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**THE PRICE-CONCENTRATION RELATIONSHIP IN THE BANKING INDUSTRY IN
KENYA**

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Declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the research proposal contains no material previously published or written by another person except where due reference is made in the research proposal itself.

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SIGNATURE.....

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Awich Emma Zawadi

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

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Mr. Ferdinand Othieno

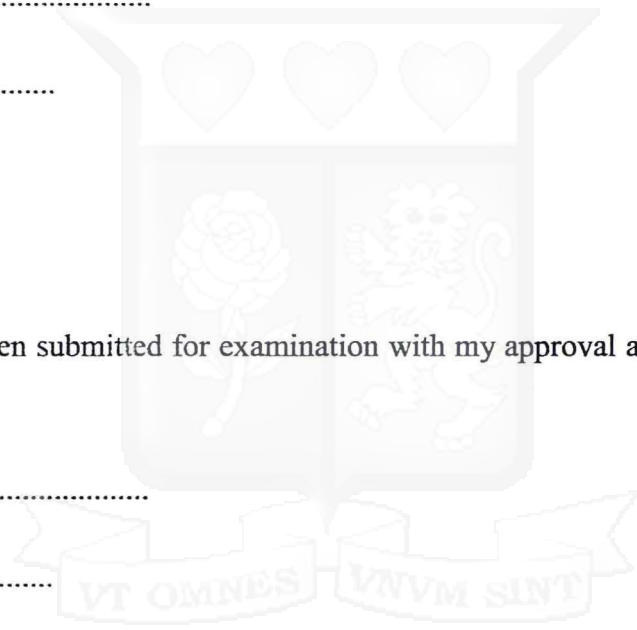


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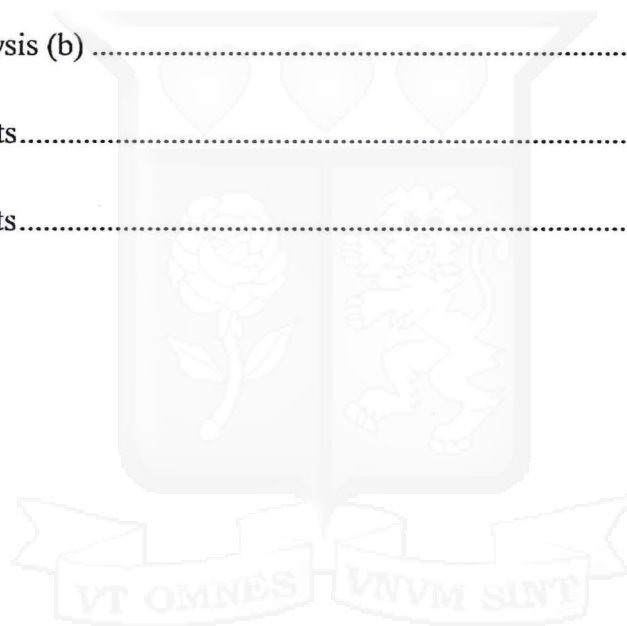
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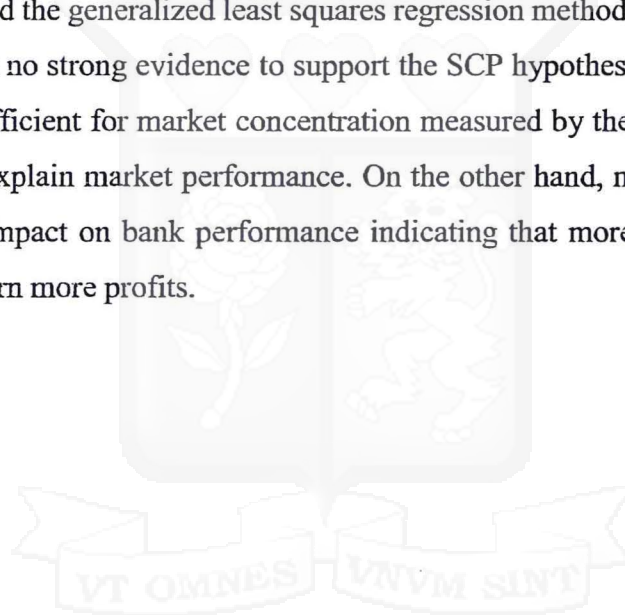
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Abstract

The objective of the study is to examine market structure performance hypothesis in banking industry in Kenya. Specifically, the structure-conduct-performance (SCP) and market efficiency hypotheses were examined to determine how market concentration and efficiency affect bank performance in Kenya. The study used secondary data the Return on assets, return on equity, market share, total bank assets, capital to asset lending ratio, lending to deposit ratio, lending to asset ratio of 43 commercial banks operating from 2012-2016. The proxies used to measure bank performance were Return on Assets and Return on equity while market concentration and market share were used as proxies for market structure. Market concentration was measured using the Herfindahl-Hirschman Index, while market share was used as a proxy for efficiency. The study used the generalized least squares regression method. The findings of the study reveal that there is no strong evidence to support the SCP hypothesis in the Kenyan banking industry as the coefficient for market concentration measured by the HHI index was found to be insufficient to explain market performance. On the other hand, market share was seen to have a significant impact on bank performance indicating that more efficient banks with higher market share, earn more profits.



1 Introduction

1.1 Background to the study

The worldwide banking sector has experienced major changes in the last two decades as a result of the advancement of technology, economic growth and globalization which have influenced the structure and nature of competition in the industry. The Banking sector has experienced financial sector reforms which have led to liberalization, privatization and removal of credit ceilings, exchange rate controls, as well as interest rate controls. This opened the industry to greater competition by the entry of new private banks and more liberal entry of foreign banks owing to liberalized licensing requirements. With liberalization, the interest rate policy aimed to harmonize the competitiveness among the commercial bank by removing the differential that had existed for maximum lending rates to allow greater flexibility and encourage greater competition in interest rate determination.

The most significant activity of banks today is loan and deposit pricing and therefore we seek to determine how much of this decision is directed by the level of concentration or market share within the banking industry of Kenya. Interest rate spread refers to the difference between loan and deposit rates. The spread between lending and deposit rates widened with liberalization, while the short-term rates increased at a faster rate compared with long-term rates resulting in a negatively sloped yield curve. (Ngugi & Kabubo, 1998)

Market structure encompasses the degree of competition, which reflects the number of market players and the diversity of financial assets, the market share of individual participants, ownership structure and control, policy regime (controlled vs uncontrolled), and the adequacy of the legal and regulatory framework. Concentration is a measure of market structure of the banking sector. It is the degree of control of economic activity by large firms.

Over the years, various methods have been used to determine the relationship between pricing and measure of market structure such as market share and concentration. Berger & Hannan (1989) were of two main schools of thought on this matter. The two hypotheses are; the efficient structure (ES) hypothesis and the structure conduct performance (SCP) hypothesis. The structure conduct performance (market power) suggests that concentration is evident based on the setting of prices which are less favourable to consumers such as higher borrowing rates and lower deposit rates. On the other hand, the efficient structure hypothesis argues that

although firms may have similar management and technology, some firms are more efficient and therefore have lower unit costs and higher unit profits.

This paper will focus on the Structure Conduct Performance (SCP) paradigm which seeks to estimate the relationship between market structure and various aspects of bank conduct and performance. The SCP paradigm is one of the most popular and enduring approaches to analysing competitive markets. (Mckinsey, 2008) The term structure in this model refers to industry structure, measured by such factors as the number of competitors in an industry, the heterogeneity of products and the cost of entry and exit. Conduct refers to specific firm actions in an industry, including price taking, product differentiation, tacit collusion, and exploitation of market power. The structure-conduct performance paradigm is based on two main predictions: (a) that concentration will facilitate collusion, whether tacit¹ or explicit², and (b) that as barriers to entry rise, the optimal price-cost margin of the leading firm or firms likewise will increase. (Weiss, 1979)

With the increasing competition within the banking industry, it is necessary to understand the behaviour of the market. Kenya in particular has been deemed as a concentrated market and it is therefore necessary to monitor and control the performance of the banks for the welfare of both the consumer and commercial bank. This study analyses the price concentration relationship in the banking industry in Kenya to examine whether the Structure-Conduct-Performance theory or the Market Performance theory will hold and consequently explain the relationship between bank performance and bank concentration.

Using the method by Berger & Hannan (1989) and Okealaham (1998), this study will measure concentration using the Herfindahl-Hirschman Index (*HHI*). In terms of Performance, we will use of Return on assets (ROA) and return on Equity (ROE).

¹ Tacit collusion occurs when firms in an industry refrain from competition without explicit agreements.

² Explicit collusion is an agreement among competitors to suppress rivalry that relies on inter-firm communication and/or transfers.

1.2 Problem Statement

The Structure Conduct Performance framework assumes that measurements of market structure and concentration can provide reliable inference as to the extent of competition or conduct in an industry. The extent of competition affects the price which consumers pay for banking services which influences the level of profits and other measures of financial returns. Therefore, the SCP suggests that higher concentration leads to higher prices which leads to higher financial returns.

The results of Berger & Hanaan (1989), Neumark & Sharpe (1992), and Okeahalam (1998) are consistent with the SCP paradigm, suggesting that there exists in banking markets some relationship between market structure and market performance, high concentration being associated with less competitive price behaviour.

In previous studies, deposit rates and loan rates have been studied separately with regard to concentration such as Berger & Hanaan (1989), Neumark & Sharpe (1992), and Okeahalam (1998), which only examined a single aspect on the banking sector. Over the years, profitability been using proxies such as Net Interest Margin (NIM), Return on Assets (ROA) and Return on Equity (ROE) (Kamau & Were, 2013), solving the issue of one function of the banking industry.

The Kenyan banking sector has also been examined by Sahile, Tarus, & Cheruiyot (2015) who tested both the Structure Conduct Performance and Efficient Structure hypotheses to determine how market concentration and efficiency affect bank performance.

Although this area is rich in research, little work has been conducted in the developing economies resulting in few recent studies in the banking sector. This study sought to identify to what extent does the profitability with regard to Return on Assets and Return on Equity as a proxy, is affected by market concentration.

1.3 Research Objective

The research objective of the study was a follows:

To find out if there is a relationship between market performance and market concentration in Kenya and if market efficiency has a positive and significant relationship with bank performance.

1.4 Research Hypothesis

The research hypotheses were;

H_0 : There is no relationship between market concentration and market performance in Kenya.

H_1 : There is a relationship between market concentration and market performance in Kenya.



2 Literature Review

2.1 An overview of the literature review

This chapter starts by discussing the different performance measures and then analyse the relationship between these performance measures and concentration. The chapter presents critical views on the determinants of bank performance and the extent to which that is influenced by concentration with regard to the SCP theory.

2.2 The Kenyan Banking sector

There are currently 41 banks in the Kenyan banking sector which is comparatively high relative to the current population of about 43 million people. In the years after financial liberalization, the banking sector has witnessed improved performance. For example the average movement of loan and deposit rates of the banking industry has grown over the recent years 2004-2014 (Central Bank of Kenya, 2000-2014) (See Figure 1).

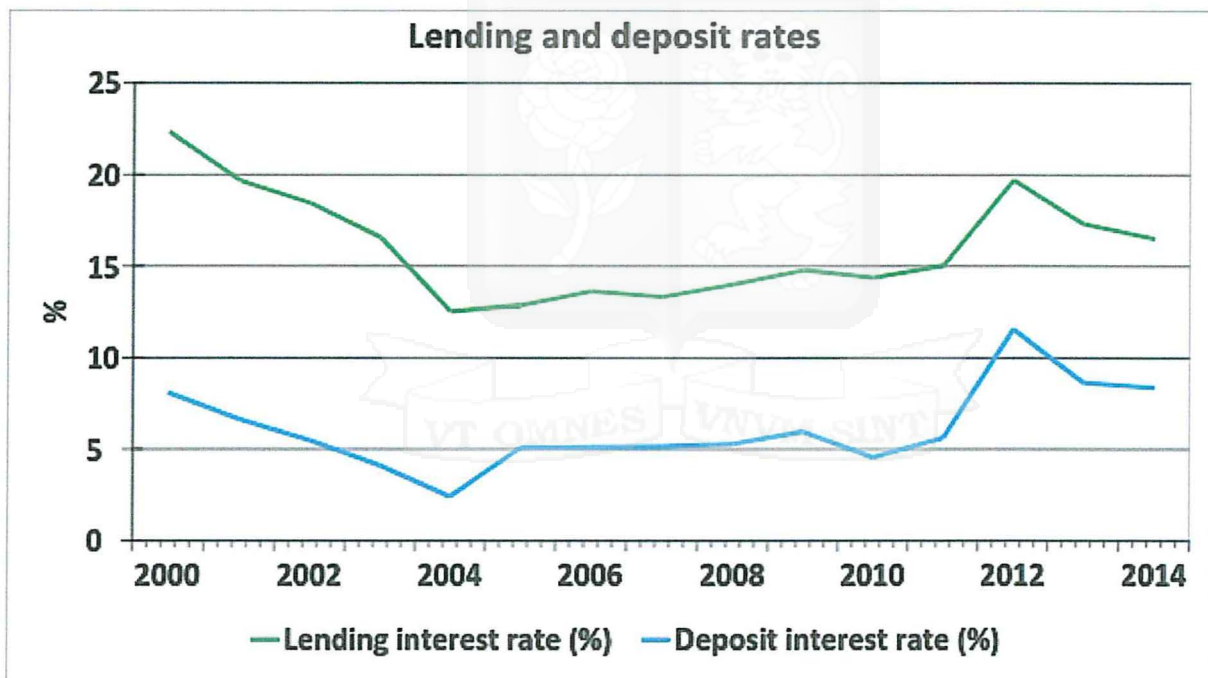


Figure 1: Lending and deposit rates (2000-2014)

The graph above, describes the trend or movement of deposit and lending interest rates in over the past few years.

The marginal decrease in the overall lending rate was reflected in all loan categories: Corporate (overdraft, 1-5 years and over 5 year's loans) business loans (1-5 years and over 5 year's loans)

and personal loans. Furthermore, the decline was consistent with the prudent monetary policy stance pursued by the Central Bank. (Central Bank of Kenya, 2015).

Kenya commercial banks are classified into three peer groups using a weighted composite index that comprises net assets, customer deposits, capital and reserves, number of deposit accounts and number of loan accounts. The 5 banks with the largest assets and market share are; Kenya Commercial Bank (KCB) – 13.1%, Equity Bank Ltd – 9.3%, Co-operative Bank Ltd – 8.6%, Standard Chartered Bank Ltd – 8.4% and Barclays Bank of Kenya Ltd – 7.9%.

Concentration in an industry refers to the degree by which production in an industry is dominated by a few large firms. Concentration is measured using concentration ratios which serve as an indicator of the relative size of firms in relation to their industry as a whole. According to the World Bank studies of 2015, Kenya has a relatively high degree of concentration in the region based on the Herfindahl-Hirschman Index and the 3-bank concentration ratio and the number of banks (Beck & Fuchs, 2004).

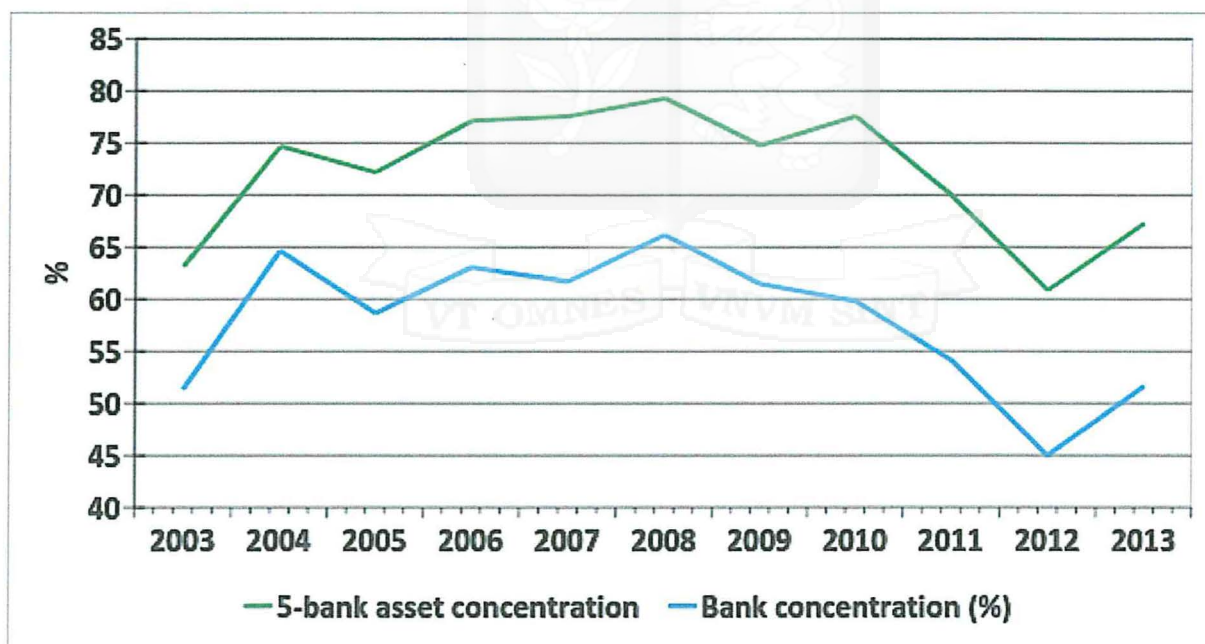


Figure 2: Percentage of Bank Concentration and 5-bank asset concentration

The 5- bank asset concentration refers to the assets of five largest banks as a share of total commercial banking assets Total assets include total earning assets, cash and due from banks, foreclosed real estate, fixed assets, goodwill, other intangibles, current tax assets, deferred tax,

discontinued operations and other assets (Bluenomics, n.d.). The graph above shows the proportional relationship between bank concentration and bank asset concentration. Increased asset concentration can either reflect a transfer of bank assets as ownership changed through consolidation or growth through internal growth of existing subsidiaries. (Stiroh & Poole, 2000).

2.3 Theory and hypothesis

The Structure Conduct Performance (SCP) theory is also known as the Market Performance theory. It suggests that the performance of banks are influenced by market structure of the chosen industry. Furthermore, the theory posits that the more concentrated the market, the less the degree of competition which leads to higher profitability. This theory has been challenged by efficiency theorists who argue that the positive relationship between concentration and prices is that efficient banks obtain greater profitability and as a result, the market becomes more concentrated. The Efficient Structure (ES) school of thought believes that if a firm enjoys a high degree of efficiency than its competitors, the firm can maximize profits and increase its market share. Thus, higher profit is generated by firms that are more efficient and not those that are more concentrated.

Both the Structure Conduct Performance and Efficient Structure models have been extensively tested in the banking industry with most of the research in the U.S. and recently European Union. Typical empirical studies of bank concentration and competition by Berger & Hannan (1991) and Hannan (1991) found that in the U.S. banks in more concentrated local markets charge higher rates on SME loans and pay lower rates on retail deposits and that their deposit rates are slow to respond to changes in open market interest rates. The two studies indicated that the k bank Concentration Ratio (CR_n) and the Herfindahl-Hirschman Index (HHI) however, do not distinguish the size of the banks. Both findings were found to be consistent with the exercise of market power under the SCP hypothesis.

The Staff of the Joint Economic Committee (1977) conducted a study to identify the effect of concentration of supermarkets on price. The regression analysis employed in the study used the price of a "market basket" of comparable items as the dependent variable. Differences in the competitive environments of the various metropolitan areas were reflected in the following independent variables: the four-firm concentration ratio, the relative market share, market

rivalry, market growth, market size and the average store size. The authors; Marion, Mueller, Cotterill, Geithman, & Schmelzer concluded: "The structure-price relationships strongly suggested that the higher observed profits are due, at least in part, to the higher prices chains are able to charge in less competitively structured markets." The study provided evidence on the effect of concentration on price.

Smirlock (1985) studied the MP paradigm using over 2700 US banks. To measure market concentration the three-bank deposit concentration ratio was used. In the regression analysis six additional control variables were used total market deposits, percentage growth in market deposits, ratio of demand deposits to total deposits, total bank assets, the effect of holding company affiliation and state law with respect to multibank holding companies. Smirlock however, found no relationship between market concentration and profitability, but found a relationship between bank market share and profitability. He stated that market share once accounted for, is positively correlated to profitability even after controlling concentration. Therefore, concentration adds little or no value to bank profits or prices once market share has been adequately considered. Critiquing the SCP theory, he notes that although multiple studies have been conducted with regard to concentration and profitability, very few have consistently established a strong and positive relationship.

Berger *et al.* (2004) identified that US Banks in more concentrated local markets geared towards pricing strategies or structures that were consistent with market performance under the SCP hypothesis. However, challenges arose when the banks' market shares were included in the regression equation, there were no longer strong relationships between concentration and profitability. This is because, market share may correlate with firm prices and profits for reasons that have nothing to do with firm market power, forming the basis of some well-known criticisms of the SCP paradigm. The results of the study emphasized that more research is clearly needed on the topic of bank concentration and competition with one useful direction for future research to be additional focus on developing nations and their problems of credit availability, economic growth, and financial stability.

In a more distinctive study, Yonjil & Miller (2006) on a state by state basis, examined the market-power versus efficient-structure theories of the positive correlation between bank consolidation and bank performance. Several consistent findings emerged with regard to Market Power hypothesis. First, in all specifications, higher concentration was associated with

a higher rate of return on equity (ROE) within a state, holding cost efficiency. This indicated a positive correlation between bank concentration in a state and the average return on return on equity. Secondly, their results implied that the significant negative coefficient on the inverse of the number of banks implies that increasing concentration increases profitability. This linkage runs from increasing bank concentration to increasing bank profitability and not the reserve implying that MP rather than ES hypotheses holds for the banking industry over the last quarter of the twentieth century.

A similar study in the Mexican banking industry by Guerrero *et al.* (2005) did not find the evidence of both the SCP and ES models and did not use a balanced panel of banks which did not consider merger and acquisition effects. Another study in Latin America by Georgios *et al.*, (2009) tested the SCP and ES hypotheses and their findings produce evidence supporting the ES hypotheses due to the robust nature of the banking industry within the region, namely Brazil, Chile and Argentina.

Some of the studies made within the banking sector in emerging markets also revealed mixed results. The empirical results of Al-Obaidan (2008) conducted in the Gulf countries reveals that concentration is not considered as a reflection of collusive behaviour of banks, but as a consequence of the superior efficiency of bank firms. The results suggest that some banks were more efficient than others, and as a result, earn higher profits and thereby gain higher market share, which produces higher concentration. These results support the efficiency hypothesis and upholds the view that restricting both internal and external growth affect economic efficiency.

In South Africa, Okeahalam (2008) conducted a study on the structure and performance of the banking sector and his findings support the Structure-conduct hypothesis. In the same line, Atemnkeng & Nzongang (2006) note that there is a positive relationship between market structure and banks profitability within the institutional context of the banking system in Cameroon with respect to the SCP hypothesis. The overall results of the study indicate that bank size, loan deposit ratio and devaluation directly contribute to a banks' profitability.

Okeahalm (1998) in his study on the price concentration relationship in Botswana found that the high level of concentration and the rates paid on deposit accounts placed the findings in favour of the SCP hypothesis making it consistent with other findings. He further stated that if

SCP holds true for the banking industry in emerging markets then this would be evident by relatively lower deposit rates and relatively higher loan rates.

In Kenya, Sahile, Tarus, & Cheruiyot (2015) tested market structure-performance hypothesis specifically, the structure-conduct-performance (SCP) and market efficiency hypotheses were examined to determine how market concentration and efficiency affect bank performance in Kenya. However, they concluded that the Efficient Structure hypothesis is a predictor of firm performance in the banking sector in Kenya and rejecting the traditional SCP hypothesis. Therefore, efficiency of banks increases profitability in Kenya.

More studies ought to be conducted to identify which hypothesis governs behaviour in the Kenyan market.

2.4 Concentration measures

Concentration measures are important because of their ability to capture the structural features of a market. They also reflect changes in concentration as a result of the entry of a bank into the market or its exit and changes caused by a merge. There are two main elements that constitute concentration measures; the number of banks and the distribution of bank sizes (inequality) in a given market.

The concentration measure used for this paper however is the Herfindahl-Hirschman Index (*HHI*).

2.5 Limitations of Using Concentration Ratio and the HHI index

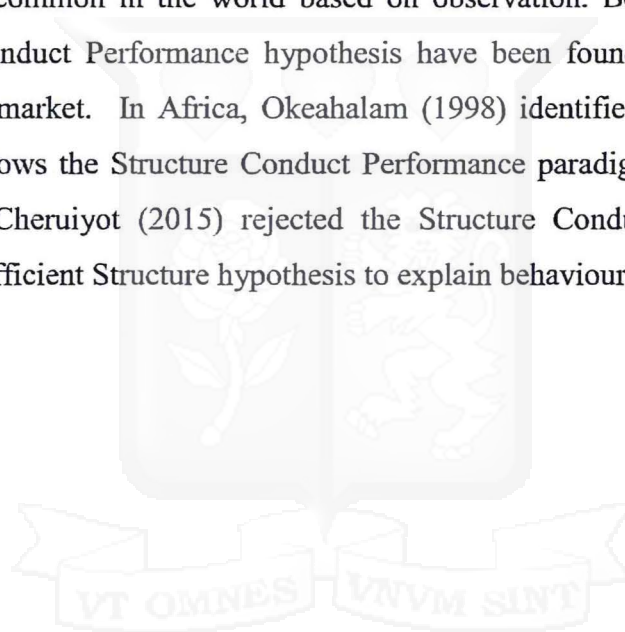
There are various researches which have specified alternative indicators of competition and concentration with fewer endogeneity problems than HHI and CR_n . These measures treat the competitive effects of large and small banks equally, hence cannot be used on a broad analysis across an entire industry.

The major problems of the concentration ratio is that it does not use the market shares of all the firms in the industry hence automatically biased. Secondly, it does not provide the distribution of the firm size across the industry therefore does not reflect a change in concentration value if the market shares among the firms included in the ratio changed. (Young & McAuley, 1994)

Both models are simplistic in nature and do not account for state-owned institutions which often hold substantial market shares in developing countries. Furthermore, authors have recognised problems with the CR_n and HHI ratios and specify alternative measures of competitiveness, including indicators of market structure that allow for the possibility that different sizes and types of commercial banks may affect competitive conditions differently. Measures of conduct and performance have grown significantly to include indicators of efficiency, service quality and the risk of banks.

2.8. Summary

The literature review has examined the different studies conducted worldwide to identify which of the hypothesis is most common in the world based on observation. Both the Efficient Structure and Structure Conduct Performance hypothesis have been found to explain the behaviour of banks in the market. In Africa, Okeahalam (1998) identified that the South African banking sector follows the Structure Conduct Performance paradigm. However, In Kenya, Sahile, Tarus, & Cheruiyot (2015) rejected the Structure Conduct Performance paradigm in favour of the Efficient Structure hypothesis to explain behaviour in Kenya.



3. Methodology

3.1 Introduction

This chapter describes how the study was conducted, highlighting the various steps and procedures that are employed in research design, study population and sample, sampling method and data collection and analysis.

3.2 Research Design

The study adopted a descriptive and quantitative research design. The data collected was analysed and the findings used to determine the effect of market concentration with regard to the interest rate spread. The dependent variable was the rate of profit while the independent variables were the concentration ratio; the Heirfindahl-Hirschaman Index (*HHI*), market share and other control variables.

3.3 Data Type and sources

The study used panel data to test the proposed model. The panel data was preferred due to its appropriateness to analyse the data drawn from all the 43 commercial banks in Kenya over a period of five years from 2012 to 2016. The secondary data is extracted from the Kenya National Bureau of Statistics (KNBS) and the CBK annual financial reports of the commercial banks. These financial reports usually reside with the Central Bank of Kenya as filed returns

3.4 The model

The basic methodology follows the footsteps of Berger and Hannan (1989) and Were & Wambua (2013). The model we have used in this paper is based on Gilbert (1984); Michael Smirlock, (1985); Molyneux & Forbes, (1995); Maudos (1998). These studies assert that the correct approach in testing competing hypotheses was to take both the market share and concentration measures into account at the same time. In this regard, the general model was adopted as shown below:

$$\pi = \alpha_0 + \beta_1 CONC + \beta_2 MS + \sum_{i=1}^6 \alpha_i z_i$$

Where;

Π is the measure of dependent variable the rate of profit,

$CONC$ is a measure of market concentration,

MS is a measure of the market share of the firm,

Z is a vector of five additional control variables.

The SCP hypothesis is supported by significance of the concentration ratio. Significance of the market share β_2 and the insignificance of the coefficient of the concentration ratio β_1 would lead to supporting the efficient structure hypothesis.

The traditional SCP hypothesis implies the following assumptions:

$$\beta_1 > 0, \quad \beta_2 = 0$$

Market share would not affect firm rents when concentration is high. If concentration is low, then the industry is considered to be competitive. If the concentration is high, then the industry will be viewed as oligopolistic or monopolistic

Conversely, a coefficient combination of:

$$\beta_1 = 0, \quad \beta_2 > 0$$

This implies that firms with high market share are more efficient than their competitors and earn rents because of their efficiency and also indicating that increased market concentration does not result in bank earnings any monopoly rents.

Thus $\beta_1 > 0, \beta_2 = 0$ supports the traditional hypothesis whereas $\beta_1 = 0, \beta_2 > 0$, supports the efficient structure hypothesis.

3.5 Statistic Tests, Data Analysis and Presentation

The diagnostic tests that were performed to determine if the assumptions of OLS are met included; Test for Fixed or Random Effects, multicollinearity test, normality test, heteroskedasticity, auto correlation and hausman test in order to determine the appropriate regression method according to the characteristics of the data.

3.5.1 Test for Fixed or Random Effects

When performing panel data analysis, one has to determine whether to run a fixed effects model or a random effects model. Whereas the fixed effect model assumes firm specific intercepts and captures effects of those variables which are specific to each firm and constant over time, the random effect model assumes that there is a single common intercept and it varies from firm to firm in a random manner (Baltagi, 2005). Thus, for estimating the models, first it is important to determine whether there exists a correlation between the independent variables. If the correlation does not exist then a fixed effect model will give consistent results otherwise random effect model will be an efficient estimator and it is estimated by generalized least square (Teruel & Solano, 2007). To determine which of these two models is appropriate, coefficients are estimated by both fixed and random effects. Hausman's specification test (1978) will be used to determine whether fixed or random effect should be used.

Bank performance measures

There are several bank performance measures that are used as indicators in the banking industry at a glance. The ratios include capital adequacy measured by the minimum core capital required, bank earnings measured by return on assets, return on equity or net interest income and interest spread, asset quality measured by net non-performing loans/gross loans, liquidity measured by net liquid assets/net deposit liabilities. For this study, the bank performance is measured by the profitability measures; Return of Assets (ROA) and Return on Equity (ROE) for commercial banks

Concentration measures

The Heirfindahl-Hirschaman Index

This is a measure of market concentration. The index is calculated by squaring the percentage market share of each firm in the market and summing these numbers.

$$HHI = s_1^2 + s_2^2 + s_3^2 + \dots + s_n^2$$

Where s_n is the market share of the i^{th} bank.

A monopoly would have the largest possible value - $100^2 = 10000$. The HHI for a highly fragmented industry would be close to zero.

3.5.2 Data Analysis and Presentation

A panel regression model was used to analyse the data. The regression model was as shown below:

$$Y_{it} = \alpha_0 + \beta_1 Y_{it-1} + \beta_2 CONC_{it} + \beta_3 CONC_{it-1} + \beta_4 MS_{it} + \beta_5 MS_{it-1} + \beta_6 LNA_{it} + \beta_7 CAR + \beta_8 LDR + \beta_9 LAR + \varepsilon_{it}$$

Where $\varepsilon_{it} = \mu_i + v_{it}$

The dependent variable will be measured using Return of Assets (ROA) and Return on Equity (ROE). The variables are used as a measure of performance for commercial banks.

CONC, the Heirfindahl-Hirschaman Index is one of the independent variables, used as a proxy for market concentration.

MS, market share is used as a proxy to measure competition in the market.

LNA, Total Bank Assets are included as a control variable for the size of bank to test the possibility that large banks are expected to have greater products and loan diversification.

CAR, Capital to Assets Ratio is included as a control variable to measure the market risk.

LDR, Lending to Deposits Ratio is another control variable used to measure lending the risk of banks as compared to their deposits.

LAR, This Lending to Assets Ratio is also a control variable that we have used to measure lending of banks as compared to their assets to capture the liquidity of banks.

4. Research Findings and Discussion

4.1 Introduction

This chapter presents the results of analysis and the findings with regard to the study objectives. In addition, the following are presented in the chapter; data analysis and presentation, tests for normality, Multicollinearity, Heteroskedasticity, Autocorrelation, Hausman test and finally the model results are presented.

4.2 Statistical Tests

4.2.1 Hausman Test

In order to determine whether the fixed or random effects model is appropriate Hausman test was used. The Hausman test fundamentally tested whether the unique errors (μ_i) are correlated with the regressors.

The results in table 4.1 below illustrate the results of the Hausman test. A resultant p value of 0.000 was smaller than the conventional p value of 0.05 leading to the rejection of the null hypothesis that the unique errors (μ_i) are not correlated with the regressors and thus the fixed effects model is more appropriate.

Table 4.1 Hausman Test

	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
Concentration	-0.0129	-0.0025	-0.0104	0.04312
Competition	-0.1348	0.60728	-0.7421	0.38862
Bank Size	-0.0124	-0.0042	-0.0082	0.00048
Market Risk	-0.0027	0.00455	-0.0072	.
Bank Lending Risk	-7E-05	-0.0003	0.00021	.
Bank Liquidity	-0.0009	-0.0001	-0.0008	.
chi2(6)	85.07			
Prob >chi2	0.000			

4.2.2 Normality Test

Data was tested for normality using Kolmogorov-Smirnov test to ascertain if the data is normally distributed. Results presented in table 4.2 indicate that data is not normally distributed as supported by a p value of 0.000, which was less than the conventional p value of 0.05. However, normality of the data was assumed since the number of observations was large.

Table 4.2: Test for Normality

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
ROA	.118	129	.000	.940	129	.000

a. Lilliefors Significance Correction

4.2.3 Test for Multicollinearity

Test for multicollinearity was done using Variance Inflation Factors (VIF) for all independent variables. Results presented in table 4.3 indicate that there is no presence of multicollinearity. This is supported by VIF value of 2.51 which is less than 10. This implies that the independent variables are not highly correlated.

Table 4.3: Test for Multicollinearity

Independent Variables	Tolerance	VIF
Concentration	0.99	1.01
Competition	0.31	3.25
Bank Size	0.28	3.52
Market Risk	0.88	1.14
Bank Lending Risk	0.33	2.99
Bank Liquidity	0.32	3.16
	0.52	2.51

4.2.4 Test for heteroskedasticity

The Modified Wald test was used in the study where the null hypothesis of the test is error terms have a constant variance (i.e. should be Homoscedastic). The results in the table 4.4 indicate that the error terms are Homoscedastic, given that the p-value is more than the 5%.

According to Field (2009), the null hypothesis of homoscedasticity is accepted when the probability value is greater than 0.05.

Table 4.4: Test for Heteroskedasticity

Modified Wald Test for Heteroskedasticity	
H0: Constant Variance (Homoscedasticity)	
chi2 (43)	= 15742.14
Prob >chi2	= 0.056

4.2.5 Test for Autocorrelation

The test for autocorrelation was done to determine whether residuals are correlated across time. The results of table 4.5 indicated that the H_0 of no autocorrelation is not rejected and that residuals are not auto correlated (p-value=0.2033). According to Field (2009), the null hypothesis of no autocorrelation is accepted when the probability value is greater than 0.05.

Table 4.5: Wooldridge test for Autocorrelation

Wooldridge test for autocorrelation	
H0: no first-order autocorrelation	
F(1, 42)=1.670	
Prob>F	= 0.2033

4.3 Correlation Analysis

Table 4.6 below presents the results of the correlation analysis with Return on Assets as the dependent variable. The results revealed a positive and significant association between competition, bank size, market risk and bank performance (ROA). This was supported by correlation and p values as follows (competition=0.6014*, bank size=0.5013* and market risk=0.2159*). Further, results indicated a negative and significant association between lending risk, bank liquidity and performance (ROA). This was supported by correlation and p values

as follows (bank lending risk=-0.2652* and bank liquidity=-0.2048*). However, results revealed an insignificant association between concentration and performance (ROA).

Table 4.6: Correlation Analysis (a)

	ROA	Conc	MS	Bank Size	Market Risk	Lending Risk	Bank Liquidity
ROA	1.000						
Conc	0.0368	1.000					
MS	0.6014*	0.0443	1.000				
Bank Size	0.5013*	0.0507	0.9715*	1.000			
Market Risk	0.2159*	0.0344	-0.0555	-0.1487*	1.000		
Lending Risk	-0.2652*	-0.0726	-0.1957*	-0.1981*	0.2530*	1.0000	
Bank Liquidity	-0.2048*	-0.0843	-0.2293*	-0.2441*	0.2886*	0.8523*	1.000

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

Table 4.7 below presents the results of the correlation analysis with Return on Equity as the dependent variable. The results revealed a positive and significant association between competition, bank size, market risk and bank performance (ROE). This was supported by correlation and p values as follows (competition=0.6109*, bank size=0.5274* and market risk=0.1688*). Further, results indicated a negative and significant association between lending risk, bank liquidity and performance (ROE). This was supported by correlation and p values as follows (bank lending risk=-0.2652*and bank liquidity=-0.2048*). However, results revealed an insignificant association between concentration and performance (ROE).

Table 4.7: Correlation Analysis (b)

	ROE	Conc	Competition	Bank Size	Market Risk	Lending Risk	Bank Liquidity
ROE	1.000						
Conc	0.0356	1.000					
Competition	0.6109*	0.0443	1.000				
Bank Size	0.5274*	0.0507	0.9715*	1.000			
Market Risk	0.1688*	0.0344	-0.0555	-0.1487*	1.000		
Lending Risk	-0.2737*	-0.0726	-0.1957*	-0.1981*	0.2530*	1.000	
Bank Liquidity	-0.2224*	-0.0843	-0.2293*	-0.2441*	0.2886*	0.8523*	1.000

4.4 Panel Regression Analysis

4.4.1 ROA as the dependent variable

In order to establish the relationship between the independent and the dependent variable, a multiple regression model was run and the results presented in table 4.8 below.

The results present the fitness of model used of the regression model in explaining the study phenomena. All the independent variables except concentration, market risk and lending risk were found to be satisfactory in explaining performance (ROA). This is supported by coefficient of determination also known as the R square of 30%. This means that the independent variables explain 30% of the variations in the dependent variable which is bank performance. The results further imply that the model applied to link the relationship of the variables was satisfactory.

Further, Table 4.8 provides the results on the analysis of variance (ANOVA). The results indicate that the model was statistically significant. Further, the results imply that the independent variables except concentration, market risk and lending risk are a good predictor

of financial performance. This was supported by an F statistics of 8.87 and a p value (0.000) which was less than the conventional probability of 0.05 significance level.

In addition, regression of coefficients results in table 4.8 revealed a positive and significant relationship between competition, bank size and bank performance (ROA). Competition, ($r=0.16066$, $p=0.046$), bank size, ($r=0.01143$, $p=0.000$). The results also revealed a negative and significant relationship between bank liquidity and bank performance (ROA). Bank liquidity, ($r=-0.00089$, $p=0.051$). However, results revealed an insignificant relationship between concentration, market risk, lending risk and bank performance.

Table 4.8: Regression Results

ROA	Coefficient	Std. Err.	t	P> t
Concentration	-0.01196	0.04433	-0.27	0.788
Competition	0.16066	0.03507	4.58	0.046
Bank Size	0.01143	0.001799	6.35	0.000
Market Risk	-0.00231	0.002258	-1.02	0.308
Lending Risk	-6.9E-05	9.63E-05	-0.71	0.477
Bank Liquidity	-0.00089	0.000452	-1.96	0.051
_cons	0.152826	0.019814	7.71	0.000
R-squared	0.3024			
F-statistic	8.78			
Prob(F-statistic)	0.000			

Thus, the optimal model was;

$$\pi = \alpha_0 + \beta_1 CR + \beta_2 MS + \beta_3 LNAST + \beta_4 CAR + \beta_5 LDR + \beta_6 LAR + \varepsilon$$

$$Performance = 0.152826 - 0.01196 Concentration + 0.16066 Competition + 0.01143 Bank Size - 0.00231 Market Risk - 6.9E-05 Bank Lending Risk - 0.00089 Bank Liquidity$$

4.4.2 ROE as the dependent variable

The results in Table 4.9 present the fitness of model used of the regression model in explaining the study phenomena. All the independent variables except competition and bank size were found to be non-satisfactory in explaining performance (ROE). This is supported by coefficient of determination also known as the R square of 24%. This means that the independent variables explain 24% of the variations in the dependent variable which is bank performance. The results further imply that the model applied to link the relationship of the variables was satisfactory.

Further, Table 4.9 provides the results on the analysis of variance (ANOVA). The results indicate that the model was statistically significant. Further, the results imply that the independent variables (competition and bank size) are a good predictor of financial performance. This was supported by an F statistic of 6.01 and a p value (0.000) which was less than the conventional probability of 0.05 significance level.

In addition, regression of coefficients results in table 4.9 revealed a positive and significant relationship between competition, bank size and bank performance (ROE). Competition, ($r=0.123567$, $p=0.045$), bank size, ($r=0.05596$, $p=0.000$). The results also revealed a negative but insignificant relationship between market risk, lending risk, bank liquidity and bank performance (ROE). Further, results revealed an insignificant relationship between concentration and bank performance. Consistent with the expectation, the results show negative coefficients with respect to performance measures as explained by ROA and ROE. The results are consistent with extant literature that as operating expenses increase, firm performance decline.

Table 4.9: Regression Results

ROE	Coefficient	Std. Err.	t	P> t
Concentration	-0.14341	0.288978	-0.5	0.62
Competition	0.123567	0.04025	3.07	0.045
Bank Size	0.05596	0.011726	4.77	0.000
Market Risk	-0.02077	0.014721	-1.41	0.16
Lending Risk	-0.00078	0.000628	-1.24	0.218
Bank Liquidity	-0.0042	0.002948	-1.42	0.157
_cons	0.758972	0.129165	5.88	0.000
R-squared	0.2442			
F-statistic	6.01			
Prob(F-statistic)	0.000			

Thus, the optimal model was;

$$\pi = \alpha_0 + \beta_1 CR + \beta_2 MS + \beta_3 LNA\text{ST} + \beta_4 CAR + \beta_5 LDR + \beta_6 LAR + \varepsilon$$

Performance = 0.758972 - 0.14341 *Concentration* + 0.123567 *Competition* + 0.05596 *Bank Size* - 0.02077 *Market Risk* - 0.00078 *Bank Lending Risk* - 0.0042 *Bank Liquidity*

CHAPTER FIVE

5. Summary of Findings, Conclusions and Recommendations

5.1 Introduction

This chapter deals with the summary of the findings, the conclusion and recommendations. This was done in line with the variables under study. Areas of further research were suggested and limitations of the study were taken into account.

5.2 Summary of Findings

The regression results revealed that there is a positive and significant relationship between competition, bank size and bank performance (ROA). Further, the results revealed that there is a negative and significant relationship between bank liquidity and bank performance (ROA). In addition, the results revealed an insignificant relationship between concentration, market risk, lending risk and bank performance.

On the other hand, regression results revealed that there is a positive and significant relationship between competition, bank size and bank performance (ROE). The results also revealed a negative but insignificant relationship between market risk, lending risk, bank liquidity and bank performance (ROE). In addition, the results revealed an insignificant relationship between concentration and bank performance.

The findings of the study reveal that there is no strong evidence to support the SCP hypothesis in the Kenyan banking industry as the coefficient for market concentration measured by the HHI index was found to be insufficient to explain market performance. In contrast, the results with respect to efficiency hypothesis indicated that market share under the HHI index was found to be statistically significant. Therefore, more efficient firms are more likely to be profitable as larger firms have lower costs and consequently will gain a higher market share.

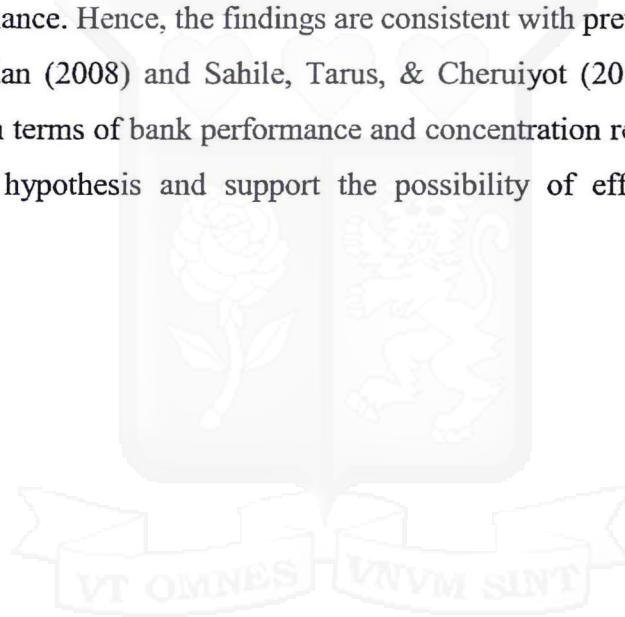
5.3 Conclusion

Based on the findings, the study concluded that competition and bank size have a positive and significant influence on bank performance. Therefore, market share was found to have a major influence on performance of Kenyan banks. We fail to confirm the SCP hypothesis as market concentration was shown to have an insignificant relationship with bank performance. Our

results tend towards the efficient structure hypothesis implying that the efficiency of banks presents an opportunity to earn higher profits with the market.

5.4 Recommendations

Based on the findings, the study recommended that banks should find ways gaining market share in the market. Some of the ways could involve service diversification, venturing into untapped markets and enhancing customer relations. The study also recommended that banks should put measures in place to ensure that they minimize the lending risks, such as screening potential borrowers for credit worthiness. Further, the banks should find more efficient mechanisms to manage their cash flows. For example, they should be able to decide what portion of cash flow to invest. As shown, efficiency of the firm will result in higher profits hence increase bank performance. Hence, the findings are consistent with previous studies such as Berger (1995), Al-Obiadan (2008) and Sahile, Tarus, & Cheruiyot (2015) as empirical investigations of the study in terms of bank performance and concentration regressions. Their results disfavoured the SCP hypothesis and support the possibility of efficiency in their operations.



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7. Data Collection Template

Banks	Year	ROA	ROE	Conc (HHI)	MS	T.Assets	Capital Asset Ratio	Lending Deposits Ratio	Lending Assets Ratio
KCB Bank Kenya Limited	2016	0.056	0.352	0.005	0.141	504,778	0.17	0.96	0.74
KCB Bank Kenya Limited	2015	0.050	0.29	0.006	0.141	467,741	0.74	5.31	0.69
KCB Bank Kenya Limited	2014	0.059	0.31	0.006	0.127	376,969	0.19	0.93	0.68
KCB Bank Kenya Limited	2013	0.053	0.321	0.006	0.141	486,260	0.457	3.137	0.716
KCB Bank Kenya Limited	2012	0.055	0.300	0.006	0.134	422,355	0.466	3.120	0.688
Equity Bank (Kenya) Limited	2016	0.060	0.435	0.009	0.100	379,749	0.19	0.48	0.35
Equity Bank (Kenya) Limited	2015	0.066	0.472	0.008	0.098	341,329	0.77	2.32	0.36
Equity Bank (Kenya) Limited	2014	0.073	0.494	0.007	0.089	277,116	0.17	0.89	0.70
Equity Bank (Kenya) Limited	2013	0.063	0.454	0.009	0.099	360,539	0.482	1.401	0.354
Equity Bank (Kenya) Limited	2012	0.069	0.483	0.008	0.094	309,223	0.472	1.608	0.528
Co-operative Bank of Kenya Limited	2016	0.052	0.3	0.006	0.099	349,998	0.16	0.68	0.50
Co-operative Bank of Kenya Limited	2015	0.041	0.285	0.007	0.094	339,550	0.70	2.35	0.44
Co-operative Bank of Kenya Limited	2014	0.064	0.354	0.007	0.087	222,636	0.17	0.90	0.81
Co-operative Bank of Kenya Limited	2013	0.046	0.293	0.006	0.097	344,774	0.427	1.514	0.471
Co-operative Bank of Kenya Limited	2012	0.053	0.320	0.007	0.091	281,093	0.435	1.622	0.627
Standard Chartered Bank Kenya Limited	2016	0.051	0.291	0.124	0.070	250,274	0.17	0.11	0.08
Standard Chartered Bank Kenya Limited	2015	0.050	0.304	0.148	0.070	241,153	0.71	0.44	0.07
Standard Chartered Bank Kenya Limited	2014	0.044	0.295	0.169	0.072	282,689	0.20	0.83	0.45
Standard Chartered Bank Kenya Limited	2013	0.051	0.298	0.136	0.070	245,714	0.442	0.272	0.076
Standard Chartered Bank Kenya Limited	2012	0.047	0.300	0.159	0.071	261,921	0.455	0.634	0.264

Barclays Bank of Kenya Limited	2016	0.040	0.248	0.012	0.070	259,498	0.16	0.20	0.15
Barclays Bank of Kenya Limited	2015	0.038	0.219	0.014	0.069	234,131	0.71	0.80	0.14
Barclays Bank of Kenya Limited	2014	0.054	0.323	0.009	0.051	226,043	0.16	0.78	0.42
Barclays Bank of Kenya Limited	2013	0.039	0.234	0.013	0.070	246,815	0.434	0.504	0.142
Barclays Bank of Kenya Limited	2012	0.046	0.271	0.012	0.060	230,087	0.433	0.792	0.280
Diamond Trust Bank Kenya Limited	2016	0.036	0.244	0.050	0.064	244,124	0.14	0.62	0.43
Diamond Trust Bank Kenya Limited	2015	0.057	0.32	0.049	0.056	147,846	1.00	3.55	0.73
Diamond Trust Bank Kenya Limited	2014	0.056	0.355	0.046	0.049	137,299	0.22	1.33	0.94
Diamond Trust Bank Kenya Limited	2013	0.047	0.282	0.050	0.060	195,985	0.572	2.084	0.579
Diamond Trust Bank Kenya Limited	2012	0.057	0.338	0.048	0.053	142,573	0.614	2.439	0.833
I & M Bank Limited	2016	0.053	0.276	0.012	0.059	164,116	0.20	0.03	0.03
I & M Bank Limited	2015	0.036	0.251	0.010	0.053	198,578	0.64	0.14	0.02
I & M Bank Limited	2014	0.043	0.277	0.008	0.046	171,347	0.15	0.96	0.57
I & M Bank Limited	2013	0.044	0.264	0.011	0.056	181,347	0.418	0.084	0.024
I & M Bank Limited	2012	0.039	0.264	0.009	0.050	184,963	0.391	0.553	0.297
Commercial Bank of Africa Limited	2016	0.036	0.276	0.032	0.051	210,878	0.15	0.33	0.19
Commercial Bank of Africa Limited	2015	0.037	0.235	0.027	0.049	190,948	0.57	1.57	0.22
Commercial Bank of Africa Limited	2014	0.045	0.245	0.033	0.042	141,176	0.16	1.00	0.66
Commercial Bank of Africa Limited	2013	0.036	0.256	0.030	0.050	200,913	0.359	0.949	0.204
Commercial Bank of Africa Limited	2012	0.041	0.240	0.030	0.046	166,062	0.364	1.283	0.437
Stanbic Bank Kenya Limited	2016	0.034	0.229	0.001	0.045	204,895	0.13	2.32	1.18
Stanbic Bank Kenya Limited	2015	0.040	0.237	0.001	0.045	156,762	0.67	7.01	1.36
Stanbic Bank Kenya Limited	2014	0.044	0.269	0.001	0.041	137,087	0.20	1.05	0.67
Stanbic Bank Kenya Limited	2013	0.037	0.233	0.001	0.045	180,829	0.401	4.662	1.268
Stanbic Bank Kenya Limited	2012	0.042	0.253	0.001	0.043	146,925	0.435	4.030	1.011
Citibank N.A Kenya	2016	0.058	0.307	0.085	0.042	103,324	0.25	0.66	0.66
Citibank N.A Kenya	2015	0.031	0.274	0.089	0.044	198,484	0.52	3.81	0.37
Citibank N.A Kenya	2014	0.026	0.253	0.085	0.036	175,809	0.10	0.86	0.51
Citibank N.A Kenya	2013	0.045	0.291	0.087	0.043	150,904	0.386	2.237	0.516
Citibank N.A Kenya	2012	0.029	0.264	0.087	0.040	187,147	0.313	2.335	0.439
NIC Bank Limited	2016	0.037	0.196	0.030	0.029	161,847	0.12	0.07	0.04

NIC Bank Limited	2015	0.063	0.287	0.039	0.034	88,147	1.25	0.22	0.06
NIC Bank Limited	2014	0.052	0.226	0.035	0.030	79,398	0.27	0.64	0.86
NIC Bank Limited	2013	0.050	0.242	0.034	0.032	124,997	0.687	0.147	0.054
NIC Bank Limited	2012	0.058	0.257	0.037	0.032	83,773	0.764	0.429	0.460
Bank of Baroda (K) Limited	2016	0.047	0.272	0.007	0.028	82,907	0.17	0.45	0.34
Bank of Baroda (K) Limited	2015	0.036	0.242	0.007	0.028	81,190	0.76	1.99	0.34
Bank of Baroda (K) Limited	2014	0.031	0.298	0.007	0.028	107,112	0.10	0.78	0.37
Bank of Baroda (K) Limited	2013	0.041	0.257	0.007	0.028	82,049	0.466	1.223	0.341
Bank of Baroda (K) Limited	2012	0.033	0.270	0.007	0.028	94,151	0.434	1.385	0.356
Prime Bank Limited	2016	0.036	0.216	0.004	0.024	65,338	0.22	0.08	0.08
Prime Bank Limited	2015	0.040	0.297	0.003	0.024	65,001	0.97	0.46	0.08
Prime Bank Limited	2014	0.044	0.273	0.003	0.021	61,945	0.17	0.98	0.75
Prime Bank Limited	2013	0.038	0.257	0.003	0.024	65,170	0.593	0.272	0.082
Prime Bank Limited	2012	0.042	0.285	0.003	0.022	63,473	0.568	0.721	0.414
Bank of India Ltd	2016	0.046	0.229	0.045	0.019	47,815	0.22	0.10	0.08
Bank of India Ltd	2015	0.037	0.22	0.044	0.020	68,178	0.78	0.38	0.06
Bank of India Ltd	2014	0.048	0.36	0.037	0.020	56,599	0.18	0.72	0.62
Bank of India Ltd	2013	0.041	0.225	0.044	0.020	57,997	0.498	0.239	0.071
Bank of India Ltd	2012	0.042	0.290	0.040	0.020	62,389	0.480	0.550	0.339
HFC Limited	2016	0.021	0.148	0.002	0.016	68,085	0.16	0.98	0.55
HFC Limited	2015	0.035	0.205	0.001	0.018	42,163	1.21	4.15	0.97
HFC Limited	2014	0.042	0.247	0.002	0.018	61,813	0.16	0.94	0.63
HFC Limited	2013	0.028	0.177	0.001	0.017	55,124	0.682	2.565	0.762
HFC Limited	2012	0.039	0.226	0.002	0.018	51,988	0.681	2.544	0.804
Victoria Commercial Bank Limited	2016	0.036	0.157	0.009	0.018	22,403	0.40	0.21	0.46
Victoria Commercial Bank Limited	2015	0.044	0.282	0.011	0.018	24,714	1.92	1.22	0.41
Victoria Commercial Bank Limited	2014	0.019	0.192	0.003	0.018	122,865	0.05	0.62	0.24
Victoria Commercial Bank Limited	2013	0.040	0.220	0.010	0.018	23,559	1.161	0.713	0.436
Victoria Commercial Bank Limited	2012	0.032	0.237	0.007	0.018	73,790	0.988	0.916	0.323
Gulf African Bank Limited	2016	0.028	0.172	0.004	0.014	27,156	0.35	0.24	0.31
Gulf African Bank Limited	2015	0.034	0.193	0.004	0.018	20,020	2.09	0.85	0.37

Gulf African Bank Limited	2014	0.042	0.297	0.113	0.017	54,918	0.12	0.54	0.44
Gulf African Bank Limited	2013	0.031	0.183	0.004	0.016	23,588	1.223	0.548	0.338
Gulf African Bank Limited	2012	0.038	0.245	0.058	0.017	37,469	1.107	0.695	0.404
Guaranty Trust Bank (K) Limited	2016	0.022	0.079	0.135	0.013	29,619	0.26	0.26	0.24
Guaranty Trust Bank (K) Limited	2015	0.019	0.069	0.126	0.014	29,374	1.17	1.03	0.25
Guaranty Trust Bank (K) Limited	2014	0.037	0.211	0.002	0.016	34,370	0.24	0.68	0.71
Guaranty Trust Bank (K) Limited	2013	0.020	0.074	0.131	0.014	29,497	0.715	0.645	0.244
Guaranty Trust Bank (K) Limited	2012	0.028	0.140	0.064	0.015	31,872	0.707	0.852	0.482
Family Bank Limited	2016	0.009	0.05	0.004	0.012	69,432	0.11	3.67	1.71
Family Bank Limited	2015	0.027	0.135	0.004	0.012	19,107	1.29	20.02	5.42
Family Bank Limited	2014	0.046	0.3	0.011	0.015	15,799	0.38	0.38	0.79
Family Bank Limited	2013	0.018	0.093	0.004	0.012	44,270	0.699	11.847	3.563
Family Bank Limited	2012	0.037	0.218	0.007	0.013	17,453	0.835	10.201	3.103
Habib Bank A.G Zurich	2016	0.037	0.21	0.006	0.009	17,033	0.33	0.91	0.88
Habib Bank A.G Zurich	2015	0.035	0.198	0.012	0.010	14,440	1.07	4.11	1.08
Habib Bank A.G Zurich	2014	0.021	0.096	0.004	0.011	32,992	0.20	0.57	0.43
Habib Bank A.G Zurich	2013	0.036	0.204	0.009	0.009	15,737	0.700	2.506	0.979
Habib Bank A.G Zurich	2012	0.028	0.147	0.008	0.010	23,716	0.635	2.338	0.751
Giro Commercial Bank Limited	2016	0.037	0.195	0.003	0.008	16,254	0.31	5.17	6.92
Giro Commercial Bank Limited	2015	0.047	0.226	0.006	0.007	10,230	1.86	32.02	10.88
Giro Commercial Bank Limited	2014	0.053	0.286	0.003	0.011	12,147	0.40	0.76	1.11
Giro Commercial Bank Limited	2013	0.042	0.211	0.005	0.008	13,242	1.083	18.598	8.900
Giro Commercial Bank Limited	2012	0.050	0.256	0.005	0.009	11,189	1.130	16.393	5.995
Habib Bank Limited	2016	0.039	0.201	0.003	0.006	12,508	0.34	0.58	0.74
Habib Bank Limited	2015	0.030	0.169	0.003	0.006	15,810	0.85	3.31	0.59
Habib Bank Limited	2014	0.037	0.221	0.004	0.006	17,244	0.18	0.71	0.65
Habib Bank Limited	2013	0.035	0.185	0.003	0.006	14,159	0.594	1.945	0.668
Habib Bank Limited	2012	0.034	0.195	0.003	0.006	16,527	0.514	2.011	0.622
Guardian Bank Limited	2016	0.021	0.136	0.003	0.007	14,705	0.26	1.75	1.86
Guardian Bank Limited	2015	0.016	0.125	0.003	0.006	22,058	0.64	12.01	1.40
Guardian Bank Limited	2014	0.031	0.195	0.004	0.006	19,754	0.14	0.68	0.56

Guardian Bank Limited	2013	0.018	0.131	0.003	0.006	18,382	0.448	6.878	1.632
Guardian Bank Limited	2012	0.024	0.160	0.003	0.006	20,906	0.388	6.347	0.978
African Banking Corporation Limited	2016	0.010	0.074	0.002	0.006	22,422	0.14	0.61	0.37
African Banking Corporation Limited	2015	0.023	0.166	0.002	0.005	14,609	0.75	4.52	0.71
African Banking Corporation Limited	2014	0.056	0.274	0.003	0.005	9,449	0.25	1.05	1.36
African Banking Corporation Limited	2013	0.016	0.120	0.002	0.006	18,516	0.443	2.565	0.541
African Banking Corporation Limited	2012	0.039	0.220	0.002	0.005	12,029	0.501	2.784	1.036
National Bank of Kenya Limited	2016	0.001	0.015	0.032	0.005	115,114	0.03	0.53	0.05
National Bank of Kenya Limited	2015	0.024	0.124	0.006	0.005	10,533	1.22	2.15	0.62
National Bank of Kenya Limited	2014	0.031	0.195	0.023	0.005	15,082	0.16	0.83	0.66
National Bank of Kenya Limited	2013	0.013	0.070	0.019	0.005	62,824	0.621	1.342	0.335
National Bank of Kenya Limited	2012	0.028	0.160	0.015	0.005	12,808	0.688	1.491	0.639
Transnational Bank Limited	2016	0.015	0.077	0.016	0.004	10,465	0.27	1.81	1.00
Transnational Bank Limited	2015	0.011	0.063	0.015	0.005	16,943	0.57	5.11	0.64
Transnational Bank Limited	2014	0.026	0.215	0.014	0.005	14,571	0.15	0.52	0.44
Transnational Bank Limited	2013	0.013	0.070	0.016	0.004	13,704	0.418	3.461	0.819
Transnational Bank Limited	2012	0.018	0.139	0.015	0.005	15,757	0.362	2.813	0.540
Credit Bank Limited	2016	0.013	0.064	0.186	0.005	12,202	0.23	1.04	1.10
Credit Bank Limited	2015	0.016	0.11	0.174	0.004	10,526	1.19	6.46	1.22
Credit Bank Limited	2014	0.015	0.121	0.172	0.005	21,439	0.14	0.85	0.54
Credit Bank Limited	2013	0.015	0.087	0.180	0.005	11,364	0.708	3.751	1.159
Credit Bank Limited	2012	0.015	0.116	0.173	0.005	15,983	0.662	3.658	0.879
Paramount Bank Limited	2016	0.011	0.064	0.008	0.004	9,427	0.26	1.89	1.62
Paramount Bank Limited	2015	0.002	0.012	0.007	0.004	52,427	0.20	6.46	0.25
Paramount Bank Limited	2014	0.019	0.115	0.009	0.005	16,954	0.11	1.27	0.64
Paramount Bank Limited	2013	0.006	0.038	0.007	0.004	30,927	0.230	4.172	0.936
Paramount Bank Limited	2012	0.010	0.064	0.008	0.004	34,691	0.156	3.864	0.443
Development Bank of Kenya Limited	2016	0.006	0.033	0.002	0.004	16,418	0.18	0.76	0.58
Development Bank of Kenya Limited	2015	0.004	0.03	0.002	0.004	14,136	0.87	4.62	0.70
Development Bank of Kenya Limited	2014	0.018	0.173	0.002	0.005	16,515	0.12	0.63	0.63
Development Bank of Kenya Limited	2013	0.005	0.032	0.002	0.004	15,277	0.527	2.691	0.644

Development Bank of Kenya Limited	2012	0.011	0.102	0.002	0.004	15,326	0.495	2.627	0.668
Sidian Bank Limited	2016	0.003	0.016	0.037	0.004	20,875	0.11	8.47	5.00
Sidian Bank Limited	2015	0.008	0.034	0.040	0.004	5,678	1.83	51.69	18.37
Sidian Bank Limited	2014	0.003	0.026	0.042	0.005	62,212	0.03	0.77	0.17
Sidian Bank Limited	2013	0.005	0.025	0.039	0.004	13,277	0.969	30.078	11.683
Sidian Bank Limited	2012	0.005	0.030	0.041	0.004	33,945	0.932	26.229	9.267
UBA Kenya Bank Limited	2016	0.009	0.023	0.031	0.003	5,601	0.44	1.06	1.80
UBA Kenya Bank Limited	2015	0.005	0.019	0.030	0.004	8,496	0.30	4.47	1.07
UBA Kenya Bank Limited	2014	0.019	0.1	0.028	0.005	10,240	0.17	0.62	0.76
UBA Kenya Bank Limited	2013	0.007	0.021	0.031	0.003	7,049	0.370	2.768	1.435
UBA Kenya Bank Limited	2012	0.012	0.060	0.029	0.004	9,368	0.237	2.545	0.915
M-Oriental Bank Limited	2016	0.004	0.012	0.002	0.003	9,920	0.22	16.59	14.28
M-Oriental Bank Limited	2015	0.002	0.012	0.002	0.004	16,782	0.60	63.37	7.64
M-Oriental Bank Limited	2014	0.013	0.099	0.001	0.004	10,402	0.14	0.88	0.90
M-Oriental Bank Limited	2013	0.003	0.012	0.002	0.003	13,351	0.406	39.980	10.964
M-Oriental Bank Limited	2012	0.008	0.056	0.002	0.004	13,592	0.366	32.125	4.270
Bank of Africa Kenya Lim	2016	0.000	0.002	0.001	0.004	55,996	0.04	1.76	0.26
Bank of Africa Kenya Lim	2015	0.001	0.007	0.003	0.004	14,613	0.47	8.69	0.91
Bank of Africa Kenya Lim	2014	0.007	0.067	0.004	0.004	15,278	0.09	0.66	0.39
Bank of Africa Kenya Lim	2013	0.000	0.003	0.002	0.004	35,305	0.253	5.228	0.585
Bank of Africa Kenya Lim	2012	0.004	0.037	0.003	0.004	14,946	0.282	4.675	0.648
First Community Bank Limited	2016	-	-	0.011	0.004	14,962	0.13	24.20	14.77
First Community Bank Limited	2015	0.017	0.128	0.010	0.003	10,287	0.74	134.94	22.30
First Community Bank Limited	2014	0.007	0.031	0.009	0.003	13,118	0.10	0.86	0.50
First Community Bank Limited	2013	0.010	0.078	0.010	0.004	12,625	0.437	79.567	18.536
First Community Bank Limited	2012	0.005	0.049	0.010	0.003	11,703	0.422	67.900	11.402
Middle East Bank (K) Limited	2016	0.019	0.085	0.075	0.003	5,234	0.36	6.69	10.22
Middle East Bank (K) Limited	2015	0.018	0.159	0.080	0.003	15,025	0.54	41.32	3.86
Middle East Bank (K) Limited	2014	0.011	0.053	0.090	0.003	7,858	0.16	0.84	0.69
Middle East Bank (K) Limited	2013	0.019	0.122	0.078	0.003	10,130	0.449	24.004	7.039
Middle East Bank (K) Limited	2012	0.004	0.053	0.085	0.003	11,442	0.347	21.082	2.272

Consolidated Bank of Kenya Limited	2016	- 0.020	- 0.197	0.004	0.00 3	13,918	0.12	2.41	1.20
Consolidated Bank of Kenya Limited	2015	- 0.039	- 0.272	0.004	0.00 3	7,781	0.80	12.62	2.04
Consolidated Bank of Kenya Limited	2014	0.013	0.062	0.004	0.00 3	5,937	0.19	0.43	0.58
Consolidated Bank of Kenya Limited	2013	- 0.030	- 0.235	0.004	0.00 3	10,850	0.458	7.513	1.619
Consolidated Bank of Kenya Limited	2012	- 0.013	- 0.105	0.004	0.00 3	6,859	0.495	6.524	1.309
Jamii Bora Bank Limited	2016	- 0.031	- 0.137	0.003	0.00 3	15,724	0.13	1.56	0.76
Jamii Bora Bank Limited	2015	- 0.045	- 0.317	0.003	0.00 3	14,470	0.50	10.31	0.80
Jamii Bora Bank Limited	2014	0.002	0.007	0.003	0.00 3	3,502	0.33	0.76	1.34
Jamii Bora Bank Limited	2013	- 0.038	- 0.227	0.003	0.00 3	15,097	0.314	5.930	0.778
Jamii Bora Bank Limited	2012	- 0.022	- 0.155	0.003	0.00 3	8,986	0.417	5.531	1.071
Spire Bank Limited	2016	- 0.070	- 0.533	0.002	0.00 2	13,802	0.09	1.61	0.23
Spire Bank Limited	2015	- 0.021	- 0.169	0.003	0.00 2	69,280	0.06	2.13	0.04
Spire Bank Limited	2014	- 0.010	- 0.078	0.032	0.00 3	8,865	0.16	0.52	0.42
Spire Bank Limited	2013	- 0.045	- 0.351	0.002	0.00 2	41,541	0.073	1.866	0.133
Spire Bank Limited	2012	- 0.015	- 0.124	0.017	0.00 2	39,073	0.111	1.321	0.230
Ecobank Kenya Limited	2016	- 0.061	- 0.395	0.006	0.00 2	47,124	0.02	0.01	0.04
Ecobank Kenya Limited	2015	- 0.013	- 0.154	0.023	0.00 2	125,295	0.03	2.13	0.80
Ecobank Kenya Limited	2014	- 0.018	- 0.175	0.016	0.00 2	15,077	0.07	0.19	0.05
Ecobank Kenya Limited	2013	- 0.037	- 0.275	0.015	0.00 2	86,210	0.027	1.070	0.419
Ecobank Kenya Limited	2012	- 0.016	- 0.165	0.020	0.00 2	70,186	0.051	1.158	0.423
Chase Bank (K) Limited	2016	0.022	0.079	0.135	0.01 3	29,619	0.26	0.26	0.24
Chase Bank (K) Limited	2015	0.019	0.069	0.126	0.01 4	29,374	1.17	1.03	0.25
Chase Bank (K) Limited	2014	0.037	0.211	0.002	0.01 6	34,370	0.24	0.68	0.71
Chase Bank (K) Limited	2013	0.020	0.074	0.131	0.01 4	29,497	0.715	0.645	0.244
Chase Bank (K) Limited	2012	0.028	0.140	0.064	0.01 5	31,872	0.707	0.852	0.482
Charterhouse Bank Limited	2016	0.009	0.05	0.004	0.01 2	0	0.11	3.67	1.71
Charterhouse Bank Limited	2015	0.027	0.135	0.004	0.01 2	19,107	1.29	20.02	5.42
Charterhouse Bank Limited	2014	0.046	0.3	0.011	0.01 5	15,799	0.38	0.38	0.79
Charterhouse Bank Limited	2013	0.018	0.093	0.004	0.01 2	44,270	0.699	11.847	3.563
Charterhouse Bank Limited	2012	0.037	0.218	0.007	0.01 3	17,453	0.835	10.201	3.103
Fidelity Commercial Bank Limited	2016	0.037	0.21	0.006	0.00 9	17,033	0.33	0.91	0.88

Fidelity Commercial Bank Limited	2015	0.035	0.198	0.012	0.010	14,440	1.07	4.11	1.08
Fidelity Commercial Bank Limited	2014	0.021	0.096	0.004	0.011	32,992	0.20	0.57	0.43
Fidelity Commercial Bank Limited	2013	0.036	0.204	0.009	0.009	15,737	0.700	2.506	0.979
Fidelity Commercial Bank Limited	2012	0.028	0.147	0.008	0.010	23,716	0.635	2.338	0.751
United Bank of Africa	2016	0.037	0.195	0.003	0.008	16,254	0.31	5.17	6.92
United Bank of Africa	2015	0.047	0.226	0.006	0.007	10,230	1.86	32.02	10.88
United Bank of Africa	2014	0.053	0.286	0.003	0.011	12,147	0.40	0.76	1.11
United Bank of Africa	2013	0.042	0.211	0.005	0.008	13,242	1.083	18.598	8.900
United Bank of Africa	2012	0.050	0.256	0.005	0.009	11,189	1.130	16.393	5.995

8.0 List of Commercial Banks in Kenya

	Commercial Banks in Kenya
1	KCB Bank Kenya Limited
2	Equity Bank (Kenya) Limited
3	Co-operative Bank of Kenya Limited
4	Standard Chartered Bank Kenya Limited
5	Barclays Bank of Kenya Limited
6	Diamond Trust Bank Kenya Limited
7	I & M Bank Limited
8	Commercial Bank of Africa Limited
9	Stanbic Bank Kenya Limited
10	Citibank N.A Kenya
11	NIC Bank Limited
12	Bank of Baroda (K) Limited
13	Prime Bank Limited
14	Bank of India Ltd
15	HFC Limited

16	Victoria Commercial Bank Limited
17	Gulf African Bank Limited
18	Guaranty Trust Bank (K) Limited
19	Family Bank Limited
20	Habib Bank A.G Zurich
21	Giro Commercial Bank Limited
22	Habib Bank Limited
23	Guardian Bank Limited
24	African Banking Corporation Limited
25	National Bank of Kenya Limited
26	Transnational Bank Limited
27	Credit Bank Limited
28	Paramount Bank Limited
29	Development Bank of Kenya Limited
30	Sidian Bank Limited
31	UBA Kenya Bank Limited
32	M-Oriental Bank Limited
33	Bank of Africa Kenya Lim
34	First Community Bank Limited
35	Middle East Bank (K) Limited
36	Consolidated Bank of Kenya Limited
37	Jamii Bora Bank Limited
38	Spire Bank Limited
39	Ecobank Kenya Limited
40	Chase Bank (K) Limited
41	Charterhouse Bank Limited
42	Fidelity Commercial Bank Limited
43	United Bank of Africa