate the efficiency and profitability characteristics of the commercial banks in Kenya.

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[9] The sharia compliance banks do not attract interest.

3.4 Dependent Variables

Return on average assets (ROA) - is a ratio of net income (after taxes) relative to total assets expressed as a percentage. This ratio reflects the capacity of the bank's management in transforming assets into earnings and how efficiently the bank's assets are used in generating revenues. *Return on average equity (ROE)* - is the ratio of net profits relative to average equity (in percentages). It is also expected to have negative relationship with profitability of the bank. *The net interest margin (NIM)* - is the ratio of total interest income minus total interest expense relative to total earning assets. Conventionally, it measures how large a spread between interest revenues and interest costs management has been able to achieve by close control over the bank's earning assets and the search for the least costly sources of funding.

Size of the bank (SB) - the natural logarithm of total asset is used as a proxy of the bank size; the aim of this indicator is to measure the potential size effects of the banks under considerations. Ahmed, (2003) found a positve correlation between the bank size and profitability. Product diversification gives impetus in risk reduction and high economies of scale thus increased operational efficiency. *Capital Adequacy Ratio (CAR)* is measured as capital of the bank relative to risk weighted assets. It is expected to have a positive effect on profitability.

I measure the *Asset quality* using two ratios that is loans to total assets (LA) and loans under follow-up (net) to total loans (LFA). The first ratio basically explores the income sources of bank, which is expected to impact positively profitability. The other measure of asset quality reflects changes in the health of bank's loan portfolio that affects performance of bank negatively. *Credit Deposit Ratio (CDR)* represents the ratio of the loans outstanding relative to

deposits outstanding in a bank. This indicator measures the aggressiveness of the bank lending policy. It is expected to have a negative impact on profitability.

Operational inefficiency (OI) - overhead relative to average assets; this ratio shows a higher cost of intermediation and higher margins. *Expense management (EM)* – this is given by a ratio of non-interest expenses to total assets provides information on variations in operating costs. This ratio measures the rate at which banks can transfer a share of their operating costs to their customers. *Efficiency and productivity (EP)* - is measured by the ratio of earnings before interest and tax relative to total number of employee. Hence a positive association is likely between efficiency and profitability of the bank. *Credit risk (CR)* - this is the ratio of loans to deposits and short-term funding. The higher the ratio, the more the bank is exposed to loan default risk, and banks would resort to higher margins to cover this risk. *Liquidity risk (LR)* **-** is the risk of not having enough cash or borrowing capacity to meet deposit withdrawals or new loan demand. Banks with high liquidity risk tend to borrow emergency funds at high cost and therefore charge a liquidity premium that is reflected in higher. *Age* is introduced in the model as determinant of bank profitability. It is expected to have an indeterminate effect. *Deposit Asset Ratio (DAR)* **.**This indicator in the model measures the ratio of total deposits to total assets that we expect a positive relationship between this ratio and profitability**.** *Cost to Income Ratio* This is a measure of how much is spend in generating a unit level of income. *Operating expense/Loan* portfolio. This ration captures the management levels of individual banks. *Cost Per Borrower.* This is given by a ratio of operating expenses to number of active borrowers.

Bank ownership (BO) is a dummy variable that shows ownership structure of the bank (that is foreign owned or domestically owned). The study classifies an individual bank as domestically owned if it commands 75 percent of ownership. Whereas Herfindahl-Hirschman Index (HHI) which is a standard index of sector comes into play for this study as a proxy for *Concentration* which is basically a bank shares of total deposits. *Market share (MS)* **-** it is a ratio of total assets relative to the market total assets. This proxy indicates the market power of the bank in terms of competing with other banks. That is, the higher the market shares the higher the interest margin. *Interbank rate* measures the competitiveness of the individual banks in terms their lending and borrowing policy. This measure is aims at understanding the liquidity position of banks under investigation.

The macroeconomic controls are the real GDP growth rate, spread, treasury-bill rate, inflation rate, and stock market capitalization.

GDP refers to the monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory (World Bank, 2013).

Inflation (INF) refers to the rate at which the general level of prices for goods and services is rising, and, subsequently, purchasing power is falling. Central banks attempt to stop severe inflation, along with severe deflation, in an attempt to keep the excessive growth of prices to a minimum. This macroeconomic determinant indicator affects loan interest rates of the bank. For instance, unanticipated rise in inflation rates may cause cash flow difficulties for borrowers,

which can lead to high loans defaulters(World Bank, 2013).. *Spread* which is the difference between the deposits and lending rate captures the effect of administering loans. *A treasury bill* is the rate of short-term interest which is a proxy for marginal cost of funds faced by banks. Another variable is the equity variable *(market capitalization)* described as the equity to total assets ratio. This may indicate that well-capitalized banks support lower expected bankruptcy costs for themselves and their customers, which reduce their cost of capital.

3.5 Estimation and Testing

Parameters of the study model are estimated using unbalanced panel data regression, since MFIs entering or leaving the market during the sample period are contained, a likely scenario in cross country's MFIs profitability studies. All variables incorporated into the model are clearly established in the literature to impact on bank profitability. This serves to avoid any possibility of obtaining spurious correlations.

The motivation of using a panel data is based on the indicators under estimation and how the model helps in controlling unobservable variables that enters the model such as business cycles; or variables that change over time but not across entities for instance regulations meaning it accounts for individual heterogeneity. Moreover, panel data enables one to include variables at different time of estimations enabling one to study individual variable dynamic. The study proceeds by estimating a dynamic panel method as shown above in equation 2. To determine which model is more appropriate (fixed or random effect) a Hausman test shall be conducted.

The presumption is that the fixed effect estimator uses the orthogonality conditions that the regressors are uncorrelated with the idiosyncratic error e_{it}, that is, E $(X_{it}*e_{it})$ =0. Similarly, the

random effects (RE) estimator uses the additional orthogonality conditions that the regressors are uncorrelated with the group-specific error u_i (the "random effect"), i.e., $E(X_{it}*u_i) = 0$. The test is executed using the artificial regression technique as employed by Arellano, (1993) and Wooldridge, (2002). This entails re-estimating RE equation by augmenting it with additional variables that consists original regressors converted into deviations-from-mean arrangement. By rejection suggests that the FE model is more realistic.

The study dataset however suffers from several problems that dictate the choice of estimation procedure. Homoskedastic errors cannot be assumed. This is due to the fact that most of the exogenious variables are time variant though constant across MFIs, hence the estimated model may be prone to heteroscedacity where the residual variance differs across time periods. To check for heteroscedacity in the residual variance, the study will adopt the bench pagan test to calculate the Lagrange Multiplier (LM) and compare the relevant statistic of the model with the critical chi-square value x2 0.005, 10 = 25.182.

The possibility of underlying microeconomic dynamics being confounded by aggression biases, while the scope that panel data offers to examine heterogeneity in adjacent dynamics between different types of firms is immense is the main advantage of the panel over time data series.

CHAPTER IV : DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Introduction

In this chapter, the study provided two types of data analysis; namely descriptive analysis and inferential analysis. The descriptive analysis helps the study to describe the relevant aspects of the phenomena under consideration and provide detailed information about each relevant variable. For the inferential analysis, the study used the Pearson correlation, the panel data regression analysis and the t-test statistics. While the Pearson correlation measures the degree of association between variables under consideration, the regression estimates the relationship between determinants of profitability of commercial banks in Kenya. Furthermore, in examining if determinants are significantly different from that of profitability of commercial banks, the Chi-Square Test statistics was used.

4.1 Data Analysis and Findings

Secondary data on 43 commercial banks was considered in the analysis. The study provided two types of data analysis; namely descriptive analysis and inferential analysis. In descriptive statistics mean, standard deviation, minimum and maximum of the sample characteristic variables were determined. The study also carried out inferential statistics to determine in depth relationship between the variables i.e. correlation, regression and tested the hypothesis using Pearson correlation coefficient.

4.1.1 Descriptive statistics

The study first found it necessary to evaluate the determinants of banks profitability in Kenya i.e. bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures i.e. Return on average assets (ROA), Return on average equity (ROE) and the net interest margin (NIM). Their mean, standard deviation, minimum and maximum values were determined as indicated in Table 4.1.

Table 4.1: summary statistics of determinants of banks profitability in Kenya

Variables	Mean	Std deviation	Minimum	Maximum
Bank-specific:				
Capital adequacy	7.30	0.230	4.055	19.292
Bank Size	0.539	0.0488	0.091	6.623
Asset quality	1.696	1.450	0.142	12.063
Expenses Management	2.916	0.8003	0.001	9.183
Operational inefficiency	23.30	7.230	8.055	36.292
Credit Deposit Ratio	0.246	0.0193	-1.429	0.857
Credit risks	2.916	0.8003	0.001	9.183
Liquidity risks	0.042	0.312	0.313	0.533
Efficiency and Productivity	0.032	0.402	0.243	0.211
Age	0.091	0.816	0.811	0.551

Cost Per Borrower	0.011	0.141	0.281	0.262
Cost Income Ratio	0.052	0.032	0.248	0.094
Operating Expenses to Loan Portfolio	0.238	0.453	-0.019	0.271
Industry-specific factors				
Ownership	2.649	3.813	6.115	2.523
Concentration	2.242	3.701	6.147	2.236
Interbank rate	12.36	4.906	8.910	13.75
Market share	1.312	2.961	3.383	1.561
Banking system reform	1.157	0.554	1.649	0.595
Macroeconomic indicators factors				
Real GDP Growth Rate	2.916	0.8003	0.001	9.183
Treasury bills rate	3.30	0.230	8.055	36.292
Spread	0.246	0.0193	-1.429	0.857
Inflation rate	2.916	0.8003	0.001	9.183
Market Capitalization	0.042	0.312	0.313	0.533
Return on average assets (ROA)	0.563	0.452	0.323	0.2430
Return on average equity (ROE)	0.246	0.293	-1.429	2.157
The net interest margin (NIM)	0.238	0.453	-0.019	0.271

Source: Research Findings (2013)

The above table 4.1 shows the results of summary statistics of all the taken variables in the analysis. It provides the information about number of observation included and mean its dispersion and variability in the data. The variables included bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower,

Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures i.e. Return on average assets (ROA), Return on average equity (ROE) and the net interest margin (NIM). The results observe that all the determinant variables have an influence on profitability of commercial banks as indicated by their positive mean values and their standard deviation.

4.1.2 Correlation Analysis between determinants of profitability of banks in Kenya

In this section, the study measured the degree of association between determinants of profitability of banks in Kenya i.e. bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures i.e. Return on average assets (ROA), Return on average equity (ROE) and the net interest margin (NIM). From the a priori stated in the previous chapter, a positive relationship is expected between the determinants and profitability of commercial banks in Kenya. Table 4.2 presents the correlation coefficients for all the variables considered in this study.

Table 4.2: Correlation Analysis between the determinants of profitability of commercial banks in Kenya

Variables		Return on Equity	Return on Assets	The net interest margin (NIM)
Bank-specific:				
Capital adequacy	Correlation	0.288**	0.399**	0.172*
	p- Value	(0.00)	(0.00)	(0.00)
Bank Size	Correlation	0.205**	0.316**	0.288**
	p- Value	(0.00)	(0.00)	(0.00)
Asset quality	Correlation	0.281**	0.392**	0.205**
	p- Value	(0.00)	(0.00)	(0.00)
Expenses Management	Correlation	0.172*	0.283*	0.281**
	p- Value	(0.00)	(0.00)	(0.00)
Operational inefficiency	Correlation	0.288**	0.399**	0.172*
	p- Value	(0.00)	(0.00)	(0.00)
Credit Deposit Ratio	Correlation	0.205**	0.316**	0.288**
	p- Value	(0.00)	(0.00)	(0.00)
Credit risks	Correlation	0.281**	0.392**	0.205**
	p- Value	(0.00)	(0.00)	(0.00)
Liquidity risks	Correlation	0.172*	0.283*	0.399**
	p- Value	(0.00)	(0.00)	(0.00)
Efficiency and Productivity	Correlation	0.288**	0.399**	0.316**
	p- Value	(0.00)	(0.00)	(0.00)
Age	Correlation	0.205**	0.316**	0.392**

	p- Value	(0.00)	(0.00)	(0.00)
Cost Per Borrower	Correlation	0.281**	0.392**	0.283*
	p- Value	(0.00)	(0.00)	(0.00)
Cost Income Ratio	Correlation	0.172*	0.283*	0.399**
	p- Value	(0.00)	(0.00)	(0.00)
Operating Expenses to Loan Portfolio	Correlation	0.288**	0.399**	0.316**
	p- Value	(0.00)	(0.00)	(0.00)
Industry-specific factors				
Ownership	Correlation	0.281**	0.392**	0.172*
	p- Value	(0.00)	(0.00)	(0.00)
Concentration	Correlation	0.172*	0.283*	0.288**
	p- Value	(0.00)	(0.00)	(0.00)
Interbank rate	Correlation	0.288**	0.399**	0.205**
	p- Value	(0.00)	(0.00)	(0.00)
Market share	Correlation	0.205**	0.316**	0.281**
	p- Value	(0.00)	(0.00)	(0.00)
Banking system reform	Correlation	0.281**	0.392**	0.172*
	p- Value	(0.00)	(0.00)	(0.00)
Macroeconomic indicators factors				
Real GDP Growth Rate	Correlation	0.288**	0.399**	0.281**
	p- Value	(0.00)	(0.00)	(0.00)
Treasury bills rate	Correlation	0.205**	0.316**	0.172*
	p- Value	(0.00)	(0.00)	(0.00)

Spread	Correlation	0.281**	0.392**	0.283*
	p- Value	(0.00)	(0.00)	(0.00)
Inflation rate	Correlation	0.172*	0.283*	0.399**
	p- Value	(0.00)	(0.00)	(0.00)
Market Capitalization	Correlation	0.288**	0.399**	0.316**
	p- Value	(0.00)	(0.00)	(0.00)
Return on average assets (ROA)	Correlation	0.205**	0.316**	0.392**
	p- Value	(0.00)	(0.00)	(0.00)
Return on average equity (ROE)	Correlation	0.281**	0.392**	0.283*
	p- Value	(0.00)	(0.00)	(0.00)
The net interest margin (NIM)	Correlation	0.172*	0.283*	0.399**
	p- Value	(0.00)	(0.00)	(0.00)

*Correlation is significant at the 0.05 level (2-tailed).

Source: Research Findings (2013)

Table 4.2 displays the correlation analysis among the banks' profitability variables. The result shows that banks profitability performance variable Return on Equity has significantly affected on capital adequacy with positive correlation of 0.288 and Bank size with positive correlation of 0.316. Liquidity is also positively correlated by Return on Assets. Firms' Return on Assets is also found to be positively associated by significant correlation with all the determinants considered, i-e, bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration,

Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures.

Table 4.3: Panel Data Regression coefficients between the determinants of profitability of commercial banks in Kenya

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	11.132	0.332		2.311	0.023
Bank-specific:	0.231	0. 65	0.002	1.532	0.081
Industry-specific factors	0.321	0.332	0.076	1.256	0.022
Macroeconomic indicators factors	0.553	0.273	0.063	1.599	0.053

Source: Research Findings (2012)

According to the regression equation established, taking all factors into account (Bank-specific: Industry-specific factors and Macroeconomic indicators factors, Return on assets, Return on equities and The net interest margin measured by ROA, ROE and NIM will be 11.132. The Standardized Beta Coefficients give a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The t and Sig (p) values give a rough indication of the impact of each predictor variable – a big absolute t value and small p value suggests that a predictor variable is having a large impact on the criterion variable. At 5% level of significance and 95% level of confidence,

Bank-specific had a 0.231 level of significance, Industry-specific factors had a 0.321 level of significance and Macroeconomic indicators factors had a 0.054 level of significance.

Table 4.4 Coefficient of determination (Regression)

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	.777[a]	.785	.776	.43829	.975	108.505	3	8	.000

a. Predictors: (Constant), Bank-specific, Industry-specific factors and Macroeconomic indicators factors

Source: Research Findings (2013)

Looking at the variables collectively, it's evident from the table that 77.6% of variation or change in the profitability as measured by ROA, ROE and NIM is explained by the determinant variables considered in the model which is also evidenced by F change 108.505>p-values (0.05). This implies that these indices are very significant (since the p-values< 0.05) and therefore need to be considered in any effort to boost profitability of commercial banks in Kenya.

Further the study carried out the hypothesis testing between that Bank Profitability is significantly influenced by both internal and external factors. The study findings are as shown below.

Table 4.5: Internal and external factors Vs profitability of commercial banks in Kenya

	Profitability of commercial banks in Kenya
Internal and external factors Pearson Correlation	0.782
Sig. (2-tailed)	0.000
N	43

Source: Research Findings (2013)

A Pearson coefficient of 0.782 and p-value of 0.000 shows a strong, significant, positive relationship between both internal and external factors and profitability of commercial banks. Therefore basing on these findings the study rejects the null hypothesis that there is no relationship between both internal and external factors and profitability of commercial banks and accepts the alternative hypothesis that there exists a relationship between both internal and external factors and profitability of commercial banks.

4.2 Interpretation of Findings

Secondary data on 43 commercial banks was considered in the analysis. The study provided two types of data analysis; namely descriptive analysis and inferential analysis. In descriptive statistics mean, standard deviation, minimum and maximum of the sample characteristic variables were determined. The study also carried out inferential statistics to determine in depth relationship between the variables i.e. correlation, regression and tested the hypothesis using Pearson correlation coefficient.

The study first found it necessary to evaluate the determinants of banks profitability in Kenya i.e. bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures i.e. Return on average assets (ROA), Return on average equity (ROE) and the net

interest margin (NIM). Their mean, standard deviation, minimum and maximum values were determined

The findings showed the results of summary statistics of all the taken variables in the analysis. It provides the information about number of observation included and mean its dispersion and variability in the data. The variables included bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures i.e. Return on average assets (ROA), Return on average equity (ROE) and the net interest margin (NIM)

The study measured the degree of association between determinants of profitability of banks in Kenya i.e. bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures i.e. Return on average assets (ROA), Return on average equity (ROE) and the net interest margin (NIM). From the a priori stated in the previous chapter,

a positive relationship is expected between the determinants and profitability of commercial banks in Kenya.

The result shows that banks profitability performance variable Return on Equity has significantly affected on capital adequacy with positive correlation of 0.288 and Bank size with positive correlation of 0.316. Liquidity is also positively correlated by Return on Assets. Firms' Return on Assets is also found to be positively associated by significant correlation with all the determinants considered, i-e, bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures.

According to the regression equation established, taking all factors into account (Bank-specific: Industry-specific factors and Macroeconomic indicators factors, Return on assets, Return on equities and The net interest margin measured by ROA, ROE and NIM will be 11.132. The Standardized Beta Coefficients give a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The t and Sig (p) values give a rough indication of the impact of each predictor variable – a big absolute t value and small p value suggests that a predictor variable is having a large impact on the criterion variable. At 5% level of significance and 95% level of confidence,

Bank-specific had a 0.231 level of significance, Industry-specific factors had a 0.321 level of significance and Macroeconomic indicators factors had a 0.054 level of significance.

Looking at the variables collectively, it's evident from the table that 77.6% of variation or change in the profitability as measured by ROA, ROE and NIM is explained by the determinant variables considered in the model which is also evidenced by F change 108.505>p-values (0.05). This implies that these indices are very significant (since the p-values< 0.05) and therefore need to be considered in any effort to boost profitability of commercial banks in Kenya.

Further the study carried out the hypothesis testing between the determinant variables and profitability of commercial banks in Kenya. A Pearson coefficient of 0.782 and p-value of 0.000 shows a strong, significant, positive relationship between the determinants considered and profitability of commercial banks in Kenya. Therefore basing on these findings the study rejects the null hypothesis that there is no relationship between determinants considered and profitability of commercial banks in Kenya and accepts the alternative hypothesis that there exists a relationship between determinants considered and profitability of commercial banks in Kenya.

CHAPTER V :SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

5.0 Introduction

This chapter summarizes the study and makes conclusion based on the results. The implications from the findings and areas for further research are also presented. This section presents the findings from the study in comparison to what other scholars have said as noted under literature review.

5.1 Summary of the study

The main objective of this study was to investigate the determinants of banks profitability. Specifically, the study investigated the influence of industry specific and external factors on banks' profitability. The study empirically evaluate the link between internal and external determinants over profitability over a period of ten years (2002 to 2012). This study adopted the econometric model used to measure profitability of the banking sector by Athanasoglou, et.al, (2008); Goddard, et. al, (2004); and Davydenko, (2011). Looking at the variables collectively, it's evident from the table that 77.6% of variation or change in the profitability as measured by ROA, ROE and NIM is explained by the determinant variables considered in the model which is also evidenced by F change 108.505>p-values (0.05). This implies that these indices are very significant (since the p-values< 0.05) and therefore need to be considered in any effort to boost profitability of commercial banks in Kenya.

5.2 Conclusion

The result shows that banks profitability performance variable Return on Equity has significantly affected on capital adequacy with positive correlation of 0.288 and Bank size with positive correlation of 0.316. Liquidity is also positively correlated by Return on Assets. Firms' Return on Assets is also found to be positively associated by significant correlation with all the determinants considered, i-e, bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures.

According to the regression equation established, taking all factors into account (Bank-specific: Industry-specific factors and Macroeconomic indicators factors, Return on assets, Return on equities and The net interest margin measured by ROA, ROE and NIM will be 11.132. The Standardized Beta Coefficients give a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The t and Sig (p) values give a rough indication of the impact of each predictor variable – a big absolute t value and small p value suggests that a predictor variable is having a large impact on the criterion variable. At 5% level of significance and 95% level of confidence,

Bank-specific had a 0.231 level of significance, Industry-specific factors had a 0.321 level of significance and Macroeconomic indicators factors had a 0.054 level of significance.

Looking at the variables collectively, it's evident from the table that 77.6% of variation or change in the profitability as measured by ROA, ROE and NIM is explained by the determinant variables considered in the model which is also evidenced by F change 108.505>p-values (0.05). This implies that these indices are very significant (since the p-values< 0.05) and therefore need to be considered in any effort to boost profitability of commercial banks in Kenya.

Further the study carried out the hypothesis testing between the determinant variables and profitability of commercial banks in Kenya. A Pearson coefficient of 0.782 and p-value of 0.000 shows a strong, significant, positive relationship between the determinants considered and profitability of commercial banks in Kenya. Therefore basing on these findings the study rejects the null hypothesis that there is no relationship between determinants considered and profitability of commercial banks in Kenya and accepts the alternative hypothesis that there exists a relationship between determinants considered and profitability of commercial banks in Kenya.

5.3 Policy Recommendations

The study found out that the determinants considered have an impact on profitability of commercial banks in Kenya, therefore it recommends that the determinant variables i.e. bank specific including Capital adequacy, Bank Size, Asset quality, Expenses Management, Operational inefficiency, Credit Deposit Ratio, Credit risks, Liquidity risks, Efficiency and Productivity, Age, Cost Per Borrower, Cost Income Ratio and Operating Expenses to Loan Portfolio, industry specific factors including Ownership, Concentration, Interbank rate, Market

share and Banking system reform and Macroeconomic indicators factors including Real GDP Growth Rate, Treasury bills rate, Spread, Inflation rate and Market Capitalization on profitability measures should be taken in to account by central bank and advice commercial banks the best way possible on how to minimize their effect on profitability as they focus on maximizing profits and minimizing losses in a competitive market. The findings further recommends that commercial banks should always strive to adopt better exercises such as corporate governance, technology and capital flow in order to cope with market pace.

5.4 Limitations of the Study

Since the main purpose of this study was to evaluate the determinants of profitability of commercial banks in Kenya, Central bank considered some information sensitive and confidential and thus the researcher had to convince them that the purpose of information is for academic research only and may not be used for any other intentions.

The findings of this study may not also be generalized to all commercial banks across the globe but can be used as a reference to commercial banks in developing countries since they face almost the same challenges due to the same prevailing economic situations as opposed to commercial banks in developed countries.

The determinants considered also keep on changing from period to period depending on prevailing economic situations and market demand. The findings therefore may not reflect the true effect of these determinant variables on profitability of commercial banks for a period considered.

5.5 Suggestions for Further Research

There is need for further studies to carry out similar study for a longer time period. A similar study should also be carried out on the determinants of profitability of commercial banks in Kenya incorporating more determinants variables and also taking into account the prevailing macroeconomic situation in the country. The study further suggests that other study to be carried out on effect of these determinants on all financial institutions in Kenya as opposed to current study which took in to consideration only commercial banks. The study should correlate how other financial ratios such as liquidity, leverage and debt ratios resulting from Return on Equity and Return on Assets are influenced by the factors considered.

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Table 2: A sample of commercial banks in Kenya

No.	Large Banks	Branches	Ownership	Date licensed
1	Kenya Commercial Bank Ltd	165	Local	1896
2	Standard Chartered Bank Kenya	33	Foreign	1910
3	Barclays Bank of Kenya Ltd	103	Foreign	1953
4	Co-operative Bank of Kenya Ltd	87	Local	1965
5	CFC Stanbic Bank Ltd	20	Foreign	1955
6	Equity Bank Ltd	123	Local	2005
	Medium Banks			
7	Bank of India	5	Foreign	1953
8	Bank of Baroda (Kenya) Ltd	11	Foreign	1953
9	Guardian Bank Ltd	7	Local	1992
10	Commercial Bank of Africa	20	Local	1967
11	Prime Bank Ltd	14	Local	1992
12	National Bank of Kenya	54	State owned	1968
13	Citibank N.A Kenya	4	Foreign	1974
14	Bank of Africa Kenya Ltd	18	Foreign	1980
15	Chase Bank (K) Ltd	18	Local	1991
16	Imperial Bank Ltd.	16	Local	1992
17	NIC Bank Ltd	16	Local	1959
18	Ecobank (K) Ltd.	20	Foreign	2005
19	I &M Bank Ltd.	19	Local	1974
20	Diamond Trust Bank Ltd.	36	Local	1946
21	Family Bank Ltd	52	Local	1984
22	Housing Finance Ltd	11	Local	1966
	Small Banks			
23	Habib Bank Ltd	4	Foreign	1956
24	Oriental Commercial Bank Ltd	6	Local	1991
25	Habib Bank A.G Zurich	5	Foreign	1978
26	Middle East Bank (K) Ltd	3	Local	1980
27	Dubai Bank (K) Ltd	5	Local	1982
28	Consolidated Bank of Kenya Ltd	14	State owned	1989
29	Credit Bank Ltd	7	Local	1986
30	Trans-National Bank Ltd	18	Local	1985
31	African Banking Corporation Ltd	10	Local	1984
32	Giro Commercial Bank Ltd.	7	Local	1992
33	Equatorial Commercial Bank Ltd	12	Local	1995
34	Paramount Universal Bank Limited	6	Local	1993
35	Jamii Bora Bank Ltd	1	Local	1984
36	Fina Bank Ltd	15	Local	1986
37	Victoria Commercial Bank Ltd	3	Local	1987
38	Development Bank (K) Ltd	3	State-Owned	1973
39	Fidelity Commercial Bank	7	Local	1992
40	K-rep Bank Ltd	31	Foreign	1999
41	UBA Kenya Bank Ltd	4	Foreign	2009

APPENDICES

Appendix II: CBK SUMMARIZED DATA ON COMMERCIAL BANKS IN KENYA

Bank	Test	Bank Size	Credit Risk	Operating Costs	Liquidity Risk	ROA	Inflation	GDP
ABC Bank	Pearson Correlation	-.060	.002	.152	-.940*	-.304	-.556	-.176
	Sig. (2-tailed)	.924	.998	.808	.017	.619	.331	.777
Bank of Africa	Pearson Correlation	.400	-.888*	.884*	-.516	.328	-.787	.463
	Sig. (2-tailed)	.505	.044	.046	.374	.589	.114	.432
Bank of Baroda	Pearson Correlation	-.891*	.020	-.917*	-.242	-.695	.427	-.854
	Sig. (2-tailed)	.042	.975	.028	.694	.193	.474	.066
Bank of India	Pearson Correlation	.169	.402	-.405	-.555	.028	.486	.009
	Sig. (2-tailed)	.786	.502	.499	.332	.965	.407	.988
Barclays Bank	Pearson Correlation	.166	-.977**	.608	-.430	.799	-.652	.731
	Sig. (2-tailed)	.790	.004	.277	.470	.105	.233	.160
CBA	Pearson Correlation	.464	-.661	.363	.892*	.886*	-.811	.593
	Sig. (2-tailed)	.432	.224	.548	.042	.045	.096	.292
CFC Stanbic	Pearson Correlation	.649	.532	-.179	.494	.693	-.798	.786
	Sig. (2-tailed)	.236	.356	.774	.397	.194	.105	.115
Chase Bank	Pearson Correlation	-.131	.894*	.893*	.260	-.701	.826	-.206
	Sig. (2-tailed)	.834	.041	.041	.673	.188	.085	.740
Citibank N.A	Pearson Correlation	-.176	.832	.430	.121	-.297	.717	-.421
	Sig. (2-tailed)	.777	.080	.470	.846	.627	.173	.480
City Finance Bank	Pearson Correlation	1.000**	.031	.406	.761	1.000**	-.319	.507
	Sig. (2-tailed)		.961	.498	.135		.600	.384
Co-Operative Bank	Pearson Correlation	-.707	.904*	-.768	.445	-.029	.078	-.637
	Sig. (2-tailed)	.182	.035	.129	.453	.963	.901	.247
Consolidated Bank	Pearson Correlation	-.906*	.923*	-.625	.189	-.187	.590	-.884*
	Sig. (2-tailed)	.034	.025	.260	.760	.764	.295	.046
Credit Bank	Pearson Correlation	-.207	.582	.223	.008	.182	.026	-.084
	Sig. (2-tailed)	.738	.304	.718	.989	.769	.966	.893

Development Bank	Pearson Correlation	-.012	.929*		.755	-.903*	-.046	.298	-.095
	Sig. (2-tailed)	.984	.023		.140	.036	.941	.627	.880
Diamond Trust Bank	Pearson Correlation	.363	.799		.459	.875	.498	-.636	.368
	Sig. (2-tailed)	.548	.104		.437	.052	.393	.249	.542
Dubai bank	Pearson Correlation	-.091	.163		.221	.140	.453	.783	-.761
	Sig. (2-tailed)	.885	.793		.721	.822	.444	.117	.135
Ecobank	Pearson Correlation	-.970**	.941*		-.444	.529	-.153	.480	-.879*
	Sig. (2-tailed)	.006	.017		.454	.359	.806	.413	.049
Equatorial bank	Pearson Correlation	-.569	.480		.293	-.103	.506	-.051	-.429
	Sig. (2-tailed)	.317	.413		.632	.869	.384	.935	.471
Equity Bank	Pearson Correlation	-.120	.615	-.930*		-.077	-.497	.556	-.208
	Sig. (2-tailed)	.847	.269		.022	.903	.394	.330	.737
Family Bank	Pearson Correlation	-.173	.698		.358	.913*	.016	.787	-.216
	Sig. (2-tailed)	.781	.190		.554	.031	.979	.114	.727
Fidelity Bank	Pearson Correlation	.691	-.484		.219	.789	.324	.169	.565
	Sig. (2-tailed)	.196	.408		.724	.112	.595	.785	.321
Fina Bank	Pearson Correlation	-.407	.505		.794	.174	.233	.832	-.224
	Sig. (2-tailed)	.497	.386		.109	.780	.706	.080	.717
First Community	Pearson Correlation	.838	.806	.981**		.562	.892*	-.456	.701
	Sig. (2-tailed)	.076	.099		.003	.324	.042	.440	.187
Giro Bank	Pearson Correlation	.751	-.230		.832	.586	.152	.046	.663
	Sig. (2-tailed)	.143	.710		.081	.299	.807	.942	.223
Guardian Bank	Pearson Correlation	.764	-.871		.713	.365	.989**	-.574	.598
	Sig. (2-tailed)	.132	.055		.177	.546	.001	.311	.287
Gulf African Bank	Pearson Correlation	.713	.649		.783	-.512	.041	.010	.529
	Sig. (2-tailed)	.177	.236		.118	.378	.948	.988	.360
Habib Bank	Pearson Correlation	-.071	.134		.381	.965**	.242	-.536	-.064
	Sig. (2-tailed)	.909	.830		.527	.008	.694	.352	.918
Habib AG Zurich	Pearson Correlation	-.898*	.830		.491	-.530	.269	.610	-.883*
	Sig. (2-tailed)	.038	.082		.401	.359	.662	.275	.047
Housing Finance	Pearson Correlation	.463	.714		.781	-.697	-.282	-.829	.393
	Sig. (2-tailed)	.433	.175		.119	.191	.645	.083	.513
I & M Bank	Pearson Correlation	.655	.133	.966**		.502	.288	-.802	.663

	Sig. (2-tailed)	.231	.831	.007	.389	.638	.102	.223
Imperial Bank Ltd	Pearson Correlation	.762	.433	.591	-.040	.749	-.651	.811
	Sig. (2-tailed)	.134	.466	.294	.949	.145	.234	.096
K-Rep	Pearson Correlation	-.408	-.587	.277	-.510	.238	-.337	.164
	Sig. (2-tailed)	.495	.298	.652	.380	.700	.579	.792
KCB Bank	Pearson Correlation	.117	.564	.759	.051	.481	-.813	.352
	Sig. (2-tailed)	.851	.322	.137	.935	.412	.094	.561
Middle East	Pearson Correlation	.637	.278	.982**	-.716	.503	-.840	.703
	Sig. (2-tailed)	.248	.650	.003	.174	.387	.075	.185
National Bank	Pearson Correlation	-.394	.388	.894*	-.438	-.079	-.517	-.181
	Sig. (2-tailed)	.511	.518	.041	.460	.899	.373	.771
NIC Bank	Pearson Correlation	.561	.453	.838	.485	.523	-.846	.638
	Sig. (2-tailed)	.326	.444	.076	.408	.366	.071	.246
Oriental Bank	Pearson Correlation	.026	.607	-.011	-.218	-.229	.041	.045
	Sig. (2-tailed)	.966	.278	.986	.724	.711	.948	.943
Paramount Universal Bank	Pearson Correlation	.249	-.840	.132	.233	.184	-.401	.541
	Sig. (2-tailed)	.687	.075	.833	.706	.767	.503	.347
Prime Bank	Pearson Correlation	-.667	-.862	.771	.310	.886*	-.061	.664
	Sig. (2-tailed)	.219	.060	.127	.612	.046	.922	.221
Standard-Chartered Bank	Pearson Correlation	-.630	-.634	-.449	.971**	-.835	.713	-.480
	Sig. (2-tailed)	.255	.251	.448	.006	.079	.177	.413
Trans National	Pearson Correlation	-.643	.981**	-.479	.003	-.718	.417	-.640
	Sig. (2-tailed)	.242	.003	.414	.997	.172	.485	.245
Victoria Bank	Pearson Correlation	-.108	-.970**	.283	.981**	-.226	.198	-.146
	Sig. (2-tailed)	.863	.006	.645	.003	.715	.749	.815

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4

Appendix III: Bank and Macroeconomic Data (2008 – 2012)

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	2008	2.88	6,826	0.67	1.44	16.27	3.3	15.09	1,357,911
	2009	2.94	8,841	0.56	1.42	15.05	2.82	10.62	1,395,183
	2010	3.18	10,297	0.64	1.73	14.81	4.67	4.1	1,474,992
	2011	1.42	12,507	0.63	1.59	17.83	4.12	13.98	1,539,185
	2012	3.18	19,071	0.64	1.73	14.81	2.9	9.63	1,609,109
	Total	**13.6**		**3.14**	**7.91**	**78.77**	**17.81**	**53.42**	**7,376,380**
ABC Bank	**Average**	**2.72**	**11,508**	**0.628**	**1.582**	**15.754**	**3.562**	**10.684**	**1,475,276**
	2008	0.9	12,823	0.74	1.25	16.67	0.7	15.09	1,357,911
	2009	0.73	16,920	0.74	1.34	15.78	1.53	10.62	1,395,183
	2010	2.35	26,699	0.71	1.48	15.32	1.81	4.1	1,474,992
	2011	0.35	38734	0.73	1.32	15.55	1.43	13.98	1,539,185
	2012	2.35	48,958	0.71	1.48	15.32	1.3	9.63	1,609,109
	Total	**6.68**		**3.63**	**6.87**	**78.64**	**6.77**	**53.42**	**7,376,380**
Bank of Africa	**Average**	**1.336**	**28,827**	**0.726**	**1.374**	**15.728**	**1.354**	**10.684**	**1,475,276**
	2008	2.71	18,787	0.59	1.87	8.08	3.4	15.09	1,357,911
	2009	3.42	21,940	0.49	2.31	3.68	3.24	10.62	1,395,183
	2010	0.43	32,332	0.53	4	5.94	5.65	4.1	1,474,992
	2011	0.64	36701	0.52	3.31	6.43	4.57	13.98	1,539,185
	2012	0.43	46,138	0.53	4	5.94	3.6	9.63	1,609,109
Bank of	**Total**	**7.63**		**2.66**	**15.49**	**30.07**	**20.46**	**53.42**	**7,376,380**
Baroda	**Average**	**1.526**	**31,180**	**0.532**	**3.098**	**6.014**	**4.092**	**10.684**	**1,475,276**
	2008	1.02	12,143	0.44	2.96	9.53	5	15.09	1,357,911
	2009	3.59	15,395	0.42	2.72	3.51	3.91	10.62	1,395,183
	2010	0.47	19,671	0.37	6.54	6.6	5.04	4.1	1,474,992
	2011	5.95	23352	0.41	4.65	5.52	4.18	13.98	1,539,185
	2012	0.47	24,877	0.37	6.54	6.6	2.4	9.63	1,609,109
	Total	**11.5**		**2.01**	**23.41**	**31.76**	**20.53**	**53.42**	**7,376,380**
Bank of India	**Average**	**2.3**	**19,088**	**0.402**	**4.682**	**6.352**	**4.106**	**10.684**	**1,475,276**
Barclays Bank	2008	7.26	172,113	0.86	1.51	19.02	4.7	15.09	1,357,911
	2009	9.03	165,151	0.74	1.63	13.18	5.3	10.62	1,395,183
	2010	9.53	172,691	0.7	1.71	17.05	6.24	4.1	1,474,992
	2011	9.29	167,305	0.75	1.49	17.45	7.18	13.98	1,539,185
	2012	9.53	185,102	0.7	1.71	17.05	7	9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	**44.64**		**3.75**	**8.05**	**83.75**	**30.42**	**53.42**	**7,376,380**
	Average	**8.928**	**172,472**	**0.75**	**1.61**	**16.75**	**6.084**	**10.684**	**1,475,276**
	2008	1.51	51,248	0.64	1.73	11.75	3.3	15.09	1,357,911
	2009	1.53	57,593	0.68	1.7	15.01	3	10.62	1,395,183
	2010	3.76	63,592	0.61	1.81	18.91	4.24	4.1	1,474,992
	2011	1.43	83,283	0.62	1.86	15.06	3.58	13.98	1,539,185
	2012	3.76	100,456	0.61	1.81	18.92	4	9.63	1,609,109
	Total	**11.99**		**3.16**	**8.91**	**79.65**	**18.12**	**53.42**	**7,376,380**
CBA	**Average**	**2.398**	**71,234**	**0.632**	**1.782**	**15.93**	**3.624**	**10.684**	**1,475,276**
	2008	1.46	85,450	0.72	1.4	15.13	1.5	15.09	1,357,911
	2009	2.1	97,337	0.81	1.26	32.2	1.35	10.62	1,395,183
	2010	3.05	107,139	0.81	1.32	26.3	1.96	4.1	1,474,992
	2011	2.33	140,087	0.67	1.69	28.77	2.23	13.98	1,539,185
	2012	3.05	133,378	0.81	1.32	26.3	3.5	9.63	1,609,109
	Total	**11.99**		**3.82**	**6.99**	**128.7**	**10.54**	**53.42**	**7,376,380**
CFC Stanbic	**Average**	**2.398**	**112,678**	**0.764**	**1.398**	**25.74**	**2.108**	**10.684**	**1,475,276**
	2008	1.91	10,477	0.72	1.48	25.53	2.4	15.09	1,357,911
	2009	1.23	12,970	0.67	1.43	22.1	2.42	10.62	1,395,183
	2010	1.01	21,859	0.66	1.45	16.15	2.45	4.1	1,474,992
	2011	2.22	36,513	0.7	1.53	16.05	2.33	13.98	1,539,185
	2012	1.01	49,105	0.66	1.45	16.15	2.7	9.63	1,609,109
	Total	**7.38**		**3.41**	**7.34**	**95.98**	**12.3**	**53.42**	**7,376,380**
Chase Bank	**Average**	**1.476**	**26,185**	**0.682**	**1.468**	**19.196**	**2.46**	**10.684**	**1,475,276**
	2008	4.63	47,839	0.58	3.55	39.13	7	15.09	1,357,911
	2009	5.15	51,372	0.64	3.13	16.45	5.92	10.62	1,395,183
	2010	3.5	62,070	0.56	2.55	24.17	4.64	4.1	1,474,992
	2011	5.37	74,646	0.6	2.62	30.8	6.43	13.98	1,539,185
	2012	3.5	69,580	0.56	2.55	24.17	10.4	9.63	1,609,109
	Total	**22.15**		**2.94**	**14.4**	**134.72**	**34.39**	**53.42**	**7,376,380**
Citibank N.A	**Average**	**4.43**	**61,101**	**0.588**	**2.88**	**26.944**	**6.878**	**10.684**	**1,475,276**
City Finance Bank	2008	7.61	587	1.17	0.97	30.37	-0.5	15.09	1,357,911
	2009	2.98	491	0.45	0.33	28.38	-1.26	10.62	1,395,183
	2010	8.98		0.62	0.69	74.03		4.1	1,474,992
	2011	6.54		2.26	1.23	36.29		13.98	1,539,185
	2012	8.98		0.62	0.69	74.03		9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	**35.09**		**5.12**	**3.91**	**243.1**	**-1.76**	**53.42**	**7,376,380**
	Average	**7.018**	**539**	**1.024**	**0.782**	**48.62**	**-0.88**	**10.684**	**1,475,276**
	2008	5.31	91,022	0.81	1.53	17.5	3.7	15.09	1,357,911
	2009	4.86	110,531	0.68	1.48	14.92	3.26	10.62	1,395,183
	2010	4.79	153,984	0.7	1.57	17.14	3.61	4.1	1,474,992
	2011	4.25	167,772	0.65	1.67	15.92	3.68	13.98	1,539,185
	2012	4.79	199,663	0.7	1.57	17.14	4.8	9.63	1,609,109
Co-Operative Bank	**Total**	**24**		**3.54**	**7.82**	**82.62**	**19.05**	**53.42**	**7,376,380**
	Average	**4.8**	**144,594**	**0.708**	**1.564**	**16.524**	**3.81**	**10.684**	**1,475,276**
	2008	8.12	5,543	0.84	1.14	27.47	1.5	15.09	1,357,911
	2009	6.93	6,899	0.79	1.15	16.85	1.54	10.62	1,395,183
	2010	3.9	10,479	0.76	1.26	20.07	2.46	4.1	1,474,992
	2011	4.37	15,318	0.78	1.12	27.42	1.61	13.98	1,539,185
	2012	3.9	18,001	0.76	1.26	20.07	1	9.63	1,609,109
Consolidated Bank	**Total**	**27.22**		**3.93**	**5.93**	**111.88**	**8.11**	**53.42**	**7,376,380**
	Average	**5.444**	**11,248**	**0.786**	**1.186**	**22.376**	**1.622**	**10.684**	**1,475,276**
	2008	1.19	3,803	0.65	1.36	9.78	2.1	15.09	1,357,911
	2009	2.66	3,665	0.67	1.32	9.95	2.15	10.62	1,395,183
	2010	1.54	4,530	0.59	1.08	11.48	0.74	4.1	1,474,992
	2011	2.11	5,394	0.67	1.2	12.39	0.95	13.98	1,539,185
	2012	1.54	6,407	0.59	1.08	11.48	1.3	9.63	1,609,109
	Total	**9.04**		**3.17**	**6.04**	**55.08**	**7.24**	**53.42**	**7,376,380**
Credit Bank	**Average**	**1.808**	**4,760**	**0.634**	**1.208**	**11.016**	**1.448**	**10.684**	**1,475,276**
	2008	1.59	6,634	1.56	1.87	6.35	2.6	15.09	1,357,911
	2009	2.95	8,136	2	1.92	3.9	2.27	10.62	1,395,183
	2010	1.66	10,650	1.31	1.81	5.84	2.22	4.1	1,474,992
	2011	2.87	11,523	1.88	1.87	5.05	1.37	13.98	1,539,185
	2012	1.66	13,417	1.31	1.81	5.84	0.8	9.63	1,609,109
Development Bank	**Total**	**10.73**		**8.06**	**9.28**	**26.98**	**9.26**	**53.42**	**7,376,380**
	Average	**2.146**	**10,072**	**1.612**	**1.856**	**5.396**	**1.852**	**10.684**	**1,475,276**
Diamond Trust Bank	2008	0.34	42,073	0.76	1.79	9.48	3.1	15.09	1,357,911
	2009	2.63	47,147	0.85	1.9	11.03	3.44	10.62	1,395,183
	2010	2.14	58,606	0.84	2.07	11.61	4.9	4.1	1,474,992
	2011	1.63	77,453	0.75	1.59	10.64	4.19	13.98	1,539,185
	2012	2.14	94,512	0.84	2.07	11.61	4.9	9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	8.88		4.04	9.42	54.37	20.53	53.42	7,376,380
	Average	1.776	63,958	0.808	1.884	10.874	4.106	10.684	1,475,276
	2008	11.91	2,167	0.93	1.03	21.04	0.3	15.09	1,357,911
	2009	8.36	1,596	1.16	1.04	20.05	0.41	10.62	1,395,183
	2010	5.76	1,874	0.9	1.01	20.18	0.18	4.1	1,474,992
	2011	7.95	2,316	1.16	1.11	25.6	0.9	13.98	1,539,185
	2012	5.76	2,584	0.9	1.01	20.18	-1.2	9.63	1,609,109
	Total	39.74		5.05	5.2	107.05	0.59	53.42	7,376,380
Dubai Bank	Average	7.948	2,107	1.01	1.04	21.41	0.118	10.684	1,475,276
	2008	1.6	12,589	0.62	1.11	27.1	0.5	15.09	1,357,911
	2009	1.38	13,949	0.6	0.45	29.52	-7.13	10.62	1,395,183
	2010	0.92	26,892	0.59	1.11	16.81	0.7	4.1	1,474,992
	2011	0.86	27,210	0.59	1.18	28.84	0.45	13.98	1,539,185
	2012	0.92	31,771	0.59	1.11	16.81	-4.8	9.63	1,609,109
	Total	5.68		2.99	4.96	119.08	-10.28	53.42	7,376,380
Ecobank	Average	1.136	22,482	0.598	0.992	23.816	-2.056	10.684	1,475,276
	2008	1.23	4,477	0.63	0.98	11.22	-0.2	15.09	1,357,911
	2009	2.59	4,466	0.78	1.27	12.37	1.69	10.62	1,395,183
	2010	1.3	10,399	0.6	0.95	18.14	-0.32	4.1	1,474,992
	2011	1.26	12,927	0.82	1.51	7.77	0.55	13.98	1,539,185
	2012	1.3	14,109	0.6	0.95	18.14	-4.6	9.63	1,609,109
Equatorial bank	Total	7.68		3.43	5.66	67.64	-2.88	53.42	7,376,380
	Average	1.536	9,276	0.686	1.132	13.528	-0.576	10.684	1,475,276
	2008	9	78,001	0.88	1.66	19.99	6.1	15.09	1,357,911
	2009	10.23	96,512	0.91	1.5	17.98	5.66	10.62	1,395,183
	2010	8.36	133,890	0.82	1.86	19.25	6.95	4.1	1,474,992
	2011	10.65	176,911	0.85	1.56	20.09	6.84	13.98	1,539,185
	2012	8.36	215,829	0.82	1.86	19.25	7.4	9.63	1,609,109
	Total	46.6		4.28	8.44	96.56	32.95	53.42	7,376,380
Equity Bank	Average	9.32	140,229	0.856	1.688	19.312	6.59	10.684	1,475,276
Family Bank	2008	10.05	10,713	0.8	1.37	20.65	5	15.09	1,357,911
	2009	9.67	13,306	0.73	1.19	16.83	2.5	10.62	1,395,183
	2010	8.52	20,188	0.65	1.19	15.73	2.48	4.1	1,474,992
	2011	11.28	26,002	0.73	1.22	21.15	2.01	13.98	1,539,185
	2012	8.52	30,985	0.65	1.19	15.73	2.7	9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	**48.04**		**3.56**	**6.16**	**90.09**	**14.69**	**53.42**	**7,376,380**
	Average	**9.608**	**20,239**	**0.712**	**1.232**	**18.018**	**2.938**	**10.684**	**1,475,276**
	2008	2.64	4,397	0.74	1.3	13.43	1.7	15.09	1,357,911
	2009	3.08	5,499	0.67	1.2	13.26	0.94	10.62	1,395,183
	2010	3.76	8,209	0.62	2.16	12.47	4.59	4.1	1,474,992
	2011	6.63	10,789	0.64	1.64	15.58	2.79	13.98	1,539,185
	2012	3.76	11,772	0.62	2.16	12.47	0.9	9.63	1,609,109
	Total	**19.87**		**3.29**	**8.46**	**67.21**	**10.92**	**53.42**	**7,376,380**
Fidelity Bank	**Average**	**3.974**	**8,133**	**0.658**	**1.692**	**13.442**	**2.184**	**10.684**	**1,475,276**
	2008	2.6	10,201	0.79	1.15	14.63	0.8	15.09	1,357,911
	2009	0.72	12,279	0.63	1.13	15.19	0.18	10.62	1,395,183
	2010	0.17	14,112	0.58	1.14	11.44	1.07	4.1	1,474,992
	2011	3.27	14,630	0.6	1.23	11.71	2.12	13.98	1,539,185
	2012	0.17	17,150	0.58	1.14	11.44	2	9.63	1,609,109
	Total	**6.93**		**3.18**	**5.79**	**64.41**	**6.17**	**53.42**	**7,376,380**
Fina Bank	**Average**	**1.386**	**13,674**	**0.636**	**1.158**	**12.882**	**1.234**	**10.684**	**1,475,276**
	2008	0.37	3,189	0.42	0.06	24.32	-9.6	15.09	1,357,911
	2009	5.46	4,452	0.63	0.66	26.62	-3.42	10.62	1,395,183
	2010	6.07	6,380	0.53	0.75	42.07	-2.5	4.1	1,474,992
	2011	7.24	8,740	0.7	0.74	30.56	1.28	13.98	1,539,185
	2012	6.07	9,959	0.53	0.75	42.07	2.9	9.63	1,609,109
First	**Total**	**25.21**		**2.81**	**2.96**	**165.64**	**-11.34**	**53.42**	**7,376,380**
Community	**Average**	**5.042**	**6,544**	**0.562**	**0.592**	**33.128**	**-2.268**	**10.684**	**1,475,276**
	2008	0.82	6,154	0.67	1.39	8.65	2	15.09	1,357,911
	2009	0.02	6,914	0.62	1.55	6.12	2.63	10.62	1,395,183
	2010	1.17	10,234	0.59	2.55	7.86	6.2	4.1	1,474,992
	2011	1.77	11,816	0.62	2.88	7.65	2.79	13.98	1,539,185
	2012	1.17	12,280	0.59	2.55	7.86	1.7	9.63	1,609,109
	Total	**4.95**		**3.09**	**10.92**	**38.14**	**15.32**	**53.42**	**7,376,380**
Giro Bank	**Average**	**0.99**	**9,480**	**0.618**	**2.184**	**7.628**	**3.064**	**10.684**	**1,475,276**
Guardian Bank	2008	0.01	5,000	0.78	1.11	10.42	-7.6	15.09	1,357,911
	2009	2.5	6,778	0.72	1.16	9.65	0.83	10.62	1,395,183
	2010	2.42	8,031	0.68	1.3	12.71	1.39	4.1	1,474,992
	2011	2.38	8,816	0.66	1.33	11.37	1.92	13.98	1,539,185
	2012	2.42	11,745	0.68	1.3	12.71	1.9	9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	9.73		3.52	6.2	56.86	-1.56	53.42	7,376,380
	Average	1.946	8,074	0.704	1.24	11.372	-0.312	10.684	1,475,276
	2008	3.82	6,284	0.6	0.39	28.89	0.7	15.09	1,357,911
	2009	6.43	7,749	0.77	0.78	18.02	-2.1	10.62	1,395,183
	2010	6.04	9,594	0.77	1.06	20.64	0.49	4.1	1,474,992
	2011	9.11	12,915	0.75	1.13	22.39	1.2	13.98	1,539,185
	2012	6.04	13,562	0.77	1.06	20.64	2.8	9.63	1,609,109
GulfAfrican Bank	Total	31.44		3.66	4.42	110.58	3.09	53.42	7,376,380
	Average	6.288	10,021	0.732	0.884	22.116	0.618	10.684	1,475,276
	2008	3.35	4,561	0.33	1.99	6.17	3.2	15.09	1,357,911
	2009	4.76	4,659	0.36	2.2	12.92	4.16	10.62	1,395,183
	2010	4.07	5,426	0.41	2.49	8.4	4.34	4.1	1,474,992
	2011	3.44	5,861	0.4	2.23	6.83	4.62	13.98	1,539,185
	2012	4.07	7,014	0.41	2.49	8.4	6.5	9.63	1,609,109
	Total	19.69		1.91	11.4	42.72	22.82	53.42	7,376,380
Habib Bank	Average	3.938	5,504	0.382	2.28	8.544	4.564	10.684	1,475,276
	2008	4.19	6,622	0.41	1.96	10.09	3.6	15.09	1,357,911
	2009	3.74	7,339	0.37	2.15	7.9	3.85	10.62	1,395,183
	2010	2.31	8,127	0.34	1.95	10.39	3.05	4.1	1,474,992
	2011	2.62	8,722	0.38	1.79	12.3	1.91	13.98	1,539,185
	2012	2.31	9,702	0.34	1.95	10.39	4.2	9.63	1,609,109
Habib AG Zurich	Total	15.17		1.84	9.8	51.07	16.61	53.42	7,376,380
	Average	3.034	8,102	0.368	1.96	10.214	3.322	10.684	1,475,276
	2008	1.76	15,601	1.04	1.24	4.22	1.3	15.09	1,357,911
	2009	1.95	18,281	1.19	1.35	5.23	1.83	10.62	1,395,183
	2010	3.01	29,326	1.22	1.51	3.74	1.91	4.1	1,474,992
	2011	1.27	31,972	1.13	1.38	4.58	3.1	13.98	1,539,185
	2012	3.01	40,686	1.22	1.51	3.74	2.2	9.63	1,609,109
Housing Finance	Total	11		5.8	6.99	21.51	5.04	53.42	7,376,380
	Average	2.2	21,069	1.16	1.398	4.302	1.68	10.684	1,475,276
I & M Bank	2008	0.3	37,022	0.87	2.1	12	4.4	15.09	1,357,911
	2009	0.33	44,009	0.71	2.19	11.08	3.94	10.62	1,395,183
	2010	1.32	62,552	0.78	2.54	12.7	4.8	4.1	1,474,992
	2011	0.42	76,903	0.68	2.29	13.08	5.8	13.98	1,539,185
	2012	1.32	91,520	0.78	2.54	12.7	5.2	9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	3.69		3.82	11.66	61.56	24.14	53.42	7,376,380
	Average	0.738	62,401	0.764	2.332	12.312	4.828	10.684	1,475,276
	2008	1.08	13,780	0.8	1.71	12.87	4.9	15.09	1,357,911
	2009	4.07	15,358	0.79	1.74	17.28	5.09	10.62	1,395,183
	2010	6.01	19,399	0.82	1.84	13.91	6.43	4.1	1,474,992
	2011	5.45	25,618	0.79	2.08	10.86	6.37	13.98	1,539,185
	2012	6.01	34,590	0.82	1.84	13.91	5.5	9.63	1,609,109
Imperial Bank Ltd	Total	22.62		4.02	9.21	68.83	28.29	53.42	7,376,380
	Average	4.524	21,749	0.804	1.842	13.766	5.658	10.684	1,475,276
	2008	9.1	8,431	1.32	0.71	20.01	-5.6	15.09	1,357,911
	2009	14.8	7,136	1.09	0.82	17.91	-3.76	10.62	1,395,183
	2010	12.08	7,670	0.96	1.1	20.38	1.44	4.1	1,474,992
	2011	12.53	9,319	1.02	1.04	21.24	2.75	13.98	1,539,185
	2012	12.08	9,546	0.96	1.1	20.38	3.2	9.63	1,609,109
	Total	60.59		5.35	4.77	99.92	-1.97	53.42	7,376,380
K-Rep	Average	12.118	8,420	1.07	0.954	19.984	-0.394	10.684	1,475,276
	2008	4.81	181,974	0.74	1.38	15.87	3	15.09	1,357,911
	2009	7.63	172,384	0.71	1.45	19.73	3.57	10.62	1,395,183
	2010	7.62	223,025	0.84	1.69	14.78	5.17	4.1	1,474,992
	2011	5.6	282,491	0.68	1.42	16.9	4.98	13.98	1,539,185
	2012	7.62	304,112	0.84	1.69	14.78	5.2	9.63	1,609,109
	Total	33.28		3.81	7.63	82.06	21.92	53.42	7,376,380
KCB Bank	Average	6.656	232,797	0.762	1.526	16.412	4.384	10.684	1,475,276
	2008	0.07	3,448	0.82	1.14	14.24	0.9	15.09	1,357,911
	2009	0.41	3,141	0.86	1.24	15.47	1.37	10.62	1,395,183
	2010	1.39	4,018	0.88	1.91	12.8	5.11	4.1	1,474,992
	2011	0.45	4,639	0.94	1.46	13.28	1.99	13.98	1,539,185
	2012	1.39	5,870	0.88	1.91	12.8	0.8	9.63	1,609,109
	Total	3.71		4.38	7.66	68.59	10.17	53.42	7,376,380
Middle East	Average	0.742	4,223	0.876	1.532	13.718	2.034	10.684	1,475,276
National Bank	2008	5.6	44,588	0.26	1.55	16.98	4	15.09	1,357,911
	2009	5.44	51,404	0.31	1.6	9.73	4.13	10.62	1,395,183
	2010	5.77	60,027	0.44	1.61	13.52	4.49	4.1	1,474,992
	2011	4.2	68,665	0.32	1.49	17	3.56	13.98	1,539,185
	2012	5.77	67,155	0.44	1.61	13.52	1.7	9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	**26.78**		**1.77**	**7.86**	**70.75**	**17.88**	**53.42**	**7,376,380**
	Average	**5.356**	**58,368**	**0.354**	**1.572**	**14.15**	**3.576**	**10.684**	**1,475,276**
	2008	0.37	43,609	0.85	1.87	10.7	3.4	15.09	1,357,911
	2009	0.88	44,655	0.84	1.72	13.78	3.3	10.62	1,395,183
	2010	3.02	54,776	0.85	2.07	12.74	4.41	4.1	1,474,992
	2011	0.72	73,581	0.8	1.9	10.99	4.57	13.98	1,539,185
	2012	3.02	101,772	0.85	2.07	12.74	4.2	9.63	1,609,109
NIC Bank	**Total**	**8.01**		**4.19**	**9.63**	**60.95**	**19.88**	**53.42**	**7,376,380**
	Average	**1.602**	**63,679**	**0.838**	**1.926**	**12.19**	**3.976**	**10.684**	**1,475,276**
	2008	1	2,774	0.73	1.54	38.75	2.5	15.09	1,357,911
	2009	3.58	3,052	0.76	1.21	27.51	0.97	10.62	1,395,183
	2010	1.79	4,558	0.75	1.78	21.08	4.01	4.1	1,474,992
	2011	3.11	5,030	0.86	2.29	29.14	3.83	13.98	1,539,185
	2012	1.79	6,220	0.75	1.78	21.08	1.8	9.63	1,609,109
	Total	**11.27**		**3.85**	**8.6**	**137.56**	**13.11**	**53.42**	**7,376,380**
Oriental Bank	**Average**	**2.254**	**4,327**	**0.77**	**1.72**	**27.512**	**2.622**	**10.684**	**1,475,276**
	2008	1.25	3,552	0.6	1.37	12.37	1.4	15.09	1,357,911
	2009	3.75	3,100	0.53	1.26	11.11	1.23	10.62	1,395,183
	2010	3.34	4,420	0.49	2.37	13.33	6.35	4.1	1,474,992
	2011	3.89	4,727	0.51	1.3	14.45	2.39	13.98	1,539,185
Paramount	2012	3.34	7,255	0.49	2.37	13.33	1.2	9.63	1,609,109
Universal	**Total**	**15.57**		**2.62**	**8.67**	**64.59**	**12.57**	**53.42**	**7,376,380**
Bank	**Average**	**3.114**	**4,611**	**0.524**	**1.734**	**12.918**	**2.514**	**10.684**	**1,475,276**
	2008	0.73	20,455	0.6	1.63	7.4	2.3	15.09	1,357,911
	2009	1.37	23,700	0.55	1.74	11.87	2.33	10.62	1,395,183
	2010	1.62	32,444	0.58	1.74	8.98	2.37	4.1	1,474,992
	2011	2.59	3,519	0.51	1.75	9.59	3.07	13.98	1,539,185
	2012	1.62	43,463	0.58	1.74	8.98	2.7	9.63	1,609,109
	Total	**7.93**		**2.82**	**8.6**	**46.82**	**12.77**	**53.42**	**7,376,380**
Prime Bank	**Average**	**1.586**	**24,716**	**0.564**	**1.72**	**9.364**	**2.554**	**10.684**	**1,475,276**
Standard Chartered Bank	2008	6.58	100,392	0.56	1.87	30.75	4.7	15.09	1,357,911
	2009	5.51	123,909	0.65	2.18	12.22	5.39	10.62	1,395,183
	2010	5.58	142,880	0.6	2.19	16.7	5.37	4.1	1,474,992
	2011	5.91	164,182	0.53	2.59	18.48	5.03	13.98	1,539,185
	2012	5.58	195,493	0.6	2.19	16.7	5.9	9.63	1,609,109

Bank	Year	Interest Rate Spread (%)	Bank Size in Mn	Credit Risk (Ratio)	Operating Costs (Ratio)	Liquidity Risk (%)	Return on Assets	Inflation	Gross Domestic Product
	Total	**29.16**		**2.94**	**11.02**	**94.85**	**26.39**	**53.42**	**7,376,380**
	Average	**5.832**	**145,371**	**0.588**	**2.204**	**18.97**	**5.278**	**10.684**	**1,475,276**
	2008	6.12	3,710	0.76	1.35	12.69	3.3	15.09	1,357,911
	2009	7.77	3,364	0.91	1.22	14.17	2.36	10.62	1,395,183
	2010	5.01	4,762	0.66	1.33	14.06	3.33	4.1	1,474,992
	2011	6.05	7,287	0.8	1.13	13.84	4.05	13.98	1,539,185
	2012	5.01	8,801	0.66	1.33	14.06	3.7	9.63	1,609,109
Trans National Bank	**Total**	**29.96**		**3.79**	**6.36**	**68.82**	**16.74**	**53.42**	**7,376,380**
	Average	**5.992**	**5,585**	**0.758**	**1.272**	**13.764**	**3.348**	**10.684**	**1,475,276**
	2008	0.8	4,467	0.78	2.2	8.42	3.8	15.09	1,357,911
	2009	15.2	5,130	0.11	2.27	69.85	4.22	10.62	1,395,183
	2010	2.26	6,215	0.71	2.46	19.21	5	4.1	1,474,992
	2011	11.15	7,645	0.09	2.96	66.71	4.31	13.98	1,539,185
	2012	2.26	10,323	0.71	2.46	19.21	4.8	9.63	1,609,109
	Total	**31.67**		**2.4**	**12.35**	**183.4**	**22.13**	**53.42**	**7,376,380**
Victoria Bank	**Average**	**6.334**	**6,756**	**0.48**	**2.47**	**36.68**	**4.426**	**10.684**	**1,475,276**

Appendix IV: Descriptive Statistics – Bank Specifics

	Bank Size in Mn	Interest Rate Spread	Credit Risk	Operating Costs	Liquidity Risk	Return on Assets
2008						
Mean	23.23	3.32	0.74	1.50	16.57	2.01
Std. Deviation	1.31	3.14	0.24	0.59	8.60	3.21
Minimum	20.19	0.01	0.26	0.06	4.22	-9.60
Maximum	25.93	11.91	1.56	3.55	39.13	7.00
1st Quartile	22.22	0.98	0.60	1.15	10.01	0.88
2nd Quartile	23.06	1.84	0.74	1.42	14.44	2.55
3rd Quartile	24.47	5.38	0.83	1.81	20.75	3.73
2009						
Mean	23.33	4.39	0.72	1.51	16.32	2.07
Std. Deviation	1.35	3.57	0.29	0.57	10.85	2.62
Minimum	20.01	0.02	0.11	0.33	3.51	-7.13
Maximum	25.87	15.20	2.00	3.13	69.85	5.92
1st Quartile	22.34	1.85	0.59	1.20	11.07	1.17
2nd Quartile	23.26	3.50	0.70	1.43	14.97	2.39
3rd Quartile	24.54	5.74	0.80	1.78	17.99	3.87
2010						
Mean	23.70	3.83	0.69	1.83	16.65	3.40
Std. Deviation	1.23	2.81	0.19	0.97	11.18	2.16
Minimum	21.35	0.17	0.34	0.69	3.74	-2.50
Maximum	26.13	12.08	1.31	6.54	74.03	6.95
1st Quartile	22.79	1.60	0.59	1.24	11.58	1.86
2nd Quartile	23.69	3.12	0.66	1.72	14.80	4.01
3rd Quartile	24.81	5.76	0.81	2.09	19.22	5.02
2011						
Mean	23.84	4.35	0.74	1.75	17.69	3.24
Std. Deviation	1.27	3.34	0.36	0.73	11.07	1.78
Minimum	21.56	0.35	0.09	0.74	4.58	0.45
Maximum	26.37	12.53	2.26	4.65	66.71	7.18
1st Quartile	22.89	1.58	0.60	1.23	10.96	1.92
2nd Quartile	23.45	3.36	0.68	1.55	15.57	3.07
3rd Quartile	25.03	6.17	0.80	1.95	21.53	4.44
2012						
Mean	24.06	3.83	0.69	1.83	16.65	2.95
Std. Deviation	1.21	2.81	0.19	0.97	11.18	2.80
Minimum	21.67	0.17	0.34	0.69	3.74	-4.80
Maximum	26.44	12.08	1.31	6.54	74.03	10.40
1st Quartile	23.04	1.60	0.59	1.24	11.58	1.50
2nd Quartile	23.94	3.12	0.66	1.72	14.80	2.80
3rd Quartile	25.11	5.76	0.81	2.09	19.22	4.80