DIVERSIFICATION, FIRM SIZE AND COMPETITIVENESS OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

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DEDICATION

I dedicate this work to my wife Eunice, daughter Mercy, and sons Brian, Gideon, and Smith. They jointly and severally offered immeasurable and enduring love and support to me along the winding course of this study.

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ABSTRACT

Commercial banks in Kenya have achieved mixed levels of Competitiveness despite each engaging in one form of diversification or the other. It is evident that the banks have established multiple service branches across different geographical locations of Kenya, invested in other asset types besides the loan book and pursued new revenue streams alongside interest. The broad objective of this study was to investigate the effects of diversification on competitiveness of commercial banks in Kenya as moderated by firm size. Specifically, the study was to evaluate, establish and determine the effect of geographical, income and asset diversification, respectively, on Competitiveness of Commercial banks in Kenya. It was also to establish the moderating effect of Firm size on the relationship between diversification and Competitiveness in that context. Competitiveness of the banking sector is a significant study area as it forms part of the key indicators of economic performance of the country. Besides, this, diversification has been touted as a critical avenue for boosting the survival and expansion opportunities of any enterprise. The study was based on *Expost Facto* research design anchored on a positivist philosophical paradigm. Panel data of the study variables covering a ten-year period from 2009 to 2018 was collected using document analysis guide. Thirty-six commercial banks operating in Kenya out of 42 registered ones were covered. In the study, income and asset diversifications were both measured using adjusted Herfindahl-Hirschman index (HHI). Geographic diversification, firm size and competitiveness were measured using number of branches, natural logarithm of total assets and customer deposits, respectively. Data analysis for both descriptive and inferential statistics was undertaken using EViews Statistical software. Study hypotheses were tested by conducting F test on the models and t tests on the regression outputs. The findings were that both geographic and income diversification had positive and negative statistically significant effect on commercial bank competitiveness respectively, while asset diversification had not. It was concluded that while geographical diversification positively influenced commercial bank competitiveness income diversification had a negative influence. Asset diversification emerged as having no effect on competitiveness, though firm size moderated this relationship significantly. The relationship between geographic diversification and competitiveness was also significantly moderated by firm size. It was recommended that commercial banks in kenya should monitor their market and expand to new geographical locations within the country where unbanked market potential exists. Attempts to diversify income streams by banks leads to reduction of customer deposits and should therefore be avoided. Firm size diminishes the gains of geographic diversification and activates the effects of asset diversification on competitiveness of Kenyan commercial banks.

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ABBREVIATIONS AND ACRONYMS

ASEAN	**:**	Association of Southeast Asian Nations
BHC	**:**	Bank Holding Companies
CBK	**:**	Central Bank of Kenya
COMESA	**:**	Common Market for Eastern and Southern Africa
DEA	**:**	Data Envelopment Analysis
FEM	**:**	Fixed Effects Model
FHC	**:**	Federal Holding Companies
GMM	**:**	Generalized Method of Moments
HHI	**:**	Herfindahl-Hirschman Index
JIT	**:**	Just in Time
MENA	**:**	Middle East and North Africa
MSA	**:**	Metropolitan Statistical Areas
NASDAQ	**:**	National Association of Securities Dealers Automated Quotations
NACOSTI	**:**	National Commission for Science Technology and Innovation
NITI	**:**	Non-Interest Total Income
NPA	**:**	Non-Perming Assets
NPL	**:**	Non-Perming Loans
NSE	**:**	Nairobi Securities Exchange
NYSE	**:**	New York Securities Exchange
OECD	**:**	Organization for Economic Cooperation and Development
OLS	**:**	Ordinary Least Squares

RAROA	**:**	Risk-Adjusted Return on Assets
RAROE	**:**	Risk-Adjusted Return on Equity
REM	**:**	Random Effects Model
RBV	**:**	Resource Based View theory
ROA	**:**	Return on Assets
ROAA	**:**	Return on Average Assets
RCE	**:**	Return on Capital Employed
ROE	**:**	Return on Equity
SFA	**:**	Stochastic Frontier Analysis
SMEs	**:**	Small and Medium size Enterprises
TQM	**:**	Total Quality Management

DEFINITION OF KEY TERMS

Diversification : Refers to the strategic action where an enterprise chooses to produce goods/services other than the original main product, vary the way an investment action is usually carried out or even change the revenue streams. This they do to be able to gain competitiveness.

Geographic diversification: This is the proliferation of branches of a particular commercial bank across the different geographical areas of a country

Income diversification: This is the expansion of revenue streams by a bank beyond interest earning tools. This is done to include non-interest sources.

Asset diversification : The distribution of bank assets across non-lending and lending classes.

Firm size : This represents the asset base that a bank owns. The figure arrived at by calculating the amount of assets deployed by the respective commercial bank in the business.

Commercial Bank Competitiveness: This is the state of superiority where a bank that is conducting business amongst peers manages through strategic action to capture a larger share of the total industry customer deposit amount within the banking industry.

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter discusses background of the study, problem statement, broad objective, specific objectives, the hypotheses, scope of the study, significance of the study, and limitations of the study.

1.2 Background of the Study

Commercial banks across the globe adopt diversification as a strategy that enhances competitiveness. Diversification is a business strategy anchored in the Ansoff matrix. This matrix was developed by H. Igor Ansoff, an applied mathematician and business manager. It was published in the year 1957 in Harvard Business Review. The matrix gives four strategic approaches businesses may apply in growing their business and be competitive in their industry. As the market share grow, a business improves their competitiveness index. The strategies are market penetration where a business targets their current market with more of the current product(s); market development where they target new markets with the current product; product development which entails developing new products for the existing market; and diversification which involves targeting new markets with new products.

Strategy managers in the banking sector, borrowing from Igor Ansoff's growth strategy's product matrix, have been keen to engage in diversification. This they do as a way of ensuring market penetration into their existing markets as well as expanded ones (Mwara & Okello, 2016). In engaging in diversification, a bank may use its current products in new markets or get involved in product development. In the latter case, it develops a certain product either related to their current one or not. The new product is offered to

either the current or a new market. Diversification is the last of the four "Ansoff's" marketing strategies and the one with the most risk because it involves a company entering a new market whilst creating a new product. There are different approaches by which commercial banks engage in diversification. They include income diversification, asset diversification (T. L. A. Nguyen, 2018; Mulwa, Tarus & Kosgey, 2015), funding diversification (T. L. A. Nguyen, 2018), geographical diversification and international diversification (Lin, 2010, Mulwa, et al, 2015). However, the three common approaches practiced by commercial banks are income, asset, and geographic diversification. These approaches have been dealt with in this study.

According to Nepali (2018) Income diversification is defined as the expansion into new financial services earning income steams over and above the intermediation services which are traditional to banks. It involves innovative generation of bank income from distinct activities that shift reliance from the traditional interest based to non-interest income generating activities (Nepali 2018; Kiweu, 2012). Income diversification is related closely to assets diversification which refers to the activity of distributing the earning assets of banks across the traditional lending avenue and non-lending ones (Goetz, Laeven, & Levine, 2013). Commercial banks may also choose to diversify through geographical approach. This was defined as the act of branches and service points opening away from head office of the bank (Obinne, Uchenna, Nonye, & Okelue,2012), or spreading, across geographical areas, bank assets (Goetze et al, 2013). Either way, geographical diversification involves the proliferation of branches and service outlets of a bank across a geographical boundary of a country or state. Commercial bank literature presume that diversification and size go hand in hand since this was empirically proven Nepali (2018). Size has a bearing on how the impacts of diversification are felt in a bank (Bapat, & Sagar,

2015). Bank size is defined as the total assets of a bank (Corvino, Caputo, Pironti, Doni & Maritini 2019). This study has adopted this definition in analyzing at the concept of bank size.

An overview of previous studies and an observation of the movements of banks across different peer groupings in Kenya spur interest in commercial bank diversification research. T. L. A. Nguyen, (2018) opined that while income diversification had a direct positive effect on profitability, funding diversification was beneficial. This benefit resulted indirectly through reduction of funding costs since it carries along savings in the process of its implementation. Asset diversification on the other hand had no significant effect on profitability. Firms through their investing agencies many times prefer international portfolio diversification. This as opposed to domestic portfolio diversification has the returns associated with domestic market exposed to many factors both natural and artificial. They are also usually impacted on by business life cycles and government policies. All these coalesce to affect returns from the domestic stock markets across many counties (Aluko, Fapetu, & Azeez, 2018).

However, in their earlier study within OECD countries (comprising European countries namely Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom; Americas countries namely Canada, Chile, Colombia, Mexico, and the United States.; Pacifica countries namely Australia, Japan, Korea, and New Zealand; and Middle East countries of Israel and Turkey), Armstrong, and Fic, (2014) threw open the discourse on the benefits of bank diversification. They concluded that it was empirically difficult to affirm the role played by bank diversity on bank valuations. Further,

they portend that where banks are divided according to their firm sizes into small, medium, and large; diversification adds value to small banks while likely destroying the same value for the larger ones. In a follow up study, Tasca and Battiston, (2014) continued pointing out the controversy in the effect of diversification on competitiveness and performance of banks. Tasca and Battisson (2014) shed light on a new conceptual framework where, full risk diversification was shown to be sub optimal. It was concluded that commercial banks needed to elect an optimal level of diversification depending on the market conditions. This arose from their finding of a bimodal distribution in the results. It showed two opposite economic trends being considered as influencers of commercial banks competitiveness trends within this competitive industry.

Evidence was found in Tunisia of positive indications of the effect of income diversification on competitiveness (Hamdi, Hakimi, & Zaghdoudi, 2017). In a study conducted by Hamdi et al (2017) among the commercial banks listed in Tunisia Stock exchange, it was found that commercial bank diversification initiative increased bank performance where both Return on Assets (ROA) and Return on Equity (ROE) are used as measures. In the long run, it appeared conceptually that non-interest income ends up being negatively and significantly correlated with the level of risk. This negative correlation with risk is what would result into a better state of stability for the bank. Since this mitigates risk, the competitive positioning of the bank in the market also improves. Another commercial bank diversification initiative is investing activity of the bank's assets in various lines. In Ethiopia, Hailu and Tassew (2018) studied the effects of diversification in the context of commercial banks. Their study was conducted using quantitative research approach. They found that investment in financial assets, government security, insurance, loan portfolio and investment size have positive significant impact on financial performance of Banks. Hailu and Tassew (2018)

concluded that investment diversification positively affected the financial performance of commercial banks. This implies that where there is sustained investment diversification with the resultant improved financial performance, the bank's competitiveness is achieved.

In the four East African countries of Kenya, Rwanda, Uganda, and Tanzania, Mulwa (2018) conducted a study on diversification of commercial banks. The study sought answers to two principal questions. Thus, if there was evidence that sectoral credit diversification enhanced bank profitability; and the other one focusing on whether banks could effectively monitor their many portfolios resulting from diversification. Mulwa (2018) used secondary data from the central banks of the individual countries' supervision reports. The data analysis results showed a direct significant effect of sectoral credit diversification on the commercial bank's returns. The returns were more aligned on bank assets. It was so because the results exhibited significant inverse relationship observed between diversification and asset quality. The indicator for this was proxy for monitoring effectiveness. The study concluded that sectoral credit diversification improves the monitoring effectiveness of banks. It recommended that banks should have diversified loan portfolio where intermediaries distribute their credit offerings across various economic sectors.

In Kenya, Wanjiru and Nzulwa (2018) examined the influence of diversification strategies on competitive advantage of commercial banks. The study relied on five theoretical approaches namely Portfolio Theory, Resource Based View Theory, Market Power Theory, Transaction Cost Theory, and Diffusion of Innovation Theory to hinge their study. they found that asset diversification strategy had a positive and significant influence on competitive advantage on the banks.

An analysis of Central Bank of Kenya (CBK) supervision reports from 2009 to 2018 show that even though Commercial banks in Kenya practice diversification, not all of them have benefitted in a similar manner across the board. While some banks have had an increase in their share of customer deposit base over the ten years given, others have had reversed position to the point of being forced to either enter acquisition deals, be acquired forcibly or even be paced under statutory management or receivership by the CBK. The ones that remained in operation witnesses back and forth movement based on their market share according to CBK supervision report of 2018. This show of haphazardness in the commercial banks market despite all being engaged in diversification of one kind or the other is one of the reasons that spurred interest of research in this field. It would be necessary to interrogate the role played by these interventions in their individual competitiveness in the market.

This study is theoretically hinged on three theories namely Resource-based view (RBV), Market Power and Agency theories. RBV offers answers to the question on what drives organizations to be involved in offering of more than one product to the market. It explains the motivation for firms to engage in diversification (Wernerfelt 1984). In the case of commercial banks, their existing pool of resources would better be put in use when they produce different products thereby exploiting their strengths. This theoretically results into efficient use of the productive resources which then improves their competitiveness. The other theory is Market power which involves studying how a market participant or group of participants acquire the ability to influence key marketing factors in their industry. Shepherd (1970) setting the basis of this theory explained that market power can lead to uncompetitively high and risk-free profits, proceeds which can then be used in expansion activities of firms. In the case of commercial banks, expansion through opening of more branches across different locations of a country becomes possible. They also indulge in

diversification into non-traditional asset classes, and this leads to an inflow of non-traditional income. While the two theories tend to foster the reason for diversification, the Agency theory presents its lopsidedness. This subsequentially arises from agency theory focus on the relationship between the principals and agents in organizations. While the principals delegate control of the firm to an agent in the hope that the latter will make decisions in the former's best interest, this is not always the case (Jensen and Meckling, 1976). Many times, the agent makes decisions that are beneficial to his / her own interest. Where such a decision is diversification, then it may not have any benefits to the organization's long-term wellbeing. This antagonism in theories and clash in literature on the benefits of commercial bank diversification as pointed out in a later study by Armstrong and Fic, (2014) spurred the desire to undertake this study. The follow up study by Tasca and Battiston, (2014) continued pointing at the controversy in the effect of diversification on competitiveness and performance of banks.

In studying diversification, the place of firm size has often been considered. This is because it is the categorization of firms that defines how organizations are operationalized (Amah, Daminabo-Weje & Dosunmu, 2013). To leverage on possible benefits of optimum firm size, there are classifications of firms as either as big, medium, or small as recognized in their respective industry of operation. In the case of commercial banks, different approaches are used to give this classification (Schildbach, 2017). The different approaches employed by banks include quantifying their market capitalization, consideration of total revenue or other minor measures that include risk-weighted assets, net income, or the number of customers. Each of these measures have a set of advantages and disadvantages. Therefore, a firm picks the most appropriate for the purpose at hand.

1.2.1 A review of the Study Variables

This subsection gives the explanations of the studied variables namely diversification, firm size, and competitiveness. This was done through offering a working definition and captured the origin of as used in literature.

a) Commercial Bank Diversification

Diversification is one of the four business growth strategies together with market penetration, market development and product development (Mwara & Okello, 2016). Firms practice it in a bid to grow their competitiveness through the development of new products that target new market / clientele. Scholars have distinguished diversification strategies from types of diversification as this is important whenever studies are undertaken. The first one refers to the action of allowing the propagation of new technologies through actions like licensing, acquisition of other firms, internally carrying out the development of new products, and forming alliances. A company undertaking diversification may elect to approach it from one of the four types of diversification namely, concentric diversification, vertical diversification, conglomerate diversification, and horizontal diversification (Pearce, Robinson & Mital, 2008).

Literature gives several dimensions of commercial bank diversification that banks practice. The various approaches through which commercial banks can practice diversification, amongst other are enumerated. According to Lin, (2010) banks can choose to diversify through international diversification, geographical diversification, while Kiweu (2012) give another approach as income diversification. The other choice of diversification practices are deposit diversification, asset diversification and diversification into different economic sectors (Berger et al., 2010; Goetze et al., 2013). This study has chosen the commonly uses approaches which are geographical

diversification, income diversification and asset diversification. When a commercial bank is involved in the proliferation of branches and other service outlet provision across the breadth and width of a country, it is referred to as geographical diversification (Mulwa, *et al*., 2015). Nepali (2018) gave Income Diversification as the expansion into new income earning financial activities and services aside from the traditional intermediation services. According to Nepali (2018), income diversification is the generation of revenue from several other activities like fees, commissions and amongst others. Assets diversification for banks involves investing the bank's assets into both the traditional lending, where the main investing activity is ensuring that funds are set aside for customers who are lenders; while still engaging on other markets that deploy assets to non-lending activities (Goetz et al., 2013). Such non- lending activities include investment in stocks, and other instruments offered in both the money and stock markets.

b) Firm size

Firm size represents a contingent factor that falls into the category of organization characteristics. According to Amah, et al, (2013), firm size is important as literature attempt to find out how effective the organization size can be in the operations of organizations. They established that the capacity at right sizing in different firms greatly influenced their effectiveness in addition to their individual ability to leverage on the advantages realized due to the classifications as either big, medium, or small organization. This led them to recommend that business enterprises should aim more at achieving a suitable "mix" along the continuum of small to big to harness effectively the right proportional aspects of the resources that go with a given status.

The concept of bank size and how to measure it is an important consideration for researchers. According to Schildbach, (2017), there are different approaches in

description and measurement of bank size, with each having their own advantages and disadvantages. Consequently, useful in varying circumstances. One approach is quantifying the market capitalization of a bank. This is a measure of a bank's current value. It is hailed as an undistorted measure despite different perspectives; however, it primarily indicates the success of a bank in the industry rather than pure size. The other measure is total revenue which is a common denominator that encompasses returns of the wide range of activities banks can (do) engage in. While it indicates a banks capacity which is related to size, they are cash flow-based and considered by many financial managers as the best reference. The capital base (equity) which corresponds to a bank's book value is another important measure and considered relevant. The problem with it is that its less up to date and many times fail to reflect a bank's business volume. The approach that this research adopted is total assets of the bank. It is indicator which regulators and academics use most frequently. It is the measure of the gross nominal volume of a bank's activities paper is the size of the bank and is measured effectively using the log of total assets (Avramidis, *et al*, 2016).

There are other minor measures for bank size that include risk-weighted assets, net income or the number of customers. These have the disadvantage of only providing a partial view on the size of a bank. This makes them less important in studies that target the banking industry as the bank size measurement criterion (Schildbach, 2017).

c) Commercial Bank Competitiveness

Competitiveness amongst commercial banks have been singled out to be entirely and fundamentally different when compared to the situation found in the other economic sectors and industries. This is so since banks play specialized function in the economic development of any country (Danisman, 2018). In his paper that examined the standard

competition approaches that favoured competition in a birds eye view perspective of the developed markets and their banking sector players, he documented the characteristics which are particular to them. Competitiveness was isolated to be intricately linked to performance as the latter is a key that unlocks the former if it is sustainable in comparison with the other players in each industry. According to Odundo, (2015), organizational performance has several definitions and each author prefer adopting the one that suits their subject of study. Literature points out that performance in organizations was traditionally measured using indicators derived from cost accounting field. These include profitability, return on investment amongst others. This approach, though plausible to many, inhibits continuous improvement because they are to map out inherent process performance issues which are critical to productivity (Oakland, 2014). The use of multiple performance measures and its positive effect on production performance are demonstrated in many other literature sections.

One of the measures of commercial bank competitiveness is the amount of customer deposits the bank has attracted from both the existing and newly recruited clientele. Yulianto and Solikhah (2016) put this into perspective in their study targeting the rapidly growing, Islamic banking in Indonesia over the recent past few years. One of the diversification instruments they studied to find its effect on the competitiveness of the bank is the mudharabah deposits. They set out to establish their increase in value to signify their uptake by the bank clientele. They measured this increase both in the number of accounts that the customers have opened and the total value of the deposits in general. Borrowing from this study, the measure that will be used in this study for competitiveness is the amount of customer deposit. This will signify that the more competitive commercial bank will attract more amounts in customer deposit.

1.2.2 A Review of Commercial Banks in Kenya

The 2019 CBK Annual Supervisory report gives the latest published structure and status of the commercial banks in Kenya. As at 31st December 2019 the sector had a total of 40 commercially oriented banks of which 39 were commercial while one is a mortgage finance company. Dubai Bank, Chase bank and Imperial bank were placed under statutory management in 2016 and are excluded from this list.

In gauging competitiveness, CBK annually rates the commercial banks considering their market share. This leads to a clustering referred to as peer groups. There are three peer groups based on their weighted composite indexes on net assets, customer deposits, which is a key competitiveness measure together with capital and reserves, number of deposit accounts and number of loan accounts. Where this score equals 5 percent and above, the commercial bank is classified in the category of large bank. A medium bank has a weighted composite index of between one percent and five percent while a small bank has a weighted composite index of less than one percent.

Taking a classic example of the five-year period between 2014 and 2018, was movements on this ranking amongst the commercial banks in Kenya that is of interest in the Strategic Management field. By the end of the year 2016, Kenya had eight large banks holding a combined market share of 65.32% percent. This was an increase from 58.22 % for the total banks that numbered 7 in the previous year of 2015. The increase in market share in 2016 was attributed to the movement of Stanbic bank from medium to the large peer group having increased her deposit base by 11.36%. Before this in 2014, the combined market share for this peer group stood at 49.9 per cent. This was a reduction from 52.4% in the year 2013. The improvement in 2015 was attributed to Diamond Trust Bank and Commercial Bank of Africa moving from the medium to large peer group. The reduction

as at 2014 resulted from Commercial bank of Africa which moved to large banks peer group while at the same time, CFC Stanbic Bank moved to the medium peer group from the large banks.

There have also been competitive movements within the medium peer group. In 2016 there were 11 banks in this category comprising a market share of 24.64%, which was a reduction from 34.42 % in 2015. This reduction resulted from the exit of Stanbic Bank (K) Ltd. which moved to large banks peer group. Further, in 2014, the combined market share here was 41.1 % which was an increase from 37.95% share which was the standing in 2013. The movement between 2013 and 2014 had resulted from Commercial bank of Africa moving to large banks peer group while at the same time, CFC Stanbic Bank moved to the medium peer group from the large banks. Similar back and forth movements in market share has also been witnessed amongst those in the small banks peer. Besides movements in market share there are also banks that have been placed under statutory management pointing at competitive trouble for the concerned banks. These events happened in concurrence with overall shrinkage of geographical diversification as several banks closed branches that had been rapidly expanded reaching a peak in 2010. This study interrogates the existence of any relationships between these movements and commercial bank diversification.

Diversification is evident amongst commercial banks in the country in the various forms. As at 31st December 2018, trading results of the commercial banks showed the magnitude of this. According to Oloo, Nesbitt, Murigi, and Thiongo, (2019), in the review of the ten year period from 2009 to 2018, commercial banks in aggregate terms grew their diversified income of fees and commissions from Kshs 350 million to Kshs 730 million representing a growth of 109%. Over the same period, the traditional interest income stream grew by Kshs 2.65 billion from Kshs 1.25 billion in 2009 to Kshs 3.91 in 2018 representing a

growth of 211%. This stream over the period hit its highest in 2016 at Kshs 3.99 Billion before starting a decline to the 2018 figure. This shows the importance commercial banks still place on lending interest as source of their revenues, while at the same time growing the other non-interest streams.

Similarly, diversification of the Kenyan commercial banks assets is also evident over this 2009 to 2018 period. The banking survey according to Oloo, *et al* (2019) lays bear this fact. It shows that there was steady growth of both ivestment in the traditional loan book from Kshs 7.62 Billion to Kshs 24.79 Billion over the period. This gives a cummulative growth of Kshs 17.17 billion which is 225.4%. At the same time, the other asset investmet practices the bank engaged in are the government securties and placement with other banks. Government securities alone grew to Kshs 11.38 Billion in 2018 from Kshs 2.74 Billion in 2009, growing by Ksh 8.64 Billion which is a 315.5% growth magnitude. While these figures are at the aggregate level, they show evidence of the action of commercial banks to diversify and this research focuss on the panel data and analyse their effects at the individual commercial bank level to ensure that the differences in application of each are scrutinized and reported.

Commercial banks in Kenya have also shown indulgence in geographical diversification in a wavy manner considering the spread across the counties. CBK annual report of 2018 points out that the total number of bank branches decreased from 1,518 in 2017 to 1,505 in 2018 giving a general reduction of 13 that year alone. Regionally, the two urban and peri-urban counties of Nairobi and Mombasa witnessed a branch network reduction of 11 and 6 respectively. This was attributed to the shift to alternative banking channels by most of the urban dwellers. On the other hand, growth in branch network was witnessed in the rural based counties with Laikipia county growing in branch network by 3 and amongst

10 counties that witnessed a total growth in branch network by 12. The overall decrease in branch network had even previously been witnessed in 2017 where the total number of bank branches decreased from 1,541 in 2016 to 1,518. This meant that in that year alone, there was a decrease of bank branches by 23. Of the closed branches, the majority were in Nairobi City signalling a constriction at the urban segment of the economy. Further, a total of 13 out of 47 counties registered a decrease in the number of bank branches. In contrast the network of branches increased from 1,443 in 2014 to 1,523 in 2015, which translated to an increase of 80 branches. Nairobi County witnessed the highest increase having an increase of branches to 38. The others are Machakos and Mombasa which had 7 new branches each and Kajiado had 6 new branches. A total of 19 out of 47 counties registered an increase in the number of bank branches. This was lower compared to 28 counties who registered increased bank branches in 2014. This reduction in physical bank branches expansion was partly attributed to the adoption of alternative delivery channels such as mobile banking, internet banking and agency banking.

It was documented that competitiveness is affected by diversification in Kenya. Njuguna (2018) confirmed that there is a positive relationship in the non-financial sector between geographical diversification and performance. In the banking sectors, Mulwa and Kosgei (2016) found that geographical diversification had a significant positive impact both ROA and ROE amongst the commercial banks. This makes diversification be beneficial to bank competitiveness. Similarly, Ndungu and Muturi (2019) also confirmed that the Kenya's commercial bank performance is affected by diversification. The findings from these prior studies and the competitiveness movements observed amongst the banks motivated the need to conduct a study that focusses on these variables comprehensively.

1.3 Statement of the Problem

Commercial banks in Kenya engage in diversification through various approaches. The purpose for this is to ensure their improved competitiveness that results into a deeper penetration into either existing or new markets (Mwara & Okello, 2016). Consequent studies have reinforced this. Income diversification results into direct positive effect on profitability (T. L. A. Nguyen, 2018) and significant positive effect on both ROA and ROE, and the reduction of a banks risk profile which is good for competitive positioning (Hamdi, et al 2017). In its implementation, funding diversification leads to a reduction in costs due to savings generated (T. L. A. Nguyen, 2018) while financial performance is impacted positively by asset diversification (Hailu & Tassew, 2018; Wanjiru & Nzulwa, 2018). Similarly, diversified loan portfolio is opined as important in spreading loaning risks and is recommended for banks (Mulwa, 2018) for enhanced competitiveness. However, there is discourse on the benefits of bank diversification. While it was reported that the value of small banks is enhanced by diversification, in contrast it destroys value for the larger ones (Fic, 2014). This introduces existence of the moderating role of firm size that must be investigated alongside diversification. Further, since full risk diversification may be sub optimal, commercial banks implementing diversification require prudence in identifying optimality. This is because of the emergence of two opposite economic trends whenever diversification is implemented (Tasca & Battiston,2014). These contradictions in literature give rise to the need to empirically study the effects of diversification on commercial bank competitiveness. Again, agency theory portends that diversification may result into negative outcomes since many times it is implemented by managers as a legacy seeking issue rather than a strategic business action. Clarke (2004) attributed this to the complexities of the separation of ownership and control and managerial revolution. Moreover, the period from 2009 to 2018 within

the commercial banking industry in Kenya according to corresponding CBK supervision reports there was haphazard movement of banks across the competitive peer groups. This needed investigation to ascertain the role diversification played since most of the commercial banking institutions engaged in diversification. Indeed, over the period, three banks namely Dubai, Imperial and Chase could not withstand market forces. They were placed under statutory management which according to CBK reports is a sign of corporate and operational failure. Again, the study by Mulwa and Kosgei (2016) is the only local study that has combined the effect of the three diversification modes of geographical, asset, and income together in the Kenyan context. Even so, their dependent variable was financial performance based measured using ROA and ROE. This left room for the generation of more knowledge on this since banks usually practice these three diversification modes as a package and there is need to measure their impact on competitiveness based on the attained share of their customer deposit base. This study fills the gap by documenting the effect of commercial bank diversification on competitiveness. It further introduces size of the individual institution as a moderator which had been omitted in the previous studies on this subject matter and instead it remained as a control variable.

1.4 Objectives of the Study

In this sub-section, the objectives of the study are outlined under the broad objective and specific objectives.

1.4.1 Broad Objectives of the Study

The broad objective was to investigate the effect of diversification and firm size on competitiveness of commercial banks in Kenya.

1.4.2 Specific Objectives of the Study

The specific objectives of the study were to: -

i. Evaluate the effect of geographic diversification on commercial bank competitiveness in Kenya.

ii. Establish the effect of income diversification on commercial bank competitiveness in Kenya.

iii. Determine the effect of asset diversification on commercial bank competitiveness in Kenya.

iv. Establish the moderating effect of firm size on the relationship between diversification and competitiveness of commercial banks in Kenya.

1.5 Hypotheses of the Study

The study was guided by the following research hypotheses:

$H_0$1 : Geographic diversification has no significant effect on Competitiveness of commercial banks in Kenya.

$H_0$2 : Income diversification has no significant effect on competitiveness of commercial banks in Kenya**.**

$H_0$3 : Asset diversification has no significant effect on competitiveness of commercial banks in Kenya.

$H_0$4 : Firm size has no significant moderating effect on the relationship between diversification and competitiveness of commercial banks in Kenya.

1.6 Scope of Study

This study focused on the effect of diversification on the competitiveness of commercial banks in kenya with firm size as a moderator. Diversification was categorized into its three thematic areas namely geographic, asset and income. These were analyzed and their direct effect on competitiveness established. The moderating effect of firm size on the relationship was also established. In doing this, the underpinnings of market power theory, agency theory and resource-based theory were considered. Relevant literature was reviewed in shaping the study focus. The study was undertaken amongst the deposit taking commercial banks in Kenya. These banks stood at 39 as of 31st December 2018.It therefore excluded all other categories of financial institutions and pseudo-banking enterprises that were operational in kenya at the time of this study. Panel data was collected from the commercial banks' regulator, Central bank of Kenya head offices located in Nairobi. It covered the ten-year period starting from 2009 to 2018. This data is filed annually banks as their statutory returns to their regulator (CBK).

1.7 Significance of the Study

This study is significant to the major players in the banking sector. The regulator CBK may use the report for policy pronouncements that regulate diversification approaches amongst commercial banks. This follows the reality that commercial banking sector and its competitiveness is a key indicator of economic positioning of any country. Besides, diversification has also been touted as a critical avenue that boosts the survival of any industry. The environment banks operate in changes continuously as policy agents continue to pursue stability for businesses in a country given their dependence on banks.

The findings of this study may also be found useful by the commercial banks themselves. As the management continue making decisions on diversification, they may apply the

finding in choosing how to diversify. The choice of whether to diversify geographically, or through income or assets can be guided by the results of this study. For them, it provides a point of reference in recommending the best mix of diversified products the banks should implement to be competitive. The study is also useful to scholars both in the business strategy and those in business finance including those in banking for areas of future research. The competitiveness of the Kenyan banking sector impacts on African countries especially those of COMESA and the global village who also benefits from this research as a pool of resources necessary for benchmarking and replication as need be.

1.8 Limitations of the Study

The study is limited to reviewing the panel data held by the CBK submitted there by the commercial banks. The researcher did not visit the institutions personally since banks operate under strict rules of confidentiality and even if they were visited, the same data that they had availed to CBK would not be made available directly to the researcher. This is so since CBK regulates and monitors them closely and therefore commercial banks are not allowed to communicate to the public any operational information directly unless the information is ratified by CBK. This meant that some aspects that could have been observed through interaction with the respective bank managers were missed. Nonetheless, this limitation was compensated by reviewing the whole reports to give the researcher a background of the banking institutions that participated in the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter discusses the study literature review under two subsections. These are theoretical framework of diversification and empirical review of literature. It also discusses the knowledge gaps in literature and gives the study conceptual framework.

2.2 Theoretical Framework of Diversification

This subsection has reviewed three theories that form the framework on which diversification is based upon in this study. These are Resource Based View, Market Power and Agency Theory.

2.2.1 Resource Based View Theory

Resource Based View Theory (RBV) arose from the ideas initially fronted by Edith Penrose in her 1959 seminal work "the theory of the growth of the firm" and further advanced by Rubin in his 1973 work on "Expansion of firms". It is Penrose's theory of the growth of the firm that originated the RBV theory, and as time progressed it became one of the main approaches that scholars applied in their analysis of sustainable competitive advantage of firms. Its approach (Wernerfelt 1984; 1997; Barney 1991) is based on the key assumption that firms undertake deliberate managerial efforts that are directed towards attaining a sustainable competitive advantage. In this perspective, RBV is viewed as important and useful when firms are analysed based on the resources type and input side rather than from the product side (Wernerfelt, 1984). In applying this theory, analysts look in detail the entry barriers and growth-share matrices, together with concepts of resource position barrier and resource-product matrices which are highlighted. These present tools that points at new strategic options that emerge from the resource perspective.

The theory was applied in research in Taiwan by Lin, and Wu, (2014) in their study that investigated the role of dynamic capabilities in the framework of RBV. In doing this, they proceeded, and explored the types of relationships that exist among different resources, different dynamic capabilities, and firm performance. They found out that dynamic capabilities can mediate the firm's valuable, rare, inimitable, and non-substitutable (VRIN) resources to improve performance. The VRIN has their direct effects on performance based on RBV, as well as their indirect effect via the mediation of dynamic capabilities. In adopting diversification, firms rely on their VRIN in developing unique products making use of the specialized capabilities that cannot be immitted thereby ensuring competitiveness. Taiwan et al (2014) averred that for a company to excel, it requires to be in possession of certain unique resources. Its successful deployment of the resources then forms the basis of a competitive edge and superior performance. This helps scholars and managers of organizations to be able to focus their energies on the allocation of the strategic resources in a manner that maximizes the production ability of each output that determines organizational performance of the firm. According to Ahuja and Novelli (2017), firms are motivated to pursue diversification to benefit from the synergies created. They connect this to the resource-based theory whose arguments suggest that sharing resources across operational activities for different product lines include the enhancement of horizontal operating synergies. In synthesizing this, they enumerate the transaction costs under specific transactional conditions. Further, the strategic behavior of companies, wherein they attempt to reduce competition in their own markets, enhance their own position in a market using revenues from other markets they operate in or increase their market power versus their suppliers and buyers. This leads to the uncovering of strategic synergies.

It therefore follows that any firm, in adopting diversification, relies primarily on its ability to make efficient use of its physical or service capabilities in producing more than a single good or service (Wernerfelt, 1984). The resource-based theory (RBV) argues that firms that are in possession of strategic resources are the ones that are provided with a golden opportunity to develop competitive advantages over their rivals. These competitive advantages in turn can help such organizations to enjoy strong profits (Barney, 1991; Wernerfelt,1984). The presupposition of this theory is relevant to the study of diversification since when a firm makes profits consistently due to its ownership of strategic resources, it then could move into other non-traditional markets. One of such a could be Commercial bank Diversification. The banks will be able to use the resultant financial capabilities to enter other geographic regions, invest into other areas rather than loans only which in turn enables them to drive investment income from other sources apart from the traditional interest on loans. This improves their competitiveness as revenue is enhanced. The enhanced revenue and income can then be used in further investment activities in the required technological advancement that enables the firm gain superiority in the market. Therefore, considering the objectives and hypotheses of this study, commercial bank diversification would be expected to have a positive effect on the competitiveness of the same institutions.

2.2.2 Market Power Theory

Market Power theory (MPT) has its roots in the generic strategies suggested by Porter (1980) and its supportive arguments. The three options of either Cost leadership, Differentiation of products or Focused niche approach for firms provided an economic analysis framework that is an important tool used in analyzing a particular business industry competition. The framework is used to determine the competitive intensity and, therefore, the attractiveness (or lack of it) of an industry in terms of its profitability and

therefore competitiveness. For an organization to survive competition in its industry and its overall business environment, it must deploy a set of strategies which distinguishes it from competitors positioning it at a suitable market level (Porter, 1990). One of these strategies is diversification (Barney, 1991).

In entering new markets upon the implementation of diversification strategy, firms become able to gain competitive power in that new market, not because of their position in the new market, but because of their positions in their current markets from where they had acquired the power. According to Gribbin (1976) a firm must have individual power in its individual market before attaining conglomerate power. It is this power from her individual market that pushes it to enter new markets through predatory strategies that its position in the individual market supports. This resonates with the works of Shepherd (1970) who had laid the ground and opined that market power is the ability of a market participant or group of participants (persons, firms, partnerships, or others) to influence price, quality, and nature of the product in the marketplace. The MPT points that when firms engage in diversification, they have increased opportunities for predatory pricing and reciprocal buying thereby reducing rivalry within their given industry.

In this study of commercial bank diversification, the theory is relevant as the researcher sets out to find out how banks that gain competitiveness in their market based on the products uses this to introduce products for other markets. In 2015, Delis, Kokas and Ongena (2015) in looking at the effect of bank Market power, it emerged that commercial banks with higher market power, though chose to indulge in diversification, their competitiveness diminishes at some point. They found that the firms that were relatively poorly performing match with banks with high market power. The other even more important finding attributed to them was that there exists a direct and positive effect of

bank market power on firm profitability. This latter finding is attributable partly to the ability of such banking firms to implement diversification. The result is that diversification implementation enables firms to build enough market power that grant them entry to conglomerate levels of product market operations. Here, firms start operating in other markets because of diversification. When they do this, firms can gain competitive power in the market not because of their position in that market but because of their positions in other markets.

The banking sector actors also exploit their market power to choose diversification interventions in their business. Considering these arguments, market power theory provide answer to the question why business enterprises diversify, by establishing the source of the positioning ability that enables them to undertake this action. This is because for firms to implement diversification, additional resources are required without which it will only remain a mirage. Otherwise, strategists have long offered support to diversification as one of the tools that is useful in enhancing organizational competitiveness through improved financial performance or profitability. Against this backdrop, this present study set out to investigate the effect of diversification on Competitiveness of the Commercial Banks in Kenya.

2.2.3 The Agency Theory

The agency theory is management and economic in nature and attempts to explain relationships and self-interest in business organizations. It describes the relationship between principals/agents and delegation of control. It explains how best to organize relationships in which one party (principal) determines the work and which another party (agent) performs or makes decisions on behalf of the principal (Jensen and Meckling, 1976). The Agency theory first emerged in the 1970s, then referred to as the Principal and

Agency theory. It originated from a combination of the disciplines of economics and institutional theory and its contentious authorship claimed by theorists Stephen Ross and Barry Mitnick. This theory may also be referred to as agency relationship theory. It is defined by Jensen and Meckling (1976) as a contract under which one person (the principal) or more persons (the principals) engage another person (the agent) or persons (the agents) to perform service on his/their behalf which involves delegating some decision-making authority to the agent or agents.

In explaining the agency relationship, Jensen and Meckling (1976) understood the firm as a legal fiction which serves as a nexus of contracts for a set of contracting relationships among individuals. According to them, the business performance depends on the allocation of resources and decisions made by the management. Underlying their assumption that the agent will not act in the best interest of the principal, they proposed that the divergent behavior of the agent can be limited by establishing incentives for the agent. The principal must incur monitoring costs to mitigate unusual activities of the agent. Productivity is impacted by the motives of managers who may have divided loyalty between their personal interests and those of the organization.

The impact of Agency theory on Diversification was studied by Ataullah, Davidson, Le, and Wood, G. (2014). They reviewed literature that suggested that corporate diversification destroys firm value because of managers' pursuing diversification strategies to benefit themselves and not necessarily to increase the value of the firms they manage. Considering evidence based on the thriving insider trading practice, they aver those managers themselves consider their diversification strategies to be value increasing. One of the ways they documented is a practice where corporate insiders (directors) would purchase more of their firms' shares traded in the open market in instances when corporate

diversification is high. In the same vein, purchases of shares by insiders would be more in instances when the level of diversification discount is high. This suggested a disagreement with outside investors' who instead undervalues the shares due to diversification. Moreover, managers in many instances would adopt diversification as a legacy issue important for their track records as individuals. There is evidence of this negative impact that causes a drop in commercial Banks's valuations, a scenario that can be associated with an increase in the benefits flowing to corporate insiders which results into reducing the quality of loans (Ataullah, et al, 2014). Because of this, diversification decisions taken by institutions are not always thought of from the competitiveness perspective. Firms would diversify into streams that are not competitive if the managers have made such decisions and boards play into their hand simply fearing to hurt the egos of the managers. This results into negative outcome and therefore diversification implemented from this perspective may have negative impact and may not necessarily result into an improved competitive effect on the implementing institutions.

2.3 Empirical Literature Review

In this subsection, an Empirical review of literature, has been carried out. This has been done along the study thematic areas of geographic diversification and competitiveness, income diversification and competitiveness, asset diversification and competitiveness, and the nexus o Firm size and diversification with Commercial Bank competitiveness.

2.3.1 Geographic Diversification and Commercial Bank Competitiveness.

There are proponents of geographic diversification as a means of improving commercial bank competitiveness. They vouch for it as a means of helping banks navigate economic crisis. A study conducted in the United States of America (USA) by Meslier-Crouzille, Morgan, Samolyk, and Tarazi., (2016), estimated the benefits of geographic diversification

basing the analysis on the effects of this diversification move on bank risk and return. They targeted Bank Holding Companies (BHC) across the USA. To measure geographic diversification, the study tracked the distribution of total customer deposits in an individual BHC's subsidiaries and branches across U.S. Metropolitan Statistical Areas (MSAs). The BHC branches were clustered either as intrastate or interstate depending on their distribution. The results showed that geographical diversification is beneficial in the improvement of bank competitiveness of a the BHCs since it was associated with an increase in risk-adjusted returns amongst them. Meslier-Crouzille et al, (2016), found that geographic expansion reduced bank risks that could lead to operational failure. Those expansion benefits according to the results were spread across the different bank sizes. It also emerged in their study that the condition of economic disparities measured by unemployment dispersion rates either across counties or states impacted the benefits of geographic diversification.

Similarly, and still in the USA, Goetz, Laeven, and Levine, (2016) undertook a comparative study on the effects of geographical diversification on risk mitigation of banks meant to ensure survival which is a key factor of competitiveness. In their methodology in the measurement of geographic diversification, they applied two methods concurrently. First, they exploited the variations across the states, and across time periods employed during the step-by-step removal of interstate bank branching prohibitions. This helped them in identifying an incremental index in geographic diversity from the 1970s through the 1990s. Next, the index was embedded in the process of interstate bank deregulation of each individual BHC investments in "foreign" MSAs. The foreign MSA was described as an MSAs other than the MSA where the BHC was headquartered. This methodology yielded a BHC-specific instrumental variable of cross-MSA expansion. An Ordinary Least Squares (OLS) regression was ran in an attempt that confirmed previous findings and

highlighted the value of using the gravity-deregulation projection of BHC expansion to identify the impact of geographic diversification on risk. Goetz, et al (2016) found a positive relationship between BHC risk and the expansion of bank activities across MSAs. The study also established that expansion of the coverage geographically of the bank's branch networks materially reduces BHC risk. This finding bolstered their assertion at the conception of the study that geographic diversification has a positive impact on competitiveness.

In the same vein, Brighi and, Venturelli, (2014), had in their paper on Italian banks investigated the effect of geographic diversification on bank performance based on risk adjusted outcomes key to competitiveness. The study also reported on revenue diversification. They used an unbalanced panel data collected from 3,060 observations representative of Italian banks in operation over the study period. The data covered the six-year period between 2006 and 2011. One of the objectives of the study was to establish the effect of geographic diversification on key principal performance measure that is important in determining competitiveness of the commercial banks. The results suggested that geographical diversification strategy action plays a key role in determining bank performance. Moreover, Brighi and, Venturelli, (2014), pointed out that in situations of an after-crisis period in banks, those geographically diversified banks are less penalized in terms of risk adjusted profit. This implies that they stand a better chance to remain competitive as opposed to those that are operating within a single location of the country of operation.

Geographical diversification has had supportive research findings in Kenya also. Njuguna, (2018) carried out a study amongst non-financial institutions listed at the Nairobi securities exchange. The purpose of that study was to establish the existence of a relationship

between geographical diversification strategy and performance which she measured using ROA, return on capital employed (RCE) and profitability. These measures she used makes her study relevant since they are also key aspects of competitiveness. The approach adopted was a census survey that covered all the firms in that category that were listed at the Nairobi stock exchange. Questionnaires were administered to the key informants of the study in the collection of primary data. Annual audited accounts on the target companies for a period of five years formed the source of secondary data. Both descriptive and inferential statistics data analysis techniques were used. Njuguna, (2018) found results that revealed the existence of a positive relationship between geographical diversification applied as a competitive strategy for firm performance. The results showed that where geographical diversification strategy was changed by one unit in the positive, 0.381 units change in performance resulted. In conclusion, the study recommended that firms that adopt geographical diversification strategy benefits better if they are in regions where competition is less intense allowing them some leeway in determining optimal prices as this ensures the possibility of profitability. Profit growth is an ingredient of competitiveness as it allows the owners' equity and reserves to grow.

Documenting the same flow of thought is the Mulwa and Kosgei, (2016) study on commercial bank diversification and financial performance. This was conducted in Kenya to also investigate the moderating role of risk. They used *ex post facto* explanatory design in investigating whether bank diversification affected financial performance. They further sought to establish whether solvency risk moderated that effect. Mulwa and Kosgei, (2016) study coincided with the global financial sector liberalization which had led to a large magnitude of diversification approaches by the commercial banks. They used the natural logarithm of the number of branches that a given commercial bank operated at different geographical location of the country. The natural logarithm was taken to adjust for the

arbitrariness nature of the measure in straight numbers. The analysis was based on panel data covering ten firm years from 34 commercial banks in Kenya. Mulwa and Kosgei, (2016) found that geographical diversification significantly and positively affects both ROA and ROE. This implied that geographical diversification is distinctly relevant and beneficial to bank competitiveness.

Similarly, Ndungu and Muturi (2019) conducted a study to determine the impact of diversification on Kenya's commercial bank performance. The research's specific objectives were to evaluate the effect of income diversification, geographical diversification, and product diversification on the financial performance of Kenyan commercial banks which is related to competitiveness. The research utilized some secondary data, which consisted of commercial banks' annual information over the period 2013-2017. The study covered all the commercial banks in Kenya. Data analysis was performed using descriptive and inferential statistics, and data presentation was done using tables and figures. Fixed and random effects were used to estimate the long-run specifications, while the short-run model was forecasted using the Generalized Method of Estimates (GMM). Geographical diversification and commercial bank performance were also positively and significantly related. The authors suggested that geographical diversification increased the banking institutions' widespread coverage, leading to higher returns and enhancing bank performance. Ndungu and Muturi (2019) concluded that all aspects of diversification lead to high bank performance and competitiveness. Thus, all commercial banks should increase the formulation and implementation of revenue, geographical, and product diversification. This study was however so much generalized and a replication that has indicators that underpin each of the sub-themes of diversification would lead to a more pointed finding.

Supportive of geographical diversification as booster of competitiveness is Doerr and Schaz (2019). Their study examined the impact of geographical diversification on international syndicated loan portfolio an aspect that could be used to measure banks' competitiveness. The research used data on worldwide syndicated lending. The findings of the research indicated that diversified banks enjoyed the benefits of higher loans supply to borrower nationals during financial crisis. The high supply of loans enhanced banks performance making them even more competitive. The diversified banks were stable in meeting the demands during the crisis due to their ability to raise extra funds during times of financial crisis. Diversification also benefitted banks by protecting them from market spillovers. The study further revealed that diversified banks had higher stability in funding loans than banks which were less diversified. The high stability of diversified banks was due to their capabilities of raising funds during financial distress period. Diversified banks when hit by financial crisis had the power to raise extra funds and distribute them to the affected areas. Moreover, the research suggested that the high vulnerability of banks to local shocks was due to lack of incorporation of diversification in their operations. Additively, the study found that international banks were weakly stable during financial crisis, however, when diversification was incorporated into international banks, it had positive effect on loan supply (Doerr & Schaz, 2019). In general, the findings of the study revealed that diversified banks were the most stable source of funding during financial distress. However, the effect was higher on foreign diversified banks. Diversification also affected banks by lowering their portfolio risk, in exchange they extended their benefits to countries affected by financial distress. From the above findings, it could be concluded that bank diversification influence banks' loan supply which affected their competitiveness.

In the contrary, there are studies that document a negative effect of geographical diversification on commercial bank competitiveness. According to Cai, Xu, and Zeng, (2016) studied geographical diversification and bank performance in China. They measured diversification, by a count of the number of cities that banks had operational branches. Subsequently, where a particular bank had more than one branch in the same city, that was considered as a single branch. Their argument here was that the prevailing business conditions for that area are similar. Cai et al. (2016) measured performance based on the market share that a particular bank attained as the total customer deposit base. This is a indicator of competitiveness. In analysis, ordinary least squares (OLS) regression was performed. They faced the challenge of identifying the causal effect of geographical diversification on bank performance which is brought about by the possibility of banks varying the level of diversification based on unobserved characteristics. This could lead to possible bias making the OLS estimates and its predictions unreliable. This they mitigated by employing a two stage least squares (2SLS) regression. Bank deregulation policy was used to instrument for the level of diversification. Results showed that geographical expansion improved the banks' market share, where if the bank established an additional 10 branches, its market share grew by 0.28%. Similarly, there was reported positive effect on net interest. Banks gained a higher net interest margins after expansion of their branch network. However, the results also showed a negative side of geographical expansion. It carried with it a higher operating cost aspect. As the level of diversification increased, the costs that the implementing commercial bank would need to bear also increased (Cai, et al 2016). These results suggested a potential tradeoff between market share gains and operating costs due to banks' expansion. Overall, their results suggested the outcome which is both bright and dark sided of geographical expansion of Chinese banks.

In the same vein, Turkmen, and Yigit, (2012) undertook research concerning diversification in Banking and its Effect on Banks' Performance. This study was based in Turkey. The objective was to examine the effect of sectoral and geographical diversification on the performance amongst the Turkish banks. It was also meant attempting to show the effects of diversification on the banks' performance. The study drew data about the performance of 50 Turkish banks in the 5-year period between 2007 and 2011 from Banking Regulation and Supervision Agency (BRSA), The Banks Association of Turkey (BAT) and Istanbul Stock Exchange (ISE) as their source. Banks that had recently gone through the prevalent mergers and acquisitions then were omitted. The study therefore only analyzed data on 40 banks. Performance was measured using financial indicators ROA (Return on Assets) and ROE (Return on Equity). Herfindahl Index (HI) was used to measure diversification of banks. The analysis results confirmed that a geographical diversification produced significant negative effect on performance for the Turkish banks sample under study (Turkmen, & Yigit, 2012). This revealed that the banks are better of concentrating their operations at the original areas than spreading. The negative impact was associated with the resultant higher costs of running the new branches. The costs eat into the revenue base resulting into reduced ROA and ROE for the banks. This if sustained also affects competitiveness negatively.

Likewise, Ugwuanyi, Obinne, Ugwu,and Nonye (2012). did research on impact of corporate diversification, having several autonomous branches across the country, on profitability of financial service sector in Nigeria. The data for the study was obtained from sampled banks in the period between 1998 and 2007 for ten years. The sample for the study was 25 banks chosen according to capitalization requirements. The methodology applied was inferential statistics where a regression equation was formed following the example of the previous research. The findings revealed that diversification strongly

affected the profitability of banks. From the findings of the research, it could be concluded that diversification was significant on bank performance and that it positively affected profitability of banks because of the ability of diversified banks to pool their funds and allocate them effectively. However, the findings postulated further that diversification diseconomies were experienced in situation where banking firms faced a higher degree of competition. The diseconomies led to worsening of credit quality on loan portfolios and a drop in bank returns (Ugwuanyi, et, 2012). The study recommended that for banking institutions to correct diversification diseconomies, they had to engage in specialization instead of having many diversified banks. The empirical results of the study showed that geographical diversification was positively correlated with bank performance. This meant that commercial banks enjoyed good performance with a rise in degree of foreign control. The other finding was that operational diversification was negatively correlated with banks' performance. Moreover, the study revealed a significant coefficient of operational efficiency variable. The better efficiency reduced banks' expenditure which improved banks' performance. From the findings it could be concluded that diversification had a strong positive impact on banks' performance. The authors also suggested that merger and acquisition was the other way to enhance banks' efficiency and increase their size to make them more competitive. Conclusively, as per the results, profitability of banks first reduced with bank size and scope then gradually increased above threshold.

Similarly, a research amongst Chinese Banks by Berger, Hasan, and Zhou, (2010) sought to investigate the effects of focus versus diversification on bank performance. Their measurement of performance using profitability and labour use efficiency are key to the competitiveness of the bank. They made reference to the panel data of commercial banks in China at the stock exchange during the eleven-year period from 1996 to 2006. These records were retrieved from the Banks cope – Fitch's International Bank Database. This

gave an unbalanced panel sample which included financial data of 88 Chinese banks during the period of study totaling 464 observations. They took care of inflation by adjusting all the financial items to 1996 as the base year. The study found that geographic diversification was associated with significant reduction of profits. At the same time, its implementation was also accompanied by higher operational cost. The study therefore concluded that commercial banks are better not spreading their branches to new regions of the country. Instead, they should improve services at fewer locations but serve the customers to their expectations. That would improve their competitiveness and controllable costs which also improves performance.

Moreover, Mochabo et al, (2017) conducted a comparable study on the effect of bank diversification on the financial distress of commercial banks. One of their basis was geographic diversification in commercial banks listed at the Nairobi Securities Exchange in Kenya. Their study took regard of the dynamism of the environment that commercial banks operate in as they individually endeavor to gain competitive advantage in the industry. Their research was focused on business interventions and different tactical strategies of diversification banks employ to survive the competition that faces them in the market. Since many banks had been expanding across the country to capture new markets, the study encapsuled this to determine the effect of geographical base diversification on the financial distress for the banks under study. Banks that suffer financial difficulties end up in the distress, a state where competitiveness is lost as that bank grapples with liquidity problems usually brought about by panic withdrawals. This study employed ten years panel data covering the period 2006 to 2015. The finding implied that when a bank establishes branches far from the headquarters, the chances of financial distress are

enhanced. This negatively affects its competitiveness position. This could be explained by the reasoning that distant branches lead to the decline of operational efficiencies.

Finally, there are studies that have remained ambivalent on the effects of geographical diversification on the competitiveness of Commercial banks. Sharma, and Anand, (2019) conducted a study on geographical diversification and bank performance amongst Indian Commercial banks. Their purpose was to establish if geographic diversification resulted in the improvement of firm value. This is relevant since firms of higher values have an important precursor to competitiveness. They singled out the improvement and increase in the magnitude and scope of economies of scale, exploitation of the synergies gained and a possible reduction in cost and improved corporate governance as the key drivers of their assumed improvement in competitiveness. The research was designed to use an unbalanced panel data collected from all the operational Indian Banks over the period of sixteen years from 2001 to 2016. They conducted the robustness tests of fixed effect model (FEM) with a distributed lag. This tested for firm and time fixed effects. The result of this study and the literature they reviewed suggested overall that geographical diversification enabled the increase in bank returns, but nonsignificant impact on bank risk. These results they explained basing on the theory portending that while geographical diversification enhanced banks efficiency through economies of scale, this was not achieved to the extent that would meet the threshold needed to reduce risk. Therefore, risk diversification could not be achieved for the case of the studied Indian banks sample. They offered a possible explanation that increased geographic diversification is responsible for increasing agency cost. This in turn makes it more difficult to monitor the agents of management (managers) with the resultant effect of increasing risk. This has negative effect on competitiveness of the commercial banks.

This position had been found in another study by Schmid and Walter, (2012). They conducted research that interrogated whether geographic diversification is value enhancing or value destroying amongst the financial services sector institution in the USA. Their sample was all encompassing. It covered commercial banks, insurance companies, investment banks, asset managers, and financial infrastructure services firm. The data collected was drawn over a twenty-year period from 1985 to 2004, with a total of 3579 observations. Their concept of geographical diversification encompassed both within the country and foreign spread of branches of the institution under study. This they did by using two alternative measures. One with a dummy variable capturing whether the firm reports more than one geographic segment and the other with the percentage of sales from non-domestic operations. Their findings indicated that geographic diversification is not associated with a significant valuation discount in financial intermediaries. The position changed when accounting for the firms' main activity-areas. In that case, the study found evidence of a significant discount in value associated with geographic diversification in securities firms. There was further evidence of the existence of premium in credit intermediaries and insurance companies. The robustness of results was ensured after, the research took into account functional diversification of the firms, a potential endogeneity of both functional and geographic diversification, and a potential value transfer from equity to debt holders. This they achieved by using estimates of the market value of debt. This left open to further research the actual effect of geographical diversification on competitiveness of financial institutions, commercial banks included.

Aguirregabiria, Clark, and Wang, (2016) ended up with a similar conclusion. They studied diversification of geographic risk in retail bank networks in the USA. Their research coincided with the removal of Riegle-Neal Act (RN) of 1994 that eased the restrictions on

branch-network expansion for banks in the United States. This removal of the barriers was meant to facilitate geographic risk diversification (GRD). To find out the effects of the legislative change, their study focused on the period following the passage of RN. This was from 1994 to 2006. The study was based on the counties, which are the primary administrative divisions for most states as they defined the market. In their model the definition of a geographic market played two important roles. In the first case, it was referred to as the 10 models of market entry, whose choice determined the set of branches that were competing for consumer deposits within a geographic area. The other defined a geographic partition of USA and determined the set of assets in the study model of branching as a portfolio choice. Counties have been chosen as the center in the measure of geographic market. The study used the measure of geographic risk and an empirical model of branch-network choice and identified preferences toward GRD separately from other factors possibly limiting network expansion for the banks. Comparative facts showed that risk associated with geographical diversification negatively affected bank value. Even though there was evidence of counterbalancing this risk by economies of density/scale, the magnitude in the change was not significant. This supported the findings that geographical diversification has both positive and negative consequences to the value of a commercial bank. The emerging costs corroded the gains making it a double-edged strategy on its influence of market share.

Similarly, Maubi and Jagongo (2014) reiterated the foregoing position. In their study conducted amongst commercial banks in Kenya, they provided an alternative perspective to the effects of geographical diversification. They carried out a study to determine the relationship between geographical diversification and credit risk management, establish which relationship exists between industry diversification and credit risk management and finally establish the relationship between the size of borrowing company and credit risk

management among the commercial banks. These variables are key to competitiveness as they act to draw more customers to the banks. Their research design was descriptive in nature. They found no association existing between geographical diversification and credit risk management, however, an association existed between industry diversification and credit risk management; and between size diversification and credit risk management at the commercial banks they studied. This led them to establish a framework that helps determine amongst the borrowing companies, their growth over time and sustain competitiveness. It was also clear that at certain levels of tax and diversification, banks could standout based on their competitive advantages in areas of operations apart from only their geographical presence.

2.3.2 Income Diversification and Commercial Bank Competitiveness.

Support exists in literature across the globe for income diversification as a strategy that impacts the competitiveness of a commercial banks positively. In Philippines, commercial banks have emerged with different strategies meant to ensure their competitiveness. This they hope to achieve through maximization of their profit and ability to abridge the risk of insolvency. In this case, diversification was at the forefront (Lim & Pao, 2016). In their research, Lim and Pao (2016) singled out income diversification as an area of study under commercial bank diversification. Here, a bank offers added products and/or services to what it is previously provided to augment its competitiveness. The key operation of banks is hinged around lending leading to interest income. However, in many instances, there are losses to banks that arise from uncollected debts. This is augmented through diversification. This diversification into noninterest income activities included trading and derivatives, fiduciary services, and other non-interest activities. The research objective of Lim and Pao (2016) was to examine the relationship that existed between income diversification and non-interest income activities of the universal banks and the

commercial banks of Philippines. The researchers sampled nine universal banks covering the period 2004 to 2014. The relationships of the variables were determined using regression analysis between income diversification and non-interest income activities. Lim and Pao (2016) used net interest income and non-interest income to assess the income diversification, and trading and derivatives income, net fees and commissions on the other hand to assess non-interest income activities. They found a significant and positive relationship that existed between income diversification and non-interest income activities, thereby validating the hypothesis that growth in both interest and non-interest income relevantly accelerates operating income of banks. This forms the basis of commercial bank competitiveness.

Comparatively, Kumar, Chaudhuri, and Sharma, (2019) carried out a research about the impact of income diversification on sustainability and profitability after the financial crisis in India. The study used secondary data obtained from Ministry of Finance, individual banks and other sources of bank database. A total of 90 banks were studied comprising of 43 foreign, 21 public, and 20 private and 6 (State Bank of India) SBI banks. The methodology used was inferential statistics based on multivariate regression analyses to find the rate of diversification of Indian banks for the period 2008 to 2017. The effect of diversification was tested on different categories of income, non-interest income, fee income and other incomes (Kumar et al, 2019). The findings were that shifting of new businesses helped banks to improve their profitability. The growth of income, however, was not steady due to the impact of the 2008 financial crisis. The study focused on the role that banks in India had taken on new non-income activities to enhance their profitability. Diversification was identified as one of the best ways for ensuring continued profitability for banks and risk-adjusting mechanism in the Indian banking sector. Different

observations were also made on the types of income in the banking system. For instance, non-interest income could be changed easily compared to fee income (Kumar et al, 2019).

Moreover, the research of Kumar et al, (2019) discovered a big variation in performance; ROA was highest in foreign banks followed by private banks. Relatively, ROE was highest for SBI grouped banks followed by public banks. As per the study, banks in India had started to apply non trading income methodology which was a change from traditional income system targeted as a measure after the 2008 financial crisis. Most banks engaged in innovation of their products leaving behind the traditional method which was based on interest income. From the findings it could be concluded that bank diversification had a positive impact on bank competitiveness.

Similarly, in Pakistan, changes had been observed in the economic and customers' expectations trends that had driven banks into a near mandatory path to search for new ways of income generation (Ismail, Hanif, Choudhary, & Ahmad, 2014). As a result, banks moved towards diversification of their revenue to reduce risk of their portfolios and to increase the profitability a fact that Ismail et al., (2014) sought to find out. Ismail et al., (2014) carried out a study amongst the commercial banks in Pakistan to establish whether the Income-diversification strategies being implemented in the banking sector were a 'Blessing' or 'Curse'. They used panel data from the official commercial banks annual reports covering the period 2006 to 2013. The data was analyzed using the multiple regression analysis. They found that diversification of income generating activities (either interest based, or non-interest based) enhanced the chance of a commercial bank profitability. This positive finding was explained by the fact that income diversification results in the reduction of overall risk usually inherent in the operations of commercial banking Institutions (Ismail et al., 2014). They concluded that to reduce the operational

risks and capture new opportunities that enhance competitiveness, commercial banks in Pakistan should implement income diversification strategies.

Using yearly data from Malaysian banks for the period 2005 and 2015, Brahmana, Kontesa and Gilbert (2018) studied income diversification and its impact on bank performance, a pointer of competitiveness. The data was chosen from the year 2005 coinciding with the recorded period of diversification amongst Malaysian banking institutions. This research was particularly fascinating considering that Malaysian banks are among the fast-growing sectors across the globe. Secondly, there was also diversification in Malaysian banks among interest and non-interest income, and diversification in traditional and Islamic banking activities. In fact, Malaysian banks were the primary players in Islamic banking world-wide. Brahmana, et al, (2018) utilized an examination model to assess the impact of income diversification on bank performance in this research. The model was developed based on existing literature from previous scholars. Brahmana et al. (2018) demonstrate bank performance as a subject to the capital adequacy ratio (CAR), the loan deposit ratio (LDR) and the non-performing loan (NPL). On the other hand, income diversification, risk-adjusted performance, and size which a control variable were measured empirically. The findings from this study postulated that there is a positive correlation between income diversification and bank performance Brahmana, et al, (2018). The control variables were also found to be positively related to bank performance apart from NPL. The explanations to these findings are that there is an increase in Islamic banks in Malaysia. Being religious banks, interest is restricted. Malaysian Islamic banks adhere to their doctrines by issuing non-interest earning loans, and finance both sharia bonds and insurances. The practices give substantial profits to banks and thus, income diversification led to better bank performance and competitiveness.

Moreover, Perera, (2018) reviewed empirical observations fronting the arguments that support banking sector diversification based on its tendency to minimize bank risk. This is expected to improve performance. Further to this, and as a consequent action, he undertook a study whose objective was to identify whether commercial banks diversification impacts the competitive index which is performance for the banks that are operational in Sri Lanka. Perera, (2018) utilized panel data extracted from the comprehensive income statements and financial positions of selected banks coving a period of 6 years sampled from 2010 to 2015. In the analysis, he used the Herfindahl index to measure diversification. He subjected the data to multiple regression analysis to ascertain the existence of a relationship between diversification and performance indices Return on Assets (ROA) and return on equity (ROE). The study found out that there was a positive relationship between income diversification and bank performance (Perera, 2018). However, this relationship did not reach the peak desired by the bank regulators in Sri Lanka.

In the same jurisdiction, Pisedtasalasai and Edirisuriya, (2020) conducted research to examine the association between income diversification and performance of commercial banks considering the ownership condition in Sri Lanka. The data was obtained from 17 registered commercial banks in the period between 2001 and 2016. The commercial banks were subdivided into 5 government-owned banks unlisted, 3 government-owned listed banks and 9 private sector listed banks. The data was obtained from the Bureau Van Dijk Bank Scope database. The findings of the research were that there was a strong association between income diversification and bank performance, which is a factor of competitiveness. As per the research by Pisedtasalasai and Edirisuriya, (2020), bank diversification had impacted Sri Lanka positively by incurring more profits in the

long-term. Most banks with high profits and success were because of applying income diversification in their earnings structure. Besides, the findings of the research also revealed that banks in Sri Lanka had benefitted from income diversification. The coefficients for NITI (None Interest Total Income) were all positive and significant in all models of estimation. In addition, the research study findings on government-owned banks had a negative coefficient and significant at 5%. This meant that government-owned banks had lower profits compared to private owned banks. The relationship between government-owned unlisted banks and listed banks had a negative correlation but significant at 5% level between profitability and NITI. These findings indicated that the profitability of government-owned listed banks was like that of private sector listed banks. The other finding was that costs to income and loan loss provision had negative impact on ROA (Return on Assets). Banks that were inefficient in controlling their expenditure and easy in provision of loans allocated most of their income in provision of loans (Pisedtasalasai & Edirisuriya, 2020). From the above findings it can be concluded that bank diversification had a positive impact on bank competitiveness.

In replication, Lee, Hsieh and Yang (2014), carried out a research to investigate the relationship between revenue diversification and bank performance. The performance of banks has a bearing on their competitiveness if it is sustained. The study examined whether financial structure had effect on revenue diversification and bank performance. The research used panel data from a sample of 29 Asian-Pacific countries, mainly European, having a total of 2372 banks for the period from 1995 to 2009. The research used Herfindahl-Hirshman Index (HHI) to measure different types of revenues such as net trading revenue, net commission revenue and gross interest revenue which helped to find out the best type of revenue that would work well with diversification. In addition, the study focused on financial reforms and diversification by incorporating a measure of

financial reform index. The was instituted when there was uncertainty among different authors and lack of conclusiveness on the impacts of income diversification on performance. The reason for the lack of conclusive findings was because less investigation had been done on the impact of revenue diversification. The other reason was that there exist different conditions of diversity in different countries making it hard to come up with a comparison. The research, therefore, was the first one to investigate financial structures of different countries to explain the impact of revenue diversification (Lee, et al, 2014). The hypotheses of the portfolio revealed that revenue diversification affected the Asian-Pacific banking sector positively. The research suggested that bank performance could effectively have been improved through diversification. The study further recommends that due to the current financial liberalization, banks should diversify their products to meet the big demand that had been brought by markets development, increased competition, and economies of scale. From the above findings it could be concluded that revenue diversification had a positive impact on banks' performance.

Comparatively in India, there were concerted efforts by commercial banks to create new revenue streams. Identifying this fact, Trivedi (2015) carried out a study on the banking innovations and new income streams and their impact on commercial banks' performance. Commercial banks were hinging their continued competitiveness in the marketplace to sustained performance improvement. Trivedi (2015) measured performance and stability using profitability and stability of income for the banks. His study was a comparative analysis of income generated from these income streams against different grouping of the banks. The results of data analysis pointed out that the category of private and foreign banks were more successful than public sector banks in generating more of their income from other sources that are non-interest and fee based. The study was conducted over the period 2005 to 2012. In line with the study objectives, he also found out that the extent of

income diversification (either from fee-based income or non-interest income) had a positive impact on profitability. This in turn contributed to competitiveness of the individual commercial banks. However, when this performance was risk-adjusted to incorporate stability overtime, it was found to be insignificant statistically (Trivedi, 2015). Overall, the study concluded that there is a positive impact of increasing share of 'fee income' in both total income and non-interest income on profitability as well as risk-adjusted measures.

Chu, Gong, Fang, Lan, and Gou (2020) conducted related research with the purpose of investigating the impact of diversification and relational capital on bank performance. This was in line with the foregoing postulations that diversification and relational capital are important determinants of bank competitiveness. The research was conducted on a sample of 96 commercial banks in China, utilizing yearly data obtained from banking institutions for the period between 2014 and 2018. The commercial banks under study were of all kinds, from state-owned, privately-owned, and urban banks. Chu, et al, (2020) used the Return on Assets measure (ROA) to determine bank performance. The equation formulated had ROA as the dependent variable against the ratio of non-interest generating income to total circulating income (NII and HHI respectively) which were the explanatory variables. Additionally, the research incorporated asset size, growth rate for real GDP and loan-deposit ratio in the regression model. The entropy model was also used by Chu et al. (2020) to construct the relational capital index (RCI). The model was constructed using five factors namely, the government, worker, shareholder, depositor, and lender relationships. Empirical results indicated that the ratio of NII and HHI have a positive relationship with bank performance. When banks engage in non-interest earning activities, more profits were realized, and the banks were faced with lower systemic risks. The customers also got satisfactory services for their transactions which is to the advantage of

the banks. Further, the findings showed that there was a negative relationship between NII and RCI. However, when NII interacts with RCI, a U-shaped curve was generated in relation to bank performance. This negative relationship, however, was brought about by failure of some Chinese banks to establish long-lasting relationships with their customers to avoid problems like information asymmetry and high transaction costs (Chu, et al, 2020). It is thus not completely negative as in the long-term RCI increases with bank performance. It is therefore reasonable to conclude that relational capital and income diversification are positively correlated to bank performance in the long run. Thus, the two factors are positively related to bank competitiveness.

Nepali (2018) conducted a study aimed at examining the impact of income diversification on commercial bank competitiveness through considering the risk return trade off. The study was conducted amongst the commercial banks operational in the Asian Country of Nepal. The study dependent variables were the risk adjusted performance indicators ROA and ROE. These measures as financial/ accounting measures that are useful in measuring performance of commercial banks and have useful in for scholars. The data used in the study was the secondary data covering all the 20 commercial banks that were operational in Nepal over the study period running from 2009 to 2015. The panel data was collected from the annual reports and the financial data issued to the public by the banks under study. Multiple regression analysis was conducted in the estimation and testing of the significance of income diversification variables and its importance on the Nepalese Commercial banks risk adjusted performance. Nepali (2018) in the results showed that non-interest income was positively correlated to risk adjusted returns. This indicated that as the non-interest income grew, other factors held constant, the higher the risk adjusted returns of ROA and ROE grew. The results of regression analysis led to the conclusion that the beta coefficients were positive for non- interest income, Herfindahl-Hirschman

Index (HHI). The study recommended to the Nepal commercial banks that they would improve their competitiveness by diversifying more and more into the non-interest-based income in their operations.

In a wide geographical area perspective, Mensi and Labidi, (2015), did research on the effects of diversification of bank products on market power. The research was carried out to find out the rate of competition in financial institutions on the new products and activities they engaged in with the changing technology. The study was conducted in 18 countries in the Middle East and North Africa (MENA) region using a sample of 157 banks in the period between 2000 and 2013. The methodology used by the study was mainly obtaining data from secondary sources such as Bank scope database and the World Bank's database. The market power variable was measured using Lerner index while diversification was measured using the Herfindahl-Hirschman Index (HHI). The findings of the study were that there was low competitiveness for banks that did not embrace diversification in the MENA region (Mensi & Labidi, 2015). In other words, the market power had low robustness and unstable in those countries. That was shown by the low Lerner Index which indicated low market power in the banks. Moreover, the Z-score in ROA and ROE were low which further indicated that the stability of the sampled banks were low meaning that the banks were exposed to severe risks. Besides, stiff competition and desire to be the leading financial institution between banks in the MENA region resulted to financial instability. The financial instability was because of lack of experience and the banks' failure to control risks involved in the process of competing. Mensi and Labidi, (2015) documented findings on the regression and the Z-score for ROA indicated that there was a negative association between competition and financial stability. The research further discovered a positive relationship between income diversification and financial stability when there was moderate market power and income diversification. The

findings could be interpreted as in a very competitive environment, banks tend to engage in high-risk activities and in the process if the bank lacks experience to control the risks involved, then that might be their downfall.

There are more studies in support of income diversification providing favorable empirical evidence in support of the initiative's benefits to bank competitiveness. Elsas, Hackethal and Holzhauster (2010) conducted a study on the anatomy of commercial bank diversification singling income as an independent variable. This study was conducted across nine countries in the developed western countries. These were France, United Kingdom, Australia, Germany, Canada, Italy, the United States, Switzerland, and Spain. The study collected panel data covering twelve-year period from 1996 to 2008. It was designed to test how income diversification affected bank value. The study relied on a comprehensive framework for bank performance measurement. In investigating diversification effects on bank performance and value, the researchers needed a consistent bank valuation framework. This tied the values obtained from the market measures together with the observable financial value indicators. Elsas, et al, (2010) worked the framework that fundamental value of a bank's equity equaled the present value of future cash flows to shareholders. Other measures that related to commercial bank competitiveness and used in the analysis were the present value of cash flows, book value of invested shareholders' capital and present value of future economic value creation, which was measured by residual income. This choice of indirect performance effect was suitable as it did not depend on the path of diversification that was adopted. The results obtained demonstrated that when commercial banks diversify their incomes away from the tradition interest-based income, the profitability and value is enhanced (Elsas, et al, 2010). This positively advantages commercial bank competitiveness.

Moreover, Zhou, (2014) research study supported the notion that income diversification had an impact on commercial bank competitiveness. He conducted a study that investigated the impact of income diversification on bank risk. It was designed using quantitative methodology by applying panel data from 62 Chinese commercial banks covering the period 1997 to 2012. The findings of the research were that there was no association between income diversification and bank risk but rather the reduction of risk was attributed to reduction in the risk of interest income businesses. The findings showed that a rise in non-interest income resulted to an increase in its volatility which led to the general increase in risk. According to the research, commercial banks had found it difficult to realize economies of scale because of stiff competition from new entries of foreign banks and increased number of non-banking financial institutions. The constant economies of scale experienced by China's commercial banks was because of relying on traditional income structure which was not diversified. Zhou, (2014) also found out that through income diversification strategies such as engaging in non-interest income businesses, risks could be reduced in the banking industry with a condition that there will be no perfect association with traditional interest income businesses. From the above findings, it was concluded that income diversification in banks embracing of non-interest income businesses had a positive effect on banks' competitiveness and performance (Zhou, 2014). This literature is beneficial to the topic of research as it fills the existing literature gap on the impact of income diversification on bank risk.

Moreover, commercial bank diversification showed impact on stock market value and overall competitiveness. Sawada, (2013) carried out a study about the impact that bank income diversification had on stock market returns and risks. Quantitative methodology was used to carry out the research where data was obtained from the Japanese banking sector. The study applied Tobin's Q to estimate the function of bank value and non-interest

income to measure revenue diversification. The findings of the research were that revenue diversification and market value had a positive association however, the association between revenue diversification and bank risk was neutral (Sawada, 2013). The study also went ahead and found out that when non-interest income was subdivided into smaller components like fee and trading income, there was a general reduction of risks associated with a shift into fee income businesses. The research also discovered that revenue diversification affected bank returns and risks according to specific characteristics of banks such as organizational structure and traditional business operation. The empirical results showed that coefficient for non-interest income was statistically significant and positive. The test on ROA also found out that non-interest income was significant and correlated with bank value. Besides, as per the study research, when non-interest income share was subdivided into smaller component shares such as fee income and trading income the impact on bank returns was positive. Sawada, (2013) also concluded that revenue diversification was significant and had a positive coefficient and that non-interest income share in traditional banking system was not significant. From the above findings it would be concluded that income diversification positively affected bank competitiveness as seen in increase in bank market value. However, there was no proof that bank diversification reduced bank risks.

In a different jurisdiction, Fadli (2019), carried out research to examine the impact of income and credit diversification on bank risk and performance. The study used a panel data of 53 listed and non-listed banks in the Indonesia between the period 2011 to 2015. Diversification was taken as the independent variable and was measured using Herfindahl-Hirschman Index (HHI). Bank risk was measured as a standard deviation of ROA while bank performance was measured by Returns on Asset (ROA) and risk adjusted (ROE).

The methodology used for the study was quantitative. The research used unbalanced panel data because data that was available was from different years.

The findings of the research were that bank diversification had a positive impact on bank performance (Fadli 2019). However, diversification had its own challenges as it led to a rise in risks which also decreased bank performance. The empirical results on risk was that ROA and ROE were positively correlated which was similar to findings in the existing studies. Hypothesis testing revealed a negative impact of income diversification on banks' performance. The test also indicated that income diversification had a positive impact on ROA and ROE but was neutral on adjusted ROA and risk adjusted ROE. Based on these finding, Fadli (2019), concluded that income diversification could improve bank performance as indicated by positive coefficients of ROA and ROE. On the other hand, credit diversification also revealed a positive coefficient however, it had a negative coefficient on joint risk which meant that credit diversification increased the likelihood of banks failure. The study recommended that for banks to increase their returns they had to utilize the benefits of diversification fully by increasing the rate of non-interest income activities. In addition, banks had to focus on the structure of credit distribution that best fit their capabilities.

Similarly, Alshomaly, (2014) did a study about ways of reducing systematic risks of banking through diversification of bank activities. The author took a sample of 13 Jordanian banks on the Amman Stock Exchange (ASE) for the period 2006 to 2012. The methodology used for the study was majorly based on secondary data which were obtained from the website of banks in Jordan. The degree of diversification was measured by Herfindahl Hirschman Index (HHI) and the aspect measures were the rate of revenue, credit and depositing activities of the bank. The findings of the research study were that

the degree of interest income in' asset portfolio was higher, and that the diversification was positively correlated with changes in the risks of trading Alshomaly, (2014) discovered that most Jordan banks were diversified in credit and deposit activities. The research encouraged banks to diversify their operations since it had the benefits of reducing variability of bank operations through reduction of degree of sources and uses of income generated by the banks.

Alshomaly, (2014) research suggested that diversification of activities of the banks would reduce the rate of default on loans. The appropriate way of increasing diversification in banks would be through increase of non-interest income activities over interest income activities. Moreover, when it came to diversification, the research discovered that banks in Jordan were relatively diversified in revenue, but credit and deposit variables were mostly diversified. However, general revenue diversification had a negative correlation with systematic risk. This finding by Alshomaly, (2014) pointed out that revenue diversification impacts competitiveness positively because of its suppression of systemic risk of the banks. This is because it is the risks in organizational systems that are responsible for organizational failure.

In Ghana, Senyo, Olivia, and Musah, (2015) conducted a study that considered the relationship between income diversification and profits. In the study, they also factored the inherent risks associated with diversification of this type for commercial banks. They analyzed panel data covering the ten-year period spanning 2002 to 2011. The results confirmed that interest income for commercial banks remained the highest contributor to bank profits in Ghana. However, it was also evident that there are years when fluctuations and unpredictable trends happen that interfere with the uptake of credit from the banks by customers. Under such circumstances, the other revenue stream from non-interest sources

became important (Senyo, et al, 2015). This happened because the non- interest source in such situations play the income augmentation role under such unpredictable business periods and circumstances, thereby ensuring the maintenance of acceptable levels of profitability to the shareholders. This thereby implies that the individual firm remains competitive and survives the income slump periods in their operational life cycles. This is necessary for sustainability of a firm as it ensures continued competition ability.

In the same context, Hamdi, et al (2017) conducted research in Tunisia with three objectives. First, to investigate the level of non-interest income that Tunisian banks had. Secondly, the research was to find out the effect that non-interest income had on the bank profitability. In this case, profitability was measured using both Return on Assets and Return on equity. Lastly, in the research, Hamdi, et al (2017) aimed at finding out the relationship between non-interest income levels and the risk-taking level. To accomplish the goals, the researchers obtained data from 20 Tunisian banks for the period 2005 to 2012. Empirically, the researchers used dynamic panel data model. The research findings indicate that the key determinants of non-interest income are relative ROA and ROE, the size of the bank, loan specifications, the new e-payment methods, Automated Teller Machines and credit card payments. The study also found out that bank diversification increased performance in terms of ROA and ROE. Lastly, Hamdi, et al (2017) found out that the level of non-interest income was negatively and significantly correlated to the risk-taking levels. The research findings indicate that bank diversification is crucial as it raises the income levels of banks and lowers the profitability in terms of economic depressions and financial crisis. Thus, one can conclude that bank diversification has a positive impact on bank competitiveness.

In Kenya, income diversification was found to have a positive effect on competitiveness of commercial banks. Wanjiru and Nzulwa (2018) conducted a study aimed at examining the influence of diversification strategies on competitive advantage of Kenyan commercial banks listed at the NSE. The strategies they examined alongside income diversification were technological, portfolio and asset. They relied on five theoretical approaches which are Portfolio Theory, Resource Based View Theory, Market Power Theory, Transaction Cost Theory, and Diffusion of Innovation Theory in hinging their study. The research adopted a descriptive research design whose target population comprised the 42 commercial banks listed at the NSE. Wanjiru and Nzulwa (2018) found out that income diversification had a positive and significant influence on competitive advantage of Commercial Banks in Kenya. It was therefore recommended from this research that banks in their endeavor to gain competitive advantage should increase their incomes rather than relying only on the traditional ones. The result of this initiative amongst the other diversifications strategies forms an intervention that would assist the banks to navigate the turbulent waters of competition in this market that is highly regulated and sensitive to any changes, especially on earnings.

Earlier research by Kiweu (2012), had the same indications. This study was conducted to examine the impact of income diversification on bank performance an aspect that could be used to observe banks' competitiveness. The objective of the study was to observe how far banks had shifted towards income generating activities to improve their performance for the period 2000 to 2010 of banks in Kenya. The study obtained data from the Central Bank of Kenya, Kenya Bankers' Association and Think Business Banking Survey database. Annual balance sheets and income statements were used to create the variables for study. The sample for the study was 35 Kenyan commercial banks with 385 observations. The

findings of the study were that income diversification from traditional banking activities resulted to a few benefits (Kiweu 2012), Most banks concentrated on non-interest income activities over the period of study as the newest method to increase their earnings. However, the benefits of non-interest income did not offset completely the losses that resulted from fee income. A positive association between interest income and non-interest income was established. The findings also showed that lending rates and interest income were negatively correlated which meant that the rate of lending increased when interest rates were good. The empirical results showed a rising trend in fee income and a decrease in the interest income between 2000 and 2003. The change was believed to have resulted from the change of government after elections. Moreover, the empirical results indicated that most Kenyan commercial banks had shifted towards fee income activities and that non-interest income activities had been on the rise over the years of study. From the above findings, Kiweu (2012), concluded that bank diversification led to increment in returns as observed in the positive coefficient of ROE. The findings also suggested that diversification in fees-based income was the way to go for commercial banks.

In contrast, income diversification was shown to have negative impact on commercial bank competitiveness according to T. L. A. Nguyen (2018). He conducted a study on diversification and bank efficiency amongst six Association of Southeast Asian Nations (ASEAN) countries of Thailand, Vietnam, Indonesia, Cambodia, Malaysia, and the Philippines. Besides income diversification, the other two independent variables which are also forms of bank diversification and included in the study were funding and asset. His study sample consisted of 175 commercial banks operating in the six ASEAN countries. The data covered an eight-year banks reporting period from 2007 to 2014. Bank income diversification indices and bank efficiency scores were measured from a collection of data from audited financial reports and annual statements. The data consisted of various

accounting categories of operating expenses, profit or loss before tax, customer deposits, interest income, commission income, net profit from other operations and other noninterest income measures. Both cost and profit efficiency were arrived at using the stochastic frontier approach. Bank efficiency is important as one of the requirements that ensures competitiveness of the commercial banks. The study focused on the economic efficiency concept which referred to the ability of a commercial bank to minimize the costs that face it, also referred to as cost efficiency, or on the other hand be able to maximize its profits, also referred to as profit efficiency. Regression analysis results indicated that income diversification had a negative significant effect on both profit efficiency and cost efficiency. This meant that income diversification according to the findings does not contribute to the competitiveness of a commercial bank.

In similar circumstances but focusing on a single country, Wang and Lin (2018) carried out research on the impact of income diversification on the risks of commercial banks in China an aspect that could be used to rate banks' performance and competitiveness. The authors selected a sample of 1111 of large and small banks in China in the period between 2006 and 2016. The methodology applied in the study was a two-step Generalized Method of Moments. Diversification was measured in terms of non-interest income as a percentage of total income. In the second part income diversification was measured using the Herfindahl Hirschman Index (HHI). The control variables were total assets, ratio of equity to total asset and growth rate of banks' asset. The findings of the research were that increase of income diversification led to decrease in commercial banks stability. The study discovered that exposure of commercial banks to risks had an impact of reducing stability of commercial banks. The study was different from others which had found out that income diversification had a positive impact on commercial banks performance. The reduction of banks stability was dangerous as in the long-last would lead to bankruptcy.

Wang and Lin (2018) suggested that commercial banks had to consider changes in operating environment factors as they had impact on stability of the banking industry. The best way that would ensure that diversification worked for commercial banks in China would be through reduction of environmental factors hindering it. For instance, a higher percentage of equity to total asset would lead to more stability. From the above findings by Wang and Lin (2018), it could be concluded that income diversification might sometimes negatively affect the bank performance reducing their competitiveness.

Over a similar time, span, Sarkar (2018) studied revenue diversification's effect on bank efficiency across ownership and financial crisis durations. The study was carried out on the scheduled commercial banks of India. The article had several contributions, for it was the first to investigate the income diversification dynamics that affected Indian banks based on strategic focus, conglomeration hypothesis, and market competition (Sarkar, 2018). Moreover, it was efficiency research across domestic and foreign bank ownership forms and numerous growth phases across the Indian banking economy, which are the periods before and after the financial crisis. The research utilized yearly figures for the period between 1999 and 2006 and 2012-2013. The information was collected from the numerous issues of the Reserve Bank of India's (RBI's) annual publication. The entire period of study was split into two sub-periods. First was the pre-crisis period 2000-2006 and the post-crisis period 2007-2013. The Herfindahl-Hirschman index measure was applied to determine the relationship between income diversification and bank efficiency. Findings indicated that efficiency and income diversification were negatively related. The relationship portrayed is an indication that a reduction in the concentration of revenue by commercial banks raises their revenue diversification level, thus likely increasing their exposure to systemic risk thus reduction in efficiency (Sarkar, 2018). Moreover, foreign banking institutions that were studied seemed to take higher levels of income

diversification portfolios they possess better resources to curb risks and technological advantages. Thus, income diversification in the case of Indian banks led to less efficiency reducing the domestic competitiveness for those banks. Therefore, it was concluded that commercial banks remain more competitive if they remain focused in their core intermediation function.

In a succeeding study in Vietnam the position of, Sarkar (2018) was sustained contrasting that diversification of revenue sources is one of the ways to enhance banking sector competitiveness. According to K. N. Nguyen, (2019), it exposes banks to more risks which works against stability. He confirmed this in his research which examined the association between revenue diversification, risk and bank performance. The study used quantitative methodology by obtaining data from audited financial statements and annual reports of 26 commercial banks 12 listed and 14 unlisted in Vietnam as from 2010 to 2018. The study also applied Generalized Method of Moment (GMM) modelling technique to find the variance and autocorrelation of variables. The findings of the research were that revenue diversification negatively affected the banking system of Vietnam and that high diversification increased commercial banks' risk. However, the high diversification in listed banks resulted to higher stability than for the unlisted ones. The study discovered that factors that hindered a better profit transformational model was lack of experience in the banking system in Vietnam. Revenue diversification in Vietnam was passive and happened at a slower rate. The study suggested that bank diversification had an impact of improving profits for banks both in short and long term. The research also discussed on net interest income being the main source of returns for banks, however, other bank activities and diversified assets such as foreign exchange trade, gold and securities could fluctuate leading to losses for banks affecting bank performance.

K. N. Nguyen, (2019), recommended the promoting of quality of non-credit services by changing consumer behavior and improving technology as ways of improving the stability of diversified banks. The study also discussed that it was crucial for banks to restructure revenue between credit and non-credit services. The above findings indicated that income diversification had a positive impact on banks performance and competitiveness among the listed commercial banks however, the impact was negative among the unlisted commercial banks.

Concerns on whether a dark side exists against the craze to tap into potential benefits of diversification within the United States of America (USA) financial holding companies (FHCs) drove Stiroh and Rumble (2006) in conducting their study. This followed broad diversification drives that had led to many banks adopting to offering a growing range of other financial services. There was an observable general shift toward activities that generate trading revenue, fees, and other non-interest income. Less and less focus was being given to the traditional interest income in the FHCs. The move was mooted to lead to a sustainable improvement in performance a key aspect of competitiveness of the FHCs in the USA. The study used secondary data taken from the holding company regulatory reports. These were filed on a quarterly basis with the Federal Reserve in their FR Y-9C reports. Of interest were the banks' complete balance sheet, income statement, with their detailed supporting schedules for all USA domestic bank holding companies and financial holding companies. This provided complete information about all sources of revenue and financial performance of the respective institution. A five-year operating period from 1997 to 2002 was focused on. The results indicated that there existed diversification benefits between FHCs, however, the gains are eventually offset by the increased exposure caused by the non-interest activities. These activities were found to be much more volatile but not

necessarily more profitable than interest-generating activities. Again, in examining the within FHCs data analysis results, marginal increases in revenue diversification observed were not associable with better performance, however, the marginal increases in non-interest income were associated with lower risk-adjusted profits. Overall, it was concluded that the income diversification gains the FHCs received were more than offset by the costs of increased exposure to volatile activities. This represented the dark side of the move for increased diversification meant to improve performance and competitiveness of the commercial banks.

Other scholars find a two-sided effect of income diversification on commercial bank competitiveness. Kim, Batten, and Ryu (2020) conducted a research study, about the impact of diversification on financial stability on commercial banks in OECD countries. The study used quantitative methodology and analyzed the data using regression method. Financial stability variables were regressed on non-interest income. The regression analysis was conducted on different models giving varied findings. The findings for the study were that bank diversification and financial stability in the commercial banks were significantly non-linear. The finding meant that application of moderate bank diversification increased commercial banks' financial stability. However, if bank diversification had been applied in excess, it would lead to negative impact on financial stability. The other findings were that the relationship of the two variables under study had a temporal dimension: bank diversification had an effect of decreasing variance of bank stability before financial crisis and at the same time reduced the variance during financial crisis. The findings by Kim, et al (2020) meant that it was advisable for banks to focus on traditional business access rather than diversifying their activities during financial crisis. The study also suggested commercial banks not to solely depend on bank diversification because sometimes it led to financial instability. The non-linear relationship between bank

diversification and financial stability indicated that commercial bank stability increased with bank diversification up to an optimal point and then dropped gradually. In general, the findings provided a U-shape relationship where the slope was steady before financial crisis but later became steep in financial crisis. Consequently, bank diversification results into financial stability only before crises (Kim, et al 2020). From the findings, it was concluded that bank diversification had positive and neutral impact on financial stability of banks depending on the status of the financial period. This has implications on the competitive status of the banks.

Nisar, Peng, Wang and Ashraf (2018) had a robust finding on use of alternative measures of revenue diversification, profitability, and stability. This forms the foundation of commercial bank competitiveness. They undertook a study which contributed to the debate ongoing then on the benefits and drawbacks of bank revenue diversification amongst South Asian Countries. Nisar, et al (2018) findings pointed out that revenue diversification may benefit banks if the diversified activities which are inherently less risky and possess high returns are used. The only point of caution they pointed out was that banks may be hurt if the diversified activities are riskier than the usual bank business of financial mediation. Again, the diversified activities may have comparatively low returns. This research used panel data analysis from 200 commercial banks from all South Asian countries. It was established and concluded that overall revenue diversification into non-interest income had a positive impact on the profitability and stability of South Asian commercial banks. Nisar, et al (2018) took a closer look on how different types of non-interest income generating activities would individually impact bank performance and stability. This was important since it is a pointer to competitiveness. Here, they found that while fees and

commission income had negative impact on the profitability and stability, other non interest income exhibited a positive impact.

More scholars have been desirous to establish the place of income diversification amongst commercial banks in China. Accordingly, Sun, Wu, Zhu, & Stephenson, (2017) conducted a study buoyed by vigorous competition that was taking place amongst the banks. Most Chinese banks had turned to diversifying into non-interest revenue streams in the preceding years. This was to enable them to survive the pressures brought about because of the increasingly open market in that country and tough regulation from the central bank of China at the time. Sun, et al (2017) conducted an empirical study to find out the real effect of this diversification of income on profit and risks. They used panel data collected from 16 banks that are listed in the Chinese commercial banks roll covering a period from 2007 to 2013 to investigate the relationship between noninterest income and performance. They concluded that there was a nonlinear relationship of the two variables; and that there generally existed a negative correlation between the noninterest income ratio and performance of commercial banks. They further found out that in cases where higher ratio of noninterest income than the two thresholds were observed, then the negative correlation decreased. Sun, et al (2017) recommended that the ratio should be controlled to ensure that it is in a range where noninterest income leads to high organizational sustainable performance, which then in the long run ensures that there is competitiveness of the commercial bank. This study again points at the complexities that face the implementers of income diversification. This leads to the question that begs answers on the correct ratio that would lead to competitiveness.

Hou, Li, Li and Wang, (2017) agree that the relationship between income diversification in Commercial banks and competitiveness swings between negative and positive sides. According to a study by Hou, et al (2017), the indicator for this is the liquidity creation potentials that income diversification introduces. The data for their research was based on financial reports of 61 Chinese commercial banks between 1996 and 2015 obtained from Bank Scope dataset. Macroeconomic data was obtained from CEIC dataset. The research used empirical methodology of panel Granger-causality test to determine the association between bank diversification and liquidity creation. The research also used the autoregression models in generalized method of moments. The findings of the research were that bank diversification between traditional bank activities providing net interest income and non-traditional bank activities providing non-interest income led to a decrease in bank liquidity creation. However, high degree of bank diversification in non-traditional bank activities led to a rise in bank liquidity creation. The findings suggested that limitation of using managerial resources from bank revenue diversification surpassed advantages of economies of scale, risk mitigation and other benefits from bank diversification. The study also suggested that the problem between traditional and non-traditional bank activities was that there was too much consumption of energy, time and resources which made banks fail to meet the liquidity demand required to form a base for competitiveness especially the loan book. In the contrary, high degree of diversification within non-traditional bank activities leads to economies of scale, a rise in profitability and capital saving. The limitation of the study was that it failed to provide evidence of reverse causality of between liquidity creation and bank causality. In general, the findings of the research indicates that banking diversification has both positive and negative impact on bank competitiveness. However, the trade-off between the positive and negative impact varies depending on the characteristics of the bank. Hou, et al (2017) advocates that

Chinese commercial banks should focus on diversification within non-traditional banking activities.

2.3.3 Asset Diversification and Commercial Bank Competitiveness.

Asset diversification concept has been of interest to scholars in the fields of strategy and financial management with studies agreeing that asset diversification has a positive impact on commercial bank competitiveness. According to research conducted by Sarwar, Muhammad, and Zaman, (2020) in Pakistan, asset diversity variable was found to be a significant determinant of bank margins. Their research was about finding out how diversification variables (independent variable) affected bank margins (dependent variable). The study applied secondary data obtained from the yearly accounts of 24 Pakistani scheduled commercial banks as from 2006 to 2017 as per the data of State Bank of Pakistan. Sarwar, et al (2020) ensured the integrity of the data used in the study by selecting only banks that had complete data. This aided them while using a balanced panel.

The data for the study by Sarwar, et al (2020) was composed of bank specific variables and regulatory variables which included: market share, credit risk, managerial efficiency, operating costs, risk aversion and funding costs. The regulatory variables were capital adequacy ratio and opportunity cost reverse. Besides, asset diversity was used to measure asset diversification. The findings of the research study were that diversity variables were positively correlated to bank margins. The bank margins were used as an indicator of bank performance which thus meant that diversity variable had also a positive association with banks' competitiveness. When commercial banks diversify their assets, they satisfy more customers' needs and therefore, increase their market share over other financial

institutions making the commercial banks to have a competitive advantage. Sarwar, et al (2020) concluded that the more banks diversify their assets such as physical assets, loans, deposits for commercial banks or vault cash, the more they can cover the demand from consumers and therefore, enhance banks competitiveness.

Moreover, spreading commercial banks investment assets over various, unrelated investment channels reduces the risk of a sudden, unexpected outcome. Where there is a diversified portfolio; a loss in one investment portfolio is covered by gains from another investment (Hailu & Tassew, 2018). In that way, the organization continues to whether the turbulent storms of the business operations environment. This research targeted the commercial banks operating in Ethiopia to examine the effect of bank assets investment diversification on their financial performance which has also an impact on competitiveness and used panel data spanning a period of 5 years from 2013-2017. Hailu and Tassew, (2018) recommended that banks should focus its work to promote the confidence in portfolio diversification, develop marketing policies that encourage its use and establish the best combination of assets that can yield an efficient.

Wanjiru and Nzulwa, (2018) carried out a study aimed at examining the influence of diversification strategies on competitive advantage of the commercial banks listed at the Nairobi Securities Exchange, in Kenya. Asset diversification strategy formed one of the independent variables of the study and its effect on competitive advantage of commercial banks in Kenya. They adopted a descriptive research design whose target population comprised all the 42 commercial banks in the country. Wanjiru and Nzulwa, (2018) found out that amongst other variables of the study, asset diversification strategy had a positive and significant influence on competitive advantage of these institutions. As a follow-up to this finding, it was recommended that commercial banks in their endeavour to gain

competitive advantage should increase their asset diversification strategy initiatives (Wanjiru & Nzulwa, 2018). This amongst the other diversifications strategies forms an intervention that would assist the banks to navigate the turbulent waters of competition in this market that is highly regulated and sensitive to any changes, especially on earnings.

In a similar jurisdiction, Makokha, Namusonge, and Sakwa (2016) undertook a study. The purpose was to find out the effect of portfolio diversification on the financial stability of commercial banks. In this case, portfolio diversification is asset and securities diversification. Makokha, et al (2016) collected both primary and secondary data for the research. The respondents filled questionnaires filled during interviews which was conducted on a sample of 43 commercial banks represented by 133 managers. The authors researched the recent decade's emergence of macro and micro-banking institutions, which were reportedly a threat to the banks with low performance in Kenya. The sample study's finance managers also confirmed the pressure from top management, requiring them to develop strategies to increase their banks' returns with minimal losses and risks. Competitiveness was at stake as poor bank performance could to institution failure and reduced economic growth for a particular country according to authors. Factor analysis was conducted on the sample statistics, and it showed that the sample was good enough to be retained for study. Descriptive results from respondents in line with the study's objective indicated that commercial banks in Kenya were good custodians of valuable documents, a revenue source.

Secondly, most of the respondents agreed that commercial banks gave back to society through acts of charity such as feeding the needy and offering scholarship to needy and bright students. The charity was reported to be one of the ways by which banks attract clients. Thirdly, respondents gave feedback that banks employ qualified personnel, which

facilitates banking institutions' daily operations and eventually improves on bank performance. Furthermore, most interviewees and questionnaire respondents accepted that banks were supporters of cash transfers, which is a revenue source to banking institutions. Lastly Makokha, et al (2016) concluded a robust positive correlation between portfolio diversification and bank performance. Portfolio diversification was a significant contribution to the changes in financial performance among banks in Kenya and has enabled them to realize profits, high bank performance, and high levels of bank competitiveness.

In another vein there are contrary opinions. According to Berger et al, (2010), any diversification in whatever form is associated with increased operational costs leading to decline in profits for commercial banks across the world. This observation includes asset diversification where banks invest their assets both in lending and non-lending instruments that are available for them in their operational markets. In practice, the assets that are invested in the non-lending assets by commercial banks are channeled through the stock market. In furthering this they focused a research focusing on diversification and its eminent role towards bank performance. Diversification was categorized into four dimensions which included: asset, deposits, geography and loans. The researchers found out that the four dimensions were associated with a drop in profits and a rise in prices. The research was based on unbalanced panel data from 88 banks with a sample size of 464 observations. The data was for the period 1996 to 2006. The data was also adjusted for inflation based on the year 1996. The data was mainly obtained from Bankscope Fitch's International Bank database and other sources such as Almanac of China's Finance and Banking. The study used nonlinear least square regression method to estimate the profit function.

Besides, the regression analysis was used to determine economies of diversification for the banks under study by finding out the type of banks from the sample that had higher chances of realizing economies of scale (Berger et al, 2010). Comparison was made on the profits between hypothetical focused banks and diversified banks. The findings of the research were that the dimensions of asset diversification such as loans, deposits, assets and geography were all associated with reduced profits and higher costs. The research also found out that foreign banks (with minority and majority ownership) and those with diversified assets were associated with less diseconomies of association.

Similarly, Chen, Liang, Yu, (2018) research study also showed that asset diversification is a determinant of commercial banks' competitiveness. The research was carried out in three Asian countries- Pakistan, Malaysia, and Indonesia. Chen, et al (2018) found that that asset diversification was negatively correlated with commercial banks' performance, but the effect was minor with Islamic banks. The three countries' banking sector is composed of both commercial and Islamic systems which offered a broader view of impact of diversified assets on their performance, a factor of competitiveness. The research aim was to investigate whether negative association between asset diversification and bank performance also persisted in the three Asian countries with dual banking system. The article used yearly consolidated data of banks in the three Asian countries. The period for the research was as from 2006 to 2012. The research data was taken from conventional and Islamic banks in Pakistan, Malaysia, and Indonesia. The reason for the choice of the three Asian countries was because of the research gap that existed in the dual banking system environment. The study used *chop-shop* approach to obtain the values of return on assets. The empirical findings showed that asset diversification had a negative impact on excess value of returns on assets and returns on assets on conventional

banks while asset diversification was neutral in Islamic banks. In general, as per the study, it was established that asset diversification had a negative impact on bank performance and competitiveness. Chen, et al (2018) also revealed that asset diversification had a negative impact on profits for conventional banks. In contrast, asset diversification was neutral on Islamic banks. The study recommended that diversification was good for countries with dual banking system.

Similarly, in a study whose purpose was to identify the effects of diversification channels on the performance and efficiency of bank holding Companies performance, Liu, Reichert, & Gramlich,(2013) conducted a research in the United States. They collected quarterly data for all BHCs that were consistently filling their returns, from first quarter 1996 to the last quarter of 2008, with the federal bank of Chicago. Any failed or merged BHCs over the period were excluded from the sample analyzed. This left a total of 442 BHCs in the study. The data was modeled into quarterly timespan periods. The degree of diversification of asset was measured by adjusted Herfindahl-Hirschman index approach. A group of financial and market-based performance and sustainability measures were employed. These were designed to quantify both accounting and market returns, credit risk, market risk, and default risk. Panel regression analysis was run on the dependent and independent variables, The study found that asset diversification has unfavorable impacts on risk and did not contribute to non-money center BHCs' returns. The diversification on Securities portfolio had unfavorable impacts particularly on accounting returns for the banks. It however showed positivity for the market returns. Where the BHC engaged on off-balance sheet activity kind of diversification, it led to unfavorable impact on risk thereby failing to contribute to non-money center BHC returns. It seemed that certain diversification measures had the ultimate impact that depended on the scale of the

associated activity. Where the scale of activity was large enough, the impact of diversification in net terms showed the possibility of sign change.

Guerry and Wallmeier (2017) carried this study with an aim of showing that there is a difference that exists between the valuation of diversified and specialized banks. The study was done on a sample of 17 European nations. The research data was obtained from the database as listed by Dijk Bankscope Bureau over the period 1989 to 2013. However, at some point there was a collapse in the data used following the 2008 global financial crisis that saw to it that banking activities as banks disposed their valuable assets attempting to deleverage. Guerry and Wallmeier (2017) however warned that there may be a decrease in diversification from the findings despite if the bankers maintained their normal activities throughout the study period. In the study, a regression model was used to determine the effect of diversification on bank valuation while using other control variables. Tobin Q's methodology was also used to account for the outliers that are not accounted for by the regression model. Robustness and endogeneity checks were conducted. It was found that diversification discount arises from diversity activities carried out by banks. The diversification actions included lending and non-lending financial activities, and they influence market valuations. In the study by Guerry and Wallmeier (2017), there is evidence indicating that the financial services carried out by conglomerate financial institutions are lower when the same services are individually offered by individual financial units, rather, when the financial institutions diversify. The authors, therefore, reported a strong negative correlation between banks' choice to diversify and their market valuation. Diversification means that financial institutions engage in activities as single units and that somehow led to a reduction in economies of scale realized as opposed to if the multiple undertakings were carried out conglomerate way. Thus, reduced economies of scope indicate that the sales are not sufficiently large to generate a diversification

discount, which sometimes turns into a diversification premium. It is therefore wise to conclude that diversification leads to less market valuation for banks, thus reducing bank competitiveness.

This is also in agreement with Mulwa, and Kosgei, (2016) study where asset diversification was found to be negatively and significantly related to commercial bank ROA. In their study in Kenya using *ex post facto* explanatory design in investigating whether bank diversification affected financial performance, asset diversification was one of the modes of diversification considered. Asset diversification was measured by a constructed Herfindhal-Hirschman index (HHI) that capture variations in the various components of asset diversification. Mulwa, and Kosgei, (2016) computed it as the sum squared shares of the individual components to total assets subtracted from unity. This enabled the study to get a value that increased with the degree of diversification. The timing of this study coincided with the global financial sector liberalization which had led to a large magnitude of diversification approaches by the commercial banks. The study used secondary data collected from the Central Bank of Kenya Bank Supervision reports covering nine operation years from 2005 to 2013. Even though they collected data for all registered commercial banks in Kenya, those that had incomplete information were dropped. This left only 34 banks as the only ones that had remained consistently operational during the time that was studied. This gave total observation numbering. The study found asset diversification to have a significant negative effect on ROA. On ROE, there was an insignificant effect on though also negative. This implied overall that asset diversification is not beneficial to commercial bank competitiveness as it is increased, the parameters that relate to competitiveness reduce.

In the same vein, Banwo, Harrald and Medda (2019), did research on the impact of diversification on financial stability and social welfare using a model that composed of both real economy and financial system. The methodology used was majorly obtaining data from existing research on impact of diversification. The findings of the research were that bank risks decreased with increase in diversification. Conversely, the probability of systematic risk increased with diversification of banks. The banks also revealed a robust behavior where diversification was low. Diversification, therefore, made banks reduced risk of failure among the banks and at the same time increased the riskiness of joint failure among the banks. The effect could better be understood by the fact that banks were less diverse and faced with the same industry in the process of diversification. The spillover effect of recession is what really contributed the result of increase of riskiness in the joint failure. The study also suggested that diversification in combination with regulatory policies could promote banks stability thus making them more stable. Moreover, the study further revealed that bank diversification had an impact of reducing idiosyncratic risk but the same time it played a part in the increase of systematic risks. In addition, the study went ahead to examine how regulatory policies could be applied in diversification so that systematic risks that build up in the process are reduced. The benefits of diversification according to the study were that it reduced risks associated with portfolio which enhanced the financial stability making banks more competitive. Therefore, banks aimed at diversifying their balance sheet on a variety of assets in their operations. From the above findings, it could be concluded that diversification had both positive and negative effect due to diversification, but more benefits would be achieved if banks incorporated policy regulations in diversification.

In a related study, Mochabo, *et al.*, (2017) set to replicate and capture the dynamic environment in which commercial banks operate in. Their essence is to keep striving in

pursuit of competitive advantage. Arising from this, each firm identifies whatever they consider as diversification strategy that when implemented they believe would enable them to survive. Main objectives of their study was to determine the effect of bank diversification on financial distress for the listed of commercial banks in Kenya. Specifically, their study singled finding out the effect of asset base diversification on the financial distress as one of the specific objectives. The study was conducted amongst ten listed commercial banks in the NSE and captured the panel data covering the ten-year period from 2006 to 2015. Statistically, they performed both the descriptive and inferential analysis on the data. The study found that asset base diversification was positively and significantly correlated with financial distress. This indicated that it would have negative effect on competitiveness. The risks associated with the other channels of investing the commercial bank assets seemed riskier and more volatile. This coupled with the fact that the main asset base of commercial banks are the customer deposits, more often, they demand these savings at short notice hampering diversification in more longer instruments that may be more profitable to banks.

In comparison, Rop, Bokongo, and Yusufkibe, (2016) observed a proliferation of branches and assets within the commercial banks in kenya. This happened in a narrow space of time in the early twenties. As a result, there had been accumulation of liabilities which in turn, resulted into a rise in quantities of investment portfolios. They therefore observed that the portfolio managers within the banking institutions were often demanding to establish a diversified list of investment opportunities that the bank assets could be applied to ensure competitiveness. As a result Rop *et al*., (2016) undertook this study whose main purpose was to investigate the effect of portfolio diversification on the financial performance of commercial banks in Kenya. They adopted exploratory research design as they tried explaining the cause relationship between the independent and dependent variables of their

study. They collected data from the Central Bank of Kenya repository since by law, all banks in Kenya deposits their reports there annually. After data collection and analysis which they did by conducting an Analysis of Variance (ANOVA) and multiple regression and making observations, their study recommended to banks that they need to place their energies in working toward the promotion of confidence in their portfolio of assets by employing diversification. For this to result into competitiveness of the commercial bank it needs to be followed by implementing policies that encourage its use.

2.3.4 Firm Size, Diversification and Commercial Bank Competitiveness.

Researchers are interested in the nexus of commercial bank diversification, size and competitiveness. On the direct impact of bank size, Laeven, Ratnovski and Tong (2015) was done across bank markets both in the United States (U.S.A) and Europe. The aim of the research was to establish an economic foundation for the controversial debate on how bank size was related to systematic risk which is an aspect of bank competitiveness. The study utilized the SRISK method to assess a bank's contribution to systematic risk. At the individual firm level, the authors used the individual bank returns statistics obtained from the then most recent financial crisis. The empirical findings were that on average, larger banks created more systematic risks compared to smaller banks. The larger banks take risks even in cases where they have insufficient funds, unstable capital flow, and are organizationally complex. However, the larger the risks of uncertainty, the larger the probability of being competitive in market-based activities. This is quite logic from what the market experiences today, smaller banks are conservative and are hesitant to take risks, that is why at some point their costs surpass the benefits and eventually they cease to exist. On the other hand, larger banks are termed as 'too big to fail' by the society and that acts as an incentive for them to take risks, thus high competitiveness in the commercial industry. Conclusively, they found a positive correlation between the bank size and the

level of systematic risks, where the larger the bank, the higher the level of systematic risks, and the more competitive the bank was.

Similarly, Krotel, Villadsen and Hansen (2017) observed that in expanding organizations size from smaller to larger categories, the motivation of this move, in public domain has remained a key source of a myriad of many questions by researchers. The aim of this study was to find out the place of size variations on management in public domain. The study adopted a Quasi-experimental design in the investigation. The timing of the survey data collection was strategically chosen to be before and after documented significant reform known to have to a large extent changed the sizes of most municipalities Denmark. Findings pointed that firm management from a public perspective has a link to daily operations. This was further found to be commonly not influenced by size. The important pointer was public management which had the overall responsibilities in creating an organizational vision, especially that which is articulated and championed by the mayor, who manages to keep external connections is positively associated with size changes.

In a related finding, Kamani (2018) conducted an empirical analysis on European banks. In that paper, he gauges the relation between the size of banks, nontraditional banking activities and how European banks are exposed to systemic risk. This study obtained data from European banks and utilized them using the generalized-method-of-moments while considering the common aspects in banks that cannot be observed. The findings from this study indicate that relying on non-traditional activities increased the systemic risk for smaller banks. That was because engaging in non-traditional activities showed that the deposit to asset ratio was relatively lower compared to the non-interest income which was higher. Thus, the systemic stability reduced for the smaller banking institutions. Still on small banks, this study found out that trading activities increased their exposure to

systemic risks. Trading is a form of increasing revenue diversification where banks move to trading and other forms of activities to achieve economies of scale. When small banks are diversified, their complexity increases and thus, their management becomes more difficult and opaquer, hence such banks are largely accustomed to riskier undertakings and rising their exposure to systemic risks. On the other hand, it was found that non-traditional activities that involve the quantity of non-interest income obtained from fees and commissions posed a greater systemic risk for larger banking organizations. Engaging in fee-based and commission-based activities is also a form of revenue diversification and this increases the financial contagion risk for large institutions. Generally, the above activities point at diversification which is aimed at increasing bank competitiveness. However, diversification exposes banks to systemic risks, but its upside is that it makes the banking system less sensitive to market shocks.

Related research was conducted by Hakenes and Schnabel, (2011). It was about finding out the correlation between bank size and bank competitiveness as indicated by risks in Base II Capital Accord. The research used secondary sources of data on studies done previously in the base country, Germany. The methods used were standardized and internal rating base to determine the impact in the banking sector of small and large banks. The findings of the study were that Basel II Accord had a negative effect on small commercial banks as it led to increase in the rate of risk in the economy which made them less competitive compared to larger banks. The explanation of the findings was that Basel II Capital Accord system treated large and small banks unequally. Larger banks applied internal ratings based (IRB) approach over standardized approach because of their financial capabilities. This benefited larger banks than smaller banks through lowered capital requirements which made larger banks to be more competitive than smaller banks. Larger banks, therefore, used the IRB approach to increase deposit rates and profits. The

IRB approach brought higher risks on smaller banks making them less competitive. The interpretation of the results of the findings were that the application of Basel II Capital Accord approach gave larger banks competitive advantage over smaller banks by increasing risks in their operation. The findings of the study research indicated a negative correlation between bank size and bank competitiveness. The larger the bank, the more access to finance which meant that larger banks could afford the IRB approach that had an impact of reduction of risks.

There are more proponents of a commercial bank size as having positive impact on its performance and competitiveness. Naseri, Bacha and Masih, (2019) conducted their study aimed at examining whether bank size had a positive or negative impact on bank's performance. The study done for a 12-year period from 2002 to 2013 covered 12 different countries. These were Turkey, Saudi Arabia, Bahrain, Malaysia, United Arab Emirates (UAE), Kuwait, Qatar, Indonesia, Bangladesh, Egypt, Pakistan, and Jordan which were the main players in the Islamic banking sector but embrace dualism. Bankscope Database of Bureau van Dijk's company where Annual bank-specific data of the different banks were kept was the data source. They sampled 2356 observations from 249 banks with 63 Islamic banks and 186 conventional banks. The study used quantitative method to empirically analyze variables of bank size and GMM to estimate the variables interactions.

The findings of Naseri, *et al* (2019) study were that bank size and bank performance had a non-linear relationship and a trade-off on profitability and efficiency. Bank size had the same effect both on conventional and Islamic banks in that as it increased, there was increase in profits and efficiency of commercial banks, which is key in competitiveness. However, beyond a certain level increase in bank size led to decrease in profits and efficiency of banks. This reported a trade-off between profitability and efficiency in

banking is important and meant that increasing of size is beneficial only up to a point, beyond which its impacts start being negative. They suggested that for commercial banks to maintain that trade-off, they were required to improve the infrastructures of their financial system. Small commercial banks were advised to improve on size by looking for more funding, increase leverage even through acquisition and merger. The research also found out that most banks in the Islamic banking sector were composed of small banks competing among themselves and conventional banks. The small banks, however, were subjected to high costs because of being scale disadvantaged. Therefore, it was considered that it was better to have fewer bigger and stronger banks operating at optimal. From the above findings, it was concluded that bank size had positive impact on bank competitiveness as seen in increasing profits and efficiency up to optimal.

Comparatively, Maina, Kiragu and Kamau (2019), carried out research to find out the relationship between bank size and profitability of commercial banks in Kenya. The methodology used by the study was based on descriptive statistics and more data was obtained from secondary sources such as company annual reports and some from the central bank of Kenya database. The size of the bank was determined by yearly deposits and gross loans while profitability was determined by yearly net profit for single banks in a duration of five years. Analysis of data was done by SPSS software to determine the association between bank size and profitability an aspect that could be used to determine banks' competitiveness. The findings of the study were that bank size and profitability had a moderate correlation and the two variables were statistically significant. The study suggested that banks should engage themselves in maintaining high levels of deposits as it had a positive impact of enhancing profitability of banks in Kenya. Moreover, the study stated that large banks tend to operate in markets where rate of decrease in marginal costs was relatively small. Besides, Kenyan banks had been experiencing profitability due to

adoption of new technology in banking, provision of customers with a variety asset through diversification and stiff competition between different banking companies. The study also revealed that smaller banks suffered from closure by the government for failing to fulfill liquidity requirements. The study recommended that banks should go for call deposits instead of time deposits since banks with higher call deposits experienced less costs thus more profits. From the findings of the study, it could be concluded that bank size was the primary determinant of banks' performance and that it had a positive impact on profitability an aspect of measuring banks' competitiveness.

In the same vein, Ali and Ghazali, (2018), carried out research on the effect of bank size on profitability of commercial banks and Islamic Banks in Pakistan for the period 2008 to 2012. The methodology used in obtaining data was from secondary sources of 5 commercial banks and 5 Islamic banks where financial statements were obtain from website of the banks. The profitability of the two banks was measured by return on assets while banks' size was determined by the number of branches of the banks in Pakistan. The correlation between bank size and profitability revealed that Islamic banks experienced more profits than commercial banks. However, bank size did not relate to profitability on Islamic banks. The empirical results of regression showed that there was association between bank size and profitability of commercial banks but when it came to Islamic bank the association was neutral. On measuring returns on asset (ROA), the findings were that commercial banks had a higher value of ROA compared to Islamic banks. The T-test also revealed that the impact of bank size was higher on commercial banks while there was no effect in Islamic banks. The study recommended that more research should be done by increasing the sample size of the banks to get more accurate results of the situation of banking sector in Pakistan. The study also urged investors to always check on facts and figures between commercial and Islamic banks for them to select banks that suits them.

From the study, it could be concluded that bank size had a positive impact on profitability of commercial banks which meant that an increase in the size of commercial banks led to an increase in profits thus making commercial banks more competitive. On the other hand, the impact of bank size on profitability of Islamic banks had neutral impact.

Tabak, Fazio and Cajueiro,(2012), carried out a follow up research on the impact of bank competition amongst Latin American banks and the effects caused by size and capitalization changes. They collected data for the research which was obtained from 10 Latin American countries from 2001 to 2008 from the Bank Scope database. Due to the difficulty nature of determining competition, the research used a variety of methodologies in its measurements such as structure conduct performance (SCP) paradigm which used an aspect of concentration to represent competition. The research applied models of Bresnahan and Panzar to estimate the level of competition. Besides, H-statistic was created using reduced form revenue equation. The findings were that stability of banks had a non-linear relationship with bank's competitiveness, and that bank size explained the advantages of competition such as enhancement of risk-taking behavior with the minimum available capital. In addition, the research discovered a positive relationship between capital ratio in both large and small banks. The paper majorly focused on finding out the impact of bank size on bank competitiveness. Larger banks tend to operate in a competitive market and had higher prevalence of engaging in risky behavior. The regulators consider larger banks as being too big to fail and therefore, most of them were risk takers as they assume authorities will help them when instability occurred. Competition had an impact of determining stability of banks. Larger banks were more competitive and more stable than smaller banks. From the findings one can therefore conclude that bank size has a positive impact on bank competitiveness since increase in bank size led to an increase in stability which could be used to measure banks' competitiveness.

Also, Mirza,(2012) gathered preliminary evidence outlining the relationship between size, diversification, and risk in commercial banks of Pakistan. His panel data was collected from commercial banks in that country as he purposed to investigated if banks that are bigger in size are better diversified than those that are smaller. Analysis of the data gave results suggesting that this was the case. Larger banks had a more robust financial base that they utilized to take up opportunities for diversification than their smaller counterparts. They mainly had a wider outreach to different opportunities and could entertain a larger credit portfolio thereby attracting more customers to their side. Again, on the competitiveness, which is hinged on the risk side, the authors based their argument on market and accounting and measures of risk where they explored the impact, if any, of diversification on risk. The results led ambivalent, as no conclusion was reachable in this objective. His findings portrayed implications on policy for regulators and management of risk that would ensure that financial systems in banks are stable as this is key component of competitiveness.

A related study was conducted amongst the Turkish commercial banks by Kasman and Kasman (2016). They relied on quarterly data ranging from the first quarter of the year 2011 financial year until the second quarter of 2012 financial year. The aim of the study was to investigate the effect of bank size and competition on the volatility of earnings and insolvency risk. The authors specified a model to evaluate the effect of competition and bank size on earnings volatility in the banking industry of Turkey (Kasman and Kasman, 2016). The earnings volatility was measured through the standard deviation of its ROA, calculated over the past four quarters. Furthermore, to check for robustness of the earnings volatility, the standard deviation from the last eight quarters was computed. On the other hand, the Boome Indicator was used to measure the degree of the market competition in

the banking industry. The hypothesis to this measure is that competition increases bank performance for the efficient institutions and weakens performance of less efficient banks. The findings to this study indicated that there exists a negative correlation between bank size and earnings volatility. This means that large banks are exposed to lower risks than small banks. This negative relationship exists when both measures of bank performance, ROA and ROE are examined. The study also found out that the degree of competition increases earnings volatility. To conclude, the research shows that larger banks in Turkey have lower earnings volatility and hence are less vulnerable to risk. This also suggests that larger banks in the nation are more efficient in keeping up with arising competition in the market. Thus, larger banks are more competitive than smaller banks in in the Turkish banking industry.

This was preceded by a study conducted by Karray and Chichti (2013) on commercial banks across fifteen developing economies. They used a panel data set which consisted of information from the respective commercial banks spread over the period between 2000 and 2003. The aim of the research was to evaluate the impact of bank size on both technical and scale efficiencies which are a measure of bank competitiveness. The authors also tested the relevance of their findings on all aspects, including bank involvement in non-traditional activities. The study methodology used to analyze the data was the Data Envelopment Approach (DEA) under the particulars that concern the aim of the authors' study. They preferred the method for its simplicity to use as it neither requires prior knowledge of the production function and the disturbance term. Findings from the study show that larger banks both in terms of input and output portray a higher technical efficiency opposed to banks of smaller sizes. Thus, in terms of pure technical efficiency, larger banks can be termed competitive than smaller commercial banks. Thus, there is an

increasing relationship between the bank size and pure technical efficiency, and consequentially, bank competitiveness. Furthermore, in result analysis, the authors also categorized the banks under study into four classes namely, very small, small, medium, and large banks. The relation between scale inefficiency and bank size generated a U-shaped curve but the largest banks reached the maximum level of inefficiency. This is an indication that large banks are greatly disadvantaged by scale inefficiency thus lowering their competitiveness. Non-traditional activities were also tested against bank size and bank performance. The findings show that with or without involvement in non-traditional activities, all banks apart from exceedingly small ones, faced even levels of technical efficiency. The smallest banks are an exception because they are the ones that the research found to be involved in non-interest generating exercises, for instance, better customer service through supply of differentiated goods and services that are tailored to suit customer specifications. Generally, the study shows that the relationship between bank size and bank performance is weakly impacted by non-traditional activities.

Commercial bank size is arguably important factor in the implementation of diversification. This followed a study conducted by Rahman, Zheng, and Ashraf (2015). The study was about finding out the impact of bank size on bank risk and regulatory capital ratios which were all aspects that could determine bank competitiveness. The study used quantitative approach by using a panel data of 30 Bangladeshi commercial banks for the period between 2008 and 2012. The data was obtained from yearly financial statements of Bangladeshi commercial banks available in their website. The study empirically applied generalized methods of moments (GMM) to examine correlation among variables of study such as bank size and risk-taking behavior. The findings of the study were that large banks only hold a small amount of capital and took higher risks compared to smaller banks.

Besides, the study found out that there was a negative relationship between bank size and risk taking; larger banks with high levels of capital were less risky compared to small banks with lower level of capital balance. From the results, it was interpreted that size of the bank in terms of capital ratio had an effect of reducing bank risks thus enhancing competitiveness. This meant that increase in capital ratio on banks could account as a strategy of increasing bank competitiveness by reducing bank risks. They therefore reported that bank size had a significant negative relationship with capital and a positive significant relationship with risks, all which are aspect of bank competitiveness. The study recommends that commercial banks in Bangladesh expand their size in a safely manner and that income levels should also be integrated to ensure full development of commercial banks in Bangladesh.

Similarly, Adusei (2015) conducted a study with an aim of addressing the impact of bank size and funding risk on bank stability. The research was conducted on the Ghanaian rural banking industry. There were data-related constraints hence only some of the rural bans in Ghana were selected for the study. He selected 112 out of 137 rural banks for their requisite data that the study needed. ARB Apex bank provided the data via quarterly reports over the first financial quarter of 2009 up to the fourth quarter of the 2013 financial year. The author obtained information on inflation and the growth of the private sector credit from the Bank of Ghana. The study used the Z-score model for data analysis. Findings suggest that there is a positive relationship between funding risk and bank stability. Findings from the robustness check conducted confirmed that the results were indeed valid after inflation, Gross Domestic Product (GDP) and financial development were used as control variables. These three aspects were significantly determined by each institution's operations which in turn also had an impact on banks profitability and competitiveness. The results also shoed large banks were most likely to have the funds to cover the financial impact of

unexpected losses experienced by a bank. Further, the larger a bank was, it was likely to know methods of risk funding such as pooling, transfer and retained funding compared to smaller banks. Thus, larger banks are more financially stable than small banks, and consequentially more competitive.

Neves, Proença and Dias (2020), carried out research on determinants of banks profitability in the Iberian Peninsula. The research used a sample of 66 Portuguese and Spanish banks. Panel data methodology was used led by the Generalized Method of Moments (GMM). The measure of performance was based on ROAA and ROAE. The findings of the research were that banking performance in Iberian Peninsula in terms of profitability and efficiency was influenced majorly by management variables. The research further revealed a positive and negative non-linear association between bank size and bank efficiency. The empirical results of the research showed positive value of ROAA and ROAE. The means of independent variables were also positive. The study also observed that number of efficient banks increased in the years 2014 and 2015 as compared to 2013 but again decreased in the period 2016 as compared to 2015. Besides, the study revealed a non-linear relationship between bank size and bank performance. If ROAA was considered as a measure of performance, all variables were having an impact on bank performance except bank size. When ROAE was considered, it was found out that both bank size and asset structure had no impact on bank performance. More results on this also indicated that bank size had a positive non-linear relationship on profitability, which indicated that bank size increase led to increase in profitability. However, the increase of profits reached a point where the growth decreased. On efficiency, the result was opposite. Size of assets had a negative non-linear relationship but after a certain point the decrease of efficiency becomes inferior. From the above findings, one could conclude that bank size had an impact on general bank performance.

In related research that gave a change of tune, Terraza (2015) sought to determine the effect of bank size on risk ratio, and what that meant for the competitiveness of a particular bank. His paper analyzed the risk profiles of banks, utilizing specific indicators such as the capital and liquidity risk ratios. This was particularly important considering the 2008 global financial crisis which increased the demands from investors and there was great concern on safety of investments in the banking sector. The research was conducted on a sample of European banking institutions in the period between 2005 and 2012. The banks under observation were grouped into three categories as large, medium, and small depending on capitalization. Each of the categories formed a panel data set cluster. Bank performance measure used was Return on Assets (ROA). In the regard of the study, ROA was used to measure the bank profitability level and just how the banks used the real resources available to generate gains. The ROA methodology was however found to be unfit for the study as it left out balance sheet effects and the asset variations that usually occur as financial years progress. Thus, to generate more valid and reliable results, the author used Return on Average Assets (ROAA). Which accommodates the defects of ROA. The results confirmed that as much as the large banks contribute the largest towards liquidity creation, they portray less profitability. This was after the paper measured their liquidity using the credit creation risk ration. On the other hand, there is a positive correlation between liquidity and profitability for smaller banks. Thus, based on the paper's findings, bank size greatly affects the bank performance considering liquidity and profitability factors. Generally, there is a decreasing relationship between bank size and the bank competitiveness based on liquidity and capital.

A similar study was conducted by Avramidis, Cabolis and Serfes, (2016) on the impact of bank size on the market value of banks in the They used data from a sample of the US

Bank Holding Companies covering the period 2001 to 2012 for analysis. The study therefore relied on secondary data collection methodology and obtained the different data from the sampled bank holding companies were obtained from NYSE, NASDAQ and AMEX on annual financial statements and balance sheets. Bank size was used as the independent variable for the study which was measured by finding the log of total assets. The results found a U-shaped relationship between bank size and banks' market value and that the optimal bank size was influenced by returns from diversification and monitoring costs on bank assets. The research reported that the size of average banks had increased over the years through mergers and acquisitions. In addition, there exists an optimal bank size in which beyond it, marginal costs will exceed the marginal benefits for banks. The paper discovered that for larger banks with a higher systematic risk the marginal benefit was smaller compared to banks with lower systematic risks. Besides, the optimal size of banks decreased as systematic risk value increased. Optimal size was also discovered to have increased with leverage and that optimal size of banks was capable of being reduced by high systematic risk, direct monitoring cost and insider ownership. The association between bank size and charter value showed a U-shaped relationship that indicated that marginal rise in size of medium banks had relative positive impact on charter value. Besides, each extra unit increase of bank size had a negative impact on charter value. From the above findings it can be concluded that bank size had a negative impact on US charter value affecting banks' competitiveness.

In a related finding, Coccorese and Santucci (2019) conducted their study in Italy. The purpose of their study was to assess the level of competition that the Italian banking industry portrayed as well as evaluate whether the size of the banks had a hand in influencing their competitive behavior. The Bresnahan-Lau model was used to measure the competition degree using a panel dataset that was obtained from the Banking Industry

of Italy for the period covering 1989-2013. The data was dimensionally aggregated into five stages according to the bank size. These were major, large, medium, small and small banking institutions. The findings from this study were that the more consolidated a bank is, the less its competitiveness. As a result, larger banks were found to be less competitive than smaller banks because, the former have less market power than the latter. First, larger banks may take advantage of the market power they possess to charge higher lending rates as they grow, and as they become more efficient. Secondly, diversification may not be a good aspect in banking as when more branches are opened by large banks, diseconomies of scale may occur and lead to inefficiency in bank operations and broader interest margins. Thus, the monopolistic practices that large banks portray through customer exploitation and the emergence of diseconomies of scale during diversification lead to the loss of market power for larger banks thus less competition. Generally, there exists an inverse relationship between the size of a bank and its competitive behavior.

Bapat and Sagar, (2015), conducted a study on impact of size change on diversification and bank performance of 46 private and public banks in India. The study was done on two different periods from 2006-2007 and 2012-2013. They used secondary data on performance highlights for private and public sector banks from Indian Banks Association. The study applied t test to find out the difference between ownership and size. Significant difference was observed on diversification between private and public banks. The study also found out that there was a positive correlation between Non-performing Assets (NPA) and Return on Assets (ROA). The study used the ratio of non-interest income to measure diversification and returns on assets (ROA) to measure banks' performance in India. Additively, the research found a significant difference between non-performing assets, ratio of non-interest income and profit per worker. Besides, diversification had recently indicated a positive relationship with returns on assets. The research further found out that

banks in India acquired their income from interest and non-interest income but with increased pressure on interest income. Commercial banks were forced to look for other options of enhancing income from non-interest sources. The other finding was that small banks which majorly consisted of public sector banks and private banks continued to remain on the same group. Most of larger banks consisted of public and new generation sector banks. There was a positive correlation between profit per worker and the ratio of non-interest income to interest income. The research also discovered that the impact of bank size on profitability of commercial banks was not so much and that there was no significant difference on the ratio between interest income and non-interest income. From the above findings, bank size was observed to be having an impact on income diversification which affected bank performance a measure of banks' competitiveness.

A follow up study concentrating on the Jordanian banks was conducted by Aladwan, (2015) on the impact of bank size on profitability of the listed commercial banks in that country. It was to specifically aim at investigating the effect of bank size on its own profitability indicators of ROE. The panel data used in the study was collected for the operating periods from 2007 up to 2012 gathered from the stock exchange of Amman and considered the annual reports for the 15 commercial banks that were available over that study period. Different journals were also used as source of theory that hinged the study. Depending on the size of the banks as measured by the total assets, the banks were categorized into three: large size, medium and small and banks. The constructs of the study were designed to show if there existed a statistical difference in profitability according to size. In analyzing the data, simple regression model was applied on the variables. The results of the study revealed a significance difference in the profitability of these different sized banks. Depending on the results of different tests conducted it showed that, a trend that the profitability of the banks showed a tendency of decreasing as the assets volume

increased. A sample two tailed t-test was used in the testing of the means of ROE for three the selected groups of size. The results was that each of the samples showed a statically different means from the other. It therefore revealed that the commercial bank profitability increased as the asset size decreased. This implied that larger banks tended to be less competitive as other managerial fatigue factors set in.

There are studies that show that the impact of size is insignificant. Mkandawire (2016) sampled four Malawian banks and used them to evaluate the determinants of bank performance and he controlled for firm size. Malawi has a shallow banking system and is known for its generally stable system. For those reasons, it was easy for the writer to identify the determinants of Malawian bank performance. The four banks used as samples for the study were listed in the Malawi Stock Exchange. The author utilized a balanced panel dataset of yearly and macroeconomic variables over the period 2007-2015. The annual data was obtained from the respective bank reports. The reason why the author chose that starting period was because the latest bank listing in the country was done in 2007. The author formulated a simple regression model with bank performance being the dependent variable. The explanatory variables are bank specific determinants and the common macroeconomic variables. The equation also includes a disturbance term. The author discovered that diversification of income generating sources ratio to total operating income had an impact on bank performance. The level of risk was also a hypothesized determinant of bank performance. The results indicated that income diversification had a positive correlation with bank performance. Bank size was also tested for its impact on bank performance. That was because, as per the author's argument, the banks that used non-interest generating services to cover their expenditure were more likely to generate more profits compared to those that used net interest income to cover operational expenses. The level of risk was measured using the loans to total assets ratio and it was found that

the level of risk was positively related to bank performance. This is because, loans were a riskier form of assets than just mere bank balance sheets. Loans pose high levels of risk and as the risk-return tradeoff principle states, high levels of uncertainty investments mean high potential profits. Thus, if banks accept higher possibilities of loss by issuing loans, then they are likely to cultivate more returns from that risky venture. Bank size impact was tested against bank performance, but the results were statistically insignificant in the case for Malawi. Thus, the sign of bank size impact on performance was considered ambiguous.

Commercial bank size connectedness with geographical diversification in determination of competitiveness has also been studied by Meslier-Crouzille, et al (2016). Their research was about finding out whether commercial bank's risks and benefits depended on bank size amongst the banks in USA. The bank holding data used was based on a period between 1994 to 2008 from across 2600 Metropolitan Statistical Area (MSAs) and counties that did not belong to MSA across the 50 states of the US. The findings for the study were that diversified small banks witnessed increased returns that were risk adjusted. The relationship between bank size and bank competitiveness in terms of benefits were negatively correlated. This implied that increase in bank size through diversification witnessed more costs than benefits. The result also indicated that both small and large banks became more successful by further diversifying geographically. However, smaller banks could only benefit from diversifying their activities outside their states. When it came to larger banks, operations outside their states was beneficial but only on default risk. Diversification in operation of banks within and outside the states indicated a negative correlation which implied limitation on all banks whether large or small. The findings on the interstate diversification did not correlate with returns on assets (ROA) and squared ROA. The marginal effect on interstate diversification was found to be positive which indicated positive returns in banks both small and large, diversifying to other states. The

study indicated that there were benefits evidenced from bank size increase through geographical diversification in interstate and intrastate. The benefits were increased ROA, risk-adjusted ROA and default risk. They concluded that bank size and bank competitiveness had a linear relationship. Increase in bank size through geographical diversification led to enhancement of the general banks' performance. The study also proved that diversification of banks in counties and across the states benefited commercial banks.

The place of firm size in the relationship between geographical diversification and competitiveness has also been investigated by Schmid and Walter, (2012). This was done within the design of their study to find out whether geographic diversification had a positive or negative impact on value in the financial service market. They covered the entire United States of America (U.S.A) and had a dataset of 3579 observations ranging from the period 1985 to2004. Areas of study were all spots of financial intermediaries in the U.S such as commercial banks (Schmid & Walter, 2012). The authors used two alternative methodologies while conducting the study; the first was a dummy variable determining whether a specific firm reported more than one geographic unit and second was the sales obtained from non-domestic operations as a percentage. The findings showed that there was a positive association between geographic diversification and a substantial valuation discount in financial institutions. Even though, when the firms' main activity-sectors were looked at, the authors evidenced that there was a correlation between significant discounting and geographical diversification in security organizations. Significant discount was also found to be associable with premiums paid in credit intermediaries and insurance firms. All the findings were enormous after considering functional diversification of organizations, a possible endogeneity of both geographical

and functional diversification, and a possible exchanging equity to debt by using forecasts of debt in the market. Besides, the other findings were that the dummy variable coefficient was significant indicating the how financial market services such as commercial banking can benefit by having both domestic and foreign market. From the above findings, it can be concluded that size of banks through geographical diversification had a positive effect on bank competitiveness through increased sales and services.

Simpasa (2013), did research to evaluate the rate of competition within the Zambian banking industry and document the impact of commercial bank diversification here in terms of new foreign banks and privatization of public banks. The study used panel data set where competition was measured in terms of H-statistic and Lerner index. The benefits of study was its objective to reveal the impact of geographical diversification in terms of emergence of foreign banks in the Zambian banking sector. The findings indicated that revenue diversification was one of the main factors that determined market power for commercial banks in Zambia. Geographical diversification of foreign banks in Zambia increased the pressure for competition between banks. Diversification of commercial banks in Zambia led to growth of nominal assets and the general profitability of the Zambian banks had been rising due to geographical diversification that increased competition between banks. The coefficient for bank size in terms of numbers of branches of banks and coefficient of other incomes was significant. This implied that through geographical diversification banks in Zambia were able to increase their earnings, but the impact was more on larger banks with more branches. Moreover, income diversification from traditional activities to non-traditional activities such as fees income services increased profitability of the Zambian banks. The research also considered revenue diversification as one of the determinants of market power. A bank with a higher percentage of non-traditional revenue had a higher market power and therefore, more

competitive. In line with the findings, it was concluded that revenue diversification and banks' risk averting were the main determinants of banks' market power. Therefore, revenue diversification positively impacted banks' competitiveness.

In Kenya, Tamale and Ndegwa, (2017) also conducted a study investigating the effect of geographical business diversification on the financial competitiveness for commercial banks in the country and the role of size. This they did basing it on the manner the Kenyan banking sector being highly regulated face many restrictions on their business operations which together with attendant disclosures creates diversification incentives. They used a mixed research design with both descriptive and quantitative research designs being deployed. To determine the existence of both direct and indirect relationships that existed between the variables, the study deployed multiple regression analysis and chi-square tests. It was established in the study after data analysis that diversification within the banking sector significantly and positively affects financial position of the Kenyan commercial banks. However, depending on the banks size, the level of impact was variable. For those banks that belonged to the medium sized category, only geographical diversification had a significant impact on their financials. But on the other hand, larger commercial banks, financial outcomes did not enjoy, in a significant manner, impacted by all the four forms of business diversification. Consequently, the study recommended that there is need of developing business diversification strategies that are tailored specifically to each tier of the Kenyan commercial banks as no intervention would cut across them in a blanket manner. For small tier banks, geographic diversification would pay dividends while the medium-sized banks could do better by only enhancing the existing forms of diversification together with large tier commercial banks.

De Haan and Poghosyan, (2012) carried out research examining the effects of bank size and geographical diversification on the earnings of the banks in the US. The research used quarterly data from non-investment banks in the US for the period 2004 to 2009. The data was obtained from bank balance sheets and income statements. The methodology used mostly comprised of qualitative approach. Aspects such as market concentration were measured using the Herfindahl-Hirschman Index. The estimations were done by use of fixed effects panel estimator. The findings of the research were that bank size reduced returns volatility. The effect of bank size was negative on bank earnings, and it decreased with increase in geographical diversification which in other words can be termed as market concentration. The research also discovered that larger banks found in highly concentrated markets had undergone high volatility during the financial crisis. Besides, the coefficient of market concentration was found to be insignificant and that large banks which were highly leveraged, faced higher returns volatility.

Moreover, De Haan and Poghosyan, (2012) further established that banks with a higher percentage of non-interest revenues had higher volatile earnings and bank size had a negative impact across different specifications. The research also found that the financial crisis had an impact on the bank size. The financial crisis mostly affected larger banks adversely than small banks. Generally, larger banks located in highly concentrated markets experienced a higher volatility during the financial crisis. The marginal effect of bank size also declined with increase in market concentration on return volatility. The same research also had a finding of larger banks being less risky and that the riskiness increased with market concentration. The findings of the research indicated that bank size had positive impact on banks' earnings in most cases as a measure of banks competitiveness. Larger banks were assumed to be too big to fail and therefore, most of them were inclined to

taking more risks increasing their probability of turbulence in a financial shaky environment of an economic crisis.

In pursuit of a comparative perspective, Yildirim and Efthyvoulou, (2018) conducted a research on the effect of bank size in terms of geographical diversification on bank value by examining data of largest banks in both developed and developing countries. They collected data for the measure of intra-regional and inter-regional diversification for the period 2004 to 2013 for EC and DC banks in the US. The methodology used was econometric statistics and Generalized Method of Moments (GMM) to measure changes in bank evaluation and to correct the problem of endogeneity. The findings were that bank diversification depended on the specific countries the banks operated in. Most intra-regional and inter-regional diversification was observed during and after financial crisis and was high on EC banks. High rate of diversification was related to valuation only observed in developing countries. Moreover, effect of diversification depended on the destination country. High level of intra-regional diversification led to large value enhancement and high level of inter-regional led to negative effect on the valuation of EC banks. The reason for these findings were that EC banks were small and operated in the region with financial shortages, therefore, banks in such areas expanded moderately. Conversely, DC banks mostly joined inter-regional diversification which was faced with the problem of high risk and challenges which possibly outweighed the high returns gained. The banks responded positively on intra-regional diversification of developing countries however, there was no benefits achieved with banks diversifying into very far away areas. Intra-regional diversification led efficiency of banks as the technology and expertise of one country could be transferred to another bank in a different country. Conversely, inter-regional diversification helped to inflate market benefits by allowing

strategic flexibility to larger multinational market and in the process commercial banks were introduced into new challenges. From the above findings, it could be concluded that bank diversification led to a positive impact on bank competitiveness irrespective of size.

The web effect of firm size on the relationship between diversification and commercial bank competitiveness was conducted on a study conducted by Gürbüz, Yanik and Aytürk, (2013). They investigated relationship between income diversification and risk-adjusted bank performance with size of the bank as one of the control variables. The study was conducted amongst Turkish deposit banks for the period from 2005 and 2011. System Generalized Method of Moments was used to carry out the study using unbalanced data of 26 banks. The findings for the study were income diversification had a positive correlation with risk-adjusted financial performance of banks in Turkey. According to Gürbüz et al. (2013), large banks benefit from better risk management and income diversification. The research also showed that Turkish banks could benefit by diversifying their operations beyond traditional banking activities. The study also suggested that the positive correlation between bank performance and income diversification was also related to geographical diversification. The empirical results also showed that most commercial banks in Turkey had diversified their operations. Additively, bank income generating activities could be grouped into two groups. The first one was earning interest income and the other one consisted of financial services. As per the study, increase in non-interest income led to increase in risk-adjusted profits on assets (RAROA) and equity (RAROE). Trading income, fee income and non-interest income were found to have a positive relationship with net interest income. The research also indicated that income diversification had not reached optimum level and therefore, more income diversification was required to improve on banks' competitiveness and performance. Generally, the findings of the research

indicated a positive impact on bank competitiveness as determined by bank size and income diversification.

Moreover, Brighi and Venturelli (2014), were concerned with the Italian situation of financial crisis that occurred in the 1990's. This crisis was strongly affecting the structural strategies of the banking system in that country. As a result, they conducted a study on diversification. The crisis in the business environment had led to a consolidation process that was likely to lead to enlarged BHCs. Their objective was therefore to investigate the empirical effects of revenue diversification strategies on bank performance for a sample of Italian BHCs during the period 2006–2011 and how the size impacted on this relationship. The study revealed results that were key for the banking sector. While on the one hand, diversification effects analysis suggested that higher diversification where the company ventures into non-traditional income components had positive effect on performance and by extension competitiveness in the basis of risk-adjustment, when bank size was introduced as the moderator through an interaction effect given as *t*. This result may reflect the fact that larger banks exploit economies of scale and possess superior expertise in risk management. It emerged that interaction between the one independent variable; income diversification strategy together with the extent and degree of commercial bank capitalization in terms of asset base suggested more bank stability. This was more pronounced where there was an increase in the non-traditional components as it is riskier for more capitalized banks because more capital can be accompanied by investments in market activities that generate increased bank vulnerability.

More recently, and focusing on the interaction on income diversification, Nazari, Pourshahabi and Kamalian, (2021) has continued to interrogate the effect of bank size during a banking crisis in the impact of income diversity. The study covered the period

2005 to 2018 in the Iranian banking sector. The research evaluated 8 banks in the Tehran Stock Exchange using panel econometric method (EGLS). The main findings of the study were that increase in non-interest income during banking crisis did not have any significant effect on banks' performance. The other finding was bank size positively correlated with loan ratio and capital adequacy index during the crisis in the banking sector. Moreover, stiff competition between banks had resulted to change in disclosure rule forcing banks to decrease their lending rates which explained the shift of banks to non-interest services. Income diversification was suggested to have improved due to changes in revenue generation such as non-interest income and a variety of portfolios which included instruments and investments. The above changes allowed banks to attain higher interests at a lower risk. The non-interest income had the benefits of resisting financial crisis however, it was exposed to higher risks. The author of the research further argued that non-interest income in larger banks was higher than smaller banks and that the bank size had a positive impact on returns on assets. The study recommended banks to shift to more revenue generation activities besides provision of facilities. The advantages associated with revenue diversification were economies of scale where banks were able to increase their revenues by transferring interests from facilities services to non-facilities services. The research study also discovered that the main challenge on the Iranian banking sector was insufficient operational independence. The Iranian banking system operated in an enclosed environment with monitored communication with the rest of the world which had an impact on the general banking system performance. From the above findings it could be concluded that income diversification impacted bank competitiveness both positively and negatively and this depended on size.

In the same vein, Vidyarthi, (2019) conducted a study aimed at investigating the relationship between income diversification and bank performance, and the role of firm

size in this. The study used panel data of 38 listed banks in India over an operating from the year 2004 to 2005 and 2015 to 2016. The methodology used for the study involved data envelopment analysis (DEA) as an indicator of performance which involved computation of cost, revenue and profit of banks. The research study also used Tobit regression method to find the relationship between income diversification and performance. The findings of the research were that there was a non-linear relationship between income diversification and performance of the bank. The other main finding of the research was that bank size had an impact on income diversification. It followed that large banks had more benefits than smaller banks due to income diversification. The findings therefore, suggested that banks in India could become more successful by diversifying their non-traditional non-income actions to reach their optimal level. Income diversification could be applied for both private and governmental banks. The non-linear relationship of the research also suggested that for banks to maximize revenue they had to go for a limited bank diversification which would lead to efficiency in the banking sector. Larger banks also benefited from scale of economies and geographical advantage. Large banks with higher equity ratio were more technical and their scale of operation were efficient due to large amounts of investments. Conclusively, the above findings were relevant to the study of impact of bank size and income diversification to bank competitiveness. Both bank size and income diversification emerged as determinants of bank competitiveness. The impact could be explained by diminishing marginal effect.

Empirical research on commercial bank diversification has also focused on the emerging markets including Africa. Alhassan, (2015) instituted a study amongst the Ghanaian Commercial banks purposely to explore the existence of non-linear relationship between income diversification and efficiency among the banks in the context of Ghana and the role of size. He deployed the stochastic frontier analysis (SFA) technique first followed

in the second stage analysis by tobit regression model to carry out an examination on the empirical effect of income diversification on estimated cost and profit efficiency scores while controlling for other bank specific characteristics including the firm size. SFA data analysis revealed the existence of high levels of efficiency in cost compared with profit which reflected high inefficiencies on the revenue side. At the next level, two categories of the banks were considered depending on their firm size namely, large banks and small banks. Results suggested that while large banks had high cost and profit efficiency, the small banks category scored lower on this. There was therefore a non-linear relationship established to be existing between income diversification and efficiency with bank size being an important enabler for banks to exploit the potential benefits of income diversification.

Comparatively, Obamuyi (2013), did a research to examine the effect of bank capital, bank size and interest income on banks' profitability in Nigeria. The study used panel secondary data and fixed effect regression model to analyse the data from financial statements of 20 banks for the period 2006 to 2012. Profitability was measured by return on assets, returns on deposit, and returns on equity. Bank size was used to determine economies and diseconomies of scale and it was measured as the natural log of total assets. The findings of the research were that improvement in banks' size, bank capital and interest rate led to higher performance of banks in Nigeria. The empirical results showed that there was a positive correlation between profitability and independent variables such as bank size, interest rate, bank capital and economic growth. The research suggestions as per the correlation coefficients, were that enhancement of bank size, interest rate, bank capital and economic conditions would positively impact bank performance. Additively, the correlation between bank capital and profitability was positive and significant which indicated that banks with a larger capital base had the capabilities of diversifying their

operation and maximize profits. The research advocated for government to encourage banks to increase their size in terms of capital ratio as it will improve the general performance of banks and economic growth. The study also recommended for banks to manage efficiently their portfolio to gain from, long-run increase in interest. Moreover, the research discovered that lending rate had a positive impact on banks' performance. The positive impact was explained by the fact that interest rate directly impacted bank interest income, which affected the general profitability of the banks. From the above findings, it could be concluded that bank size and revenue diversification in terms of bank interest income had a positive impact on bank performance which made banks more competitive.

Moreover in Kenya, Githaiga, (2019) conducted a study on the relationship between customer capital and income diversification and the intervening role of size. The study made use of panel data obtained from 31 commercial banks over the period of 2008 to 2017 in Kenya. These were banks listed at the NSE. The study methodology used was both descriptive and inferential statistics. The hypotheses for the study were tested through conducting regression analysis. Income diversification which was the study independent variable was measured using the Herfindahl-Hirschman Index. The research found that there was a significant relationship between income diversification and customer capital of commercial banks in Kenya. For commercial banks to enhance their competitiveness, they had to look for ways that would generate more income and protect them from decreasing interest income over the years. The research concluded that there was a negative correlation between interest income and non-interest income as interest income was from inter-mediation activities while non-interest income emerged from non-lending operations. The best way to maximize returns would be through diversification of assets. Bank diversification had a positive impact on bank performance as it led to economies of

scale, competitive advantage and increase in shareholders' value. The research advocated that it would be a good idea if banks would decide to venture into non-traditional activities by offering both banking and non-banking services. Such diversification would ensure that customers get satisfied which would increase the bank's market share thus increasing its competitiveness. The research also observed that large banks had more opportunities and resources compared to smaller banks. The conclusions of the research were that knowledge on firms' resources were important in determining diversification. From the findings, it could also be concluded that income diversification and bank size increased bank competitiveness through increased customer base and returns.

Teimet, Ochieng, and Aywa, (2011) conducted a research study aimed at examining the impact of income diversification on commercial banks profitability in Kenya, with the role of size of the banks considered. They used quantitative methodology and obtained data from Kenyan commercial banks to calculate difference in HHI. The findings for the research were that commercial banks were diversified at different levels as follows: largest level was at Herfindahl-Hirschman Index (HHI)= 45, the medium one was at HHI= 43 while small banks were at HHI= 40. The above findings showed that the size level of commercial banks in Kenya ranged between 0.25< HHI> 0.75 with bigger commercial banks recording higher revenue returns. The above findings were interpreted as larger banks having economies of scale and therefore, were able to finance riskier projects compared to small-sized banks. Accordingly, Teimet, et al (2011) opined that income diversification of commercial banks in Kenya was not influenced by ownership because most of them were private and public-owned. The research also discovered that most of the Islamic banks were diversified at an early stage in the product market. Besides, larger banks were identified as having more sophisticated risk management mechanism. The research also went ahead and discovered that interest and non-interest income were

differentiated, and both revealed different levels of diversification. The other finding was on the increasing profits at a constant rate but later started to increase at a diminishing rate. The growth of profit was because of change in the diversification levels of non-interest income. From the findings, bank size had a positive association with bank competitiveness as bigger banks enjoyed more revenue. Besides, profitability an aspect of bank competitiveness had a positive impact on income diversification, and this further depended on size.

Recently, Buyuran and Eksi, (2020) conducted a research on the impact of income diversification on bank performance and included bank size as a control. The study was undertaken in Turkey. The research used a sample data of 14 banks in the period between 2010 and 2017. Variables under the study were analyzed using dynamic panel data. The methodology used was mainly inferential statistics where Herfindahl-Hirschman Index was used to measure revenue diversification. Return on asset (ROA) was taken as the endogenous variable while bank performance was used as the exogenous variable for the study. The control variables for the study were bank size, bank deposit and bank equity. Moreover, panel GMM technique was used to measure the variables under study. HHI variable was observed to be significant with bank performance an aspect of measuring bank competitiveness. The findings of the research was that there was a negative association between HHI index and bank performance and that all the control variables were significant to ROA. A control variable such as bank size indicated a positive association with ROA which could be used to measure bank performance and competitiveness. The positive association of income diversification meant that it had a positive impact on bank performance. The study suggested that through income diversifications, banks would not only benefit from interest income but also from non-interest sources like financial services of banks, e-banking and trading commissions.

The other benefit that would result from income diversification would be reduction in risks and increase in profits for banks. The research further suggested that banks should encourage diversification in their structure to enhance their profitability. Diversification would also ensure that banks increased their income and reduced their operational costs. Conclusively, the positive impact of bank diversification would result to a positive effect on bank performance which might rather be used as a measure of banks' competitiveness.

In his earlier empirical study of the consequences and determinants of income diversification in banks across 29 OECD countries, and the place of firm size, Hahm, (2008) made very interesting findings. He analyzed panel data of commercial banks that are relatively large numbering 662 covering a ten year period from 1992 to 2006 during the economic era of financial conglomeration in most word economies. He found out that commercial banks that are comparatively large in terms of their size of asset base, low net interest margins, but with higher ratios of impaired loan, and with higher ratios of cost to income tended to exhibit higher non-interest income shares. This he found interesting as hitherto, it had been thought that income diversification and its impact on competitiveness leaned majorly on macroeconomic factors. Overall, the results and findings of this study suggested that expansive income diversification usually achieved by expansions in the direction of non-interest income for commercial banks may not necessarily produce desired income diversification effects, where the bank asset base is low. This was so since there are risks in many return frontiers that eventually turn to hit competitiveness of the financial institution. In the converse, banks that are classified in the large peer group would normally be perceived through some management illusion that they are too big and cannot fail. This illusion explains why they have more incentive to make riskier investments with the assumption that they would eventually be bailed out even by the government. This

results in them being involved in riskier business that occasionally make them less efficient than smaller banks.

Amidu and Wolfe (2013) research conducted in 55 emerging and developing economies over the period from 2000 to 2007 concluded in support of asset diversification and appreciated the influence of size. The purpose of the paper was to find out if bank competition had an effect bank diversification and financial stability. The role of size in the relationship was also to be established. The study utilized the Lerner index to measure competition for the sample used. To measure the diversification for all main bank undertakings, the authors constructed the Herfindahl-Hirschman (HHI) model for each bank in the sample. Results from the study indicate that there is a positive relationship between bank competition and bank stability. The findings also show that bank diversification leads to less risky loan portfolios (Amidu & Wolfe, 2013). Again, it also exhibited that asset diversification enabled banks to compete in the global market. This is because investing in one type of asset exposes banks to risks. The authors found it reasonable to conclude that if asset diversification reduces the exposure to aggregate risk, then there should be stability in the banking system. The authors also indicate that bank size through diversification promotes financial stability amongst banks. Besides asset diversification, revenue diversification also remained positively correlated to bank stability despite control of certain macroeconomic variables. The primary finding of this study was that stability was increased by competition as banks diversify both in interest and non-interest income generating undertakings Larger banks are more likely be more diversified than smaller banks due to financial innovation. That way, large banks are more financially stable and are more competitive in the financial market than smaller banks. Generally, with evidence from emerging economies, Amidu and Wolfe (2013) found out than bank stability was positively related to diversification and competition.

Similarly, Corvino, et al, (2019) conducted research on the foregoing. The aim of their study was to contribute to the controversial debate of how firm size moderated the size of relational capital (RC) and consequentially, the firm size. The research also sought to determine how the firm size defined its key function in competitive advantage. The study used the resource dependence theory by utilizing the interpretative lens found therein. The paper also applied the literature existing then on relational capital (RC). There are numerous variables used in the paper to assess the impact of RC on the performance of a firm, the cost of sales included expenses on interest and earnings per share. The area of study were the firms in France, Germany, Italy, and the United Kingdom (U.K). The Ordinary Least Square (OLS) methodology was used to regress six models, with a data set for period from 2011 to 2013. The results after the study indicated that firm size indeed acts as a moderator in the relationship between the relational capital and firm performance. Larger firms are likely to portray better performance in terms of ROA and ROE, amongst other measurements of firm performance. Large firms enjoy economies of scale compared to smaller firms that is why they are likely to perform well than smaller banks. In times of financial crisis, larger firms are the ones that benefit from incentives and subsidies from the government because their fall-out may imply the fall-out of the entire financial system. The study also notes that the relational capital generates a sustainable competitive advantage of a firm. That ability of larger firms being able to establish critical external sources was found to obtain them competitive advantage as opposed to smaller firms.

In the same vein, Deng, Elyasiani and Mao (2017), carried out research on the relationship between diversification and cost of debt for bank holding companies (BHCs). This they did by focusing on asset diversification as one of the variables and how bank size impacted this relationship. The methodology used to obtain data was mainly from secondary

sources. Data was obtained from Lehman Brothers Bond database and the Bank Holding Company (BHC) database. The findings of the research were that domestic geographical diversification of deposits and assets led to a lower bond yield-spread. In addition, diversification of non-traditional banking activities which led to lower expenses when the yield were spread. Bank size had also an effect on the general banking performance. Medium size BHCs were faced with a higher reduction in bond yield-spread than small and large BHCs. The result was consistent with the too-big-to-fail (TBTF) effect in the banking industry. The study further implied that the relationship between diversification and yield-spread was bidirectional with higher deposit dispersion. The impact of diversification on bond yield-spread was robust after accounting for serial correlation and endogeneity of diversification. When banks applied geographical diversification especially if they were large, they benefit from the FDIC insurance cover. The impact of this feature of diversification is that it reduced costs associated with debt. There were also more findings on effect of bank size on banks' performance. The impact of too-big-to-fail in the banking industry enabled large banks to enjoy incentives such as full liability insurance and government support. The empirical results of the research suggested that geographical and asset diversification correlated with bond yield-spread. Moreover, the study had a similar hypothesis that implementation of asset and geographical diversification led to a drop in the costs of debt of BHCs. However, geographical diversification was considered endogenous and therefore, the association might be since diversification took place among safer firms to diversify. From the above findings it could be concluded that asset and geographical diversification had a positive impact on banks' competitiveness by lowering bond-yield spread. Bank size had also a positive impact on competitiveness through the effect of TBTF.

Moreover, Duho, Onumah, and Owodo (2019) conducted a research with an aim of investigating the impact of bank diversification on bank performance, which is an aspect of bank competitiveness; and how the nexus of size is accommodated. In this case, performance was calculated in terms of profitability, profit efficiency and financial stability (Duho et al., 2019). The research was conducted on Ghanaian banks. The writers regressed profit efficiency scores against credit risk utilizing a panel data set of sampled banks over the period 2000-2015. Both profit efficiency and profitability were measured through Return on Assets (ROA). Results show that income diversification has a negative effect on profitability, profit efficiency, and financial stability in the short run. The correlation generated a non-linear curve (U-shape). This shows that in the long-run, income diversification increases the two metrics of profitability and financial stability. The results also show that bank size is positively related to profitability, and profit efficiency. However, bank size does not have a positive relationship with financial stability. It is therefore seeming that the 'too big-to-fail' doctrine is controversial among the larger banks of Ghana. Thus, one can conclude that income diversification increases bank performance, and competitiveness in the long run. In the same regard, the authors tested the impact of asset diversification on bank performance. The results from the regression on asset diversification were found to be statistically insignificant. However, the findings indicate that asset diversification interacts with bank size and has a significant effect on the financial stability of banks.

Firm size and its impact on the relationship between diversification and competitiveness has been studied by researchers and found to be significant (Chileshe, 2017). According to Chileshe (2017), the size of a commercial bank and its capitalization was significantly associated with improvement in bank stability. In the turbulent and highly regulated market where banks do operate, stability is a key factor of competitiveness. The result of

this study at the same time also indicated that those banks which were larger and well capitalized had a higher market power and were more stable in comparison to the smaller and less capitalized ones. The objective of his study, conducted in Zambia using Panel data, was to investigate the effect of bank competition, bank size, diversification and capitalization on risk taking behaviour of commercial banks; capitalization and bank size on the bank competition-stability nexus. In conducting empirical analysis, he performed a two-stage analysis, first estimating the banks varying bank-specific Lerner Index, which gave the indicative measure of market power. Thereafter this together with the other control variables were regressed to give the bank soundness which in this case was the credit risk and overall stability (Z-Score and ZROE). Of interest, the results showed that where there was an increase in market power, then the bank credit risk reduced, thereby improving increasing overall bank stability which is the foundation of competitiveness for a commercial bank.

Comparatively, Tarore and Prasetyo (2017), did research to investigate the impact of diversification on the Indonesian banking efficiency an aspect that could be used to determine the rate of banks competitiveness. The data used for the study was collected from 102 commercial banks in Indonesia which was composed of public, private non-foreign, private-foreign and joint venture banks. The study used data obtained from balance sheet and income statements in the Indonesian Banking Directory. The study was based on two periods before financial crisis 2001 to 2006 and during financial crisis period 2007 to 2009. Efficiency was measured by stochastic frontier analysis (SFA). The findings were that many Indonesian banks operated at lower levels of efficiency. Panel data was used to conduct the research and it was observed that diversification was the best method to improve efficiency in the Indonesian banking sector. Through diversification, the total output would be maximized without extra costs enhancing efficiency in the Indonesian

banks. However, the research did not find any significance of bank size on banks' competitiveness. In addition, banks that diversify and those that concentrated had differences before and during financial crisis. In the two periods banks that diversified were found to have higher levels of efficiency than banks that did not diversify. Moreover, negative coefficient were found on the regression function of bank size variable which revealed that bigger banks had lower levels of efficiency. As per the authors, the management was the main part of banking institution that would enhance diversification to make banks more competitive. Diversification would be possible through the process of deploying business activities of the banks in different types of income such as interest income, trading income, commission, and fees income. Banks could also increase their revenues by engaging in activities such as insurance selling, investment banking and brokerage. From the above findings it could be concluded that revenue diversification had a positive impact on efficiency which enhanced banks' competitiveness.

Similarly, Onuonga, (2014), carried out research to examine the determinants of profitability of Kenya's top six commercial banks for the period 2008 to 2013. The methodology used by the study was generalized least square method (GMM) which was used to estimate the effect of bank's asset diversification and bank size towards the performance of the top six commercial banks in Kenya. The research also used secondary data from the Kenya Central Bank (CBK) database and Kenya Economic survey. The research paper used returns on assets (ROA) as a measure of profitability. The findings of the study were that bank size and diversification had a positive impact on profitability of the commercial banks. This also meant that the bank size had a positive effect on banks competitiveness which would be measured by the profitability enjoyed by the top six commercial banks under study. The empirical results factors that determined profitability

of banks were bank size measured as a ratio of total assets and capital strength measured as a ratio of total capital assets. Bank size had a positive impact on profitability an aspect of measuring banks' competitiveness. The positive impact was because of economies of scale that large banks enjoyed. Larger banks also enjoyed efficiency that emerged from high earnings received from operating in highly competitive market. The research also revealed that the top six commercial banks were exposed to high levels of capital which helped in diversification of their activities and investment which help them to survive even during financial crisis. The larger banks also benefited from their size as they would easily attract funds at cheaper prices enhancing their liquidity. From the results of the above findings, it could be concluded that bank size and asset diversification had a positive impact on banks' competitiveness.

There are scholars that are proponents of firm size as a key role player in the competitiveness and performance of banks. The research conducted by Eyigege, (2018) examined the correlation between bank size and bank performance of commercial banks listed at the Nigerian stock exchange. The aim of the research was to determine factors that positively or negatively affected the financial performance of depository banks in the Nigerian stock exchange. The research applied sampling methodology where five depositing banks were used to represent the entire banking industry in Nigeria. The research applied OLS regression and random effect regression with the help of STATA for panel regression. The findings were that firm size was negatively correlated with bank performance due to diseconomies of scale. The recommendation for the study were that banking industry should minimize the costs involved with expansion and utilize the benefits that comes with economies of scale in other strategic initiatives. As per the research, bank size had a very big influence on profitability of the banks. The research

found out that larger bank size had greater access to deposits which gave them greater power to control costs of deposits and lending rates bringing efficiency to banks. The study applied growth of the firm theory in explaining how bank size affects performance and competitiveness of banks. The theory stated that large banks attracted best management and therefore, were more competitive than small size banks. The regression results showed that bank size in OLS and fixed regression had negative effect on bank performance. The finding further suggested that as bank size increased the financial performance reduced.

Opponents of firm size in competitiveness through profitability exist. This was a study conducted by Le, (2020) following research in Vietnam observing data from the economy's banks over the period 2006 to 2015. The purpose of this study was to find out the effect of multimarket operations on bank profitability. In other words, the study investigates whether diversification matters in such a case. Data used to conduct the research was obtained from annual bank reports and audited financial statements from individual banks under study. The methodology of study was macro-economic factors observation. One of the aspects was endogeneity and the other was heterogeneity. The author constructed base models and conducted a robustness check. On diversification, results from the study suggest that diversified banks possess a high market power, and they seem to collude to charge high fees on loans and non-traditional activities and lower the rates on customer services, thus, increasing profitability for these financial institutions. Diversification led to many financial organizations forming many branches in form of mergers and acquisitions. Formation of new branches led to an increased human resource portfolio, service portfolio, and investment portfolio. Diversification and merged institutions seem to go hand in hand. In general, their analysis indicated that the larger a bank was, the less profitable they were. This was thought to be because smaller banks had

easier management allowing them focus on serving specific key regions. Size therefore has a negative effect on competitiveness.

2.4 Knowledge Gap

There were gaps in literature that this study sought to fill. While some studies recommend diversification as one of the ways of ensuring that commercial banks remain competitive in their environment, others recommend the contrary. For example, Hailu and Tassew, (2018), concluded that bank assets diversification which is the spreading commercial bank investments assets over various channels that aren't related shields the bank against any sudden, unexpected outcome. Further, they observed when there is a diversified portfolio, any loss in one investment portfolio is covered by gains from another investment. Where this happens, it holds a positive bearing on competitiveness. At the same time, they contrast and opine that sectoral diversification exposes a bank to performance risks to the extent that chances that their competitiveness can be affected in the negative exists. This contradiction on the same universal independent variable, diversification, in the same paper and by the same researchers is a pointer to a gap. Later other studies followed. Trinugroho, *et al*. (2018) in Indonesia identified diversification as one of the determinants of bank margins growth and competitiveness.

Also, Mulwa, (2018) in his study amongst the East African Community commercial banks opines that sectoral diversification of the loan book strengthen competitiveness through improved performance. Alongside this, diversification in the commercial bank sector is recommended since it has a positive relationship on sales return (Baek & Lee, 2015). Bides, three diversification theories namely, market power, resource-based view, and agency point different directions as far as the benefits of diversification is concerned. While RBV arguments agree that diversification is beneficial as far as utilization of

resources economically is concerned, Market power tends to answer the question 'why diversification' more than the benefits of diversification. At the same time, Agency theory gives the negative side of diversification as merely an activity that satisfies the whims of managers rather than competitiveness, and this may even lead to it impacting negatively on commercial bank and enterprise competitiveness.

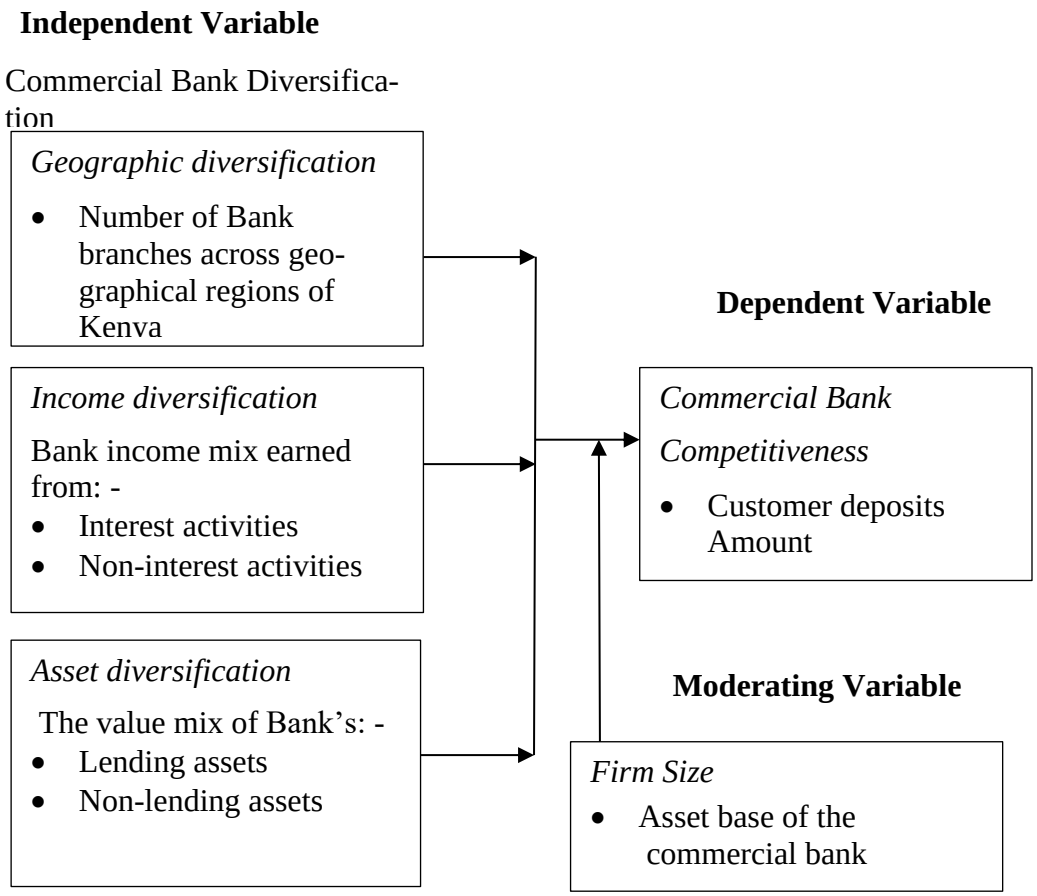
In the Kenyan commercial bank's scene, there was unexplained back and forth movement of banks across the competitive peer group categories despite their implementation status of diversification. Few local studies have been accessed that identifies the effect of diversification on their competitiveness. Besides, in a period of five years, a total of three banks were placed under statutory management as they could not withstand business environment forces. This against the backdrop of studies reviewed, and existing diversification theories that point out that commercial bank diversification is expected to have positive effects on competitiveness. Though at the same time, opinion is divided. This study therefore sets out to fill the gap of as single study on the effect of the three diversification modes which are geographical, asset, and income in a single study. This would be quite important given that banks usually practice the three diversification modes as a package. The size of the commercial bank was considered as a moderator to capture the competitive peer groups amongst commercial banks in Kenya.

2.5 Conceptual Framework

The conceptual framework in this study was used to illustrate the relationships under investigation between diversification, firm size, and commercial bank competitiveness. This is shown in figure 2.1.

Figure 2.1

Conceptual Framework



Source: Researcher's own concept (2020)

The premise of this conceptual framework was that Commercial banks diversification as exhibited by their geographic, income and asset diversifications influence the Commercial banks Competitiveness. However, this relationship is moderated by the Size of the banks. The arrows linking the independent variable, commercial bank diversification, to the dependent variable Commercial Bank Competitiveness is either through the geographic,

income, or asset, thematic area. Geographic diversification expands the physical catchment of a commercial bank. This is expected to result into having more bank accounts leading to a possible growth in customer deposit and hence competitiveness. Income diversification which involves increasing other channels of income apart from the traditional interest from loans has a bearing on the quantity of financial resources that a bank would be able to avail for loaning of its customers. It therefore influences the availability of banking service provision to the customers. As a result, it influences the kind of action the customers will take either to deposit or fail to deposit funds with the bank. It is this customer action that determines the customer deposit amount that a particular commercial bank accumulates.

Asset diversification, which is the subject of the third hypothesis is represented by the third arrow. It involves investing into other asset classes other than the loan book. This has a bearing on the amount of resource that a bank will have at its disposition either a reduction if the gains on the other asset classes is low, or an increase if the returns are good, with a bearing on its reserves. The fourth arrow represents the moderation effect of firm size on the relationship between diversification in its three forms in this study and commercial bank competitiveness. Firm size moderates this relationship as different sizes of the banks based on the asset base points to how the bank is viewed by the public and its internal processes. It is the sum of these that influence the relationship between diversification intervention and competitiveness.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter describes the research model specification, model and data assumptions, research design, study area, target population, data collection instruments, reliability of data, measurement of variables, data analysis techniques and hypothesis testing procedures.

3.2 Research Design, Target Population, Study area and Unit of Analysis

This sub section outlines the research design of the study, the targeted population of the study, study area and the unit of analysis.

3.2.1 Research Design

Research design refers to the overall strategy a researcher employs to integrate the different components of the study in a coherent and logical way, thereby, ensuring effectiveness in addressing the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data, (De'Vaus, 2001). Therefore, the research problem determines the type of design to be chosen by the researcher (Trochim, Marcus, Mâsse, Moser, & Weld,. 2008). This research adopts the ex-post facto explanatory design. According to De'Vaus (2001), this is a study in which the researcher does not have straight away manipulatory powers over the independent variable since their respective effects already occurred prior to the research problem and that what the researcher sets out to do is to collect data to explain these effects. This is done without direct intervention or causing a variation of independent and dependent variables (Sekaran & Bogie, 2013). In this study, the researcher attempted to establish whether commercial bank diversification actions explain the variation in commercial bank competitiveness and how much variance

can be attributed to it and establish how moderating variable which is firm size impacts the relationship.

3.2.2 Study Area

The study area geographically is the jurisdiction of republic of Kenya and covers the commercial banks. Since the study was based on collection of panel data, the researcher examined data obtained from CBK and published in their website for public consumption. The researcher therefore carried out a review of the official available information.

3.2.3 Target Population

According to Adams, Khan, Raeside, & White, (2007), a population consists of well-defined and known elements that can all be totally listed. The target population in this study consists of the 42 commercial banks listed in appendix 2. To study the population characteristic and answer the research question, a researcher may choose to take a representative sample of the population and infer the results to the whole population. Sampling is usually done in the interest of time, costs and reduction of complexity associated with the study of the whole population. This study involved the whole population which is a census study. Therefore, no sampling was needed as all the items were studied across a period of 10 years from 2009 to 2018. The subjects are the commercial banks under the purview of CBK whose website is the centre of the study.

3.2.4 Unit of Analysis

Brewer and Hunter (2006) define unit of analysis as those entities about which we collect data and about which we want to generalize or make inferences. In this study, the unit of analysis is the individual commercial banking institution and their annual reporting parameters given for the individual year of reporting. These are filed as required by regulations to the CBK. The research finds out the effect of commercial bank diversification

on the bank competitiveness as captured in the conceptual framework for analysis. Each of the banks have different size of asset base and the study employs this as a moderating variable.

3.3 Data Types and Measurements

This section is broken down into data types and sources, research instrument and reliability of data that the study encompassed. The data collection and measurement for each variable in the study has also been outlined.

3.3.1 Data Types and Sources

In research, there are two types of data that can be used. It can either be primary or secondary data. This research uses secondary data. According to Cohen *et al* (2007), this type of data is that which has already been collected by another credible process from primary sources. It has consequently also been made available readily in a form that researchers may access and use for their own research. In this case, the data that had already been collected and stored as records of the Central Bank of Kenya was used. The specific reports that that were identified for this purpose from CBK were their annual and supervision reports. This source had been identified since all commercial banks in Kenya are required as a matter of compliance with relevant laws and regulations to submit accurate and verified annual reports to the regulator (CBK), who in turn stores them in a retrievable manner and medium for access by the public. Again, in this kind of research, it is only possible to observe the variables after they had been captured in the reports since its post-facto in nature.

3.3.2 Reliability of Data

In research where secondary sources are used, the researcher is concerned with the extent of the reliability of data used. This research relies on panel data, generated from the commercial banks themselves to their regulator, CBK. The regulator also has supervisory and oversight role above the individual banks. The data set was therefore considered reliable.

3.3.3 Data Collection Instruments and Procedures.

The research tool that was used for data collection is document analysis guide given in Appendix 1. This guide was considered sufficient as the data to be collected was secondary and was being collected for analysis in quantitative research (Sekaran. and Bougie, 2013). The researcher personally collected the data. Sekaran and Bogie (2013) points out that where data is to be collected from a confined local area, a good way to collect data is to either personally do it, or through a member of the research team. Once collection of data was completed, the process moved to data cleaning, review and editing before analysis. The researcher set out to capture panel data for all the commercial banks under the purview of CBK in Kenya spanning a period of 10 years from 2009 to 2018. In the analysis, a total of 36 out of the 42 banks had their data collected and analyzed giving a coverage rate of 85.7% as a total of six banks were dropped. Of the six commercial banks dropped from the study, three were under receivership, two had undergone mergers and / or acquisitions while one is development-based having only one branch. They therefore had inconsistent data range that was not included in the study. At the same time, one bank though listed as a Housing Finance Company exhibited commercial bank and was granted authority by CBK to take up financial mediation role tendencies. This was included in the study.

3.3.4 Measurement of Variables

All the variables were measured using ratio scale. Considering the Independent variable commercial bank diversification, it has been segregated into its subcomponents which are geographic, asset, and income diversification. Geographic diversification is one of the approaches to commercial bank diversification according to Mulwa, *et al*., (2015). This happens when a bank opens branches away from the location of the head office. It is the proliferation of branches and service outlets across the counties of the country. In this study, it is measured by considering the number of branches with a structured management across the country. It was measured by getting the natural logarithm of the numerical count of the bank branches.

The other independent variable that measured is income diversification. This is where a commercial bank expands the organizational revenue stream to cover new income earning financial services other than their usual operation domain of intermediation (Nepali, 2018). This research uses Herfindahl-Hirschman Index (HHI) to establish the concentration of the two components of revenue streams namely interest income and non-interest income (Stiroh & Rumble, 2006; Tabak *et al*., 2011). HHI is calculated as:-

$$HHI = 1 - [(IE/TE)^2 + (NIE/TE)^2]$$

Where:-

HHI is Herfindahl-Hirschman Index used to measure the size of non- interest income in relation to the total income.

IE is Interest Income related earnings

NIE is Non-Interest Income related earnings

TE is Total Earnings

The index (HHI) takes on values between zero and one. It is subtracted from unity so that larger values imply a higher quantum of income for the commercial bank generated from other sources apart from interest on loans. In that case, incomes are more diversified across noninterest sources (Goetz *et al*., (2015).

In asset diversification, the bank distributes its assets across non-lending instruments and lending ones (Goetz *et al*., 2015). In this study, this independent variable is measured using HHI. This was calculated as the sum of squared shares of net loans and other earning assets to total earning assets subtracted from unity so that higher values represent higher degree of asset diversification. This index takes on values between zero and one, where larger values imply that the commercial bank assets are more diversified across different investing activities/instruments and therefore subtracted from unity. This is given as:-

$$HHI = 1-[\ (NL/TA)^2 + (ONL/TA)^2\ ]$$

Where:-

HHI is Herfindahl-Hirschman Index used to measure the size of non-lending related assets in relation to the total income.

NL is Net Lending related Assets

ONL is Other Non-Lending Related Assets

TA is Total Investing Assets held by the Bank.

The moderating variable in this study is firm size. This Study adopted the measures specified by the banks' regulator, Central Bank of Kenya. The CBK uses financial terms to classify banks into either small, medium, or large. This they do by calculating the amount of assets deployed in the business. This study measured the size of the commercial banks under study by establishing the total assets employed by the bank and was calculated

as the natural logarithm of this figure which is the asset base of the bank. The working out of this natural logarithm was chosen to generate more comparable figures.

The dependent variable in this study is commercial bank competitiveness. Competitiveness is hinged on the aspects of competitive advantage that firms gain because of their core competencies (Barney 1991). Firms therefore can perform in a superior way consistently to maintain competitiveness. The study adopts measures that had been used by the regulatory authority of the commercial banks in Kenya, the CBK. The Central Bank of Kenya uses two key indicators which are Customer deposit Amount, and number of Accounts in gauging the market share of the commercial banks. In this study, the customer deposit base was adopted as the measure of competitiveness. The figure was recorded as the natural logarithm (ln) of the measure. The detailed variable measures are summarized on table 3.1.

Table 3.1 :

Summary Table of Measures of Variables and their Operationalization

Variable	Operationalization	Indicator	Measure
Geographic Diversification (DIV_{geo})	Proliferation of branches of the commercial bank	Number of branches	Natural logarithm of branch network count
Income Diversification (DIV_{inc})	The expansion of revenue streams by a bank beyond interest earning tools to include non-interest sources.	Income either from interest and non-interest sources	$HHI=1-(^{IE}/_{TE})^2+(^{NIE}/_{TE})^2$
Asset Diversification (DIV_{ass})	The distribution of bank assets across non-lending and lending classes.	Concentration of net loans viz a viz other earning assets to total earning assets	$HHI = 1- (^{NL}/_{TA})^2 + (^{ONL}/_{TA})^2$
Competitive-ness (Com)	Is the state of superiority in key business aspects of competitive advantage that firms gain because of their core competencies	Customer De-posit Amount	Natural logarithm (ln) of total of Customer Deposits
Farm size (Z)	This is the figure arrived at by calculating the amount of assets deployed by the respective commercial bank in the business	Total Assets	Natural Logarithm (ln) of Total Assets

Source; Author 2020

3.4 Model Specification

In this section, the philosophical foundation that anchored this study has been discussed. Further, the models are specified both for the direct and indirect effects. The model assumptions have also been given.

3.4.1 Philosophical Foundations of the Study

This study was grounded on the positivist philosophical paradigm. Positivism, according to Cohen, Manion and Morrison, (2007) implies that the conducted research generates genuine knowledge that is based on sense and experience that is advanced only by means

of observation and experiment. It stresses empirical quantitative studies that follows scientific analysis before conclusions and inferences are made on a given research problem. Positivism approach is justified in this research since the purpose here which is to establish the effect of commercial bank diversification on competitiveness is best met by an empirical quantitative study. According to Angen, (2000), positivist approaches have the benefit of ensuring that the subjective biases of the researcher are reduced significantly thereby enhancing objective reality of the study. This benefit envisages hypothesis generation and testing using quantitative methods making it relevant to this study.

3.4.2 Model Specifications

The research is hinged on multiple regression model in analysing both the direct and indirect effects. The general form of the multivariate regression model is given as:-

$$Y_{i,t} = f(X_{i,t}, \beta_{i,t}) + e_{i,t} \quad \text{.....(i)}$$

Where;

$X_{i,t}$: represent a matrix of observations on independent variables each column at time *t* being a set of observations on one of the independent variables

$Y_{i,t}$: is a matrix with a series of multivariate measurements, being a set of measurements of the dependent Variable at time *t*

f : denotes the general functional relationship

$\beta_{i,t}$: is a matrix containing parameters that are usually to be estimated at time *t*

$e_{i,t}$: denotes the errors that are usually assumed to be uncorrelated across Measurements at time *t*

Regression model can be linear or non-linear. This research assumes linearity of the model in line with the previous work in this area. Researchers studying diversification amongst commercial banks have recommended this approach since they had been able to conduct successful analysis in its application. This method was used in related research investigating the effect of noninterest income on performance, (Sun, *et al*, 2017). Again, Waithera (2014) also applied the same in her research using commercial bank panel data in studying the effects of income Diversification on financial performance of commercial banks in kenya.

The general model (i) was expanded to give the direct effects model for this research incorporating the time series aspect since this research used panel data covering 10 years. This is given as:-

$\text{Com}_{i,t} = \beta o + \alpha_{i,t} + \beta_1 \text{Div}_{geo\ i,t} + \beta_2 \text{Div}_{inc\ i,t} + \beta_3 \text{Div}_{ass\ i,t} + \varepsilon_{i,t}$ …….…. (ii)

Where;

$\text{Div}_{geo\ i,t}$	:	is the i^{th} Commercial Bank Geographic Diversification at time *t*.
$\text{Div}_{inc\ i,t}$	:	is the i^{th} Commercial Bank Income Diversification at time *t*.
$\text{Div}_{ass\ i,t}$	:	is the i^{th} Commercial Bank Asset Diversification at time *t*.
$\text{Com}_{i,t}$	:	is the i^{th} Commercial bank Competitiveness at time *t*.
βo	:	is the Constant
$\alpha_{i,t}$	:	is the i^{th} other variables that affect Commercial bank Competitiveness but have been held Constant at time t
$\beta_{1\text{-}3}$	:	is the respective effect of Independent variables
$\varepsilon_{i,t}$	:	is the i^{th} error term at time *t*

The study is guided by a second model to study moderation effects since the study had a fourth variable which is a presumed moderator of the relationship between diversification and commercial bank competitiveness. The general model (i) is specified for this research incorporating the time series aspect since this research used panel data covering 10 years while at the same time introducing the moderator to give:-

$\text{Com}_{i,t}=\beta o + \alpha_{i,t} + \beta_1 \text{Div}_{geo\ i,t} + \beta_2 \text{Div}_{inc\ i,t} + \text{Div}_{ass\ i,t} \quad \beta_4 Z_{i,t} + \beta_5 Z_{i,t} \text{Div}_{geo\ i,t} +$

$\beta_6 Z_{i,t} \text{Div}_{inc\ i,t} + \beta_7 Z_{i,t} \text{Div}_{ass\ i,t} + \varepsilon_{i,t}$ ……(iii)

Where;

$\text{Div}_{geo\ i,t}$: is the i^{th} Commercial Bank Geographic Diversification at time *t*.

$\text{Div}_{inc\ i,t}$: is the i^{th} Commercial Bank Income Diversification at time *t*.

$\text{Div}_{ass\ i,t}$: is the i^{th} Commercial Bank Asset Diversification at time *t*.

$\text{Com}_{i,t}$: is the i^{th} Commercial bank Competitiveness at time *t*.

βo : is the Constant

$\alpha_{i,t}$: is the i^{th} other variables that affect Commercial bank Competitiveness but have been held Constant at time *t*

β_{1-7} : is the respective effect of Independent variables

$\varepsilon_{i,t}$: is the i^{th} error term at time *t*

$Z_{i,t}$: is the i^{th} firm size at time *t*

β_{1-7} : is the respective effect of Independent variables.

In this model, a fourth term Z, was introduced which represents the moderator variable. According to Whisman and McClelland (2005), several methods for testing statistical significance differences between the two models do exist. In this study, a test was

conducted on the outputs of the products of the moderator variable and the independent variable to find out whether the correlation between the products of the variables differed from 0. That is a requirement to be able to conclude that the moderator had any effect on the relationship between the independent and dependent variables of the study.

To decide whether to run the models on Fixed effects (f_e) or Random effects (r_e), Hausman specification test was carried out to detect the presence of endogenous regressors therein. Variables in a model are said to be endogenous if they have values that are determined by other variables in the system and such causes the failure of the ordinary least squares estimators due to the assumption of no correlation between any independent variable and the error term (Hausman, 1978). Since the study used panel data analysis (the analysis of data over time), this test helped the researcher in choosing between fixed effects model or a random effects model by testing it on the null hypothesis that the preferred model is random effects against the alternate hypothesis that the model is fixed effects. The null hypothesis was to be rejected if the p-value is less than 0.05 (small). Essentially, the test looks to see if there is a correlation between the unique errors and the regressors in the model. The null hypothesis is that there is no correlation between the two.

3.4.3 Model and Statistical Assumptions Model

Prior to analyzing the data using the specified regression models (ii) and (iii) as given, multiple regression assumptions applicable to panel data was tested. These tests are normality of variables, multicollinearity of the independent variables and stationarity (Mertler & Reinhart, 2017). If one or more of these assumptions are violated, tests of hypotheses may give incorrect conclusion (Kennedy & Bush, 1985). For this reason, the tests were carried out and results documented, and appropriate corrections done before proceeding with other analysis actions.

In running the normality of Variables assumption test as the first one before data analysis, Jarque-Bera test of normality was used. This test operates by matching the data sets skewness and kurtosis to confirm whether it matches a normal distribution or not. The null hypothesis in this test assumes a normal distribution of the variables. It is rejected if its p-value is less than the critical value. In this study, it was 0.05.

The other regression assumption test that was conducted is multicollinearity. Multicollinearity exists where there is a moderate to high correlation between the independent (predictor) variables (Hair *et al*., 2010). In such an instance, then the independent variables, besides affecting the dependent variables also creates impacts amongst themselves. Where this is the case then it follows that the resultant regression model would not be able to accurately associate variance in the outcome variable with the correct predictor variable, leading to muddled results and incorrect inferences. This therefore would mean that the correlated independent variables do little in predicting individually the impacts they have with the dependent variable. Specifically, according to Mertler and Reinhardt (2017); the reasons multicollinearity is problematic to researchers are: it causes severe limitation of R, since the IV's are impacting the DV by acting in a relatively similar manner; the overlapping information amongst individual IV's confounds the difficulty in the determination of individual IV's; and results into unstable prediction equation since it tends to increase the variances of the coefficients of regression. Statistically, multicollinearity can be tested either by calculating the tolerance statistics or calculating the variance inflation factor. In this study, it was tested by examining the Variance Inflation Factor (VIF) for each independent variable (Mertler & Reinhart 2017). The VIF is defined as the quantity $1/ (1-R^2)$. Values above 10 are considered above the acceptable limit.

The third and last test that was conducted is the stationarity test. Data is said to be stationary if its statistical properties like variance, mean amongst others, in the case of time series data, remain constant over a span of time. This assumption is applicable whenever researchers analyze time series data since it tests the assumption by most statistical forecasting models that the data can be approximately rendered stationary throughout the analysis. When data series are stationarized, statistically, they are rendered easy to predict relatively, since their statistical properties are expected to remain similar from the past through to the future (Moffat, & Akpan, 2018). This implies that the variable statistics are expected to remain the same across the different time series. They therefore remain untransformed by the reversal of the applicable mathematical operations that were used previously in obtaining the predictions for the original series. In testing the stationarity in this research, IPS (Im, Pesaran, and Shin) unit root test was used. This test was preferable since it allows for more heterogeneity of behavior than that allowed for by the conditional maximum likelihood or least squares dummy variable approach (Bond, Nauges, & Windmeijer, 2002). IPS tests for the null hypothesis that p_i is unity for all observations versus an alternative that some of the p_is are less than one. If the null hypothesis is accepted, it implies that there is no fixed effect. In the other hand, if the alternative hypothesis is the one accepted, then it implies that each fixed effect is equal to $(1-\rho_i)\ \alpha_i$. The Confidence level that was applied in this research is 95%.

3.5 Data Analysis and Hypotheses Testing

This section discusses data analysis process and how the hypotheses of the study were tested.

3.5.1 Data Analysis

Once collected, the data was cleaned, edited, and entered in an excel sheet ready for analysis. Analysis was done electronically using EViews statistical analysis software. This method of analysis had been chosen given its suitability as pointed out by Hair *et al*., (2014) noting that it enables processing of data with ease and accuracy for researchers undertaking comprehensive analysis. Before commencing data analysis proper the researcher initially undertook a preliminary data analysis. According to Mertler and Reinhart (2017), preliminary data analysis involves screening of the data prior to actual statistical analysis. It is meant to ensure that the quality of the data at hand is suitable for making inferences about the study population. The data was first screened by examination using frequency distributions and assessment of descriptive statistics of plausibility means and standard deviations. The first assessment targeted missing data. This occurred during this study because some banks that started operations after the year 2009 have data missing in some of those years of operation. The data was assessed for missing data and as given by Tabachnick and Fidel (2007), the researcher decided to drop the cases since they had unbalanced data.

After the preliminaries, data analysis focusses on descriptive statistics. According to Cohen *et al* (2007), descriptive statistics is important in any study as it provides the techniques and methods that summarize the data in useful groups that support research arguments. Further, it enabled the researcher to get a feel of the data and the responses in relation to the profile background of the banks under study, the researcher analysed the data for descriptive statistics. Descriptive data analysis techniques that have been used include mean, minimum, maximum, and standard deviations. Again, trend graphs of the data is also plotted together with analysis of correlation. Next was data analysis for the

inferential statistics. In this study, the researcher conducted a multiple regression analysis. According to Mertler and Reinhart (2017), regression analysis enables researchers determine the best-fitting line in a scatter plot for bivariate series of points for the independent variable and dependent variable. Regression analysis is used to test the cause-and-effect relationship between the predictor and the dependent variable is research. In this study, the researcher conducted tests for the direct and indirect effects using the linear regression and conducted F and t tests in testing the hypotheses (Hair *et al*., 2014).

3.5.2 Hypothesis Testing

The object of scientific research is to deduce conclusions that aid in obtaining a finding that responds to the research problem. As already pointed out, in this research, multiple regression is used as a method of analysis of the data in line with the specific models (ii) and (iii). The existence of regression relationship between the independent and dependent variables are tested using F test. The F test tests the null hypothesis that all the parameters of regression were statistically equal, and equal to zero, against the alternative that at least one of them was not equal to the rest and zero. This hypothesis testing process is denoted as: -

H_0 : $\beta i's = 0$

H_a : $\beta_1 \neq \beta_2 \neq \ldots\ldots\ldots\ldots \neq \beta_n \neq 0$

If the null hypothesis is rejected thereby accepting the alternate, then the analysis proceeds to the next level which id the t-test, otherwise where the researcher fails to reject the null hypothesis, then no further analysis is done. The t – test of significance assesses each of the independent variable regression coefficients in the model derived. This test was applied in testing the significance of the regression outputs in the model. The null hypothesis to be tested was that the individual regression parameters equal to 0 against the alternate that it is not equal to zero.

The hypothesis denoted thus:-

H_0 : $\beta_i = 0$

H_a : $\beta i \neq 0$

In testing the null hypotheses, the direct effect of each of the independent variable DIV_{geo}, which was the test for hypothesis one, DIV*inc* which was the test for hypothesis two, DIV_{ass} which was the test for hypothesis three depending on whether the null hypothesis was rejected or failed to be rejected in each case. Further, the indirect effect of the moderator on the moderating variable given as Z in the model, firm size, was established by assessing the coefficients of the product of the moderator and the independent variables given as $Z.DIV_{geo}$, $Z.DIV_{inc}$ and $Z.DIV_{ass}$ in a constituent hypothesis. Namazia and Namazib, (2016) agrees with the use of the product term in measuring the moderation effect of the moderator in the relationship between the independent and dependent variable in an analysis.

3.6 Ethical Considerations

This studywas based on ethical standards of research. Ethics must be considered central when conducting any research. According to Saunders *et al.*, (2003), one of the key considerations here is maintenance of confidentiality about the data. This was achieved since there was no specific mention of performance and competitiveness of a commercial bank. Data was entered into the analysis sheet only as unique entry items. Data was also only collected once the authorization letter had been received from the NACOSTI ethical Review Committee, having been given an introductory letter by the University. Again, sources of the secondary data used in the study was acknowledged.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION, AND DISCUSSION

4.1 Overview

This chapter presents the results of data analysis which has been discussed on thematic and sub-thematic areas in line with the study objectives. The thematic areas are background information generated from the data, correlation of the variables, regression analysis testing, model specification test and hypothesis testing. Hypothesis testing encompasses the effect of geographic diversification on commercial bank competitiveness, effect of income diversification on commercial bank competitiveness, effect of asset diversification on commercial bank competitiveness and the moderation effect of firm size on the relationship between diversification on and commercial bank competitiveness.

4.2 Background Information

This section presents the background information related to the variables of the study. It discusses important trends and patterns that emanate from the research data that pertained to the variables specifically geographic, income and asset diversification which are the independent variable. The moderating variable firm size and the dependent variable; competitiveness in commercial banks in kenya is also included.

4.2.1 Descriptive Statistics of Variables

An analysis to identify the study variables' aggregate patterns was done by obtaining their mean, standard deviation, maximum and minimum values. This covers all the 360 objects of the study variables. The findings are presented in table 4.1. The results show that commercial banks in kenya have a competitiveness index mean of 10.16 and firm size index of 10.45. Additionally, banks are diversified in all the three study diversification perspectives. They have a mean geographical diversification, income diversification and asset diversification of 2.922, 0.315 and 0.451, respectively. The standard deviation for

competitiveness and firm size is found to be 1.329 and 1.348, respectively. For the diversification fronts, the standard deviation obtained are 0.119, 0.059 and 1.078 for income, asset, and geographic diversification, respectively.

Table 4.1

Descriptive Statistics of study Variables

Variable	Obs	Mean	Std. Deviation	Max.	Min.
Competitiveness	360	10.16	1.329	13.095	5.242
Income Diversification	360	0.315	0.119	0.5	-0.075
Asset Diversification	360	0.451	0.059	0.500	0.000
Geographic Diversification	360	2.922	1.078	5.293	0.000
Firm Size	360	10.452	1.348	14.517	7.103

Source: Survey Data, 2020

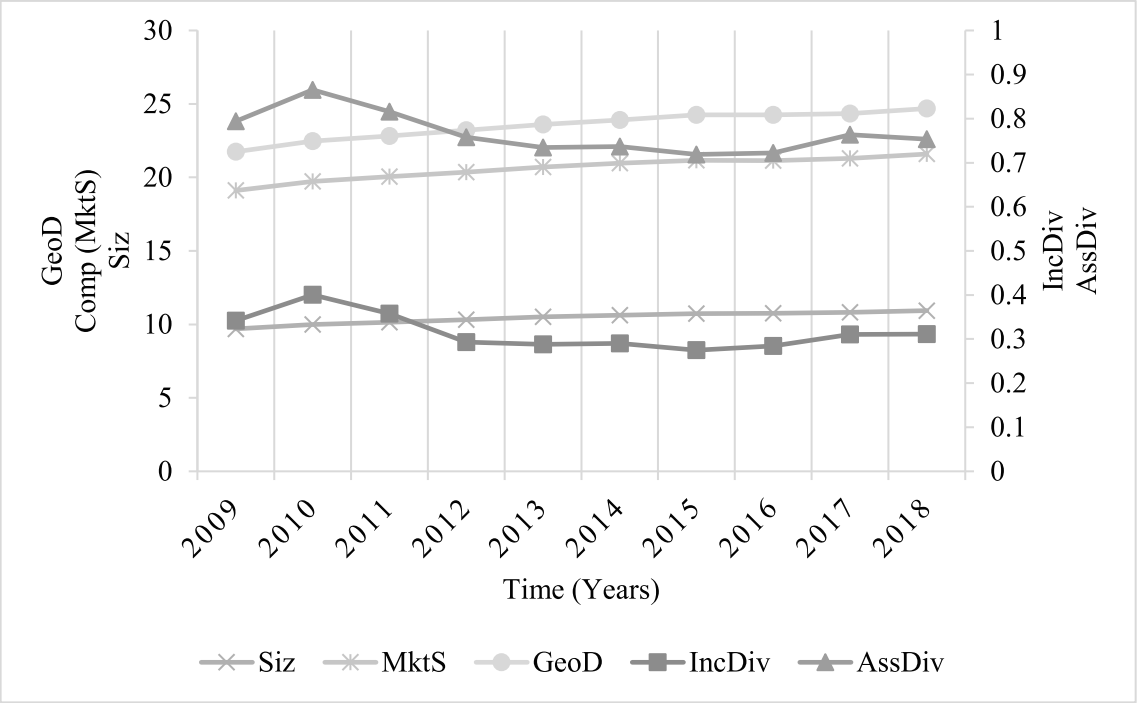
4.2.2 Trends of the Variables Over the Study Period

The trends of competitiveness, firm size, geographical, asset and income diversification for the ten-year study period from 2009 to 2018 are plotted and results presented on figure 4.1. On average, the commercial banks continued to increase their geographic diversification index steadily over the first eight years of the study period up to 2016. This means that banks expanded their operations to new areas of the country over that period in a bid to improve on their competitiveness. This trend however reversed in 2017 and 2018 during which banks closed some of their branches and the graph started showing a downward trend. On the other hand, asset and income diversification modes exhibited an opposite movement trend over the same period. While both registered an initial upward trend between 2009 and 2010, this changed as the variables on average continued a progressive decline over the subsequent years up to 2016. They then both showed a

reversal of this decline in 2017 with a one year upward movement, before another decline in 2018.

Figure 4.1

Trends Plot of the Study Variables



Source: Survey 2020

The slowing down on geographic diversification and the upward trends of both asset and income diversification in 2017 coincided with the protracted electioneering period in that year which spilled over into 2018. During that period, banks clearly took precautions not to continue spreading their resources in opening new branches. At the same time, they increased diversification of their sources of income and the investment of their asset. This action was most likely taken to hedge against the undesirable business effects of a general election year and the uncertainties periodically witnessed in the country that makes the traditional borrowing riskier. The competitiveness trend continued an upward trend over the study period. This meant that customers continued increasing the deposits held by the commercial banks. This same trend of movement was also observed on firm size. While

geographical diversification and firm size moved in the same direction with competitiveness, it was reverse for both asset and income diversification. This meant that while geographic diversification and firm size seemed to have a positive association with competitiveness, the same did not hold for both asset and income diversification. The association in movement of the trends between firm size and competitiveness arose as both have a direct relationship with customer deposit. The more customers deposit funds into a bank, in relation with the other players in the industry, the better the competitiveness position of that bank. This position was also noted to be congruous with the bank's size which also grows consequently.

4.3 Variables Correlations Results

A Pearson's correlation matrix bivariate analysis was conducted. This is meant to explore and examine the pairwise relationships between the variables. The independent variables are geographic diversification, income diversification and asset diversification. Competitiveness is the dependent variable while firm size is the moderating variable. The results of this analysis are shown on table 4.2

Table 4.2

Variables Correlation Coefficients

Variable		[1]	[2]	[3]	[4]	[5]
Competitiveness	[1]	1.000				
Geographic Diversification	[2]	0.685**	1.000			
Income Diversification	[3]	0.161**	0.293**	1.000		
Asset Diversification	[4]	0.210**	0.026	0.099	1.000	
Firm Size	[5]	0.989**	0.683**	0.180**	0.140**	1.000

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

Source: Survey Data (2020).

The results indicate that geographic diversification had a significant positive correlation with competitiveness. This implies that by diversifying geographically across the regions through opening of operational branches, commercial banks enhance their competitiveness as they capture more customers. This grows their deposit base. This finding agrees with conclusions made by other scholars amongst them Cai, et al, (2016); Meslier-Crouzille, Morgan, Samolyk, and Tarazi., (2016), Njuguna, (2018), Mochabo, et al (2017); and Venturelli, & Brighi, (2014). These studies point out that when commercial banks engage in geographic diversification, their competitiveness grow as they capture new markets hitherto untapped.

The study also finds that income diversification is significantly and positively correlated to competitiveness. This implies that with the increased opportunities to grow their income commercial banks remain attractive to customer. In return, the customers develop confidence in the institution thereby increasing the deposits in the bank. This agrees with the findings of scholars like Nisar, Peng, Wang and Ashraf (2018); Trivedi, (2015); Ismail, et al , (2014)and Perera, (2018). They confirmed that there is a benefit that firms derive when they are involved in income diversification. There are those who document a contrary opinion. Their studies point at the fact that even though there is a correlation between income diversification and competitiveness, it is negative (Mulwa, & Kosgei, 2016; T. L. A. Nguyen, 2018, and Sun et al, 2017).

Asset diversification is also found to have a positive and significant relationship with competitiveness. This finding while it concurs with T. L. A. Nguyen, (2018) who found that its beneficial, disagrees with Guerry and Wallmeier (2017) who looked at asset and concluded that diversification of bank assets in different portfolios increases bank risk. The outcome of asset diversification is heavily reliant on the policy framework within

which it was implemented (Banwo, *et al*, 2019). The results also showed that bank size had a positive significant correlation with competitiveness. Several prior studies is in agreement with thus position. Larger banks enjoy economies of scale and so capture more of the market (Alhassan, 2015). While Laeven, *et al* (2015) attribute this relationship to the sheer expected geographical coverage of large banks, Kamani (2018) opines that the complexities of diversification cannot be withstand by smaller banks.

Amongst the independent variables, the study establishes that geographic diversification and income diversification had a significant positive correlation. This is because the benefits that accrue from one also spills over to the other. This explains also why the size of the bank is significantly and positively correlated to income diversification, asset diversification and geographic diversification. Asset diversification was neither significantly correlated to income diversification nor geographic diversification.

4.4 Regression Assumptions Testing

Regression analysis requires the testing of certain assumptions before analyzing the data to avoid making frivolous conclusions. When dealing with panel data, normality of variables, multicollinearity and Stationarity assumptions must be tested to avoid making untrustworthy inferences about the parameter coefficients due to biased estimates (Kennedy & Bush, 1985; Jaba, Mironiuc, Roman, Robu, & Robu, 2013). This section presents the results of the tests for the various assumptions.

4.4.1 Testing of Normality of Variables

The normality assumption test of the variables was the first to be conducted before deriving the multiple regression model. The test is meant to confirm whether or not the variables under analysis had values that exhibit a normal distribution. The results are outlined in table 4.3 displaying Jarque-Bera test outcome. In testing normality, Jarque- Bera test

operates by matching the data sets skewness and kurtosis to confirm whether the distribution curve generated is normal. Glen (2016) prescribes that in interpretation of the results, the null hypothesis which assumes a normal distribution of the variable is rejected where the probability value is less than the critical value which in this study was 5%. Consequently, the normal distribution assumption was rejected for all the variables except the dependent variable Competitiveness. In cases where panel data is used, and where the dependent variable is normally distributed (Grace-Martin, K., 2020). This was the case in this study as shown in table 4.3 and. It was concluded that the analysis could progress to regression since the dependent variable Commercial bank Competitiveness was normally distributed

Table 4.3:

Variables Normality Test Table

Variable	Obs	Jarque-Bera	Probability	Distribution
Competitiveness	360	5.196	0.074	Normal
Income diversification	360	17.89	0.000	Not Normal
Asset diversification	360	3318.806	0.000	Not Normal
Geographical Diversification	360	7.638	0.022	Not Normal
Firm size	360	13.668	0.001	Not Normal

Source; Survey data 2020

4.4.2 Testing for Multicollinearity

Multicollinearity test is done to establish if there are any independent variables that are correlated to each other in the model. It would occur in a model that includes multiple factors that are correlat1ed not just to the dependent variable, but also to each other. In this study, multicollinearity was tasted in the predictor variables using Variance Inflation Factor (VIF) and tolerance statistics. In determining multicollinearity of the variables,

either a tolerance below 0.01 or a VIF greater than 10 is interpreted to mean that there exists a serious multicollinearity between the independent variables (Mertler & Reinhart 2017). As shown in table 4.4, all the tolerance statistics were above 0.01 and VIF were all below 10. This implied that there was no multicollinearity amongst the independent variables of the study

Table 4.4

Test of Multicollinearity of Variables

S/No.	Predictor variable	Collinearity Statistics	
		Tolerance	VIF
1	Geographical Diversification	0.429	2.328
2	Income Diversification	0.897	1.115
3	Asset Diversification	0.971	1.029
4	Firm Size	0.452	2.214

Source: Survey Data, 2020

4.4.3 Test of Data Stationarity.

In the analysis of panel data, it is necessary to undertake tests for stationarity in the time series. The test establishes whether a time data series has stationarity, in which case, the shift in time does not cause a change in the shape of its distribution. In testing the stationarity of variables of the variables, the Augmented Dicker Fuller unit root test was used alongside a comparison with IPS W- statistic. The hypothesis of the ADF unit root test was given as; H_0: Panels contain unit roots (H_0: $\alpha=0$) against the alternate H_a: Panels are stationary / do not have unit roots (H_a: $\alpha>0$). The results of the analysis are given on table 4.5 showing that the ADF p-values for all the variables and their interactions except asset diversification were less than the critical value of 0.05. This implies that all the variables, except asset diversification and its interaction with firm size which was inconclusive due to the disagreement of ADF and IPS-W, were stationary (panels had no unit roots). They were therefore suitable for forecasting. To correct the non-stationarity of

the panels of asset diversification, and its inconclusive interaction with firm size, the first difference of the variables was used in the regression model. According to Dickey and Fuller (1979), the first difference of a variable is the series of changes from one period to the next one. This made the variables stationary.

Table 4.5

Augmented Dickey Fuller (ADF) test for Unit Roots

Variable	**ADF-Fisher χ^2**	**Prob.**	**IPS W-Stat**	**Prob.**	**Decision**
Competitiveness	122.00	0.000	-2.084	0.019	Reject H_0
Geographic Diversification	109.50	0.001	-3.502	0.000	Reject H_0
Income Diversification	110.14	0.003	-2.858	0.002	Reject H_0
Asset Diversification	84.884	0.142	-0.228	0.410	Do not reject H_0
D (Asset Diversification)	189.56	0.00	-6.517	0.000	Reject H_0
Firm Size	137.51	0.00	-3.368	0.000	Reject H_0
Size * Geog Diversification	105.31	0.006	-2.106	0.018	Reject H_0
Size * Income Diversification	109.34	0.00	-2.818	0.002	Reject H_0
Size * Asset Diversification	98.964	0.019	-1.275	0.101	Inconclusive
D (Size * Asset Diversification)	186.91	0.000	-7.143	0.000	Reject H_0

Source: Survey Data (2020)

4.5 Model Specification Test

Since panel data was used in this study, a decision had to be made whether to run the models in fixed or random effects mode. To this end, the Hausman test was done for both the direct effects model and the indirect effects model. The results are as outlined on table 4.6. This tested the null hypothesis that random effect was appropriate in running the regression model against the alternate one that fixed effect was instead appropriate.

Table 4.6

Hausman Model Specification Test Output

Model	χ^2 statistic (df)	Prob.	Appropriate Model
Model 1	0.656114 (3)	0.8835	Random effects
Model 2	19.800165(7)	0.0060	Fixed effects

Source: Survey Data (2020)

The result gives the chi-square statistic for Hausman test for both model 1 and model 2. For Model 1, the χ^2 statistic is 0.0656 at degrees of freedom of 3. The p-value obtained here is 0.8835, hence not significant at 5% level. Consequently, the study fails to reject the null hypothesis and conclude that random effect was the appropriate option in running the direct effects model following the practice of Guerry and Wallmeier (2017). On the other hand, model 2 analysis give a chi-square (χ^2) statistic of 19.8 with a p - value of 0.006. This is therefore significant at 5% level. This leads to the rejection of the null hypothesis. It is consequently concluded that fixed effects model is the appropriate one in running the indirect effects model.

4.6 Hypothesis Testing

This section presents the study findings that resulted from analysis that gave rise to the study models. The hypotheses were derived from the study objectives stated in Chapter one. To test the various hypotheses, the outlined independent variables which are geographic, income and asset diversification have been regressed against the outcome variable which was competitiveness of commercial banks in Kenya. Particularly, multiple regression analysis was run to test the various hypotheses arising from objective one to three. Lastly, a regression with the interaction term composed of the independent and supposed moderator variable firm size was used to test for the existence of its moderation

that is suspected in hypothesis four. The results of these analysis are given on table 4.7. The significance of the regression models (Hair *et al*., 2010), or simply the goodness of fit (Hoe, 2008) was tested using the F test. As argued by Greene (2008), the F-statistic tests the study explanatory variables significance jointly if it equals zero. In each case of the two models, the F- statistics were significant with p-values < 0.05. This implies that there is a significant regression relationship in both the models. In testing the hypotheses and establishing the significance of the regression outputs at 5% significance level, *t* – test is used. The outcome of r^2 for the first model is 46.9% which implies that that there are other variables that determine the relationships in the model. The introduction of the moderating variable firm size however improves r^2 to 99.3%. This implies that firm size is a key variable that explains the observed variations. The *t* – test criteria followed was $H_0 : \beta_i = 0$ and with H_0 rejected if $: \beta_i \neq 0$; $p - value \leq 0.05$.

Table 4.7:

Regression Model Coefficients

Predictor Variables	**Dependent Variable: Competitiveness**			
	Model 1 *(re)*		**Model 2 *(fe)***	
	Coefficient	**Prob.**	**Coefficient**	**Prob.**
Constant	7.623	0.000	-0.077	0.929
	(0.014)		(0.011)	
Income Diversification	-1.059	0.000	1.149	0.254
	(0.165)		(0.145)	
Asset Diversification	-0.382	0.406	-4.855	0.010
	(0.286)		(0.215)	
Geographic Diversification	1.000	0.000	0.580	0.017
	(0.003)		(0.003)	
Firm size			0.974	0.000
			(0.042)	
Firm size * income diversification			-0.137	0.192
			(0.445)	
Firm size * asset diversification			0.531	0.010
			(0.132)	
Firm size * Geographic diversification			-0.049	0.011
			(0.003)	

R-squared	0.469	0.993
Adjusted R-squared	0.464	0.992
F-statistic	94.084	800.298
Probability (F-statistic)	0.000	0.000
Durbin-Watson statistics	0.695	1.141

Note: The Standard Error of each of the coefficients is shown below them in brackets ().

Source: Survey Data (2020)

From the analysis, the study derived two models represented below: -

Model 1, which represent the direct effects used to test hypotheses one, two and three was derived as; $\text{Com} = 7.62 + \text{Div}_{geo} - 1.06\ \text{Div}_{inc}$

Model two which tested the indirect effects was derived and is given as: -

$\text{Com} = 0.58\text{Div}_{geo} + 1.15\ \text{Div}_{inc} - 4.85\ \text{Div}_{ass} + 0.97\ Z - 0.05Z\text{Div}_{geo} + 0.53Z\text{Div}_{ass}$

4.6.1 Effect of Geographic Diversification on Commercial Bank Competitiveness

Hypothesis one stated that geographic diversification has no significant effect on competitiveness of commercial banks in Kenya. Since the analysis gave values of $\beta = 1.00$, and $p - value = 0.00$, The null hypothesis was rejected. It was therefore concluded that geographic diversification has a positive effect on commercial bank competitiveness. It implies that in opening more branches and / or service points across the country a commercial bank expects to improve its competitiveness as this strategic move results in growth of Customer deposit component. When a commercial bank opens a branch in a new geographic area, there is convenience that comes with it to the residents of that new locality. Even the potential customers that are already running other accounts in other banks would then join the new accessible bank branch.

This finding agrees with several prior studies. According to their study in the USA, Meslier-Crouzille, et al (2016) estimated that there are benefits of geographic

diversification for commercial banks competitiveness as it positively impacts on bank risk and return. Geographical diversification was associated with an increase in risk-adjusted returns amongst the BHCs that took part in the survey by reducing bank risks that has the potential of leading failure in operations. Another USA study by Goetz., et al (2016) followed the trend. In their comparative study on the effects of geographical diversification on risk mitigation of banks, they found a positive relationship between BHC risk and the expansion of bank activities across MSAs. Where there is expansion of the coverage geographically of the bank's branch networks, there is material reduction of BHC risk (Goetz., et al, 2016). Research findings in after crisis situations showed that geographically diversified banks are affected less in terms of risk adjusted profit (Brighi and, Venturelli., 2014). This implies that geographical diversification enabled them to withstand such currents to remain competitive as opposed to those that are operating within a single geographical locality. The findings by Njuguna, (2018) in Kenya are also in agreement. The study results showed that there was a positive relationship between geographical diversification when implemented as a competitive strategy and it also boosts firm performance. This led to the study recommendation that firms that adopt geographical diversification strategy benefits better if they are in regions where competition is less intense allowing them some leeway in determining optimal prices as this ensures the possibility of profitability. Similarly, a study by Mulwa and Kosgei, (2016) on commercial bank diversification and financial performance also established that geographical diversification significantly and positively affected both ROA and ROE. This implied that geographical diversification is distinctly relevant and beneficial to bank competitiveness. This was important since the study had coincided with the global liberalization of economies.

This finding is however contrasting to those of other scholars. Cai, et al (2016), disagreed with the widespread argument in scholarly cycles that support commercial bank branching as important in stabilizing banking operations and activities. In their research conducted in Europe targeting the Great Economic Depression period, they found geographically diversified banks were more likely to fail in such circumstances. Their explanation was that branch banking increases competition within the banks in a locality thereby forcing weaker banks to exit the market. The exit of one bank branch from an area also was noted not to necessarily strengthening the branch banks themselves that remained. According to Cai, et al, (2016) geographical diversification has a dark side in its impact on bank performance amongst Chinese commercial banks. The banks practicing it had to contend with a higher operating cost aspect which potentially eroded and even wipe out any gains in the competitiveness. As the level of diversification increased, the costs that the implementing commercial bank would need to bear also increased. Similarly, Turkmen, and Yigit, (2012) confirmed that geographical diversification has a significant negative effect on performance for the Turkish banks. This was majorly explained because of higher costs of running the expanded branch network for the banks. This ended up eating into the revenue base resulting into reduced ROA and ROE for the banks. Still in the contrary is Klein, and Saidenberg, (2010) in their USA study where BHC's that had diversified by establishing many subsidiaries ended up being less profitable and had lower *q ratios* as compared to the ones that had opted for fewer subsidiaries. According to Berger, et al research amongst Chinese banks, they found that geographic diversification was associated with significant reduction of profits. This was because of the accompanying higher operational cost that goes with it. As a result, they opined that commercial banks are better not spreading their branches to new regions within their host country, but instead improve services at fewer locations but serve the customers to their expectations if they

are to remain competitive. Mochabo *et al.,* (2017) in their Kenyan study opined that geographical diversification is associated to financial distress that commercial banks face and hinders their competitiveness. They implied that when a bank establishes branches far from the headquarters, the chances of financial distress are enhanced. This was explained by the reasoning that distant branches lead to the decline of operational efficiencies.

In reference to agency theory, as a commercial bank increases its geographic diversity, there is a reduction in their valuations. This reduction in the bank value had been hypothesized to be associated with an increase in insider lending and a reduction in loan quality. The geographic diversity seemed to intensify agency problems and therefore reduced valuation of the individual commercial bank assets resulting into a negative effect on competitiveness (Goetz et al., 2015). Agency theory portends that while the principals delegate control of the firm to an agent in the hope that the latter makes decisions in the former's best interest, this is not always the case (Jensen and Meckling, 1976). This scenario represents what may be termed the ills of diversification. Geographic diversification is backed by resource-based theory since there are resources that are utilized across the different branches. These included managerial capability of directors and other infrastructure that improves the capabilities thereby boosting sustainable competitive advantage of firms. This is because firms undertake deliberate managerial efforts that are directed towards attaining a sustainable competitive advantage (Wernerfelt 1984; Barney 1991). As argued by the market power theory, for an organization to survive, it must deploy a set of strategies which distinguishes it from competitors positioning it at a suitable market level (Porter, 1990). Geographic diversification is arguably one such strategy (Shepherd, 1970). According to Delis, *et al* (2015) commercial banks with higher market power chose expansion across the boundaries of their country, hence geographic diversification.

4.6.2 Effect of Income Diversification on Commercial Bank Competitiveness

The second hypothesis of the study states that income diversification has no significant effect on competitiveness of commercial banks in Kenya. Since the analysis gave values of $\beta = -1.059$ with p – Value = 0.000, The null hypothesis was rejected. It was therefore concluded that income diversification has a negative effect on commercial bank competitiveness. It was concluded that when commercial banks diversify into other sources of income, it results into a significant negative effect on their attractiveness to depositors which in effect reduces their competitiveness. Since this is measured in terms of movement in the quantity of customer deposits, it is explained that since this move results in reduced quantity of lendable amounts to amounts to customers, this triggers a reduction on the deposit they make to the banks.

Several prior studies concurred with this finding. T. L. A. Nguyen (2018) in a geographically intensive study covering countries under the ASEAN umbrella had found this. The study indicated that income diversification negatively effects the competitiveness indicators of profit efficiency and cost efficiency. Similarly, in Vietnam, K. N. Nguyen, (2019) opined that when banks engage in other sources of income rather than interest, the initiative exposes them to more risks which works against their stability. Though listed banks had indications of positive effect, majority of the banks that are unlisted showed a negative impact. In the USA, Stiroh and Rumble (2006) concluded that the general observable shift by banks toward activities that generated trading revenue, fees, and other non-interest income was not necessarily returning benefits to competitiveness. Even though there were gains, the same were more than offset by the costs of increased exposure to volatile activities with a net effect of negative impact.

The findings of this study contrasts those of some prior studies which had supported income diversification as a strategy that impacts on the competitiveness of a commercial banks positively. In Philippines, Lim and Pao (2016) opined that there is a significant and positive relationship between income diversification and non-interest income activities, thereby validating the hypothesis that growth in both interest and non-interest income relevantly accelerates operating income of banks. Also Ismail, et al, (2014) delved into the inquiry of why banks were moving towards diversification of their revenue sources with the aim of reducing their interest earning portfolios in attempt to increase their profitability. They found that diversification of income generating activities enhanced the chance of a commercial bank profitability. They pointed out that to reduce the operational risks and capture new opportunities and enhance competitiveness, banks needed to diversify income. In the same vein, Perera, (2018) reviewed empirical observations fronting the arguments that support banking sector diversification based on its tendency to minimize bank risk. Similarly, Trivedi (2015) concluded that there is a positive impact of increasing share of 'fee income' in both total income and non-interest income on profitability as well as risk-adjusted measures. Nepali (2018) in the study of 20 commercial banks in Nepal found results showing that banks with whose proportion of income is from non-interest sources attained higher market values. This led them to conclude that there was a strong and positive relationship between franchise value and income diversification index, which meant that there were more benefits of income diversification on commercial bank competitiveness that banks exploit by taking this initiative. This was so since some research established that income diversification provided benefits to commercial bank competitiveness by improving on sustainable profitability and value enhancement (Elsas, et al, 2010). This they established after relying on the values obtained from the market measures together with the observable financial value indicators and obtaining a

framework that fundamental value of a bank's equity was equal to the present value of future cash flows to shareholders. Moreover, Zhou, (2014) research on the impact of income diversification on bank risk also concluded that a rise in non-interest income resulted to an increase in its volatility which led to the general increase in risk. Despite this it was still beneficial since it helped banks ward of the stiff competition from new entries of foreign banks into China. This it achieved by enabling a benefit from the created economies of scale of the financial sources. Further, Sawada, (2013) his study on diversification and its impact on bank risk had found that when non-interest income was subdivided into smaller components like fee and trading income, there was a general reduction of risks associated with a shift into fee income businesses. This relied on the indicator ROA which grew to confirm the improvement in stability of the studied banks. The Senyo, et al, (2015) study also differed with our finding. Their results confirmed that even though interest income for commercial banks remained the highest contributor to bank profits in Ghana, there are years when evidently fluctuations and unpredictable trends happen that interfere with the uptake of credit from the banks by customers shrink this. It is under such circumstances that the other revenue stream from non-interest sources become important as they bridge the gap to ensure continued profitability in a sustainable manner. Further, Wanjiru and Nzulwa (2018) studying along the lines of profitability found that income diversification is a contributor to competitive advantage for Kenyan commercial banks listed at the NSE. Similarly, Hamdi, et al (2017) in their Tunisian research found that the key determinants of non-interest income are relative ROA and ROE, the size of the ban. This led them to conclude that bank diversification has a positive impact on bank competitiveness.

Comparatively, Kumar et al (2019) in their study that target the financial crisis period in India also supported income diversification. They found that shifting to new businesses

helped banks to improve their profitability. Thus, it aids in laying ground for competitiveness since it was found to be a risk-adjusting mechanism in the Indian banking sector. In terms of theory, this finding goes against the resource-based view theory since even though the financial resources are available so that banks may practice income diversification, this doesn't necessarily return a benefit as fronted by Edith Penrose in her 1959 seminal work "the theory of the growth of the firm" and further advanced by Rubin in his 1973 work on "Expansion of firms". It contrasts the opinion of Ahuja and Novelli, (2017), which affirmed that firms are motivated to pursue diversification to benefit from the synergies created. The finding also contrasts the view fronted in Market Power theory. Even though it was thought by scholars in congruence that the theory contributes to diversification (Gu, *et al*, 2016; Delis *et al*, 2015), this contribution turns out to be negative contrary to the expectations of income diversification proponents. The finding agrees with the tenets of agency theory and its impacts on diversification. According to Ataullah, et *al, (*2014), diversification practices by corporates destroys firm value. This is because managers only pursue diversification strategies to benefit themselves without taking into account its possible decreasing effect of the value of the firm.

4.6.3 Effect of Asset Diversification on Commercial Bank Competitiveness

The third research hypothesis was that asset diversification has no significant effect on competitiveness of commercial banks in Kenya. Since the analysis gave values of $\beta = -1.382$ with p – Value = 0.406, The study failed to reject the null hypothesis. It was concluded that diversifying from solely investing on loan instruments and into other assets other than the traditional loan facility had no effect on the competitiveness of Kenyan commercial banks.

This finding disagreed with earlier studies which concluded that the relationship is significant and positive. T. L. A. Nguyen, (2018) who conducted a study across the countries under ASEAN umbrella found a significant relationship between asset diversification and persistent profit efficiency. The more asset diversified commercial banks had a higher persistent profit efficiency. This was varied by the moderation effects of ownership and geographical location. He supported asset diversification as a strategy to improve competitiveness of commercial banks. Likewise, Sarwar et al, (2020) also recommended asset diversity of banks in Pakistan as a significant determinant of improved bank margins which improves their competitiveness. He concluded that when commercial banks diversify their assets, the result is a satisfied customer and this in effect leads to either retention or improved competitiveness over other financial institutions making the commercial banks to have a competitive advantage. This was similar with the findings of Hailu and Tassew, (2018). They recommended that banks should focus its work to promote the confidence in portfolio diversification, develop marketing policies that encourage its use and establish the best combination of assets that can yield an efficient mix of returns. This has the effect of increasing the competitiveness. Still according to Wanjiru and Nzulwa, (2018) following their study in Kenya, asset diversification strategy had a positive and significant influence on competitive advantage of commercial banks. They concluded that to gain competitive advantage, commercial banks need to increase their asset diversification strategy initiatives.

Other scholars still disagree and opine that the relationship is significant and negative. According to Chen, et al (2018) asset diversification was negatively correlated with commercial banks' performance. Only countries with dual banking system could benefit from asset diversification. Liu, et al (2013) opined that asset diversification has unfavorable impacts on risk besides not contributing to non-money center BHCs' returns. It implies that

according to them, diversification on Securities portfolio ends up with an unfavorable impact on accounting returns for the banks. Along the same school of thought Berger, et al (2010) in their China study found that asset diversification was associated with significant reduction of profits. This has the result of reducing competitiveness of the commercial bank. This was explained by the accompanying higher operational cost associated with this initiative. This as a result of supportive activities that go along with it including market research and financial analysis to identify the best alternative investment avenue. These are associated with high cash outlays. More studies show that a difference exists between the valuation of diversified and specialized banks (Guerry and Wallmeier, 2017). In their 17 European nations study warned that there was a trend of the banks decreasing the diversification pace within the industry. They found that diversification discount arises from diversity activities carried out by banks and confirmed a strong negative correlation between banks' choice to diversify and their market valuation. This was explained as arising from the reduced economies of scope which results from sales being insufficiently large enough to generate a diversification discount. It therefor leads to less market valuation for banks, and hence reducing bank competitiveness.

Moreover, Mochabo, *et al.*, (2017) pointed out that in Kenya asset base diversification was positively and significantly correlated with financial distress. The reason for this is the risks associated with the other channels of investing in the commercial bank assets which are often more volatile and so exposes the banks to high investment risks. More studies show that asset diversification is negatively and significantly related to commercial bank ROA (Mulwa, & Kosgei, 2016). This study which coincided with the global financial sector liberalization could have also absorbed the large magnitude of diversification approaches by the commercial banks in Kenya in a hurriedly in a bid for survival in the changed economic circumstances. Similarly, Rop, *et al.*, (2016) opined that despite the

rapid asset diversification for commercial banks in Kenya, there was no commensurate gains or otherwise. Consequently, they recommended that when banks place their energies in working toward the promotion of confidence in their portfolio of assets by employing diversification, for the efforts to result into competitiveness, the banks need to follow the efforts by implementation of policies that encourage its use. This is supported by Mulwa and Kosgei (2016) who found that asset diversification has a negative and significant effect on commercial bank ROA.

This finding does not resonate with RBV theory which portends that in adopting diversification, firms rely primarily on their existing ability to make efficient use of their physical or service capabilities in producing more than a single good or service (Wernerfelt, 1984). In this case then the resource-based theory implies that it is prudent and beneficial to practice diversification. However, this finding has shown that it is indifferent whether a firm practices asset diversification or not. This means that in applying resource-based view approach, asset diversification is not an option if banks intended to benefit. On the front of mmarket power theory, it emerged from this finding that even if a bank has attained power in their market, it is not important to venture into asset diversification. It is prudent to apply the same to other strategies that would generate returns to the firm. Indeed, this leaves the agency theory as the one that explains diversification. According to Jensen and Meckling (1976), the firm should be understood as a legal fiction which serves as a nexus of contracts for a set of contracting relationships among individuals, each of then serving their own interest as opposed to that of the company. According to this finding, banks have been engaging on asset diversification for reasons personal to the managers rather than benefit to commercial bank competitiveness.

4.6.4 Moderation Effect of Firm Size on the Relationship Between Diversification and Competitiveness of Commercial Banks in Kenya.

The fourth research hypothesis stated that firm size had no significant moderating effect on the relationship between diversification and competitiveness of commercial banks in Kenya. This hypothesis for discussion was disaggregated into its three parts. Preliminarily, the effect of firm size on commercial bank competitiveness was first analyzed. Here, the multiple regression results gave coefficients $\beta = -0.974$ with a p – value of 0.000. With this finding, the research reported that there was a significant negative effect of firm size on competitiveness amongst the commercial banks in Kenya. The results suggests that smaller banks could be more efficiently managed.

This finding is supported by some prior studies. According to Mkandawire (2016), the impact of size is insignificant in bank competitiveness. His study in Malawian study on the determinants of bank performance, which controlled for firm size, concluded that larger banks tend to assume high levels of uncertain investments while smaller ones showed high level of due care. The results showed that benefits for larger banks was wiped out. It was however Laeven, *et al* (2015) that reported the uncertainty of bank size. They explained that the larger banks take risks even in cases where they have insufficient funds, unstable capital flow, and are organizationally complex. This makes them assume remarkably high risk, which even though occasionally yield great competitive advantage, more often lead to failure and even collapse. Moreover, there are myriad questions on the real justification of size expansion by some banking institutions (Krotel, *et al*, 2017). As a matter of fact, it is the complexities of the increased bank size that leads to increase in costs and managerial challenges. These are the two points of arguments that authors point out as the reason that, even though commercial bank size increment is important for growth

of the banking industry, it requires care if benefits were to be drawn (Kamani , 2018; Hakenes & Schnabel, 2011; Naseri, *et al,,* 2019; Tabak, *et al* 2012; Mirza, 2012; Kasman &Kasman, 2016).

The first constituent hypothesis was that there is no significant moderating effect of firm size on the relationship between geographic diversification and competitiveness of commercial banks in Kenya. The multiple regression results gave coefficients $\beta = -0.049$ with a p – value of 0.011. With this, the null hypothesis was rejected, and the study concluded that there was a significant negative relationship between geographic diversification and competitiveness when moderated by firm size. It was noted that with the introduction of size as a moderator in the model, the sign changed from positive to negative. This meant that there is a significant change in the impact brought about by size. This implies that smaller banks benefit from geographic diversification as opposed to larger banks. This could be partly because of diseconomies of scale. This finding is supported by the works of De'Haan and Poghosyan, (2012). They found that bank size reduced returns volatility but had a negative effect on bank earnings which decreased with increase in geographical diversification. However, Meslier-Crouzille, *et al* (2016) differed. They found that the moderating effect of size on geographic diversification was positive. Smaller banks were found to benefit more by diversifying geographically as the size moderated the effect of diversification.

Similarly, Schmid and Walter, (2012) also found that there was a positive association between geographic diversification and a substantial valuation discount in financial institutions for smaller banks. Both studies were conducted in the United States of America. In Zambia, Simpasa (2013) also found the impact that was positive, which the same with the kenya case in the Tamale and Ndegwa, (2017) study. They found that the

moderation effect of bank size was positive since the banks that belonged to the medium sized category rather than larger ones had their geographical diversification practice significantly impact on their financials.

The second constituent hypothesis was that there is no significant moderating effect of firm size on the relationship between income diversification and competitiveness of commercial banks in Kenya. The multiple regression results gave coefficients $\beta = -0.137$ with a p – value of 0.192. We therefore failed to reject the hypothesis and conclude that firm size does not have any moderating impact on the relationship between income diversification and competitiveness among the Kenyan commercial banks. The effect of income diversification holds across varying commercial bank sizes. This finding is supported by Hahm, (2008). He explained how the moderating role of size is wiped out on the effect of commercial banks diversification on competitiveness. He concluded that as bank sizes increase, they develop an illusion of "too large to fail". This illusion gives them more incentive of making riskier investments like income diversification resulting into operational disadvantages which neutralizes any competitiveness gains.

The finding is however contrasted. Gürbüz, *et al*, (2013) concluded that large banks benefit from better risk management and income diversification. As a result, there was an increase in non-interest income which further led to increase in risk-adjusted profits on assets and equity where income diversification was implemented. Similarly, Brighi and Venturelli (2014) also concluded that firm size is an important moderator of the relationship between income diversification and competitiveness. They opined that larger banks exploit economies of scale and possess superior expertise in risk management. This makes income diversification strategy outcome to the realised in a more pronounced manner. In Kenya, Githaiga, (2019) found that income diversification and bank size increased bank

competitiveness through increased customer base and returns. Similarly, Teimet, *et al* (2011) found that impact on income diversification depended on size.

The third constituent hypothesis was that there is no significant moderating effect of firm size on the relationship between Asset diversification and competitiveness of commercial banks in Kenya. The multiple regression results gave coefficients $\beta = 0.531$ with a p – value of 0.010. Consequently, the null hypothesis was rejected, and it was concluded that firm size significantly and positively moderates the relationship between asset diversification and commercial bank competitiveness in Kenya. This is in concurrence with prior studies. Amidu and Wolfe (2013) concluded that size moderated bank stability, and it was positively related to diversification and competition. Similarly, Corvino, *et al* (2019) supported this standpoint, by adding that larger banks exhibited an ability to establish critical external sources which impacts positively the relationship between asset diversification and competitive advantage as opposed to smaller firms. Moreover, Duho, *et al* (2019) singled out the generated non-linear curve (U-shape) signifying that size moderation is both positive and negative depending on other factors.

Theoretically, RBV is based on organization's relying on the efficient use physical or service capabilities in the practice of producing more than a single good or service (Wernerfelt, 1984). Resource-based theory remains the basis of diversification and increases of bank size. Market Power theory (MPT) explains the drive for sheer size growth within the banking sector. Delis *et al*, (2015) pointed out that banks expand their sizes to gain a competitive advantage and involve into expansionary mode. Diversification becomes a prime option. The agency theory explains the continuous size expansion by commercial banks that is undertaken rapidly followed shortly by massive contraction like

the closure of branches. The study by Ataullah, et *al* (2014) amplified this. His finding that managers' pursuing diversification strategies do so for only their personal interests.

The summary of hypothesis tests outlining whether the study rejected or failed to reject each of the hypotheses is given on table 4.8.

Table 4.8

Summary of Hypotheses Testing Results

S/no.	Objective	Hypothesis	Conclusion
1	Examine the effect of geographic diversification on commercial bank competitiveness in Kenya.	Geographic diversification has no significant effect on competitiveness of commercial banks in Kenya.	Hypothesis rejected
2	Interrogate the effect of income diversification on commercial bank competitiveness in Kenya.	Income diversification has no significant effect on competitiveness of commercial banks in Kenya**.**	Hypothesis rejected
3	Determine the effect of asset diversification on commercial bank competitiveness in Kenya.	Income diversification has no significant effect on competitiveness of commercial banks in Kenya.	Failed to reject the hypothesis
4 (a)	Establish the moderating effect of firm size on the relationship between geographic diversification and competitiveness of commercial banks in Kenya.	Firm size has no significant moderating effect on the relationship between geographic diversification and competitiveness of commercial banks in Kenya	Hypothesis rejected
4(b)	Establish the moderating effect of firm size on the relationship between income diversification and competitiveness of commercial banks in Kenya.	Firm size has no significant moderating effect on the relationship between Income diversification and competitiveness of commercial banks in Kenya	Failed to reject the hypothesis
4(c)	Establish the moderating effect of firm size on the relationship between Asset diversification and competitiveness of commercial banks in Kenya.	Firm size has no significant moderating effect on the relationship between asset diversification and competitiveness of commercial banks in Kenya	Hypothesis rejected

Source: Author (2020)

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMENDATIONS

5.1 Overview

This chapter presents the summary of the study's findings, conclusions, and recommendations. The summary of the findings for each hypothesis are presented. The conclusion presented in this section were guided by the research objectives and informed by the findings, analysis interpretation and discussions in the study. Based on the conclusion made, the contribution of the study to knowledge was examined. Recommendations was based on the results for policy and practice as well as suggestions for further research were made.

5.2 Summary of Findings

This subsection summarizes the findings that were arrived at following the development of study objectives, collection of data and the eventual analysis of the data. It particularly reiterated the objectives that were under investigation, reported the significance of the association between the predictor and outcome variable for the objective. And, lastly, the subsection concluded with a discussion of conformity and non-conformity with previous studies targeting related research areas. The extent and how the research contributed to theory and practice has also been outlined.

The first objective was to examine the effect of geographic diversification on commercial bank competitiveness in Kenya. Its respective hypothesis stated that geographic diversification has no significant effect on competitiveness of commercial banks in Kenya. The hypothesis was rejected. The study found that when commercial banks diversify geographically by opening new branches which they use as service points at new locations within the country, their customer deposit base grows. This results in an improved

competitiveness position for the bank within the banking industry. When a commercial bank has opened a branch in a new geographic area, the residents enjoy convenience of distance and as sense of security. This leads to opening of bank accounts by potential customers who have not been banked and even others running accounts in other banks would then join the new accessible bank branch. This finding disapproves the agency theory and confirms both the resource-based theory and market power.

The second objective of this research work was to interrogate the effect of income diversification on commercial bank competitiveness in Kenya. Its respective hypothesis stated that income diversification has no significant effect on competitiveness of commercial banks in Kenya. This hypothesis was rejected. The study found that when commercial banks diversify into other manner of income rather than the traditional interest income, there is a reduction in customer deposits implying that the attractiveness of the bank to depositors reduce. This negatively affects competitiveness. Depositors tend to like depositing their money with banks that have sufficient funds set aside for loaning them. Without this, then, they would prefer other bankers. This finding further supports the agency theory that diversification is an action that does not necessarily improves competitiveness. It however disapproves the resource-based theory while indifferent to the market power theory.

The third objective was to determine the effect of asset diversification on commercial bank competitiveness in Kenya. Its respective hypothesis sated that asset diversification has no significant effect on competitiveness of commercial banks in Kenya. The study failed to reject this hypothesis. The study found that as banks expand into the different range of instruments of investment of their assets, this does not have any effect on their customer deposit base as customers are indifferent on how assets are invested. This leaves their

competitiveness position in the banking industry at the same level. This implies that provided banks' balance when to liquidate the new investment instruments to satisfy the demand for loans to customers, the customers continue depositing their funds with the respective bank.

The fourth objective was to establish the moderating effect of firm size on the relationship between diversification and competitiveness of commercial banks in Kenya. Its respective hypothesis stated that firm size has no significant moderating effect on the relationship between diversification and competitiveness of commercial banks in Kenya. This hypothesis was broken into its three constituent parts based on the thematic areas of commercial bank diversification. The first constituent hypothesis was that there is no significant moderating effect of firm size on the relationship between geographic diversification and competitiveness of commercial banks in Kenya. This was rejected. The study found that smaller banks are more likely to benefit from geographic diversification than the larger banks. This is because as banks grow in asset base, there are management inefficiencies that set as well as diseconomies of scale. This erodes the gains associated with opening of the new branches.

The second constituent hypothesis for the fourth objective stated that there is no significant moderating effect of firm size on the relationship between income diversification and competitiveness of commercial banks in Kenya. The study failed to reject the hypothesis. It was found that changes in firm size of a commercial bank in Kenya does not moderate the relationship between income diversification and competitiveness. This implies that customers do not mind the size of the bank provided such a bank continues to meet their loaning needs. The third constituent hypothesis of the fourth study objective stated that there is no significant moderating effect of firm size on the relationship between asset

diversification and competitiveness of commercial banks in Kenya. This hypothesis was rejected. It was found that larger banks based on their asset base are more likely to benefit from asset diversification activities. This is so because the banks with larger asset basses can diversify into other asset classes other that loans, but at the same time maintain a substantial portion that meets the needs of customers for loaning. The result is that there is continued growth in customer deposits. This improves competitiveness of the commercial bank.

5.3 Conclusions

The researcher has arrived at the following conclusions based on the findings of the study. Firstly, geographic diversification is found to be statistically significant in positively influencing the commercial bank competitiveness in kenya. This means that a larger customer base is captured as commercial banks are moved closer to the clients and so even those who could have been unbanked due to the proximity get the opportunity to be served. With this conclusion, it is imperative that Commercial banks identify geographic areas across the country which have not been served by bank branches and open service outlets in such places. This would result into growing their customer deposit amounts.

Secondly, income diversification is found to be statistically and negatively significant in influencing commercial bank competitiveness in kenya measured by customer deposit amount. Commercial banks in kenya should not consider diversifying into other revenue stream apart from the traditional interest as a measure of growing their competitiveness. It seemed that in the eye of depositors, they prefer banks that continue to offer them credit as the choice's vessel for their deposits.

Thirdly, the study finds that was statistically insignificant effect of asset diversification on bank competitiveness amongst Kenyan commercial banks. This result therefore

expounded the strategic importance of the move of commercial banks to diversify their assets at the point of investment and spread the same across different instruments as a means of boosting competitiveness. They need to appreciate that customers taking up the deposit product are not keen on the range of instruments the banks invest in. This leaves the banks to make the prudent decision on this depending on the prevailing business environment.

Fourthly, the study revealed that in general, firm size had a significant moderating effect on the relationship between diversification and competitiveness of commercial banks in kenya. Though it was insignificant in the for-income diversification relationship moderation, a statistically significant impact existed for geographic diversification which was negative, and a statistically significant positive relationship for asset diversification.

5.4 Recommendations

The study based on its first objective recommends that commercial banks in kenya should monitor the market and expand to geographical locations within the country where unbanked market potential exist. This should be done with the knowledge of the existing non banked market potential within those geographical areas. It is also necessary to factor in the effect of digital banking which is reducing the need for banks to have physical branches to serve their customers. Based on the second objective on income diversification, its recommended that banks do not engage on this as the rule of thumb, with the exception that where other benefits are substantial, then banks could involve in it but set aside a fund base should be ringfenced to continue offering loan services with priority to her depositors.

To grow customer deposits, asset diversification practice has no effect. Customers continue to deposit funds with the banks with no due regard to how the banks invests their assets. It is recommended that banks should diversify their assets in the best combination that earns the best returns as customers are not concerned with this. Firm size for commercial banks influences how they are affected by geographic diversification and asset diversification. It recommended that smaller banks are the ones that should undertake geographic diversification while larger banks should undertake asset diversification. Income diversification is not recommended for any of the bank sizes unless they ringfence the fund base set aside for loaning customers.

5.5 Suggestions for Further Research

Firstly, another study investigating the effect of diversification on commercial bank competitiveness in kenya should be carried out but with the introduction of more strategic initiatives as independent variables over income, geographic and asset diversification. This is motivated by the fact that the initiatives encompassed in this research which are the three independent variables only accounted for about forty six percent of explained variance on the outcome variable, commercial bank competitiveness. This leaves a gap that there are other independent variables that has significance influence on customer deposit over and above the ones that were included in this research.

Secondly, a similar study needs to be conducted with different constructs especially for competitiveness. The use of customer deposit as a measure may need to be expanded as on its own, it may have been biased in capturing how this variable would be impacted. Other measures like number of accounts, and percent loan book amongst others could be explored.

Finally, a similar study needs to be replicated in a different setting. Commercial banks operate in highly regulated environment that may make information flow curtailed. Impact of diversification has been touted as a source of competitiveness overall in business strategy literature. This makes studying it under a different setting a key knowledge generation opportunity for further research.

5.6 Contributions of the Findings to Theory and Practice

This sub section highlights the contributions of this study to both theory and practice.

5.6.1 Contribution to Theory

Firstly, while a significant number of previous studies on diversification targeted the commercial banking sector, they ignored how it impacts on competitiveness of the same institutions. This created a gap which was bridged by this research. This was particularly important since diversification has remained a key strategy intervention action for businesses.

Secondly, the study included a moderating variable, firm size which other studies had not applied before. This was important since part of the competitive strategy is to outgrow and even swallow business competitors within a niche market that a firm operates in. This study contributes to outcomes of diversification under such circumstances.

Thirdly, this study encompassed the effect of the three diversification modes which are geographical, asset, and income in a single study. This was an abridgement of theory since many of the previous studies reported them separately and / or with another variable. However, commercial banks usually practiced the three diversification modes at the same time.

5.6.2 Contributions to Practice

The result from this study points to a large extent that policy makers in the banking sector should institute policy frameworks that would link geographic diversification with their respective firm sizes. This is so since this study shows that the smaller the bank total asset base, then the more likely expansion to different geographic points within the country will more likely result into greater competitiveness outcome. This results from more depositors opting to open and save money with the bank.

Secondly, customers value commercial banks that provide their loaning needs. The commercial banks, in any diversification endeavor should ensure that there are funds set aside for customer borrowing.

Thirdly, from the analysis trends, it was evident that commercial banks in the country have been reducing their diversification activities on both income and asset fronts. With the finding that shows negative impacts of income diversification and no significant impact for asset diversification, banks moving forward should continue with this trend since there is no justification according to this study to change. This would improve their competitiveness and attraction of deposits which in turn will still fund their diversification.

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APPENDIX 1: DOCUMENT ANALYSIS GUIDE

SECTION A: BACKGROUND INFORMATION

1. Name of the commercial bank _____
2. The year of operation commencement_____

SECTION B: Document Analysis

Parameter	**YEARS**									
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Number of Branches										
Total Interest Income (Kshs' 000,000)										
Total Non-Interest Income (Kshs' 000,000)										
Total Income (Kshs' 000,000)										
Total Lending Assets (Kshs' 000,000)										
Total Non-Lending Assets (Kshs' 000,000)										
Total Deposits (Kshs' 000,000)										
Total bank Assets (Kshs' 000,000)										

END

APPENDIX 2: COMMERCIAL BANKS IN KENYA

S/No.	Commercial Bank	CBK Peer Group*	Remarks
1	Barclays Bank of Kenya Limited	Large	Operational
2	Commercial Bank of Africa Limited	Large	Operational
3	Co-operative Bank of Kenya Limited	Large	Operational
4	Diamond Trust Bank Kenya Limited	Large	Operational
5	Equity Bank (Kenya) Limited	Large	Operational
6	I & M Bank Limited	Large	Operational
7	KCB Bank Kenya Limited	Large	Operational
8	Stanbic Bank Kenya Limited	Large	Operational
9	Standard Chartered Bank Kenya Limited	Large	Operational
10	Chase Bank (K) Limited	Medium	In receivership
11	Imperial Bank Limited	Medium	In receivership
12	Bank of Baroda (K) Limited	Medium	Operational
13	Bank of India	Medium	Operational
14	Citibank N.A Kenya	Medium	Operational
15	Ecobank Kenya Limited	Medium	Operational
16	Family Bank Limited	Medium	Operational
17	I & M Bank Limited	Medium	Operational
18	National Bank of Kenya Limited	Medium	Operational
19	NIC Bank Kenya PLC	Medium	Operational
20	Prime Bank Limited	Medium	Operational
21	African Banking Corporation	Small	Operational
22	Bank of Africa Kenya Limited	Small	Operational

S/No.	Commercial Bank	CBK Peer Group*	Remarks
23	Consolidated Bank of Kenya Limited	Small	Operational
24	Credit Bank Limited	Small	Operational
25	Development Bank of Kenya Limited	Small	Operational
26	DIB Bank Kenya	Small	Operational
27	First Community Bank Limited	Small	Operational
28	Guaranty Trust Bank (Kenya) Limited	Small	Operational
29	Guardian Bank Limited	Small	Operational
30	Gulf African Bank Limited	Small	Operational
31	Habib Bank A.G Zurich	Small	Operational
32	Jamii Bora Bank Limited	Small	Operational
32	Mayfair Bank Limited	Small	Operational
33	Middle East Bank (K) Limited	Small	Operational
34	M-Oriental Bank Limited	Small	Operational
35	Paramount Bank Limited	Small	Operational
36	SBM Bank (Kenya) Limited	Small	Operational
37	Sidian Bank Limited	Small	Operational
38	Spire Bank Limited	Small	Operational
39	Transnational Bank Limited	Small	Operational
40	UBA Kenya Bank Limited	Small	Operational
41	Victoria Commercial Bank Limited	Small	Operational
42	Charterhouse Bank Limited	Small	Statutory Mgt

CBK Peer Group : This is based on the total amount of protected deposits of the bank*

Source: CBK Bank Supervision Annual Report 2018

APPENDIX 3: RONGO UNIVERSITY RESEARCH INTRODUCTION LETTER TO NACOSTI

RONGO UNIVERSITY

OFFICE OF THE DEAN

SCHOOL OF GRADUATE STUDIES

Tel. 0771349741

P.O. Box 103 - 40404
RONGO

Our Ref: **DPBM/9310/2014**

Date: Wednesday, March 18, 2020

The Chief Executive Officer,
National Commission for Science, Technology & Innovation,
off Waiyaki Way, Upper Kabete,
P.O Box 30623-00100,
Nairobi-KENYA.

Dear Sir,

RE: RESEARCH PERMIT FOR MR. MOSES OWINO-DPBM/9310/2014

We wish to inform you that the above person is a bona fide graduate student of Rongo University in the School of Business, Human Resource and Development pursuing a PhD degree in Business Management. He has been authorized by the University to undertake research titled; **"Effects of Diversification and Firm Size on competitiveness of Commercial Banks in Kenya".**

This is, therefore, to request the commission to issue him with a research permit to enable him proceed for field work.

Your assistance to him shall be highly appreciated.

RONGO UNIVERSITY
THE DEAN
18 MAR 2020
SCHOOL OF GRADUATE STUDIES
P.O. BOX 103 - 40404 RONGO

Thank you.

Dr. Edward Anino
DEAN, SCHOOL OF GRADUATE STUDIES

Copy to: Vice Chancellor
Deputy Vice Chancellor (Academic and Student Affairs).
Dean, School of Business, Human Resource and Development
HoD, Business Studies

APPENDIX 4: RESEARCH LICENCE FROM NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 327247

Date of Issue: 28/March/2020

RESEARCH LICENSE

This is to Certify that Mr.. Moses Otieno Ovino of Rongo University, has been licensed to conduct research in Nairobi on the topic: Effects of Diversification and Firm Size on Competitiveness of Commercial banks in Kenya for the period ending : 28/March/2021.

License No: NACOSTI/P/20/4644

327247

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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