

**THE RELATIONSHIP BETWEEN PRODUCT DIVERSIFICATION AND
FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

BY

MARY WAIRIMU MAINA

REG NO. D61/67805/2011

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF MASTER IN BUSINESS
ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

OCTOBER, 2013

DECLARATION

I declare that this is my original work and has not been presented for a degree in any other university.

Sign: **Date:**

Mary Wairimu Maina

REG NO. D61/67805/2011

This research project has been submitted for examination with my approval as university supervisor

Sign..... Date.....

Supervisor

**Department of Finance and Accounting,
School of Business University of Nairobi**

DEDICATION

This research work is dedicated to the following: My loving family for support and patience during the entire period of my study. For their encouragement and continued prayers towards the successful completion of this course. Finally I pay tribute and gratitude to my employer and colleagues for their understanding during the entire period of the study. Thank you and God bless you.

ACKNOWLEDGEMENT

This study is a result of support from several sources and I wish to acknowledge them all. First, great thanks to the Almighty God for the sustenance and strength He has accorded me to carry out this study.

Secondly, thanks to my family members and friends for their love and moral support through the time of my studies. Thirdly, I recognize The University of Nairobi lecturers who are involved in the task of imparting knowledge. I also accord my sincere thanks to my supervisors for guidance and support to ensure that I carry out this study successfully.

TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF FIGURES	viii
LIST OF TABLES	ix
ABSTRACT	xi
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.1.1 Product Diversification	2
1.1.2 Financial Performance	3
1.1.3 Effect of Product Diversification on Financial Performance	4
1.1.4 Banking Industry in Kenya	5
1.2 Research Problem	6
1.3 Objective of the Study	7
1.4 Value of the Study	7
CHAPTER TWO	8
LITERATURE REVIEW	8
2.1 Introduction.....	8
2.2 Theoretical Review	8
2.2.1 The Resource-based view (RBV)	8
2.2.2 Transaction Cost Economics (TCE).....	8
2.2.3 Portfolio Theory.....	9
2.3 Types of Product Diversification	9
2.4 Determinants of Financial Performance	11
2.5 Product Diversification and Financial Performance in Banks	12

2.6 Empirical Evidence	14
2.7 Summary of Literature Review	15
CHAPTER THREE	17
RESEARCH METHODOLOGY	17
3.1 Introduction.....	17
3.2 Research Design.....	17
3.3 Population of the Study.....	17
3.4 Data Collection	18
3.5 Data Analysis	18
3.5.1 Analytical Model.....	19
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION	20
4.1 Introductions	20
4.2 Data Analysis and Interpretation.....	20
4.2.1 Diversification.....	20
4.2 Diversification in product and Profits	22
4.2 Trends of Income Sources Components and Profits 2008-2012.....	24
4.4 Correlations Analysis.....	25
4.5 Regression Analysis.....	27
4.6 Interpretation of Findings	33
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	35
5.1 Introduction.....	35
5.2 Summary of Findings and Conclusions	35
5.3 Conclusion	36
5.4 Recommendations.....	37
5.4 Limitations of the Study.....	37
5.5 Suggestion for Further Research.....	37
REFERENCES.....	38

APPENDICES	44
Appendix I: Summary of HHI Level for the Study Period	44
Appendix II: Commercial Banks	46

LIST OF FIGURES

Figure 4. 1: Average Level of Diversification for the Study Period.....	23
Figure 4. 2: NOI, NII, NONII and Profits Trends for the Study Period	24

LIST OF TABLES

Table 4. 1: Mean Diversification Levels for the Study Period (2008-2013).....	21
Table 4. 2: Average Diversification Levels and Profits.....	22
Table 4. 3: NOI, NII, NONII and Profits Trends 2008 - 2012	24
Table 4. 4: Zero order Correlation of Study Variables	26
Table 4. 5: Regression of Diversification (HHI) Level and Net Operating Income (NOI)	27
Table 4. 6: ANOVA for Product Diversification Level and Net Operating Income	28
Table 4. 7: Coefficients for Product Diversification Level and Net Operating Income	28
Table 4. 8: Results of Regressed Degree of HHI and Earnings before Interest and Tax (EBIT) Correlation Coefficient	29
Table 4. 9: ANOVA for Product Diversification Level and Earnings before Interest and Tax	29
Table 4. 10: Coefficients ANOVA for Product Diversification Level and Earnings before Interest and Tax	29
Table 4. 11: Results of Regressed Degree of HHI and Return on Assets (ROA) Correlation Coefficient.....	30
Table 4. 12: ANOVA for Product Diversification Level and Return on Assets	31
Table 4. 13: Coefficients for Product Diversification Level and Return on Assets	31
Table 4. 14: Results of Regressed Degree of HHI and Return on Equity (ROE) Correlation Coefficient.....	32
Table 4. 15: ANOVA for Product Diversification Level and Return on Equity	32
Table 4. 16: Coefficients for Product Diversification Level and Return on Equity	32
Table 4. 17 : Summary of HHI Level for the Study Period (Truncated 2 Decimals Places)..	44

LIST OF ABBREVIATION

CBK	Central Bank of Kenya
EBIT	Earnings Before Interest and Tax
HHI	Herfindahl-Hirschman Index
IPOs	Initial Public Offerings
MPT	Modern Portfolio Theory
RBV	Resource-Based View
ROA	Return on Assets
ROE	Return on Assets
TCE	Transaction Cost Economics

ABSTRACT

The profitability of commercial banks depends heavily on the net of income generating activities and the related activities' expense. Due to the problem of profitability and stiff competition in the industry, commercial banks have changed their behavior of income sources, by increasingly diversifying into non-intermediation income generating activities as opposed to the traditional inter-mediation income generating activities. The objective of this study was to establish the relationship between product diversification and financial performance of commercial banks in Kenya. This has been achieved through: establishing the level of income source diversification of commercial banks in Kenya and establish whether product diversification improves financial position of commercial banks. This was a census study of all registered 43 commercial banks in Kenya and relied heavily on documentary secondary data for 5 year study period (2008-2012). Herfindahl-Hirschman Index, Correlations and Regression analysis were mainly used and revealed on aggregate that all commercial banks in Kenya are diversified with large banks in lead while Islamic banks trail. Further, diversification level has a positive influence on financial performance of commercial banks in Kenyan. This study recommended that banks should extend their product mixes to increase profitability through combination of traditional intermediation activities and non interest activities. The study recommends that a similar study should be carried out across East Africa and beyond and see whether the same results would be replicated.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Over the last two decades, commercial banks have evolved from the traditional intermediation business model, which depends on the difference between interest earned from loans and other investments and interest paid on deposits, into new noninterest banking activities. For example, the noninterest earnings of the commercial banks has increased from 0.77 to 2.39 per cent of aggregate banking industry assets between 2007 and 2009, and increased from 20.31 to 42.20 per cent of the aggregate banking industry operating income during the same period (DeYoung and Rice, 2012).

Financial institutions generate increased portion of their income from non-intermediation activities (DeYoung and Rice, 2012) and this could be associated to financial liberalization policies. Deregulation and new technology have eroded banks' comparative advantages and made it easier for non-bank competitors to enter these markets, necessitating banks to shift their sales mix and diversify towards non-interest income sources (Montiel, 2009, Angbazo, 2007). Findings from USA studies show that in 2007's non-interest income grew rapidly to be a large part of banks operating profits. Non-interest income accounts for 43% of U.S.A commercial banks net operating income (Stiroh 2008).

Financial liberalization of early 2007s in Kenya opened the banking industry to a number of players leading to stiff competition and weakening of financial performance of a number of commercial banks leading to collapse of some. In response, commercial banks have changed their behavior of income sources by diversifying as a possible way of improving performance. The Kenyan banking industry has experienced significant changes in the recent years. Most of the banks that used to provide traditional financing services have moved to provide many additional fee-based services including those traditionally provided by investment banks like initial public offerings (IPOs) underwriting or real estate activities. Banks may even provide some insurance services through the bank holding companies that

may constitute a financial supermarket in which clients can find all the financial services they need in one place. These changes came as a result of the regulatory changes in the banking industry that allowed commercial banks to expand into new activities.

As Ellerton (2009) indicates, there are significant recent changes in what constitutes a core business in the banking industry and that traditional banking is being expanded into the new technology of investment banking. Although commercial banks have long earned noninterest income from traditional services such as checking accounts or letters of credit, they have recently expanded into new sources of noninterest income such as insurance and mutual fund sales and loan securitization (DeYoung and Roland, 2001). This recent trend may bring new growth opportunities for banks and it may also affect their risk levels. The banks' involvement in noninterest banking activities is a product diversification strategy.

Many studies have looked at the effect of such strategic movement on bank risk. Heggstad (2009) provided early evidence that noninterest activities do not necessarily add to the riskiness of bank holding companies. Bergeret al., (2009) have also analyzed the potential benefits and synergies from an expansion of banking business into noninterest activities either from the cost perspective (as a result of economics of scale) or from the revenue perspective (as a result of the ability of the bank to raise more revenues from complementarities in financial services consumption). Bergeret al., (2009) did not show that such synergies exist. However, Berger and DeYoung (2001) argued that banks may benefit from their geographical expansion either in the form of lower costs of producing the current financial services or in the form of higher revenues from providing a new bundle of services to customers. This study seeks to establish the relationship between product diversification involving such strategic movement from traditional banking activities to noninterest banking activities and financial performance.

1.1.1 Product Diversification

Diversification is one of the most strategic decisions that managements take. Involving significant capital outflows and entry into new products and markets,

diversification has far-reaching implications for the organization's structure, systems, processes, and performance (Ansoff, 1957). According to Teece (2007) diversification should enable enterprises to obtain economies of scale or scope economies by sharing resources and diffusing capacity. In the meantime, due to the shortcomings of the external capital market, the diversification operation could help banks develop the ability to maximize the use of resources, such as production capacity, knowledge, management skills, entrepreneurship and markets (Guillen, 2009).

Galbraith (2008) suggested that there are three types of product diversification. They are related, linked and unrelated diversification. While in un related diversification the common features are generally limited to finance and business management; in related diversification, on the other hand , additional synergy are present, such as technology know how, marketing and distribution expertise, or facilities in production. Linked diversification, involves moving into new industries and operating at different centers of concern in those industries. However there is kind of a chain (integration) among various businesses.

1.1.2 Financial Performance

Firm's performance is the appraisal of prescribed indicators or standards of effectiveness, efficiency, and environmental accountability such as productivity, cycle time, regulatory compliance and waste reduction. Performance also refers to the metrics regarding how a certain request is handled, or the act of doing something effectively; of performing; using knowledge as notable from just possessing it. It is the result of all of the organisation's operations and strategies (Venkatraman and Ramanujam, 2001).

The financial performance of commercial banks is usually measured using a blend of financial ratios analysis, measuring performance alongside budget, benchmarking or a combination of these methodologies. The common postulation, which explains most of the financial performance discussion and research, is that increasing financial performance will result in improved functions and actions of the firms. According to Fitzgerald, Johnston, Brignall, Silvestro and Voss (2007) there are three principal factors to advance financial performance for financial firms; the institution size, the institution asset management, and the institution operational efficiency. It is accepted

that “Return on Assets” and “Return on Equity” are important measurement ratios to determine the financial performance of banks (Acharya et al. 2007).

According to Leontiades (2009) ROE and ROA are different, but together they provide a clear picture of management's effectiveness. If ROA is sound and debt levels are reasonable, a strong ROE is a solid signal that managers are doing a good job of generating returns from shareholders' investments. ROE is certainly a "hint" that management is giving shareholders more for their money. On the other hand, if ROA is low or the company is carrying a lot of debt, a high ROE can give investors a false impression about the company's fortunes. Return on assets (ROA) ratio: Net profit after taxes/Total assets. This ratio is calculated as net profit after tax divided by the total assets. This ratio measure for the operating efficiency for the company based on the firm's generated profits from its total assets. Return on owner's equity (ROE) ratio: Net profit after taxes/Total shareholders' equity. This ratio is calculated as net profit after tax divided by the total shareholders' equity. This ratio measures the shareholders rate of return on their investment in the company.

1.1.3 Effect of Product Diversification on Financial Performance

Research findings from developed (USA and Europe) markets on impact of product diversification on banks financial performance differs greatly. It worsens risk-return trade-off in USA while it increases risk-return trade-off in Europeans banks. Stiroh (2008), De Young and Rice (2008), Stiroh and Rumble (2009) indicate a worse risk-return trade-off for U.S.A commercial banks venturing into product diversification. Amit & Livnat (2008) show that product diversification increases risk-return trade-off for European banks. According to Stiroh (2008), diversification increases bank revenue and reduces volatility of bank profits. Moon (2009) suggest that diversification improves cost efficiency through lower risk from diversification if it occurs, and lowers the required risk premiums on un-insured debt and other contingent claims , such as derivative contracts. Financial institutions may also have higher average revenues if the institutions use some of the gains from diversification to make higher risk investments (Hughes and Mester, 2008).

1.1.4 Banking Industry in Kenya

The Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK), govern the Banking industry in Kenya. The banking sector was liberalised in 2009 and exchange controls lifted. The CBK, which falls under the Minister for Finance's docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. The CBK publishes information on Kenya's commercial banks and non-banking financial institutions, interest rates and other publications and guidelines. Banks in Kenya have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banks' interests and addresses issues affecting its members.

As at 31st December 2009, the banking sector was composed of 46 institutions, 44 of which were commercial banks and 2 mortgage finance companies. In addition, there was 1 licenced deposit taking microfinance institution and 130 foreign exchange bureaus (CBK Bank Supervision Annual Report, 2011). Thirty-five of the commercial banks, most of which are small to medium sized, are locally owned. The industry is dominated by a few large banks most of which are foreign-owned and yet some partially locally owned. Six of the major banks are listed on the Nairobi Stock Exchange. The banks offer corporate and retail banking services but a small number, mainly comprising the larger banks, offer other services including investment banking.

The Kenyan Banking sector has demonstrated a solid growth over the past few years. The industry continues to offer significant profit opportunities for the major participants. Banks generally earn their revenues from taking in funds and lending them out at a higher rate. The spread between deposits and loans continues to be around 10.5%, offering much profit potential. Profit after tax of the overall banking system increased by 41.2%, for the financial year ending June 2012. This growth is a continuation of the strong growth in profit after taxes that the industry has achieved for the past several years (Banking Regulation and Supervision Agency, 2012).

1.2 Research Problem

During the past three decades, a number of studies (Hitt et al., 2007; Lu and Beamish, 2001) have examined issues related to product diversification at the corporate level, and have argued that firms can engage in such activities because they possess a particular set of advantages (Delios and Beamish, 2009). Pursuing product diversification activities may enable a bank to exploit market opportunities and enjoy the benefits of economies of scale or scope. Product diversification may also achieve competitive advantage for banks through economics of scale and other synergies from using the banks resources and capabilities across different product lines (Geringer et al., 2007). Such synergies from product diversification are more likely to be realized when firms expand into related lines of business or industries (Qian, 2007; Luo, 2007).

In the Kenyan banking sector, financial liberalization policies, deregulation and new technology have eroded banks' comparative advantages and made it easier for non-bank competitors to enter these markets, necessitating banks to shift their sales mix and diversify towards non-interest income sources. Banks have therefore involved in product diversification which has seen them evolve from the traditional intermediation business model, which depends on the difference between interest earned from loans and other investments and interest paid on deposits, into new noninterest banking activities (Munene, 2012).

Locally, studies that have been done on product diversification include: Mohamed (2009) did a study on loan portfolio diversification: an empirical investigation of commercial banks in Kenya; Mwindi (2009) carried out an analysis of the application of unrelated diversification strategy by the major oil companies in Kenya. To the best of the researcher's knowledge, no known study has been done on product diversification and financial performance in Kenya. Moreover, existing research on management typically focuses on the product diversification strategies of companies in developed countries (Bartlett and Ghoshal, 2009; Taggart, 2007); few studies have examined the product diversification behaviors of banks in developing countries. This study, therefore, seeks to fill the knowledge gap by examining the relationship between product diversification and financial performance of commercial banks in

Kenya. The study sought to answer the following question: What is the relationship between product diversification and financial performance of commercial banks in Kenya?

1.3 Objective of the Study

To establish the relationship between product diversification and financial performance of commercial banks in Kenya.

1.4 Value of the Study

The study would be important to the following groups:

Managers: the study would be invaluable to not only to the bank managers but also other managers in organizations in other industries. It would help them understand the relationship between product diversification and financial performance and achieve competitive edge. The study would also highlight other important relationships that require further research; this would be in the areas of relationships between product diversification and performance.

Researchers and scholars: The results of this study would also be invaluable to researchers and scholars, as it would form a basis for further research. The students and academics would use this study as a basis for discussions on the relationship between product diversification and financial performance. The study would be a source of reference material for future researchers on other related topics; it would also help other academicians who undertake the same topic in their studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the researcher discussed what other authors have found out in regard to product diversification and financial performance. Only the issues in the objective were addressed, critically reviewed and discussed.

2.2 Theoretical Review

The main theoretical frameworks used in diversification literature that have provided arguments in favor of diversification are the resource-based view (RBV), transaction cost economics (TCE) and portfolio theory.

2.2.1 The Resource-based view (RBV)

The Resource-based view (RBV) provides the earliest theoretical arguments in favor of diversification. Penrose (1959) points out that at any point in time a firm has certain productive resources, which can be used to exploit productive opportunities to allow the firm to grow successfully. Researchers identified a wide range of resources that create a unique advantage for a company by sharing them across businesses. For example, Goold and Campbell (2008) highlighted the benefits of sharing know-how and tangible resources, coordinated strategies, vertical integration, and pooling negotiating power. These resources allow a firm to generate economies of scale and scope by increasing the efficiency in the use of these resources (Contractor, Kundu & Hsu, 2009). Hence, from the Resourced-Based View a firm should try to maximize exploiting the valuable resources it has by sharing them across as many businesses as possible.

2.2.2 Transaction Cost Economics (TCE)

This theory inform when firms should organize new activities within the boundaries of the firm and how firms can benefit from sharing resources across different businesses within their own firm boundaries. This theoretical framework suggests that diversification allows firms to obtain greater market power by blocking out

competitors and through vertical integration. More specifically, diversified companies are able to cross-subsidize their businesses, and reduce prices, which helps raising barriers for entry and/or squeezing competitors out of the market (Miller, 2009). Vertical integration allows companies to avoid market costs, control product quality and prevents its technology from spilling over to suppliers, and other intermediaries (Penrose, 1959). Hence, from a transaction cost perspective firms should diversify whenever doing so increases their market power and/or they can organize the additional activities more efficiently than the market or their competitors.

2.2.3 Portfolio Theory

Finally, several scholars have tried to explain the benefits of diversification using portfolio theory. Modern portfolio theory (MPT) is a theory of investment which tries to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. These scholars argue that the allocation of assets across different markets with independent of cash flows reduces the impact of unsystemic risk resulting from external contingencies in each of the various markets (Lewellen, 2001). Hence, diversification reduces firms' exposure to risk. Leontiades (2009) also found that diversified companies enjoy higher leverage and debt capacity.

2.3 Types of Product Diversification

Product diversification focuses on a firm's expansion of its activities into new products markets. According to Ramanujam & Varadarajan (2009), the nature of the organization changes when it enters new products markets as this creates a number of new administrative linkage mechanisms. In general, firms pursue product and international diversification to exploit underutilized resources within the firm and to take advantage of imperfections of markets, which creates new opportunities for growth (Penrose, 1959).

Several researchers argued that a firm's diversification strategy can be described in quantitative (the degree of diversification), and qualitative (the type of diversification) terms. The degree of diversification generally refers to the dispersion of a firm's assets across different markets while the type of diversification refers to diversity

between the different businesses, in which the firm is active (Datta, Rajagopalan & Rasheed, 2001).

In other words, the degree of diversification solely refers to dispersion of a firm's activity in terms of its assets or sales among different markets without considering any differences between these markets. Hence, the degree of diversification is generally conceptualized and operationalized as the number and the relative importance of the international or product markets a firm is active in. The type of diversification aims to capture the diversity among the businesses a firm is active in. One such distinction that is often made is the distinction between related and unrelated diversification. Related diversification involves operating businesses in industries that are related to each other and, therefore, offers more opportunities to share operating assets and capabilities as well as financial resources.

Hence, firms are generally better able to enjoy economies of scope when diversification is related. Unrelated diversification involves operating businesses in industries that are not related to each other in straightforward way. As a result firms are not able to share most of their resources among the different businesses and they might be limited to solely share financial resources (Jones & Hill, 2008).

Depending on the context relatedness can refer to various aspects of a firms businesses: product relatedness (Ansoff, 1957), technological relatedness (Penrose, 1959) R&D relatedness, marketing relatedness, advertising relatedness, human resource relatedness, managerial logic relatedness, knowledge relatedness, cultural relatedness and institutional relatedness (Henisz, 2007).

Related diversification is seen as being superior to unrelated diversification. In unrelated diversification the underlying strategy has nothing to do with securing access to compatible technologies, products or markets. The main objective is to acquire valuable assets that will increase profitability. It does become very challenging to manage a business that has been acquired through unrelated diversification when the necessary administration skills and knowledge do not exist. There are very significant risks operating in areas where the detailed knowledge of key success factors is limited (Goerzen and Beamish, 2009).

2.4 Determinants of Financial Performance

2.4.1 The market value of a company

Analysis of the determinants of corporate financial performance is essential for all the stakeholders, but especially for investors: commercial banks focus on maximizing shareholder value. This principle provides a conceptual and operational framework for evaluating business performance. The value of shareholders, defined as market value of a company is dependent on several factors: the current profitability of the company, its risks, its economic growth essential for future company earnings (Chiorazzo, Milani and Salvini, 2008).

According to D'Souza and Lai (2009) financial indicators based on accounting information are sufficient in order to determine the value for shareholders. A company's financial performance is directly influenced by its market position. Profitability can be decomposed into its main components: net turnover and net profit margin. Jones & Hill (2008) argues that both can influence the profitability of a company one time. If a high turnover means better use of assets owned by the company and therefore better efficiency, a higher profit margin means that the entity has substantial market power.

2.4.2 Risk and Growth

Montgomery (2008) suggests that risk and growth are two other important factors influencing a firm's financial performance. Since market value is conditioned by the company's results, the level of risk exposure can cause changes in its market value. Economic growth is another component that helps to achieve a better position on the financial markets, because market value also takes into consideration expected future profits.

In the scientific literature, the mentioned factors, a number of other variables that have a greater or less influence on corporate financial performance include: The size of the company can have a positive effect on financial performance because larger firms can use this advantage to get some financial benefits in business relations. Large companies have easier access to the most important factors of production, including

human resources. Also, large organizations often get cheaper funding (Morgan and Samolyk, 2009).

2.4.3 Capital Structure

In the classical theory, capital structure is irrelevant for measuring company performance, considering that in a perfectly competitive world performance is influenced only by real factors. Recent studies contradict this theory, arguing that capital structure play an important role in determining corporate performance. Stiroh (2008a) suggest that entities with higher profit rates will remain low leveraged because of their ability to finance their own sources. On the other hand, a high degree of leverage increases the risk of bankruptcy of companies. Total assets are considered to positively influence the company's financial performance, assets greater meaning less risk.

2.4.4 Sales (turnover)

A large volume of sales (turnover) is not necessarily correlated with improved performance. Studies that have examined the relationship between turnover and corporate performance were inconclusive. The main objective of the company has evolved over time; the need for short term profit is replaced by the need for long-term growth of the company (sustainable growth). Therefore, a sustainable growth rate higher would have a positive impact on performance. For the companies listed at the stock exchange, its ability to distribute dividends is a proof of stability. However, until now there is no proof of a link between this factor and profitability, since profits can be used for purposes other than to distribute dividends (Tabak, Fazio and Cajuerio, 2010).

2.5 Product Diversification and Financial Performance in Banks

Over the last decades an extensive body of research has looked at the diversification-performance relationship without coming to an unambiguous conclusion. Scholars have found a linear positive relationship (Jacquemin and Berry (2009), a linear negative relationship (Amit and Livnat (2008) a non-linear U-shaped relationship (Ruigrok and Wagner (2009)), a non-linear inverse U-shaped relationship (Grant,

Jammine and Thomas (2008), a sigmoid relationship (Contractor, Kundu and Hsu (2009); Lu and Beamish (2008) or no significant relationship at all (Montgomery, 2009). The examples above as well as review papers on the diversification-performance relationship (Grant et al., 2008; Hennart, 2007; Ramanujam et al., 2009) indicate that the results are contradictory and that there is no consensus in the literature.

Some scholars attempted to explain these mixed results by identifying a number of contingencies, which moderate the diversification-performance relationship. Hitt, Hoskisson and Kim (2007) found a positive moderating effect of the level of product diversification on relationship between international diversification and performance.

Vermeulen and Barkema (2007) report a negative moderating effect of product scope on the relationship between number of foreign subsidiaries and profitability. Geringer, Tallman and Olsen (2007), hint in the conclusion of their study that simultaneous high levels of product diversification might lead to a reduction in performance. Tallman and Li (2009) suggested a number of additional moderating effects but failed to find any convincing support.

Overall, the generalizability of the contingencies all these scholars proposed turned out to be limited. Still confronted by contradictory empirical findings a second wave of researchers tried to come up with additional contingencies, which might matter. These can be classified in two categories: external contingencies, and internal contingencies.

The external factors include industry characteristics (Montgomery, 2009), characteristics of the economy as a whole (Chakrabarti, Singh, & Mahmood, 2007), differences between time period (Geringer et al., 2007), while the internal factors different include the firm's levels of R&D and advertising intensity, differences in the firm's ownership and managerial structure (Jiraporn et al., 2009). Although incorporating all these contingencies has improved our understanding of the diversification-performance relationship, it has not resolved the ambiguity of the direct relationship between diversification and performance.

2.6 Empirical Evidence

Acharya et al. (2007) performed one of the first and important studies about diversification on banks' credit portfolio. They analyzed Italian banks and found that both industrial and sectoral diversification reduces bank returns while producing riskier loans. Busch and Kick (2009) examined income diversification in the German banking industry. Goetz (2012), studies how a bank's diversification affects its own risk taking behavior and the risk taking of competing, non-diversified banks. These findings indicated that a bank's diversification also impacts the risk taking of competitors, even if these banks are not diversifying their activities. Fang et al. (2011), resulted that asset diversification is associated positively and loan diversification negatively with bank performance.

Results of the studies provided from E.U. banks and U.S. experience (Stiroh 2008a,b; Stiroh and Rumble 2009) contradict to each other in terms of diversification. The study made for Italian banks resulted that income diversification increases risk-adjusted returns and found that there are limits to diversification gains as banks get larger (Chiorazzo et al., 2008). Cotugno and Stefanelli (2012), confirmed a positive relationship between product diversification and bank performance and identical results are obtained with respect to the geographical diversification.

On the other hand for U.S. banks Morgan and Stolyk (2009), suggested that product diversification increases the lending capacity of banks and the banking system, but it does not increase the profits of individual banks or reduce the risk in their portfolio. Stiroh (2008a), examined the link between diversification and risk adjusted performance for small community banks and resulted that diversification benefits within broad activity classes but not between them. Stiroh (2008b) explored the link between the growing reliance on noninterest income and the volatility of bank revenue and profits and results of the study from both aggregate and bank data provided little evidence that this shift offers large diversification benefits in the form of more stable profits or revenue.

D'Souza and Lai (2009) measured the efficiency of Canada's Big Five chartered banks and found that banks systematically underperform over time. Düllmann et al. (2010), examined if monitoring abilities of German cooperative banks and savings

banks increase with their specialization on certain industry sectors and they observed that sectoral specialization generally entails better monitoring quality, particularly in the case of the cooperative banks. Deng and Elyasiani (2008), found that product diversification is associated with bank holding company value enhancement and risk reduction, increased distance between a bank holding company and its branches is associated with firm value reduction and risk increase. Tabak et al. (2010), assessed whether banks operating within the Brazilian banking system concentrate or diversify their credit portfolio and how this choice impacts their performance and risk and they founded that Brazilian Banks' loan portfolios are more concentrated than those of developed countries like Germany, Italy and the U.S. Bebczuk and Galindo (2008), analyzed sectoral diversification of Argentine banks and suggested that larger banks benefit more from diversification than smaller ones and that the benefits of diversification are greater during the downside of the business cycle.

2.7 Summary of Literature Review

Diversification is particularly important for a bank, given its nature as a financial intermediary. Since risk management is an integral part of a financial firm's business, the ability to gain from diversifying risks is important for such firms. The reviewed literature has shown that asset diversification is associated positively and loan diversification negatively with bank performance (Fang et al., 2011). Results of the studies provided from E.U. banks and U.S. experience contradict to each other in terms of diversification. The study made for Italian banks resulted that income diversification increases risk-adjusted returns and found that there are limits to diversification gains as banks get larger (Cotugno and Stefanelli, 2012). It has also been revealed that geographic diversification is associated with bank holding company value enhancement and risk reduction, increased distance between a bank holding company and its branches is associated with firm value reduction and risk increase (Deng and Elyasiani, 2008).

The studies reviewed above are mainly done in the developed countries whose institutions product diversifications effect on financial performance are different from that of banks in Kenya. Therefore, there exist a research gap on the relationship between product diversification and financial performance of commercial banks in

Kenya. This study therefore seeks to fill this literature gap by investigating the relationship between product diversification and financial performance of commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented the methodology that was used to carry out this study. The chapter presented the research design, the population, and data collection method and instruments and data analysis.

3.2 Research Design

For the purposes of this study, the researcher used causal research design. A causal research explores the effect of one thing on another and more specifically, the effect of one variable on another (Dooley, 2007). According to Kumar (2009), causal-comparative research attempts to identify a causative relationship between an independent variable and a dependent variable. A cause-effect research design (causal) is chosen because it enables the researcher to generalize the findings to a larger population. This study therefore was able to generalize the findings to all the commercial banks in Kenya. This design was appropriate in investigating the relationship between product diversification and financial performance of commercial banks in Kenya.

3.3 Population of the Study

Target population in statistics is the specific population about which information is desired. According to Ngechu (2008), a population is a well defined or set of people, services, elements, events, group of things or households that are being investigated. Mugenda and Mugenda, (2003), explain that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study. This definition ensures that population of interest is homogeneous. The target population comprised of 43 commercial banks in Kenya (see Appendix I).

The study adopted Census method and involved all registered 43 operational commercial banks in Kenya as per Central Bank of Kenya (CBK) record for the study period 2008-2012. However commercial banks which are not operational for the

entire 5 year period or under receivership were dropped due to incomplete records or missing data. The financial statements (secondary data) were obtained from individual banks websites, CBK supervisory data bank and National daily news papers (Nation and Standard). These sources are authentic thus reliable, suitable and valid.

3.4 Data Collection

For the purpose of this study, the researcher mainly used secondary data – An audited financial statement of commercial banks. The researcher mainly collected quantitative data. Secondary data involves the collection and analysis of published material and information from other sources such as annual reports, published data. Thus in this study the researcher used the end of year financial reports of the banks for the last five years specifically the balance sheets and the income statements. The balance sheet provided the researcher with information regarding the total asset changes while the income statement provided information regarding changes in net income and Equity. Bryman and Bell (2003) further explain that secondary data is a useful quantitative source for evaluating historical or contemporary confidential or public records, reports, government documents and opinions.

3.5 Data Analysis

Inferential statistics was used with the aid of SPSS programme at 95%, 99% confidence level. Herfindahl - Hirschman Index, Correlations and Regression will mainly be used. Product diversification will be analyzed using Herfindahl-Hirschman Index (HHI). This study adopted an Adjusted HHI approach (Acharya et al. 2007; Stiroh and Rumble 2009; Stiroh 2008) as shown;

$$HHI = 1 - \left\{ \left(\frac{NII}{NOI} \right)^2 + \left(\frac{NONII}{NOI} \right)^2 \right\}$$

Where: HHI = level of product diversification, NII = Net Interest Income, NONII = Non-Interest Income, NOI=Net Operating Income and 1 is a unit. The sum of squared revenue is subtracted from a unit so that HHI level increases with the level of diversification which takes on values between $0 < HHI < 0.75$.

For the purpose of this study product diversification was denoted by HHI. From any Kenyan commercial banks' audited published financial statement, there are three

sections; statement of financial position, statement of comprehensive income and other disclosures. Income statement contains net interest income (NII) and non-interest income (NONII) as major revenue streams. Interest income components are; loans and advances, government securities, deposits and placement with other banking institutions, and other interest income. Non-interest income components are; fees and commissions on loans and advances, other fees and commissions, foreign exchange trading income, dividend income, and other non-interest income. Diversification level for commercial banks per year will be calculated and averaged for the banking sector, peer group, ownership and faith as per CBK classification. ROE and ROA are returns (EBIT) on equity and assets respectively.

3.5.1 Analytical Model

The regression model was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Whereby Y = Financial performance indicator as the dependent variable while X1 is the Production diversification level (HHI) as the independent variable and B₀ is the Y intercept, β₁... is the coefficients and ε = Error term. Diversification level (HHI) will be separately regressed against the following financial performance measures ROA, EBIT, NOI and ROE as shown below:

$$\text{ROA} = \beta_0 + \beta_1 (\text{HHI}) + \varepsilon \dots \dots \dots (1)$$

$$\text{ROE} = \beta_0 + \beta_2 (\text{HHI}) + \varepsilon \dots \dots \dots (2)$$

$$\text{NOI} = \beta_0 + \beta_3 (\text{HHI}) + \varepsilon \dots \dots \dots (3)$$

$$\text{EBIT} = \beta_0 + \beta_4 (\text{HHI}) + \varepsilon \dots \dots \dots (4)$$

Where ROA is Return on assets, ROE is return on owner's equity, EBIT is earnings before income tax, NOI is net operating income, HHH is the level of product, diversification, β₀ is the y intercept and ε is the error term. The F- value was used to test for significance.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introductions

This chapter presents the research findings on the study on the relationship between product diversification and financial performance of commercial banks in Kenya. The data was collected on a sample of 42 commercial banks for the period ranging from 2008 to 2012.

4.2 Data Analysis and Interpretation

4.2.1 Diversification

Both interest and non-interest incomes from traditional intermediating activities and non interest activities are heterogeneous, and diagnosing each component reveals different levels of diversification as shown in Table 4.2 Construction of HHI:

HHI_NONII=

$$1 - \left\{ \left(\frac{FL}{NONII} \right)^2 + \left(\frac{OF}{NONII} \right)^2 + \left(\frac{FOREX}{NONII} \right)^2 + \left(\frac{DW}{NONII} \right)^2 + \left(\frac{ONONII}{NONII} \right)^2 \right\} \dots (iii)$$

$$HHI_{NII} = 1 - \left\{ \left(\frac{L}{NII} \right)^2 + \left(\frac{GOVT}{NII} \right)^2 + \left(\frac{DP}{NII} \right)^2 + \left(\frac{DW}{NII} \right)^2 + \left(\frac{ONNIO}{NII} \right)^2 \right\} \dots (iii)$$

Where: HHI_NONII=diversification level of NONII components, 1 =a unit, FL=fees and commissions on loans and advances, NONII=Non-Interest Income, OF=other fees and commissions, FOREX=foreign exchange trading income, DIV=dividend income, ONONII= other non-interest income, NII=Net interest income, L=loans and advances, GOVT=government securities, DP=deposit and placement, ONII=other interest income. Their diversification level are shown in table 4.2 and further demonstrated by figure 4.2.

From the figure 4.2, profits have been increasing at increasing rate from year 2008-2010, but increased at decreasing rate in year 2011. Similarly (HHI_NONII) increased at increasing rate up to the years 2010 and stagnated at 0.70 in year 2011. However (HHI_NII) increased in the years 2008-2010 and decreased for subsequent years (2011-2012) to 0.36. Evidently, the growth of profits could be associated with the movement of diversification level of non-interest income which has been steady and

stable. This has been hailed by Stiroh (2004) that diversification into non-interest income increases bank revenue and reduces volatility of banks profits.

Therefore the stability of profits of commercial banks in Kenya could be stable because of the stability of non-interest income diversification level. The drastic and sporadic reduction in diversification level in interest income could be associated with 2008/2009 anti-economic activities (U.S.A credit crunch, new Kenya’s economic policies, Inflation rate, and effect of post-elections violence in Kenya). During the period, the traditional banking generating activities decreased and suppressed non-traditional income generating activities.

In order to assess the level of product diversification of commercial banks in Kenya, the study assumed that commercial banks in Kenya are diversified in product. The mean diversification levels for commercial banks according to sector, peer group, size (assets) and faith is as shown in table 4.1, and further justified by figure 4.1. This reveals varying levels of diversifications; large (HHI=.46) commercial banks are above the sectors’ level (HHI=.43), while medium (HHI=.42) and small (HHI.41) commercial banks fall below. However private and public banks tie up at HHI= .43 and at par with the sector while Islamic (HHI=.40) banks trail. This implies that all commercial banks in Kenya are moderately ($0.25 < HHI < 0.75$) diversified at aggregate level and no extreme.

Table 4. 1: Mean Diversification Levels for the Study Period (2008-2013)

Period	No	Industry	Large	Medium	Small	Public	private	Islamic
2008	39	0.42	0.46	0.43	0.37	0.40	0.42	-
2009	39	0.43	0.46	0.40	0.44	0.40	0.44	-
2010	39	0.43	0.46	0.44	0.41	0.46	0.43	-
2011	40	0.43	0.46	0.43	0.42	0.46	0.45	0.41
2012	42	0.42	0.47	0.42	0.42	0.43	0.44	0.39
Mean	39.8	0.43	0.46	0.42	0.41	0.43	0.43	0.40

Source: Research Findings

At individual banks level (see Appendix table 4.17 figures truncated to 2 decimal places), apart from bank of Baroda (HHI=0.23) all banks are moderately diversified ($0.25 < \text{HHI} < 0.5$), with Larger banks recording higher towards balanced in revenue streams. This matches Chiarozza et al (2007) findings on European banks where diversification diminishes with bank size, and supported by MCallister and MC Manus (1993) with conclusion that larger banks have greater ability to diversify risk.

The interpretation is that large banks enjoys economy of scale and could take risk projects which medium and small could not enjoy. Ownership does not influence income source diversification level of commercial banks in Kenyan, since private and public banks are at par. The Islamic banks are diversified though at early phases of market product development. Large banks may have more developed risk management techniques or may be involved in fundamentally different types of activities with different distributions.

4.2 Diversification in product and Profits

Both related and non related diversification activities income are heterogeneous and diagnosing each component reveals different levels of diversification as shown in Table 4.2.

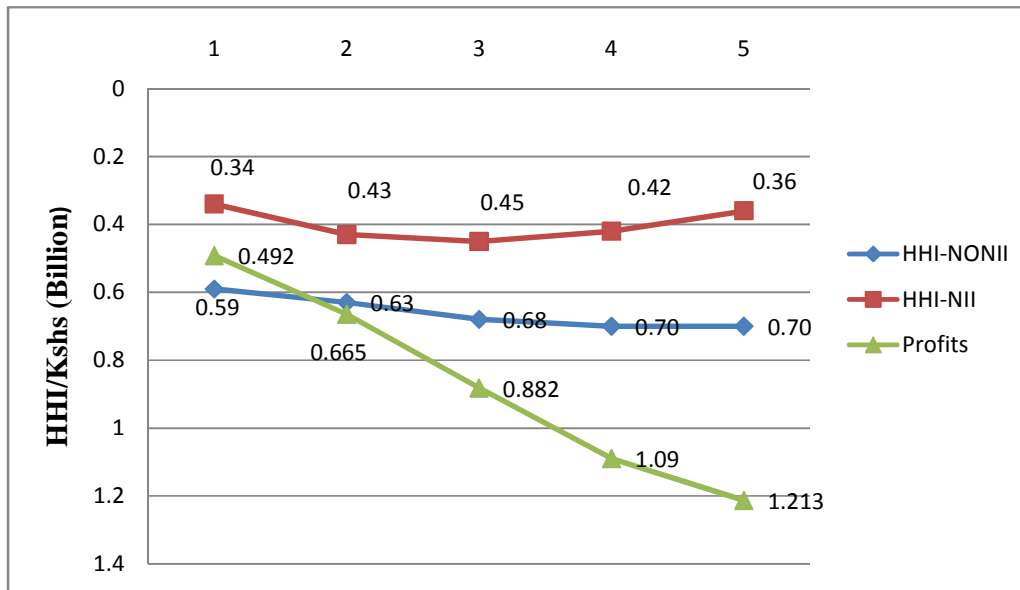
Table 4. 2: Average Diversification Levels and Profits

	2008	2009	2010	2011	2012
HHI_NONII	0.59	0.63	0.68	0.70	0.70
HHI_NII	0.34	0.43	0.45	0.42	0.36
Av. Profits(Kshs B)	0.492	0.665	0.882	1.09	1.213

Source: Research Findings

Construction of HHI: Where: HHI_NONII=diversification level of NONII components, 1 =a unit, FL=fees and commissions on loans and advances, NONII=Non-Interest Income, OF=other fees and commissions, FOREX=foreign exchange trading income, DIV=dividend income, ONONII= other non-interest income, NII=Net interest income, L=loans and advances, GOVT=government securities, DP=deposit and placement, ONII=other interest income. Their diversification level are shown in table 4.2 and further demonstrated by figure 4.1.

Figure 4. 1: Average Level of Diversification for the Study Period



Source: Research Findings

From the figure 4.1, profits have been increasing at increasing rate from year 2008-2012, but increased at decreasing rate in year 2009. Similarly (HHI_NONII) increased at increasing rate up to the years 2008 and stagnated at 0.70 in year 2009. However (HHI_NII) increased in the years 2005-2007 and decreased for subsequent years (2008-2009) to 0.36. Evidently, the growth of profits could be associated with the movement of diversification level of non-interest income which has been steady and stable. This has been hailed by Stiroh (2004) that diversification into non-interest income increases bank revenue and reduces volatility of banks profits.

Therefore the stability of profits of commercial banks in Kenya could be stable because of the stability of non-interest income diversification level. The drastic and sporadic reduction in diversification level in interest income could be associated with 2008/2009 anti-economic activities (U.S.A credit crunch, new Kenya's economic policies, Inflation rate, and effect of post-elections violence in Kenya). During the period, the traditional banking generating activities decreased and suppressed non-traditional income generating activities.

4.2 Trends of Income Sources Components and Profits 2008-2012

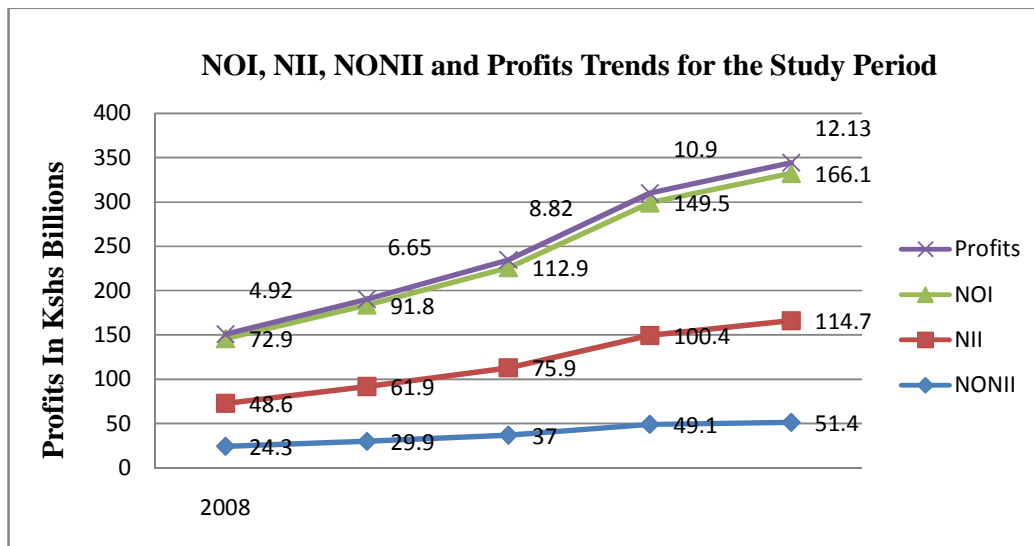
In order to establish the growth of product diversification and its relationship with profits, annual aggregates of NII, NONII and profits were taken for each year as shown in the table 4.3.

Table 4. 3: NOI, NII, NONII and Profits Trends 2008 - 2012

Kshs (billion)	2008	2009	2010	2011	2012
NONII	24.3	29.9	37	49.1	51.4
NII	48.6	59.8	74.0	98.2	102.8
NOI	72.9	91.8	112.9	149.5	166.1
PROFITS	4.92	6.65	8.82	10.9	12.13

Source: Research Findings

Figure 4. 2: NOI, NII, NONII and Profits Trends for the Study Period



Source: Research Findings

From figure 4.2 NII and NONII have been increasing annually and replicated by NOI, but at varying rates for the study period (2008-2012). NONII growth was recorded (5.6, 7.1, and 12.1) while the growth of NII doubled (13.3, 14 and 24.5) that of NONII in years (2008-2012) and the increase were, 102 % (NONII= 51.4-24.3), 106 % (NII= 102.8-48.6). In both cases it grew at decreasing rate in 2011, 2012. The profits have been steady and stable all through the study period. This increase in non-interest

income is supported by De young and Rice 2004 findings that financial institutions generate increased portion of their income from non-intermediation activities.

The increase and decrease reveal the revenue stream growth move in same direction and can be affected by a given shock similarly. Significantly, non-interest income begs allot on interest income generating activities. If all traditional activities respond to the same economic shocks like regional economic activity, then one would expect to see a high correlation between these revenue streams. It is evident that noninterest income components are highly positively correlated with net interest income. This is not surprising as non-interest income are closely aligned with traditional banking operations linked to deposit-taking activities, loans and advances and further the revenue streams co-exists a alongside each other.

These results show a relatively high degree of positive correlation between noninterest income and net interest income across banks and thus substitution of the revenues streams is impossible. This suggests little obvious diversification benefits as growth in one type of income is typically associated with similar growth in the other type. Moreover, the correlation has been trending up, implying less diversification benefits as the banking industry steadily shifts its revenue focus to noninterest income sources. Results are supported by De Yong and Rice (2004) and De Young and Roland (2006) non-interest and interest income exists along rather replacing each other.

4.4 Correlations Analysis

The table 4.5 shows varied degree of interrelationships, but all are statistically significant at 95% and 99% levels of confidence. For instance, there is a strong significant positive correlation between net interest income ($r=.998$, sig. $=.000$) and net operating income at 99% confidence level (see table 4.5).

Table 4. 4: Zero order Correlation of Study Variables

		HHI	NII	NONII	NOI	EBIT	ROA	ROE
HHI	Pearson(r)	1	.340*	.379**	.364*	.355*	.338*	.335*
	Sig. (1-tailed)	.	0.017	0.009	0.011	0.013	0.018	0.019
NII	Pearson(r)	.340*	1	.987**	.998**	.973**	.441**	.582**
	Sig. (1-tailed)	0.017	.	0	0	0	0.002	0
NONII	Pearson(r)	.379**	.987**	1	.996**	.954**	.412**	.534**
	Sig. (1-tailed)	0.009	0	.	0	0	0.005	0
NOI	Pearson(r)	.364*	.998**	.996**	1	.968**	.434**	.567**
	Sig. (1-tailed)	0.011	0	0	.	0	0.003	0
EBIT	Pearson(r)	.355*	.973**	.954**	.968**	1	.528**	.655**
	Sig. (1-tailed)	0.013	0	0	0	.	0	0
ROA	Pearson(r)	.338*	.441**	.412**	.434**	0	1	.888**
	Sig. (1-tailed)	0.018	0.002	0.005	0.003	0	.	0
ROE	Pearson(r)	.335*	.582**	.534**	.567**	.655**	.888**	1
	Sig. (1-tailed)	0.019	0	0	0	0	0	0

* Correlation is significant at the 0.05 level (1-tailed).

** Correlation is significant at the 0.01 level (1-tailed).

Source: Research Findings

The interpretation of this high correlation is that Kenyan commercial banks rely heavily on interest income to outdo operating expense. All the variables in table 4.4 relates positively ($0 < r < 1$) and sig. < 0 . Thus in general, the relationship between diversification and financial performance measures has been positive. This implies that with a unit increase in diversification level, results to a corresponding increase in financial performance measures and thus influences financial performance of commercial banks in Kenya. This could explain findings by Rumble and Stiroh (2004) on USA banks that diversification and financial performance relates positively and cannot be substituted.

The partial correlation coefficients were compared with that of zero order correlation coefficients in order to establish the magnitude and the direction of change. The

results suggest that on whole, financial performance change when one of the income sources is controlled. However the degree of change on each variable varies. For instance, when NONI is controlled, results will be suppressed and statistically significant (e.g. EBIT $r=.6413$, ROA $r=.2036$, ROE $r=.3611$) but the margin will be positive, indicating that in absence of non-interest income source, the relationship between NII and financial performance will be suppressed. On the other hand, when NII is controlled, the results worsens and suppressed further (e.g. EBIT($r=-.1720$, ROA $r=-.1405$, ROE $=-.2759$) leaving negative margin. Thus removing NII would worsen the state of banks profitability. This matches explanation of Rice and Roland on why interest and non-interest have to exist along each other.

Significantly, commercial banks in Kenya may specialize only in interest income generating activities but not in non-interest income generating activities because non-interest income generating activities depends heavily on banks inter-mediation activities.

4.5 Regression Analysis

Regression was conducted using degree of diversification as a predictor of NOI (see table 4.5).

Table 4. 5: Regression of Diversification (HHI) Level and Net Operating Income (NOI)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.406(a)	.165	.142	3843.70622

a Predictors: (Constant), NOI

Source: Research Findings

Adjusted R^2 is called the coefficient of determination and tells us how the profitability of commercial banks in Kenya varied with variation in product diversification. From table above, the value of adjusted R^2 is 0.142. The model revealed that HHI accounts for 16.5(R-square 0.165) percent of the variance in NOI with a Pearson $r =.406$, $F(1, 37) = 7.303$, p value = .010.

Table 4. 6: ANOVA for Product Diversification Level and Net Operating Income

	Sum of Squares	df	Mean Square	F	Sig.
Regression	107891238.4	1	107891238.4	7.303	0.01
Residual	546640868.3	41	14774077.52		
Total	654532106.7	42			

Predictors: (Constant) HHI

Dependent Variable: NOI

Source: Research Findings

Table 4. 7: Coefficients for Product Diversification Level and Net Operating Income

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10137.458	4659.452		2.176	.036
	HHI	29358.604	10864.069	.406	2.702	.010

Source: Research Findings

The resulting linear regression equation to estimate; $NOI = 10137.458 + 29,358.604HHI$.

Where: 29,358.604 = an estimate of the expected change on NOI corresponding to change in HHI level; 0.010, 0.036 = p-values and measures how significant the results are or significant different from zero (error factor); 10,137.458 = y-intercept (constant) and represents the predicted value when HHI level is zero. This finding implies that for one unit increase in diversification (HHI), we expect 29,358.604 unit increases in net operating income (NOI) ceteris paribus. Alternatively, a one standard deviation increase in HHI results to .406 standard deviation on predicted NOI, ceteris paribus.

Regression was conducted using degree of diversification as a predictor of EBIT (see table 4.8).

Table 4. 8: Results of Regressed Degree of HHI and Earnings before Interest and Tax (EBIT) Correlation Coefficient

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.378	.143	.120	1459.0187

a Predictors: (Constant), NOI

Source: Research Findings

Adjusted R² is called the coefficient of determination and tells us how the profitability of commercial banks in Kenya varied with variation in product diversification. From table above, the value of adjusted R² is 0.143. The model revealed that HHI accounts for 14.3 (R-square 0.143) percent of the variance in EBIT with a Pearson r =.378, F (1, 37) = 6.163, p value = .018.

Table 4. 9: ANOVA for Product Diversification Level and Earnings before Interest and Tax

	Sum of Squares	df	Mean Square	F	Sig.
Regression	13118562.061	1	13118562.061	6.163	.018
Residual	78763221.706	41	2128735.722		
Total	91881783.768	42			

Predictors: (Constant) HHI

Dependent Variable: EBIT

Source: Research Findings

Table 4. 10: Coefficients ANOVA for Product Diversification Level and Earnings before Interest and Tax

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3512.357	1768.665		1.986	.054
	HHI	10237.300	4123.853	.378	2.482	.018

Source: Research Findings

The resulting linear regression equation to estimate; $EBIT = 3512.357 + 10237.300HHI$.

Where: 10237.300= an estimate of the expected change on EBIT corresponding to change in HHI level; 0.018, 0.054 = p-values and measures how significant the results are or significant different from zero (error factor); -3512.357= y-intercept (constant) and represents the predicted value when HHI level is zero. This finding implies that for one unit increase in diversification (HHI), we expect 10237.300 unit increases in earnings before income tax (EBIT) ceteris paribus. Alternatively, a one standard deviation increase in HHI results to 0.378 standard deviation on predicted EBIT, ceteris paribus. It reveals statistically significant positive linear relationship between HHI level and EBIT. It meaning for one unit increase in product diversification we expect 10,237.3 unit increases in EBIT.

Table 4. 11: Results of Regressed Degree of HHI and Return on Assets (ROA) Correlation Coefficient

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.062	.004	.023	2.49079

a Predictors: (Constant), ROA

Source: Research Findings

Adjusted R^2 is called the coefficient of determination and tells us how the profitability of commercial banks in Kenya varied with variation in product diversification. From table above, the value of adjusted R^2 is 0.04. The model revealed that HHI accounts for 2.3 (R-square 0.143) percent of the variance in ROA with a Pearson $r = .062$, $F(1, 42) = 0.143$, $p \text{ value} = .007$.

Table 4. 12: ANOVA for Product Diversification Level and Return on Assets

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.888	1	.888	.143	.007
Residual	229.549	41	6.204		
Total	230.437	42			

Predictors: (Constant), HHI.

Dependent Variable: ROA

Source: Research Findings

Table 4. 13: Coefficients for Product Diversification Level and Return on Assets

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	.686	3.019		.227	.022
	HHI	2.664	7.040	.062	.378	.007

Dependent Variable: ROA

Source: Research Findings

The resulting linear regression equation to estimate; $ROA = 0.686 + 2.664HHI$.

Where: 2.664 = an estimate of the expected change on ROA corresponding to change in HHI level; 0.022, 0.007 = p-values and measures how significant the results are or significant different from zero (error factor); .686 = y-intercept (constant) and represents the predicted value when HHI level is zero. This finding implies that for one unit increase in product diversification (HHI), we expect 2.664 unit increases in return on assets ceteris paribus. Alternatively, a one standard deviation increase in HHI results to 0.062 standard deviation on predicted ROA, ceteris paribus. It reveals statistically significant positive linear relationship between HHI level and ROA. It meaning for one unit increase in product diversification we expect 2.664 unit increases in ROA. This study therefore infers that product diversification improves financial performance of commercial banks in Kenya. This result contradicts Europeans banks findings by Merceica et al (2007) of inverse relationship between diversification and financial performance.

Table 4. 14: Results of Regressed Degree of HHI and Return on Equity (ROE) Correlation Coefficient

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
4	.075	.006	.021	15.66437

a Predictors: (Constant), ROE

Source: Research Findings

Adjusted R² is called the coefficient of determination and tells us how the profitability of commercial banks in Kenya varied with variation in product diversification. From table above, the value of adjusted R² is 0.06. The model revealed that HHI accounts for 6 (R-square 0.06) percent of the variance in ROE with a Pearson r = .075, F (1, 42) = 4.211, p value = .007.

Table 4. 15: ANOVA for Product Diversification Level and Return on Equity

	Sum of Squares	df	Mean Square	F	Sig.
Regression	51.662	1	51.662	4.211	.007
Residual	9078.777	41	245.372		
Total	9130.439	42			

Predictors: (Constant), HHI.

Dependent Variable: ROE

Source: Research Findings

Table 4. 16: Coefficients for Product Diversification Level and Return on Equity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	1.068	1.1428		2.372	.012
	HHI	20.315	0.1210	0.075	2.459	.003

Dependent Variable: ROE

Source: Research Findings

The resulting linear regression equation to estimate; $ROE = 7.068 + 20.315 HHI$.

Where: 7.068 = an estimate of the expected change on ROE corresponding to change in HHI level; 0.012, 0.003 = p-values and measures how significant the results are or significant different from zero (error factor); 7.068 = y-intercept (constant) and represents the predicted value when HHI level is zero. This finding implies that for one unit increase in product diversification (HHI), we expect 7.068 unit increases in return on assets ceteris paribus. Alternatively, a one standard deviation increase in HHI results to 18.989 standard deviation on predicted ROE, ceteris paribus. It reveals statistically significant positive linear relationship between HHI level and ROE. It meaning for one unit increase in product diversification we expect 20.315 unit increases in ROE. This study therefore infers that product diversification improves financial performance of commercial banks in Kenya. This result contradicts Europeans banks findings by Merceica et al (2007) of inverse relationship between diversification and financial performance.

4.6 Interpretation of Findings

From the study findings it was revealed that HHI accounts for 16.5 (R-square 0.165) percent of the variance in NOI with a Pearson $r = .406$, $F(1, 37) = 7.303$, p value = .010. The resulting linear regression equation to estimate; $NOI' = 10137.458 + 29,358.604 HHI$. Where: 29,358.604 = an estimate of the expected change on NOI corresponding to change in HHI level; 0.010, 0.036 = p-values and measures how significant the results are or significant different from zero (error factor); 10,137.458 = y-intercept (constant) and represents the predicted value when HHI level is zero. This finding implies that for one unit increase in diversification (HHI), we expect 29,358.604 unit increases in net operating income (NOI) ceteris paribus. Alternatively, a one standard deviation increase in HHI results to .406 standard deviation on predicted NOI, ceteris paribus.

Model 2 revealed that HHI accounts for 14.3 (R-square 0.143) percent of the variance in EBIT with a Pearson $r = .378$, $F(1, 37) = 6.163$, p value = .018. Where: 10237.300 = an estimate of the expected change on EBIT corresponding to change in HHI level; 0.018, 0.054 = p-values and measures how significant the results are or significant different from zero (error factor); -3512.357 = y-intercept (constant) and represents the

predicted value when HHI level is zero. This finding implies that for one unit increase in diversification (HHI), we expect 10237.300 unit increases in earnings before income tax (EBIT) *ceteris paribus*. Alternatively, a one standard deviation increase in HHI results to 0.378 standard deviation on predicted EBIT, *ceteris paribus*. It reveals statistically significant positive linear relationship between HHI level and EBIT. It meaning for one unit increase in product diversification we expect 10,237.3 unit increases in EBIT.

Model 3 revealed that HHI accounts for 2.3 (R-square 0.143) percent of the variance in ROA with a Pearson $r = .062$, $F(1, 42) = 0.143$, $p\text{ value} = .007$. Where: 2.664 = an estimate of the expected change on ROA corresponding to change in HHI level; 0.022, 0.007 = p -values and measures how significant the results are or significant different from zero (error factor); .686 = y -intercept (constant) and represents the predicted value when HHI level is zero. This finding implies that for one unit increase in product diversification (HHI), we expect 2.664 unit increases in return on assets *ceteris paribus*. Alternatively, a one standard deviation increase in HHI results to 0.062 standard deviation on predicted ROA, *ceteris paribus*. It reveals statistically significant positive linear relationship between HHI level and ROA. It meaning for one unit increase in product diversification we expect 2.664 unit increases in ROA. This study therefore infers that product diversification improves financial performance of commercial banks in Kenya.

Model 4 revealed that HHI accounts for 6 (R-square 0.06) percent of the variance in ROE with a Pearson $r = .075$, $F(1, 42) = 4.211$, $p\text{ value} = .007$. Where: 7.068 = an estimate of the expected change on ROE corresponding to change in HHI level; 0.012, 0.003 = p -values and measures how significant the results are or significant different from zero (error factor); 7.068 = y -intercept (constant) and represents the predicted value when HHI level is zero. This finding implies that for one unit increase in product diversification (HHI), we expect 7.068 unit increases in return on assets *ceteris paribus*. Alternatively, a one standard deviation increase in HHI results to 18.989 standard deviation on predicted ROE, *ceteris paribus*. It reveals statistically significant positive linear relationship between HHI level and ROE. It meaning for one unit increase in product diversification we expect 20.315 unit increases in ROE.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussions drawn from the data findings analyzed and presented in the chapter four. The chapter is structured into summary of findings, conclusions, recommendations and areas for further research.

5.2 Summary of Findings and Conclusions

The main concerns was to establish the relationship between product diversification and financial performance of commercial banks in Kenya. The results reveal that commercial banking sector in Kenya on aggregate is moderately diversified (HHI= 0.43) while at individual bank level 97% of target population are diversified ($0 < \text{HHI} < 1$). Large commercial banks level of diversification (HHI= 0.45) was found to be above the industry diversification level while Islamic (HHI= 0.40) trails. Although the HHI level varies, it reveals that commercial banks in Kenya embrace diversification as a strategy to improve financial performance.

Importantly, ownership and religion seemly has no effect on diversification level since private and public are at par (HHI-private 0.43=HHI-public 0.43), while Islamic banks was at HHI= 0.40, but at early stage of financial products development.

However, it emerged that size influences diversification level greatly in Kenyan commercial banks. It reveals statistically significant positive linear relationship between HHI level and financial performance measures (NOI, EBIT, ROA and ROE) and consistent with USA study's findings Rumble, (2006) while contrast to European banks (Staikouras and wood 2003), hence income source diversification improves financial performance of commercial banks in Kenya.

Larger banks have greater ability to diversify risk and should be safer in operation and thus have lower cost of funding than smaller ones. Hence, larger banks may have relatively better profitability than smaller ones. Based on too-big-to-fail argument, larger banks may take on riskier activity than smaller ones and decrease their cost of funding and may have developed risk management techniques or may be involved in

fundamentally different types of activities with different distributions (McAllister and McManus 1993).

Large banks are prone to engage in risky activity (Demsetz, 1997). Similarly larger banks considering their capital base can diversify and provide variety of financial products and thus forming a financial supermarket, where clients can shop at one point and pay at premium. Diversification level is influenced greatly by size, however ownership and believes seemingly have no influence on diversification level. Further diversification was steady, stable and less volatile in non-interest income while net interest income diversification level was found to change abruptly, which may be explained by external variables. Further the analysis reveal that non-interest income components –fees and commission on loans and advances are highly correlated with interest income. The two revenue streams (interest and non-interest income) are highly and positively related implying that they move in same direction and can be affected by same shock. This is not surprising as non-intermediation activities begs a lot on intermediation or banks traditional activities and thus the two streams cannot be substituted for each other. The effective ratio of interest income to non-interest income has been found to be 6:4, and when tilted in favor of any, similarly profits will tilt.

5.3 Conclusion

Findings from the results of regression indicate that all financial performance measures (NOI, EBIT, ROA, and ROE) reveal positively linear relationship with HHI level, implying they increase with increase in product diversification level. ROA and ROE shows weak positive linear relationship and the model reveal HHI accounts for little variance in ROA and ROE since ROA and ROE are ratios of EBIT to Asset and Equity respectively. Seemingly there exists a spilt over positive effects resulting through EBIT. However, ROA and ROE shows weak positive linear relationship since are ratios of earnings before interest and tax to Asset and Equity respectively. NOI and EBIT are directly influenced by diversification and changes proportionately with change in HHI level. This is because the two measures of financial performance are income statement components and therefore are useful in making decision to diversify. ROA and ROE however, are neither income statements nor balance-sheet

components, thus seemingly there exists a spilt over positive effects resulting through EBIT.

5.4 Recommendations

This study recommends that banks should extend their product mixes to increase profitability through combination of traditional intermediation activities and non interest activities. Also the study recommends that there is need to strengthen bank product diversification policy through effective and efficient regulation and supervisory framework.

5.4 Limitations of the Study

A limitation for the purpose of this research was regarded as a factor that was present and contributed to the researcher getting either inadequate information. The main limitations of this study were; some data were not readily available. This reduced the probability of reaching a more conclusive study. However, conclusions were made with the available data. The size of the sample could have limited confidence in the results and this might limit generalizations to other situations. Time- Due to official duties was a major concern. The information required for the study was very confidential which limited its accessibility from the banks. Most of the information was in very raw form and thus requiring a lot of time to compute it.

5.5 Suggestion for Further Research

This study has successfully examined the relationship between product diversification and financial performance of commercial banks in Kenya. This study recommends that a similar study should be carried out across East Africa and beyond and see whether the same results would be replicated. Also, a study should also be done on the importance of credit diversification on banks performance. For further studies, it can be studied on consumer credits, locational credit diversification, agency theory applications on credit diversification by using different diversification measures. Additionally, emerging and developed countries can be compared in the basis of credit diversification.

REFERENCES

- Acharya, V., Hasan, I., Saunders, A., (2007). *Should banks be diversified? Evidence from individual bank loan portfolios*. Bank for International Settlements, BIS Working Papers No 118.
- Amit, R., & Livnat, J., (2008). Diversification Strategies, Business Cycles and Economic Performance. *Strategic Management Journal*, 9(2): 99.
- Ansoff, H. I. (1957). *Strategies for Diversification*. Harvard Business Review, 35(5): 113-124.
- Baele, L., Olivier, D, and Rudi, V., (2007). Does the Stock Market Value Bank Diversification? *Journal of Banking and Finance*, July, 31 (7), pp 1999-2023.
- Banking Regulation and Supervision Agency, (2011). Financial Markets Report, Issue 24.
- Banking Regulation and Supervision Agency, (2012). *Turkish Banking Sector Non-Consolidated Main Indicators*. Press Release: Number 2012/19.
- Bebczuk, R. and Galindo, A. 2008. *Financial crisis and sectoral diversification of Argentine banks, 2009-2008*. Applied Financial Economics, 18, 200-211.
- Berger, A., and DeYoung, R., (2001). The effects of geographic expansion on bank efficiency. *Journal of Financial Services Research*, Vol. 19 Nos. 2-3, pp. 163-84.
- Bryman, A., and Bell, E., (2003). *Synthesizing Research; A guide for Literature Reviews* (3rd edn) Sage: Thousand Oaks.
- Busch, R. and Kick, T. (2009). Income Diversification in the German banking Industry. Deutsche Bundesbank, Discussion Paper Series 2: Banking and Financial Studies No 09/2009.
- Chakrabarti, A., Singh, K., & Mahmood, I., (2007). Diversification and performance: evidence from East Asian firms. *Strategic Management Journal*, 28(2): 101-120.
- Chiorazzo, V., Milani, C. and Salvini, F., (2008). Income diversification and bank performance: Evidence from Italian banks. *Journal of Financial Services Research*, 33, 181-203.

- Contractor, F. J., Kundu, S. K., & Hsu, C.-C., (2009). A Three-Stage Theory of International Expansion: The Link between Multinationality and Performance in the Service Sector. *Journal of International Business Studies*, 34(1): 5-18.
- Cotugno, M. and Stefanelli, V. (2012). Geographical and product diversification during instability financial period: Good or bad for banks? *International Research Journal of Finance and Economics*, 85, 87-100.
- D'Souza, C., and Lai, A., (2009). *Does Diversification Improve Bank Efficiency?* The Evolving Financial System and Public Policy, Proceedings of a conference held by the Bank of Canada, Ottawa.
- Datta, D. K., Rajagopalan, N., & Rasheed, A. M. A., (2001). Diversification and Performance: Critical Review and Future Directions. *Journal of Management Studies*, 28(5): 529-558.
- David, C. and Dionne C., (2009). Banks' Loan Portfolio Diversification. Gothenburg, *Master's and Bachelor's Thesis: Handelshögskolan Vid Göteborgs Universitet*.
- Delios, A. & Beamish, P. W. (2009). Geographic Scope, Product Diversification and the Corporate Performance of Japanese Firms. *Strategic Management Journal*, 20(8): 711-727.
- Deng S.(E.)and Elyasiani, E. (2008). Geographic diversification, bank holding company value, and risk. *Journal of Money, Credit and Banking*, 40(6), 1217-1238.
- DeYoung, R. and Rice, T., (2004). "Non-interest Income and Financial Performance at U.S.A Commercial Banks", *the Financial Review*, Vol. 39, No.1 pp. 456-478.
- DeYoung, R., and Roland, K., (2012). Product mix and earnings volatility at commercial banks: evidence from a degree of leverage model. *Journal of Financial Intermediation*, Vol. 10 No. 1, pp. 54-84.
- Dooley, D. (2007), *Social Research Methods*. New Delhi: Prentice Hall.
- Ellerton, C., (1993). *The decline of commercial banking*, Banking World, Vol. 11 No. 9, p. 12.

- Fang, Y., Hasan, I. and Marton, K. (2011). Institutional development and its impact on the performance effect of bank diversification: Evidence from transition economies. *Emerging Markets Finance & Trade*, 47(4), 5-22.
- Geringer, J. M., Tallman, S., & Olsen, D. M., (2007). Product and International Diversification among Japanese Multinational Firms. *Strategic Management Journal*, 21(1): 51-80.
- Goerzen, A., & Beamish, P. W., (2009). Geographic scope and multinational enterprise performance. *Strategic Management Journal*, 24(13): 1289.
- Goetz, M. (2008). Quantitative Analysis Unit. Bank Diversification, Market Structure and Bank Risk Taking: Theory and Evidence from U.S. Commercial Banks. Boston: Working Paper No. QAU12-2, Federal Reserve Bank of Boston.
- Gönenç, H. and Kılıçhan, B. (2008). Kredi portföyü çeşitlendirmesinin banka performansı üzerindeki etkil eri. *Bankacılar Dergisi*, 49, 53-67.
- Goold, M., & Campbell, A., (2008). Desperately seeking synergy. *Harvard Business Review*, 76(5): 131-143.
- Grant, R. M., Jammine, A. P., & Thomas, H., (2008). Diversity, Diversification, and Profitability among British Manufacturing Companies, 2007-84. *The Academy of Management Journal*, 31(4): 771-801.
- Griffith-Jones, S., Segoviano, M. and Spratt, S. (2007). Basel II and Developing Countries: Diversification and Portfolio Effects. Brighton: Institute of Development Studies University of Sussex.
- Guillen, M.F. (2009). Business groups in emerging economies: a resource-based view, *Academy of Management Journal*, Vol. 43 No. 3, pp. 362-80.
- Heggstad, A., (1975). Riskiness of investments in non-bank activities by bank holding companies, *Journal of Economics and Business*, Vol. 27 No. 3, pp. 219-32.
- Henisz, W., (2007). *The Institutional Environment for Economic Growth*. *Economics and Politics*, 12: 1-31.
- Higgins, E., and Mason, J., (2009). *Deriving Credit Portfolio Diversification Properties from Large Asset -backed Security Pools*. Working Papers: Financial Institutions Center at the Wharton Scholl.

- Hitt, M. A., Hoskisson, R. E., & Kim, H., (2007). International Diversification: Effects on Innovation and Firm Performance in Product-Diversified Firms. *The Academy of Management Journal*, 40(4): 767-798
- Hughes, J., and Mester, L., (2008). Bank Capitalization and Cost: Evidence of Scale Economies in Risk Management and Signaling.” *Review of Economics and Statistics* 80(2), pp 314-325.
- Jacquemin, A. P., & Berry, C. H., (2009). Entropy Measure of Diversification and Corporate Growth. *The Journal of Industrial Economics*, 27(4): 359-369.
- Jiraporn, P., Kim, Y. S., Davidson, W. N., & Singh, M. 2009. Corporate governance, shareholder rights and firm diversification: An empirical analysis. *Journal of Banking & Finance*, 30(3): 947-963.
- Jones, G. R., & Hill, C. W. L., (2008). Transaction cost analysis of strategy structure choice. *Strategic Management Journal*, 9(2): 159.
- Kamp, A., Pfingsten, A. and Porath, D. (2009). *Do Banks Diversify Loan Portfolios? A Tentative Answer Based on Individual Bank Loan Portfolios*. Deutsche Bundesbank, Discussion Paper Series 2: Banking and Financial Studies No 03/2009.
- Kumar, M. V. S., (2009). The relationship between product and international diversification: the effects of short-run constraints and endogeneity. *Strategic Management Journal*, 30(1): 99-116.
- Leontiades, M., (2009). The Rewards of Diversifying Into Unrelated Businesses. *Journal of Business Strategy*, 6(4): 81-87.
- Lewellen, W. G., (2001). A Pure Financial Rationale for the Conglomerate Merger. *The Journal of Finance*, 26(2): 521-537.
- Lu, J. W. & Beamish, P. W., (2008). International Diversification and Firm Performance: the S-Curve Hypothesis. *Academy of Management Journal*, 2008(47): 598-609.
- McAllister, P. H., McManus, D.A., (1993). “Resolving the Scale Efficiency Puzzle in Banking.” *Journal of Banking and Finance* 17, pp 389-405
- McAllister, P. H., McManus, D.A., (2009). Resolving the Scale Efficiency Puzzle in Banking. *Journal of Banking and Finance* 17, pp 389-405
- Mercieca, S., Schaeck, K., and Wolfe, S., (2007). "Small European Banks: Benefits From Diversification?" *Journal of Banking and Finance* 31, pp 1975-1998.

- Mercieca, S., Schaeck, K., Wolfe, S., (2007). "Small European Banks: Benefits From Diversification?" *Journal of Banking and Finance* 31, pp 1975-1998.
- Miller, D. J., (2009). Technological diversity, related diversification, and firm performance. *Strategic Management Journal*, 27(7): 601-619.
- Mohamed, N., (2009). Loan portfolio diversification: an empirical investigation of commercial banks in Kenya. *Unpublished MBA thesis*. University of Nairobi
- Montgomery, C. A., (2008). Corporate Diversification. *The Journal of Economic Perspectives*, 8(3): 163-178.
- Montiel, P.J., (2005). *Financial Policies and Economic Growth: Theory, Evidence and Country-Specific Experience from Sub-Saharan Africa*. AERC Special Paper No. 18. Nairobi, Kenya: African Economic Research Consortium.
- Moon, G., (1996). Efficient Banking Under Interstate Branching. *Journal of Money Credit and Banking* 28(4), pp 1043-1071.
- Morgan, D.P. and Samolyk, K., (2009). Geographic Diversification in Banking and Its Implications for Bank Portfolio Choice and Performance, the study was presented at the BIS Workshop "Banking and Financial Stability", 20-21 March 2009.
- Mugenda, O.M and Mugenda, A.G (2003) *Research Methods, Quantitative & Qualitative Approaches*, Acts Press, Nairobi.
- Munene, T., (2012). Diversification and economic performance: an empirical assessment of Kenyan Banks, *Journal of Management*, Vol. 20 No.2, pp.243-65.
- Mwindi, N., (2009). An analysis of the application of unrelated diversification strategy by the major oil companies in Kenya. *Unpublished MBA thesis*. University of Nairobi
- Ngechu. M., (2008). *Understanding the research process and methods*. An introduction to research methods. Acts Press, Nairobi.
- Penrose, E., (1959). *The Theory of the Growth of the Firm* (2nd (2009) ed.). New York: Oxford University Press Inc.
- Ramanujam, V., & Varadarajan, P., (2009). Research on Corporate Diversification: A Synthesis. *Strategic Management Journal*, 10(6): 523-551.

- Ruigrok, W., & Wagner, H., (2009). Internationalization and Performance: an Organizational Learning Perspective. *Management International Review*, 43(1): 63-83.
- Schertler, A., Buch, C.M., and Westernhagen, N., (2009). *Heterogeneity in lending and sectoral growth: Evidence from German bank-level data*. *International Economics & Economic Policy*, 3(1), 43-72.
- Shawn, T., (2007). Firm Diversification and Asymmetric Information: Evidence from Analysts' Forecast and Earnings Announcements. *Journal of Financial Economics* 64, pp 373-396.
- Staikaouras, M., Christos, N., and Wood, G., (2003). "Noninterest Income and Total Income Stability." Manuscript.
- Stiroh, K.J. (2008a). Do community banks benefit from diversification? *Journal of Financial Services Research*, 25(2/3), 135-160.
- Stiroh, K.J. (2008b). Diversification in banking: Is noninterest income the answer? *Journal of Money, Credit, and Banking*, 36(5), 853-882.
- Stiroh, K.J. and Rumble, A. (2009). The dark side of diversification: The case of U.S. financial holding companies. *Journal of Banking & Finance*, 30(8), 2131–2161.
- Tabak, B.M., Fazio, DM and Cajuerio, D.O. (2010). *The Effects of Loan Portfolio Concentration on Brazilian Banks' Return and Risk*. Banco Central Do Brazil, Working Papers No 215.
- Tallman, S. & Li, J., (2009). Effects of International Diversity and Product Diversity on the Performance of Multinational Firms. *The Academy of Management Journal*, 39(1): 179-200.
- Teece, D.J. (2007). Economics of scope and the scope of the enterprise, *Journal of Economic Behavior and Organization*, No. 1, pp. 223-47.
- Vermeulen, F. & Barkema, H., (2007). Pace, rhythm, and scope: Process dependence in building a profitable multinational corporation. *Strategic Management Journal*, 23(7): 637.

APPENDICES

Appendix I: Summary of Product Diversification Level (2008-2012)

Table 4. 17 : Summary of HHI Level for the Study Period (Truncated 2 Decimals Places)

	2008	2009	2010	2011	2012
Bank of Baroda (K) Ltd	0.21	0.22	0.29	0.21	0.22
Bank of India	0.41	0.43	0.44	0.45	0.46
Barclays Bank	0.48	0.47	0.48	0.49	0.48
Commercial Bank of Africa	0.49	0.45	0.46	0.48	0.48
Chase Bank (K) Ltd	0.37	0.38	0.39	0.4	0.42
Citibank N.A Kenya	0.49	0.45	0.49	0.49	0.51
City Finance Bank Ltd	0.31	0.35	0.36	0.37	0.39
Consolidated Bank	0.5	0.55	0.56	0.57	0.58
Co-operative Bank	0.49	0.45	0.49	0.42	0.49
Credit Bank Ltd	0.33	0.33	0.33	0.33	0.33
Development Bank	0.29	0.32	0.38	0.39	0.39
Diamond Trust Bank	0.44	0.44	0.45	0.44	0.44
Dubai Bank Kenya Ltd	0.43	0.44	0.44	0.44	0.44
Equatorial Commer bank	0.35	0.35	0.35	0.35	0.35
Equity Bank Ltd	0.35	0.35	0.35	0.35	0.35
Fidelity Commercial	0.49	0.49	0.45	0.49	0.49
FinaBank Ltd	0.48	0.49	0.47	0.49	0.49
Giro Commercial	0.41	0.41	0.41	0.41	0.41
Guardian Bank Ltd	0.45	0.41	0.41	0.48	0.41
Habib Bank A.G Zurich	0.39	0.39	0.38	0.39	0.47
Habib Bank Ltd.	0.34	0.34	0.39	0.34	0.34
I and M Bank Ltd	0.49	0.49	0.49	0.38	0.49
Imperial Bank Ltd	0.4	0.43	0.42	0.41	0.4
Kenya Commercial Bank	0.46	0.46	0.46	0.36	0.46
K-RepBank Ltd	0.49	0.46	0.46	0.46	0.46
Middle East Bank	0.35	0.35	0.37	0.35	0.35
National Bank of Kenya	0.41	0.41	0.41	0.42	0.41
NIC Bank Ltd	0.4	0.41	0.45	0.41	0.41
Oriental Commercial Bank	0.36	0.36	0.38	0.36	0.39
Paramount Universal Bank	0.24	0.36	0.37	0.36	0.38
Prime Bank Ltd	0.3	0.36	0.39	0.36	0.39
Southern Credit Bank	0.46	0.43	0.46	0.48	0.46
Standard Chartered Bank	0.46	0.46	0.43	0.46	0.48

Trans-National Bank	0.47	0.46	0.47	0.49	0.46
Victoria Commercial Bank	0.44	0.44	0.46	0.43	0.46
Victoria Commercial Bank	0.43	0.46	0.42	0.42	0.47
First Community Bank	0	0	0	0.33	0.41
Gulf African Bank	0	0	0	0.48	0.35

Source: Research data and CBK (2008-2012)

Appendix II: Commercial Banks

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank
6. Brighton Kalekye Bank
7. CFC Stanbic Bank
8. Chase Bank (Kenya)
9. Citibank
10. Commercial Bank of Africa
11. Consolidated Bank of Kenya
12. Cooperative Bank of Kenya
13. Credit Bank
14. Development Bank of Kenya
15. Diamond Trust Bank
16. Dubai Bank Kenya
17. Ecobank
18. Equatorial Commercial Bank
19. Equity Bank
20. Family Bank
21. Fidelity Commercial Bank Limited
22. Fina Bank
23. First Community Bank
24. Giro Commercial Bank
25. Guardian Bank
26. Gulf African Bank
27. Habib Bank
28. Habib Bank AG Zurich
29. I&M Bank
30. Imperial Bank Kenya
31. Jamii Bora Bank
32. Kenya Commercial Bank
33. K-Rep Bank
34. Middle East Bank Kenya
35. National Bank of Kenya
36. NIC Bank
37. Oriental Commercial Bank
38. Paramount Universal Bank
39. Prime Bank (Kenya)
40. Standard Chartered Kenya
41. Trans National Bank Kenya
42. United Bank for Africa
43. Victoria Commercial Bank

**Source: Central Bank of Kenya
Handbook (2012)**