

**DETERMINANTS OF FINANCIAL DISINTERMEDIATION AMONG
COMMERCIAL BANKS IN KENYA**

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DECLARATION

This project is my original work and to the best of my knowledge has not been submitted for examination or a degree award in any other University.

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

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DEDICATION

This research project is dedicated to my family and friends who encouraged and supported me throughout the course of this project. This is especially to my sister Grace Mburu who graciously supported me in every endeavor and for her encouragement. Your support is appreciated.

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LIST OF ABBREVIATIONS

ATM	Automated Teller Machine
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
CRB	Credit Reference Bureau
NBFIs	Non-Bank Financial Institutions
NSE	Nairobi Stock Exchange
SACCO	Savings and Credit Co-operative

ABSTRACT

Financial disintermediation is has been described as the elimination of banks as intermediaries between savers and borrowers which makes the two parties transact directly between them. When disintermediation happens may choose to source for better returns for their deposits either through NBFIs or by directly transacting in non-bank capital markets. This study was therefore carried out against this background to establish the determinants of financial disintermediation within the financial sector in the country especially in Kenya commercial banks. Trends of financial disintermediation have been noted in other markets and given the growth in the Kenya financial services sector and financial products innovation, it was imperative to test if such factors have promoted disintermediation.

Secondary data from the year 2005-2015 used was collected from the published commercial banks financial statements, Central Bank of Kenya, mutual fund reports and Safaricom. Descriptive research design was used in this paper whose objective was to investigate the determinants of financial disintermediation within Kenya commercial banks. The study findings showed a positive correlation between the ratio of NBFI deposits to total bank deposits and the independent variables measured. The study therefore supports that Kenya has had some level of disintermediation in the banking sector especially arising from financial innovation. Technological advancement and innovation within the financial services industry are therefore some of the determinant of disintermediation.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Disintermediation means the transfer and diversion of savings from low interest earning accounts to accounts and securities with high returns according to the earliest studies done on this subject. Disintermediation happens when a customer is able to interact with the primary supplier of goods or services, without requiring the services of a previously essential intermediary (Clemons et.al, 2002). It is also defined as investing funds that would normally be placed with financial intermediaries such as banks directly into investment instruments offered by the users of funds. The investors opted to make the move from this accounts after realizing that banks were getting more deposits than the loans they issued out. The bank was therefore the intermediary party in these transactions.

Financial intermediaries are mostly composed of commercial banks, pension funds, capital markets and investment banks. The concept of disintermediation can be traced back to the 15th century in Spain. The King and Queen in Spain at that period purchased spices from India without the use of middlemen. Disintermediation has been seen to be associated with the coming of the internet. One of the ways through which the middle man has been eliminated in the past is through delivery of books electronically. This shortened the supply chain in the publishing industry according to (Baker, 2000).

Wall Street Journal referred to disintermediation first in 1996 as being one of the earliest publications to so. There is a chance that the term “disintermediation” existed before 1996. Disintermediation can occur in both service and finance industries where there is need to have a middle man between the receiver of a service and provider of the same. With the advancement of money transfer services such as Mpesa and increase in the number of intermediaries that include pension funds, insurance companies and growth or otherwise of the capital market in Kenya, there is need to determine whether commercial bank’s role as financial intermediaries has decreased over time.

1.1.1 Financial Disintermediation

“Disintermediation is the act of removing funds from savings banks or other financial institutions and placing them into short-term investments on which the interest-rate yields are higher” (David L. Scott 2003). In a disintermediation scenario, the role of banks in providing value to their customers is lost or reduced with customers looking for better returns and financial services either through NBFIs or by directly transacting in non-bank capital markets. Disintermediation eliminates the middle man so that borrowers and lenders are able to deal with each other directly. According to Clemons (2002), a consumer is able to transact with a supplier of goods and services without needing an intermediary party. In an ideal world, this would mean that there would be no need for financial intermediaries. However, there are reasons as to why financial intermediation exists. This is mainly because of the transaction costs involved in bringing together a lender and borrower can be high. The financial intermediaries are able to reduce these costs. The intermediaries also reduce the risk involved through portfolio diversification which may be available to small investors. The presence of informational and transactional costs may mean that it would be impossible to eliminate financial intermediaries. Financial disintermediation thereby implies a decline in the importance of banks role as deposit takers and loan issuers.

The term disintermediation can be used to describe situations whereby money is pulled out of the banks by savers and invested in non-bank financial institutions. A case in point would be direct financing whereby the borrower and lenders deal directly with each other. Trends have shown that corporations often seek to diversify their sources of funds in an effort to look for cheaper sources and not rely heavily on banking institutions which can be expensive sources. Investors looking for better returns also stoke disintermediation as the rates offered by banks are significantly lower than what is offered by say mutual funds.

One of the reasons disintermediation would occur would be the availability of options to investors where they can obtain better value for their investments. In addition, alternative options from where borrowers can obtain funding would also spur disintermediation. This

would for instance through raising of funds through the capital markets. Proper regulation of the financial markets would lead to innovation of new products which savers can opt for instead of using the banks to keep their savings. Studies have shown that technological advancement and innovation has led to bank disintermediation in parts of the world.

In their paper, Kaufman and Mote (1994), researched whether the role of banks has been declining in the United States. The study found that restrictive regulations which had been imposed on the banks in the US were to blame for the declining banking sector. “Banks are also now facing competition from less regulated firms or segments of the financial services industry” (Lynn Reaser, 2006). The study by Kaufman and Mote also highlighted the various measures of bank disintermediation. However, according to them, the most commonly used are bank assets and bank deposits. The growth of bank assets and deposits over a given period of time, if found to be negative, is a good measure of financial disintermediation.

1.1.2 Financial Intermediaries

A financial intermediary can be described a unit that serves as a link for parties conducting a financial transaction. It acts as a middle man in transactions of financial nature. There are a number of financial intermediaries in the market namely banks, mutual funds, insurance companies, money transfer services such as Mpesa, savings and credit cooperative societies(SACCO)stock exchanges or capital markets. These have been discussed further below. Banks are the number one financial intermediaries. Banks specialise in provision of liquidity, transforming of assets, issuing out loans and obtaining deposits from customers. Banks facilitate payments through, for example, cheques and credit cards and therefore play a key role in facilitating the smooth functioning of day-to-day purchases of goods and services. According to Van Damme (1994), banks are asset transformers. In his paper on the survey of proportion of NBFIs deposits to total deposits of commercial banks economic theory, Van Damme also argued that banks are delegated monitors. Banks undertake the role of monitoring compliance with loan contracts.

Insurance companies offer their customers guaranteed compensation in the occurrence of certain future events such as death, loss of work or fire. Pension funds are in charge of receiving savings from investor and finding products to invest these funds in and earning income which shall be used to fund retirement of the fund members. Insurance companies offer savings products in form of policies such as life policies, education policies and money back guarantee products. Investors are likely to move their funds from the banks to the insurance companies.

Capital markets provide a platform whereby instruments such as bonds and shares can be traded. Through capital markets, individual investors are linked with businesses and corporations seeking funding either by issuing bonds or floating their shares. Capital markets provide a platform whereby savers can invest their funds. For instance, corporations may choose to issue commercial papers and source for funds directly from the market instead of going through the banks. Capital markets play a role of matching demand and supply forces. Intermediaries facilitate resource allocation in an efficient manner where high return investment can be made (www.lawctopus.com, n.d.). Capital markets may offer a platform for either equity or debt based securities. Some of these securities include treasury bills, bonds, company shares and commercial papers.

Money transfer services such as M-Pesa also act as an intermediary. M-Pesa is a mobile based money transfer service that was launched in 2007 by Vodacom and Safaricom. Using Mpesa, users can deposit, withdraw, make money transfers between users and facilitate payment of goods and services (Lipa na M-Pesa) easily with a mobile device. Users can also transfer funds from their banks to other intermediaries such as money market funds.

Savings and credit cooperative societies or more commonly SACCOS, have become quite popular in Kenya. They provide an alternative to banks for low-income earners who need financing (VOA, n.d.). The SACCOs provide loans at relatively low interest rates hence become a motivator for consumers to save there and where need be, borrow from them. This diverts funds from the banks to an alternative intermediary. Another

intermediary that this research paper will focus on is mutual funds. A mutual fund is an investment product which pools funds obtained from a large number with the aim of investing in money market instruments and similar assets. Mutual funds are operated by money managers, who invest the fund's capital in an effort to produce capital gains or income for the fund's investors. A mutual fund's portfolio is maintained in such a way that the investment objectives stated in its prospectus are met. In Kenya, the mutual fund industry did not take off as early as in developed countries. However, unit trusts have become popular and much more accepted in recent years and this is evidenced by the number of approved trust funds from virtually zero in 2001 to eleven in 2008.

1.1.3 Characteristics of Disintermediated and Intermediated systems

In a financial system where intermediaries exist, banks are one of the prominent intermediaries. They serve as a source of funds and resources of a financial nature to users of these resources such as individuals and corporate organisations. The banks obtain most of these monies from savers who deposit with the banks savings accounts. The bank is therefore liable to the owners of these funds. According to (Grahls and Teague 2005), "When banks are the main means for the mobilization of the savings of the public, company shares are not usually actively traded. The control of the companies tends to be mostly in the hands of a few 'inside' investors with a close relationship to the company management".

In a financial system facing disintermediation, firms seeking funds from the market will normally float into the market securities and products that savers can invest in. The investors will end up holding this security directly. For instance, a firm may issue a commercial paper into the market which individual and institutional savers can invest in. The risk in such a transaction is then borne by the investors. Only very wealthy households purchase securities directly. In most instances, savers will invest in such products through pension funds, mutual funds and investment trusts. Only large investors can afford to make the purchases directly. This in turn allows such trusts and mutual funds to pool together small amounts from individual customers and invest in large scale. These funds are able to diversify their portfolios. This type of investment differs from

that of “traditional bank intermediation as the individual saver is exposed to all the risks of the security market but is also entitled to the gains which may come about as a result of the security prices rising” (Grahl and Teague 2005).

1.1.4 Commercial Banks in Kenya

By 2015, the number of commercial banks in Kenya was 43. These are banks are regulated by the Central Bank of Kenya. The year 2015 saw an increased growth in the banking sector balance sheet from Ksh. 3.2 trillion by end of 2014 to Ksh. 3.5 trillion in December 2015. The year 2015 saw two banks placed under receivership. These were Dubai Bank and Imperial Bank. Despite this, the gross loans in the market grew by Ksh. 1.94 trillion in December 2014 to Ksh. 2.17 trillion in December 2015. Total net assets increased by 9.2 per cent up from Ksh. 3.2 trillion in December 2014 to Ksh. 3.5 trillion in December 2015. Customer deposits grew by 8.73 per cent. The deposits were at Ksh. 2.29 trillion in December 2014 and grew to Ksh. 2.49 trillion in December 2015. Kenya has 42 licensed banks. Out of the 42 banks, eleven banks are listed in the Nairobi Securities Exchange. (“Listed companies,”2013)

A strong banking system is critical towards achieving economic development in any country. Banks become a key pillar in promoting this growth through provision of funds required for development, providing a mechanism for facilitating payments and are used for monetary regulation. The commercial banks play a critical role in the economic progression of Kenya, and it’s the main force behind the recent witnessed widespread investment activities in the country. Hence it’s accurate to attribute economic development to the work commercial banks perform in a country.

1.2 Research Problem

The trend in the loss of importance of banks has been researched in the United States of America (USA) where banks have shown a declining importance in their role in the financial markets (Kaufman and Mote, 1994). The trends happening in a developed country such as the USA normally signify trends that are likely to occur in other countries albeit at a later period. As a result of this trend happening in the USA, one can

expect a similar trend of disintermediation even in other countries. This research, which was designed to answer the question of whether banks were in a declining industry, further investigated the common view that banks were losing out to a wide range of NBFIs that, either through technological advancement or being less regulated than banks, were offering traditional types of banking products more efficiently. The report further questioned whether this measure of asset share was a true reflection of the performance of the banking industry and suggested two additional measures which are employment and financial performance (revenue; earnings and value add). These three need to be discussed further.

Similar research has also been conducted in some of the countries in Europe (Schmidt et al, 1997). The trend toward disintermediation was researched in three countries in Europe which include United Kingdom, Germany and France. The results of the research concluded that the French financial system is currently in the process of a transformation. This is from being a bank based financial system to a capital market based system. Furthermore, French banks were noted to be losing their importance as the key intermediaries in the financial system. Non-bank based intermediaries were noted to have increased in popularity and they played a key role which resulted in the lengthening of the bank intermediary chain. Additionally, these non-bank intermediaries also led to increased profitability pressure on banks in France. Both Germany and the United Kingdom results indicate that there was neither a general trend toward disintermediation, nor a movement from a bank-based to capital market-based financial system, nor a loss of importance of banks. Can the result of these studies apply in Kenya?

A study on financial disintermediation was also conducted for the South African market. Ojah (2005) further highlights an observation that NBFIs such as insurance companies are channeling the pooled retirement-driven savings in their custody, into large corporations such as banks owned by them. This point may support the Schmidt et al (1997) paper in that the bank intermediation chain may also be lengthening in South Africa. Based on the work done on the Australian banking sector by Allen and Parwada (2004), Mpako (2007) researched whether banks in South African banks were becoming

less significant as financial intermediaries based on the growth and substitutability of bank deposits by money market mutual funds or more commonly known money market unit trusts in South Africa. Can these studies apply to Kenya?

Research done in South Africa on financial disintermediation checked on whether there had been financial disintermediation in a number of countries Kenya included by reviewing data for a period between 1973 and 2005. No further studies have been done in Kenya on financial disintermediation in the last decade thereby providing a research gap. Kenya's financial sector has evolved as evidenced by increased number of market participants as well expansion in the sector's output. The sector has further become advanced in terms technical progress development of new instruments and continued modernization of policies and legislation. Significant technical innovations were launched after 2005 such as Mpesa and hence would likely impact the traditional roles of financial intermediaries. The advancement of mobile money has introduced ways of making payments and also saving while bypassing the bank as an intermediary. This study shall check how financial innovation has affected disintermediation. This is by use of new innovations such as mobile money, new products introduced by mutual funds and lastly, how access to credit information sharing has affected the role of intermediaries. This research would therefore provide an answer to this gap.

1.3 Objectives of the Study

The objective of this study was to investigate the determinants of disintermediation within the Kenya banking sector. The study also assessed whether there has been a trend towards financial disintermediation in Kenya in the last decade with the growth of other financial intermediaries.

1.4 Value of the Study

Through its findings, the study will contribute to the academia, regulators and the financial practitioners. The study will provide information on whether Kenya has started experiencing financial disintermediation and the extent of it. For Kenyan banks, the study will provide information on whether the industry is declining. As a result the banks can

come up with strategies to remain relevant. The banks regulator, Central Bank of Kenya will benefit from information on whether the role of banks is declining and how this will impact the ability of the Central Bank (hereafter referred to as CBK) to successfully implement monetary policy and curb inflation.

Through its findings, the study will assist investors; individual consumers of financial services and business find ways of getting more value by accessing financial services directly via non-bank capital markets. By investing directly and by passing banks, it's expected that commercial banks will have an impact on their performance and would likely reduce their charges in order to still attract investors. This would benefit the final consumer. The research is also expected to fill a void in the academic research on this particular area with a particular focus in Kenya. Academicians and researchers would benefit from the more recent study covering the last one decade which would portray a more up to date state of disintermediation in the Kenyan financial market.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter entails a review of literature related to the subject under study as presented by various researchers. The first part shall present theoretical review on financial disintermediation and its causes. Part two shall examine empirical studies that have been done on financial disintermediation in both developing and developed countries.

2.2 Theoretical Framework

This section reviews two theories relating to financial intermediation namely the conventional and new theory of financial intermediation.

2.2.1 The Conventional Theory of Financial Intermediation

The theory of financial intermediation by Gurley and Shaw (1955, 1960) argues that banks are the link which "go between" surplus and deficit units. The banks obtain deposits from their customers who place their savings with them and then lend these funds to borrowers. This process transforms capital and increases the social value of capital. This is done ensuring that these funds are engaged in the most efficient use. According to this theory, the functions of banks include capital transformation and serve as intermediaries between savers and borrowers.

The theory put forward by Gurley and Shaw only looks at scenarios where the banks are the only financial intermediaries. It overlooks the fact that capital markets may be able to perform some of the functions of transformation and intermediation. Despite this shortcoming, this theory provides a measure of the role of banks. Gurley and Shaw (1960) provided the reason and basis for the existence of financial intermediaries in the market. These reasons included the presence of transaction costs which the intermediary would reduce. The reduction would happen through the pooling of resources belonging to various individual and corporate institutions. This action would in turn enhance the returns to be gotten by the investors.

The second reason was that intermediaries provide information advantages. Intermediaries are considered to have superior information compared to the information held by investors. Two models propagated by (Leland & Pyle, 1977) suggest that intermediaries are likely to invest in products that they possess in-depth knowledge of while (Diamond, 1984) argues that intermediary's role is that of a delegated monitor.

2.2.2 The New Theory

These are considered the new theories explaining the reason for the existence of intermediation. These modern theories of financial intermediation continue focus on an idea introduced in the 1970s. The existence of asymmetrical information was argued in the works and literature contributions from (Spence, 1973), (Akerlof, 1970), and (Rothschild & Stiglitz, 1976). Some of the key roles of financial intermediaries is to minimize the information and transaction costs that arise from information asymmetry between parties in a transaction. Financial intermediaries are therefore key in efficient functioning of markets. Literature provides two explanations for why financial intermediaries exist. One is liquidity provision to the market and reduction of costs involved in making transactions

The studies done by (Diamond & Dybvig, 1983) analysed the ability by banks to the change assets which are deemed illiquid into liabilities which can be easily converted into liquid assets. This model describes depositors as risk averse individuals. Depositors are also usually unsure of when they will need to consume the funds they have deposited in future. Without the presence of an intermediary in place, investors would be faced with investing into long term products which would have the characteristic of being illiquid. These long term assets would only provide the investors with high returns if only they hold on to them until maturity. Withdrawal of an investment from a return that is yet to mature would guarantee a loss of return since such a withdrawal would only mean that a premature liquidation of the investment. Banks are able to provide a matching between investors who would want a long term investment and borrowers looking for long term funding. Banks can also provide an opportunity for risk sharing among parties that would need to consume at random times. This model notes that the optimal insurance contract

would be demand deposit contract. The disadvantage of this contract is that it is prone to bank runs.

In the works of Diamond and Dybvig (1983), the asset illiquidity problem makes a bank vulnerable to bank runs and provides a reason for banks existing. A shift in expectations would cause a bank run. Knowing the normal volumes required by its customers helps to prevent bank runs and to provide optimal risk sharing by converting illiquid assets into liquid liabilities.

Financial intermediaries often change the risk characteristic of assets because they can withstand a failure in the financial system and provide a solution to the information asymmetry problem. Intermediaries help solve problems arising from information asymmetries. Borrowers of funds have more information on the potential risks and returns of the investment which the borrowed funds would go into (Kelly, 2007). The lender would not be privy to all the information and this would create difficulties for the lender prior to the loan being made, at the loan qualification and vetting stage. Thereafter, during the course of the loan when monitoring the performance and repayment of the loan. The issues would persist during the enforcement stage. There is a risk that the borrower may use the funds to engage in activities that may lead to the loan not being repaid. This is the principal agent conflict. A person who has borrowed funds to do business or invest is more likely to engage in riskier activities when using funds that they have saved. The intermediaries reduce the problem of adverse selection because they have the technical experience and expertise to select customers with good credit risks. Banks also reduce the chances of borrowers misusing funds by introducing restrictive covenants into the loan contracts (Baker, 2000).

Conflicting requirements of lenders and borrowers create an opportunity for a financial intermediary to exist. Firms requiring funds to finance investments would in most instances borrow and repay the loan over the life of investment. This borrowing would generally be associated with high default risks. Lenders on the other hand would be looking to invest in assets that are relatively low risk and liquid. A financial intermediary therefore becomes involved in resolving the conflicting requirements of lenders and

borrowers by holding the more risky claims from borrowers which would often be long term. The intermediary would then finance this by issuing liability products that are highly liquid, and possess low default risk such as call deposits (Davis, 2006).

Financial intermediaries reduce the transaction costs that lenders and borrowers would incur. By pooling capital from several individuals and institutions, the costs that arise from assessing and taking up investments can be shared, thereby enhancing investors' returns. In the absence of an intermediary, the lenders and borrowers would incur costs such as search costs, verification, and monitoring and enforcement costs (Buch & Goldor, 1999). The intermediary is able to reduce these costs due to expertise developed over time and also by being able to take advantage of economies of scale where costs can be shared across a large number of customers.

In their paper, Fang, Ivashina & Lerner (2012), argue that one of the most important role in corporate finance is that of financial intermediaries. The paper explores that one of the main reasons intermediaries exist is the diversification within the financial intermediary. Prior studies developed a model where the outcome of a project was unknown to external parties. This scenario would only change if information is obtained to be able to assess the outcome. This leads to a moral hazard issue because it provides an opportunity for borrowers of funds to not meet the repayment obligations even in cases where the project that was financed became successful. In this model, the intermediaries must undertake the task of monitoring the performance of the loan contract and ensuring that the borrowers are meeting their payment on time. A financial intermediary should opt for a contract with significant financial incentive. Hence the intermediary would have a motivation to monitor the contract. It is costly to get these incentives. Diversification into different products can reduce these costs.

Financial intermediaries play a key in credit markets especially in reduction of cost associated with transactions done directly between borrower and saver. They enable the funds deposited by a depositor with insufficient information be matched with the user of funds who would provide the best return. This promotes efficient allocation of resources. Intermediaries work on obtaining information from potential borrowers, evaluating

potential projects which can be funded, monitoring the activities of borrowers to ensure that funds advanced are put into the agreed use and risk sharing. Financial intermediaries do not however provide a scenario that would occur in an environment where information is fully known by everyone or a perfect market. The market is still considered imperfect and includes asymmetric information and transaction costs hence frictions occur in the credit market.

2.3 Determinants of Financial Disintermediation

Financial disintermediation has been defined as the withdrawal of funds from intermediaries such as banks, loan and savings institutions to invest them directly. For the purpose of this research, financial disintermediation will be taken in the context of the loss of importance of the traditional roles of intermediaries such as banks which are deposit taking and loan issuing. “Bank disintermediation does not necessarily imply an overall decrease in financial intermediation however can imply that the role of banks shifts to the provision of financial services on a fee basis rather than the traditional interest earning basis” (Pati AP and Shome D (2006), 2006). Studies have shown that over the years, the traditional roles of banks have declined and other forms of intermediaries such as investment banks, mutual funds and pension trusts have arisen. This can be attributed to the decline in the costs incurred in carrying out a transaction and the presence of asymmetric information in recent decades (Allen and Santomero, 1998). The declining trend in the traditional role of banks can be attributed to factors such as new technology, economic growth, policy, regulations and the changing structure of financial systems.

2.3.1 Technology

The financial services industry has been normally keen on adopting new technological innovations. “Technological advancement has significantly reduced the cost of information and information asymmetry” (Allen, 1988). The development of technology such as mobile banking, money transfer services such as M-Pesa, ATM services and online banking enable customers to access banking services without visiting banks. This is known as technological disintermediation. According to Allen and Santomero, technological advances have not exactly reduced the need for intermediation services and

the research has suggested the opposite. Research has shown that banks are losing out to other non-bank competitors such as mutual funds and pension trusts because these entities are offering the traditional banking roles more efficiently. This could be due to either technological advances eliminating advantages previously enjoyed by banks or the fact that these competitors are free of costly regulations imposed on banks (Kaufman and Mote, 1994).

2.3.1.1 M-Pesa in Kenya

Mpesa is a mobile based platform for transferring money from one user to the next. Mpesa was launched in the year 2007 by Safaricom which is a Telecom company in Kenya. M-Pesa allows users to perform key financial transactions like deposit and withdraw money, transfer money to other M-Pesa users and non-users, pay bills and purchase airtime. Mpesa has made it possible for users to access and transfer money from various saving platforms. For instance, users can now transfer funds from their bank accounts directly to non-bank financial institutions. In other instances, Mpesa has a saving platform called M-shwari which users can use to hold savings. Savings can be easily deposited with non-bank financial institutions thereby diverting the funds from banks to other intermediaries and thereby causing some disintermediation within commercial banks.

2.3.2 Economic growth

Financial institutions are a key part of a country's economic development (Atindéhou et al., 2005). These institutions play a part in the growth of an economy by channeling funds from savers to borrowers in a way that is deemed efficient in order to facilitate investment and also promote innovation. Robinson (1952), argued that "an increase in economic development favored an increase in the demand for financial services". This in turn development in the financial sector. Greenwood & Jovanovic, (1990) argued that "access to financial institutions is expensive and therefore economic units cannot access services offered by financial intermediaries without incurring high fixed costs". They further argue that "economic growth reduces the importance of these fixed costs, one would expect the size of financial intermediaries' customers to increase, which would

result in an increased volume in the intermediaries' activities". This means that economic growth also contributes to the development of financial intermediaries and therefore also overall financial development. The size of banks in a country is also affected by the economy. It has been noted that in the US, the relatively minimal growth of the banking sector reflects the development of other forms of intermediation, but in other countries it simply shows the underdevelopment of the financial sector.

2.3.3 Regulation and policy

Regulation is a key factor in financial markets due to the presence the information gap between savers and borrowers. Default risk in the loans issued can destabilize the financial system and hence the need to have regulation in place. The existence of information gap or asymmetry between regulatory authorities and lenders create moral hazard for institutions that are considered as being too big to ever fail given the impact they have on the wider economy. Regulation provides a means of solving these problems. Regulation ensures that confidence in the financial system is retained and ensures customers are protected. Regulation on the other hand has been blamed for the decline in commercial banking in the US. Restrictive regulations placed in years ago when banking was relatively more important are often blamed for contributing to this decline (Kaufman and Mote, 1994). In the US, regulation and introduction of interest rate ceilings on bank deposits led to the growth of NBFIs that were not subject to restrictive bank regulation which also led to the creation of money market mutual funds.

2.3.4 The Changing Structure of Financial Systems

In recent years, financial systems in several countries have gone through a radical transformation and seen the growth of stock and bond markets. New financial products have been innovated such as mortgage backed securities, securitized assets, and modern derivative products such as swaps and complex options. There are also new exchanges which list and trade products such as options, financial futures and other derivative securities that have appeared and become major markets. Interesting this is this products are largely used by the financial intermediaries themselves rather than the individual households. There has been a trend whereby banks and insurance company share of assets has continued to decline while mutual funds and pension assets continue to grow.

There has been an emergence of non-bank financial institutions that raise money through floating shares and securities and not through deposit taking as is the norm. The result is that traditional intermediaries have become less important even as the sector itself has been expanding. Other changes have also occurred whereby banks have found opportunities to securitize their loans meaning they don't have to keep all the loans they originate on their balance sheet. Insurance firms have widened their range of products and services as well. Financial markets for equity and debt have been taken over by the non-bank intermediaries. Banks and insurance companies have diversified from their traditional roles into trading activities. Another change has been growth in risk management activities meaning that this has become a central activity for most intermediaries. Though times brings about changes in institutions their functional needs remain albeit packaged differently and delivered in significantly different ways. The new structures and products have led to a declining trend of the traditional bank roles.

2.4 Empirical Review

This section reviews studies that have been locally and globally related to the area of study. The trend in the loss of importance of banks was researched in the United States of America (USA) where banks have shown a declining share of assets (Kaufman and Mote, 1994). This research, is meant to answer the question of whether banks were in a declining industry. The research further investigated the common view that banks were losing out to a wide range of NBFIs that, either through technological advancement or being less regulated than banks, were offering traditional types of banking products more efficiently.

In the United States, the banks are a source of funds to borrowers. This function has been noted to be declining over the recent decades (Edwards and Mishkin, 1995). In this research, the decline was caused by factors such as increased regulation and introduction of ceilings on bank deposits. As a result, non-banking financial institutions (NBFIs) arose which would provide similar services in a less restrictive environment. According to (Alexander, 1996) industrial countries with highly developed financial markets, the greater use of indirect instruments requiring commercial banks to hold a part of public

deposits as cash or reserve can lead to financial disintermediation as people may opt for investing money in unregulated market.

The second factor attributing to the decline in the role of commercial banks was increased financial innovation that led to the growth of junk bonds and commercial paper which undercut the banks role of providing credit. Commercial paper have become a substitute for bank loans. This led to a shift in preference shifting towards market based instruments. Thirdly, advancement in technology made it easier for business firms to source for capital from the public through issuing financial products such as (commercial paper). The new technology introduced new service products and also lowered the cost of service (Allen & Santomero, 2001). Growth in finance companies offered direct competition to the banks as they offered similar credit facilities as the banks. Lastly, the banks in the US faced international competition from Japan where the savings rates were typically higher than the US hence more people preferred seeking the cheaper option. In order to keep up, the banks had to either to maintain their profits by expanding into financing of areas that they had not considered in the part new, and financing off balance sheet activities.

The decline in the role of banks progressed to Europe accompanied by rise in other financial intermediaries. In Germany, savings deposit in the banks from individual households reduced by 16% in the years after 1980. Insurance deposits however increased by 20% and a move towards investment in fixed assets was noted. In the last two decades, equity funding in corporations has doubled. Even with this increased use of equity as a source of funding, bank financing in companies still accounts for 45-55 percent since the past five decades (Buch & Goldor, 1999)

In studies done between 1970 and 2000 in United Kingdom and Germany the trend of disintermediation was not visible in the asset side of banks were still the major financiers but a fall in interest margin is possible due to improved customer awareness and intensifying competition (Hackethal, 2003). In France however, they were losing on the assets side. From the research by (Schmidt et al. 1997) it was seen that the trend toward disintermediation in Germany is almost non-existent, while there is only a slight trend in the UK and only in France is the disintermediation trend explicitly evident.

More modern research conducted after 2012 by Moodys Investors Services firm indicate that disintermediation in Europe is a continuing trend even if banks are showing a more stable footing in terms of financial performance. Some of the signs of disintermediation include increase in the strength of the capital markets in Europe. High yield bonds issued increased by over 10% in 2014 compared to the year 2013. Parallel to this growth is a comeback of a product called the collateralized loan obligation (CLO) with an expected issuance of 14 billion Euros by end of 2014. This was double that of the year 2013. Disintermediation was further propelled by the financial crises that led to the decline in the bank loans issued (Moodys, 2016).

In Australia, a study was done looking at the claim that bank deposits were declining due to the increased activities of money market mutual funds. The paper specifically looked at two issues which include whether the importance of bank deposits declined and, (ii) banks participation in the mutual fund industry (Allen & Parwada, 2004). The trend of bank deposits over 14 years was analysed to evaluate the performance of bank deposits in relation to managed and pension funds. The study revealed that bank deposits increased. However the share of bank deposits compared to that of mutual and pension funds decreased and this was largely due to a change in legislation and the introduction of a compulsory pension scheme. On the issue of bank participation in mutual funds, the banks established their own fully-fledged mutual fund subsidiaries instead of creating mutual fund type products was largely due to the deposit insurance requirements which mutual funds did not have to comply with. The key finding of the research was that bank deposits and mutual funds were not close substitutes but instead complemented each other.

According to research done by (Pati & Shome, 2006), the share of bank assets in the Indian Banking sector has been declining since 1980s. Following the financial crisis of 1991 the Indian government deregulated financial markets and a system concentrating on four distinct financial sectors was born which included insurance, capital markets, banks, money markets and other lending institutions. This brought about competition for banks and as a result, decline in the traditional activities of Indian Banks. Other public agencies such as some insurers and post office were given tax concessions making it hard for

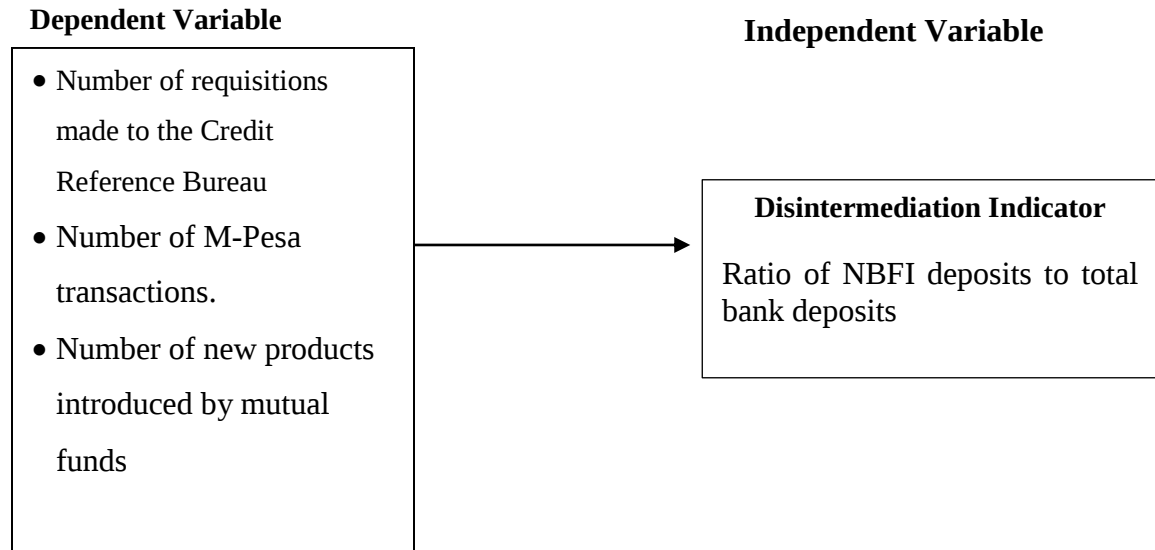
banks to mobilize savings. From the data analyzed by Pati and Shome (2006), banks liabilities declined it in comparison to that of small savings institutes (like the post office); mutual funds and insurers. Also, there was a material shift in banks assets from issuing loans toward capital market investments (mostly government securities). This could be attributed to the fact that households were finding other means of acquiring capital funding either through institutional investors or capital markets. This research also found that the traditional banking activity of granting loans was no longer yielding profitable returns that were sufficient to compensate lenders hence the shift toward risk-free investments.

In South Africa, research was done by Mpako (2007). The study looked into how significant banks in South Africa are as intermediaries given the presence of substitute institutions such as money market mutual funds more commonly known as money market unit trusts in South Africa. Mpako noted that “bank deposits as a ratio of total bank assets had been declining over the period 1997 to 2007”. This decline was also attributed to the currency crisis experienced during 2001 as discussed in (Knedlik, 2006). The research was unable to state clearly whether disintermediation is happening in South Africa. Mpako (2007) also focused on the movement trends in bank deposits and did not check whether the role of banks in South Africa was declining. Subsequent research in South Africa did not prove or disapprove that bank disintermediation is taking place in South Africa.

A research project was done by (Kelly, 2007) on whether financial disintermediation had occurred in some developed countries which include United States and also some African countries that included Kenya, Botswana and Nigeria for the period from 1997-2005. The results of the study did not completely support the theory of financial disintermediation in the period under study. Key findings were however noted from this such as banks in Africa have their own unique problems and were not as advanced as the US and Europe markets. The measures of performance used for the African countries showed very inconsistent trends and these were further aggravated by the fact that the countries selected were still developing and therefore not running the banking sectors efficiently. The study showed that there was evidence of change of the role performed by banks.

2.5 Conceptual Framework

The schematic diagram portrays the relationship between the dependent variable and the independent variables.



The conceptual framework identified three independent variables and one dependent variable. The dependent variable being measured is the ratio of NBFIs deposits to total bank deposits. The growth in NBFIs deposits would imply that investors chose to divert their funds to other financial intermediaries such as NBFIs which would imply a level of disintermediation. Some of the independent variables to be analysed in the study include the number of requisitions made to credit reference bureaus. If consumers are blacklisted from main stream banks, they are likely to shift to the NBFIs. Financial innovations such as new products introduced by mutual funds would affect disintermediation.

2.5.1 Credit Information Sharing

One of the variables that has been considered in this study is the number of requisitions made to the Credit reference Bureau in the last 10 years. Before 2010, information about a business's or individual's credit track record in Kenya was unavailable making borrowing of money difficult and interest rates high so as to offset the higher perceived default risk. Credit information sharing has made it possible for the lender to know the credit worthiness of a potential customer. By facilitating information sharing among lenders, credit bureaus receive credit information requests from various financial institutions which enable them distinguish between good borrowers from bad, price loans

appropriately, decrease processing time and reduce screening and other transaction costs. Credit information sharing has also helped banks and other financial institutions recover loans (Jappelli and Pagano, 2002). That is, when borrowers know that their credit information will be shared, they have an additional incentive to pay. Credit information sharing has reduced the information asymmetry risk in financial transactions. This is one of the reasons why intermediaries exist. The reduction of the information asymmetry risk is likely to trigger disintermediation. Therefore it is expected the more the requests made to the CRB, the more likely it is that disintermediation is occurring. This study aims at finding out the correlation between the two.

2.5.2 Number of Mpesa Transactions

The launch of Mpesa in 2007 enabled the financial inclusion of a large of people in Kenya. It has enabled the transfer of money between users and even across financial intermediaries. This innovation has had an impact on the traditional roles of financial intermediaries. The advancement of mobile money has introduced ways of making payments and also saving while bypassing the bank as an intermediary. The use of the number of Mpesa transactions as a disintermediation factor is because users of M-pesa services are able to transfer funds directly to savings institutions. It has created a means of bypassing the bank which is the traditional intermediary. Hence a positive correlation between the number of M-pesa transactions and the disintermediation indicator would imply that technological innovation is a determinant of disintermediation in the financial sector in Kenya.

2.5.3 Number of Mutual Fund Products

Studies have shown that the over the years, the traditional roles of banks have declined and other forms of intermediaries such as mutual funds and pension trusts have arisen (Allen and Santomero, 1998). The introduction of mutual fund products create more saving avenues for savers with excess funds. Mutual funds in Kenya offer better returns for investment compared to banks. It is therefore expected that with the gaining popularity of mutual funds, more savers would invest in them thereby transferring their savings to the mutual funds.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research design, population of the study, data collection and data analysis. It's used to analyze data and how conclusion was drawn. Data was collected from published bank and mutual funds company websites, Safaricom website and Credit Reference Bureau of Kenya for the period 2005-2015.

3.2 Research Design

The study has used a descriptive survey design. According to Zikmund (2003), surveys provide a fast, inexpensive, efficient and accurate way of investigating a population. Orodho (2003) argues that descriptive survey research designs are common in exploratory research studies. This design allows researchers to collect and summarize information. Also enables data interpretation and clarification. Descriptive research determines and reports things as they are, therefore establishing the status of the population under study. It involved analyzing total deposit data from commercial banks which would be affected by a number of independent variables to establish whether there is a general trend towards disintermediation in Kenya.

3.3 Population Size

The population under study comprised the 42 commercial banks in Kenya which are regulated by the CBK. Given the small number of banks, a census approach shall be adopted.

3.4 Data Collection

This study made use secondary data used in aggregate form for all commercial banks as published in annual financial statements in Kenya for a period of 10 years starting 2005-2015. The data was collected in quarterly periods for the 10 years under study. The data was collected from the commercial banks and non-bank financial institutions annual financial statements. Other sources include statistics from the Credit Reference Bureau in Kenya. M-pesa transaction data shall be obtained from Safaricom annual reports.

3.6 Analytical Model

The study adopted a multiple linear regression model to which ran on the bank disintermediation measures. The equation representing multiple regression model is as given below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$$

Where;

Y = Dependent variable

β_0 = Constant term (equation constant)

β_i = Beta coefficients of explanatory variables

X_i = Independent (or explanatory) variables

ε = Error term

The model to be used for this study is as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \varepsilon$$

Y = Proportion of NBFI deposits to total bank deposits

β_0 = Constant term (equation constant)

β_1 = Beta coefficients of explanatory variables

X_1 = Number of requisitions made to Credit Reference Bureau

X_2 = Number of M-Pesa transactions

X_3 = Number of new products by mutual funds

ε = Error term

Ratio of NBFI deposits to total bank deposits

The study used this ratio as a measure of disintermediation within the banking sector. The growth of non-banking financial institutions deposits would imply some level of disintermediation whereby savers have transferred deposits to the NBFIs. This is an intermediation ratio employed by Schmidt et al (1997).

3.7 Test of Significance

The study employed the use of Analysis of Variance (ANOVA) and its preferred in the study since it enables performance of simultaneous test hence considered an important tool of analysis (Kothari, 2004). Tests of significance included the R^2 tests as well as F-statistics which tests the significance of the relationship between the dependent and independent variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the research findings on determinants of financial disintermediation among commercial banks in Kenya. The study used secondary data used in aggregate form for all commercial banks as published in annual financial statements in Kenya for a period of 10 years starting 2005-2015. The data was collected in quarterly periods for the 10 years under study. The data was collected from the commercial banks and non-bank financial institutions annual financial statements. The independent variables used in the study were; number of requisitions made to Credit Reference Bureau, number of new products by mutual funds and number of M-Pesa transactions.

4.2 Descriptive Statistics

This section provides a description of the data variables used in the study to investigate the determinants of financial disintermediation within the commercial banks in Kenya. Table 4.1 provides a summary of the data where the number of observations (N), mean and standard deviation is given.

Table 4.1: Descriptive Statistics

Years	Number of requisitions made to C. R. B	Number of new products by mutual funds	Number of M-Pesa transactions
2005	179,966	11,966	0
2006	289,815	18,115	0
2007	299,824	19,904	0
2008	1,213,944	27,750	0
2009	1,215,456	32,991	134,109

2010	2,215,613	29,999	790,245
2011	2,216,201	31,101	1,303,452
2013	3,218,555	34,332	4,454,610
2014	4,220,100	30,231	8,321,567
2015	5,216,008	31,750	10,445,245
Total	20,285,482	272,139	25,449,228

Source: Research Findings

From the results, the lowest Number of requisitions made to Credit Reference Bureau was 179,966 in 2005 while the highest was 5, 216,008 in 2015. The findings revealed that there have been a significant increase in number of requisitions made to Credit Reference Bureaus during the ten-year period. From the results, the lowest number of new products by mutual funds was 11,966 in 2005 while the highest was 34,332 in 2015. the findings revealed that there have been an irregular trends the number of new products by mutual funds during the ten-year period.

From the results, the lowest number of M-Pesa transactions was 0 for the first four years (2005 to 2008) while the highest was 10,445,245 in 2015. The findings revealed that there have been a significant increase in number of M-Pesa transactions during the ten-year period. This findings support findings by Bossone (2001) that “M-Pesa’s success attributed to the increased access to mobile phones in developing countries”. Studies show that in the first three months of the year 2015, Africa had had almost a billion mobile subscribers and close to 4 billion subscribers in Asia. Projections have shown that in future, active mobile phone lines will be more than the world population.

4.3 Correlations

The Karl Pearson’s product-moment correlation method was used to analyse the association between financial disintermediation and the various independent variables. The variables under study include the number of requisitions made from the credit

reference bureau, number of M-pesa transactions and number of new products from mutual funds. The sample correlation coefficient, which is denoted r , has a range that falls between -1 and +1. This range portrays in numerical form the direction and strength of the linear association between the two variables. At value 0, there is no relationship. A value greater than 0 shows that there is a positive correlation between the variables being studies while that below 0 refers to a negative association. Negative association means than when one variable is increasing, the other is decreasing. Table 4.2 represents the correlation matrix.

Table 4.2: Correlations

		Proportion of NBFIDeposits to total bank deposits	Number of requisitions made to C. R. B	Number of new products by mutual funds	Number of M-Pesa transactions
Proportion of NBFIDeposits to total bank deposits		1			
Number of requisitions made to C. R. B	Pearson Correlation	.522	1		
	Sig. (2-tailed)	.004			
Number of new products by mutual funds	Pearson Correlation	.493	.428	1	
	Sig. (2-tailed)	.002	.145		
Number of M-Pesa transactions	Pearson Correlation	.866	.010	.526	1
	Sig. (2-tailed)	.000	.244	.360	

From the finding in the table above, the study found that there was positive correlation coefficient between Proportion of NBFIDeposits to total bank deposits and number of requisitions made to C. R. B as shown by correlation of 0.522. The study also noted a positive relationship between proportion of NBFIDeposits to total bank deposits and

number of new products by mutual funds depicted by an r factor of 0.493. This was a significant relationship at 0.002 level. The study noted a strong positive relationship between proportion of NBFIs deposits to total bank deposits and number of M-Pesa transactions depicted by correlation coefficient of 0.866 at 0.000 level of confidence. As observed correlation values between the number of requisitions made to C. R. B, Number of new products by mutual funds and number of M-Pesa transactions were greater than 0.05 and therefore positively correlated with NBFIs deposits to total bank deposits.

4.4 Multiple Regression 2005 to 2015

This covers the outcome of the multiple regressions done for the data collected.

Table 4.3: Model Summary 2014

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.643a	.413	.132	.45989

a. Predictors: (Constant), Number of requisitions made to C. R. B, Number of new products by mutual funds and Number of M-Pesa transactions.

In this study, a multiple regression analysis was used in the analysis of the relationship between the dependent variable (Ratio of NBFIs deposits to total bank deposits) and the independent variables (number of requisitions made to the Credit Reference Bureau, number of M-Pesa transactions and number of new products introduced by mutual funds). The research was done using SPSS version 20; statistical software used to analyze data. A 95% confidence interval and a 5% level of confidence were assumed.

$R = 0.643$ is the correlation between the observed values of dependent variable. R having a positive value above 0.5 indicated that all independent variables are strongly positively correlated with the dependent variable. $R^2 = 0.413$ which means that that 41.3 percent of the disintermediation factor has been explained by the independent variables under study. (Number of requisitions made to C. R. B, number of new products by mutual funds and Number of M-Pesa transactions). This is an overall measure of the association strength

and not the extent of how each independent factor affects the dependent variable. This in a nut shell means the proportion of NBFIs deposits to total bank deposits can be more accurately measured if more independent variables are introduced.

Table 4.4: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.329	3	29.443	2.5181215	.0178b
	Residual	2891.501	39	74.1410513		
	Total	2979.83	42			

Critical f value= 2.109

- a. Dependent Variable: Proportion of NBFIs deposits to total bank deposits
- b. Predictors: (Constant), Number of requisitions made to C. R. B, Number of new products by mutual funds and Number of M-Pesa transactions.

Analysis of Variance is a statistical method used to test differences between two or more variables. These values are used to determine if the independent variables reliably predict the dependent variable and thus the suitability of the model. From the ANOVA findings the computed value of F is greater than the tabulated value ($2.518 > 2.109$). This depicts that the number of requisitions made to C. R. B, number of new products by mutual funds and number of M-Pesa transactions all have a significant effect on proportion of NBFIs deposits to total deposits of commercial banks in Kenya. The significance value was less than 0.05 which is a clear indicator that the model is significant.

Table 4.5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.921	.241		3.822	.000
	Number of requisitions made to C. R. B	.497	.101	.357	4.921	.000
	Number of new products by mutual funds	.489	.104	.376	4.702	.002
	Number of M-Pesa transactions	.431	.128	.333	3.367	.003

a. Dependent Variable: Proportion of NBFI deposits to total deposits of commercial banks Predictors: (Constant), refers to the number of requisitions made to C. R. B, Number of new products by mutual funds and Number of M-Pesa transactions. Dependent Variable: Proportion of NBFI deposits to total deposits. From the table above, the regression equation below was derived.

$$Y = 0.921 + 0.497X_1 + 0.489X_2 + 0.431X_3$$

From the regression model obtained above, Constant = 0.921, shows that if all the independent variables (number of requisitions made to C. R. B, number of new products by mutual funds and number of M-Pesa transactions) are rated as zero, the proportion of NBFI deposits to total deposits of commercial banks would rate 0.921. If all other factors are held constant, a unit increase in number of requisitions made to C. R. B led to 0.497 increase in proportion of NBFI deposits to total deposits of commercial banks. A unit increase in number of new products by mutual funds while other factors are constant would lead to an increase in proportion of NBFI deposits to total deposits of commercial banks by a factor of 0.489, a unit change in Number of M-Pesa transactions while holding the other factors constant bring about an increase of 0.431 in the proportion of NBFI deposits to total deposits in Kenya commercial banks. This implied that number of requisitions made to C. R. B had the highest influence on proportion of NBFI deposits to total deposits of commercial banks (p - value .000).

T Test: Tests results for significance are calculated by the SPSS and this is represented by two columns under t and Sig. The two columns indicate the t-value and 2 tailed p-value which tests the null hypothesis $H_0: \beta_j \neq 0$ $H_0: = \beta_j 0$. A 5% significance level was used in the analysis. In order to determine if the predictor variables are significant, the probability value is assumed to be $\alpha = 0.005$. If value obtained is less than $\alpha = 0.05$, then the variable is significant and vice versa. In this study, the predictor variables observed were noted to be significant.

4.4 Summary of the Findings

From the findings, the lowest Number of requisitions made to Credit Reference Bureau was 179,966 in 2005 while the highest was 5, 216,008 in 2015. The findings revealed that there have been a significant increase in Number of requisitions made to Credit Reference Bureau during the ten-year period. From the results, the lowest number of new products by mutual funds was 11,966 in 2005 while the highest was 34,332 in 2015. the findings revealed that there have been an irregular trends the number of new products by mutual funds during the ten-year period. From the results, the lowest number of M-Pesa transactions was 0 for the first four years (2005 to 2008) where data may not be publicly available for the year 2007 when Mpesa launched, while the highest was 10,445,245 in 2015. The findings revealed that M-pesa use has grown in the last 10 years.

R-Square=0.413 value shows that 41.3% of the variance in the dependent variable number of requisitions made to C. R. B, number of new products by mutual funds and number of M-Pesa transactions. This is an overall measure of the association strength and not the extent of how each independent factor affects the dependent variable. This in a nut shell means the proportion of NBFIs deposits to total bank deposits can be more accurately measured if more independent variables are introduced.

From the ANOVA findings the computed value of F is greater than the tabulated value ($2.518 > 2.109$). This shows that the independent variables all have significant effects on proportion of NBFIs deposits to total deposits of commercial banks in Kenya. From the regression model obtained above, Constant = 0.921, shows that if all the independent

variables (Number of requisitions made to C. R. B, Number of new products by mutual funds and Number of M-Pesa transactions) all rated as zero, proportion of NBFI deposits to total deposits of commercial banks would rate 0.921. Without any other factors influencing the equation, a unit increase in Number of requisitions made to C. R. B led to 0.497 increases in proportion of NBFI deposits to total deposits held by commercial banks. A unit increase in Number of new products by mutual funds while holding the other factors constant would lead to an increase in proportion of NBFI deposits to total deposits of commercial banks by 0.489. A unit change in Number of M-Pesa transactions while holding the other factors constant would result in a 0.431 in growth of proportion of NBFI deposits to total deposits of commercial banks. This implied that Number of requisitions made to C. R. B had the highest influence on proportion of NBFI deposits to total deposits of commercial banks (p - value .000).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

From the data collected and analysed in the previous chapter, this chapter provides a summary, conclusion and recommendations made from this study. The chapter seeks to answer the objectives of the study.

5.2 Summary of Findings

The objective of this research was to investigate the determinants of disintermediation within the Kenya banking sector. The study used secondary data used in aggregate form for all commercial banks as published in annual financial statements in Kenya for a period of 10 years starting 2005-2015. The data was collected in quarterly periods for the 10 years under study. The data was collected from the commercial banks, mutual funds, Safaricom and the Credit Reference Bureau in Kenya. The independent variables used in the study were; number of requisitions made to Credit Reference Bureau, number of new products by mutual funds and number of M-Pesa transactions. The measure used for disintermediation was the ratio of total non-bank NBFIs deposits to total bank deposits.

As per the findings, the lowest number of requisitions made to Credit Reference Bureau was 179,966 in 2005 while the highest was 5, 216,008 in 2015. The findings revealed that there have been a significant increase in number of requisitions made to Credit Reference Bureau during the ten-year period. From the results, the lowest number of new products by mutual funds was 11,966 in 2005 while the highest was 34,332 in 2015. the findings revealed that there have been an irregular trends the number of new products by mutual funds during the ten-year period. From the results, the lowest number of M-Pesa transactions was 0 for the first four years (2005 to 2008) while the highest was 10,445,245 in 2015. The findings an increasing trend in the growth of the number of M-Pesa transactions during the ten-year period.

The study found that there was positive correlation coefficient between proportion of NBFI deposits to total bank deposits and the number of requisitions made to C. R. B as evidenced by correlation factor of 0.522. It also found positive association between proportion of NBFI deposits to total bank deposits and number of new products by mutual funds as indicated by a coefficient factor of 0.493. This was also a significant relationship at 0.002 level. A strong positive relationship between proportion of NBFI deposits to total bank deposits and number of M-Pesa transactions was noted as indicated by a coefficient of 0.866. As observed correlation values between the number of requisitions made to C. R. B, number of new products by mutual funds and number of M-Pesa transactions were greater than 0.05 and therefore positively correlated with NBFI deposits to total bank deposits.

The R squared factor was computed to be 0.413 R which indicated that 41.3% of the variance in the ratio of NBFI deposits to total deposits was influenced from the independent variables i.e. number of requisitions made to C. R. B, number of new products by mutual funds and number of M-Pesa transactions. From the ANOVA findings the value of F computed was larger than the tabulated value ($2.518 > 2.109$) which meant that number of requisitions made to C. R. B, number of new products by mutual funds and number of M-Pesa transactions all have a significant effects on Proportion of NBFI deposits to total deposits.

From the regression model obtained above, Constant = 0.921, shows that if all the independent variables (number of requisitions made to C. R. B, number of new products by mutual funds and number of M-Pesa transactions) all rated as zero, proportion of NBFI deposits to total deposits of commercial banks would rate 0.921. With other factors constant, a unit increase in number of requisitions made to C. R. B led to 0.497 increase in proportion of NBFI deposits to total deposits of commercial banks. A unit increase in number of new products by mutual funds without influence by other factors would lead to a growth in proportion of NBFI deposits to total deposits by a factor of 0.489, a unit change in Number of M-Pesa transactions while holding the other factors constant would lead to a change of 0.431 in growth of proportion of NBFI deposits to total deposits. This

implied that Number of requisitions made to C. R. B had the highest influence on proportion of NBFIs deposits to total deposits of commercial banks (p - value .000).

5.3 Conclusion

Correlation and regression analysis was used on the data collected for a 10 year period that is 2005 to 2015, to check determining factors of disintermediation in Kenya banking sector and check whether there was a trend towards disintermediation. This was done using a ratio of non-banking financial institution deposit to bank deposits as a measure of disintermediation in Kenya. The results indicate that the three independent variables have a positive correlation with the dependent variable. Kenya has shown an increase in the ratio of the NBFIs deposits to total deposits. This indicated the growing popularity of the non-bank financial institutions. The results indicate that various factors especially financial innovation would lead to a disintermediation when measured by checking the relationship between the independent variables and the ratio of total deposits by non-bank financial institutions to total bank deposits. Technological innovations such as money transfer services and mutual fund products would act as an incentive for consumers to continuously invest in non-bank institutions. The study therefore indicates that financial innovation such as the invention of the money transfer services can determine and cause financial disintermediation. The offering of new products by mutual funds can also cause a level of disintermediation in the markets. This is because the mutual funds offer an alternative form of saving for consumers. Individuals and corporates may often choose to invest in these fund products rather than having monies in the banks. The returns from the mutual funds are often considered higher than what banks would offer. Credit information sharing was only available in Kenya after the year 2010. One of the impacts of credit information sharing is the fact that consumers with poor ratings can be locked out of the banks' lending. This would in turn push them to non-bank financial institutions where they would be able to easily save and borrow.

5.4 Recommendations

From the findings and conclusions in this chapter, it is clear that financial innovation is directly linked to disintermediation. This study portrays the increasing popularity of the

non-bank financial institutions. This may have come about since this NBFIs offer better returns for savers. Mobile money has made it easier to invest in products offered by the non-bank institutions. These popularity of these institutions offers increased competition to banks and in coming years, the banks would begin to feel the pressure on their earnings. There is therefore a need for commercial banks to come up with strategies that would enable them survive the competition pressure from the non-bank financial institutions. Technological advancements such as use of mobile phone applications and swipe cards to process and facilitate advancing of credit need to be at the forefront of the banks businesses. Banks will continue to face competition even in their traditional roles such as lending. This has been demonstrated by corporations such as Amazon and Google introducing lines of credit and small loans programs. The study therefore recommends that banks should diversify their product offering to ensure increasing trend on their profits.

By enabling users to transfer money to each other and make payments directly to businesses and service providers, mobile money platforms cut down on corruption by reducing the need to operate in a cash-only economy. As a result, M-Pesa's empowers individuals and supports entrepreneurial creativity in a less constrained financial marketplace. Due to increased use of M-pesa, there is need for commercial banks to incorporate M-pesa into their offerings either through withdrawals or fund disbursement. That can be an area of revenue generation for this banks.

In most African countries, unless people plan to apply for a new credit card or loan, most people give little or no thought to their credit scores. For those who lack credit, the achievement of a score is often a vicious cycle. Barely one-fifth of the Kenyan population has a valid credit score, and hence, most Kenyans are unable to get a loan from an NBFC or bank in the country. Further complicating this scenario are economic pressures that are driving the demand for more granular credit decision insight that traditional credit scoring models cannot provide. Given this context, alternative credit scoring can help lenders establish a reasonable basis for extending credit by accessing data streams that traditional credit bureaus currently do not tap into. NBFIs that have focused on traditional data

sources to extend lending need to realise the value of alternative data and the need to invest in technology and analytics to develop advanced credit scoring models that incorporate non- traditional data sources. Only then will they be able to participate in the wave of change that has the potential to extend lending to India's creditworthy yet financially excluded population, and also simultaneously assisting the Indian government to achieve its goal of full financial inclusion.

5.5 Limitations of the Study

Various sources normally give distorted data for the same variable and as such the study the study only used secondary data from published reports by banks, mutual funds and Safaricom records. It was not easy to obtain data for instance for the year Mpesa was launched. It was difficult to obtaining data for the year prior to 2008 as it was not readily available.

The study used time series data for a period covering 10 years and is therefore limited to the extent of time series data limitations. The study only focused on one financial disintermediation indicator whereas there may be other indicators which would have given a complete picture on the financial disintermediation trend and other determinants of this phenomenon.

5.6 Areas of Further Research

The purpose of this study was to investigate the determinants of disintermediation within the Kenya banking sector therefore; the study recommends that another study be done to investigate the factors influencing financial innovations in the financial institutions in Kenya including: commercial banks, SACCOS, microfinance institutions and Mortgage companies. This would assist in determining the extent to which the financial institutions have adopted financial innovation and thus enhancing financial performance. Another Study should be carried out to find out the challenges faced by commercial banks when implementing the financial innovation strategies. Finally, Study should be carried out to find out other factors that influence financial performance of commercial banks. This could include organizational structure and product pricing.

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APPENDICES

Appendix I: Table 1

	Licensed commercial banks
1	ABC Bank (Kenya)
2	Bank of Africa
3	Bank of Baroda
4	Bank of India
5	Barclays Bank of Kenya
6	CfC Stanbic Holdings
7	Charterhouse Bank Limited
8	Chase Bank Kenya (In Receivership)
9	Citibank
10	Commercial Bank of Africa
11	Consolidated Bank of Kenya
12	Cooperative Bank of Kenya
13	Credit Bank
14	Development Bank of Kenya
15	Diamond Trust Bank
16	Ecobank Kenya
17	Equitorial commercial bank
18	Equity Bank
19	Family Bank
20	Fidelity Commercial Bank Limited
21	First Community Bank
22	Giro Commercial Bank
23	Guaranty Trust Bank Kenya[10]
24	Guardian Bank
25	Gulf African Bank
26	Habib Bank
27	Habib Bank AG Zurich

	Licensed commercial banks
28	I&M Bank
29	Imperial Bank Kenya (In receivership)
30	Jamii Bora Bank
31	Kenya Commercial Bank
32	Middle East Bank Kenya
33	National Bank of Kenya
34	NIC Bank
35	Oriental Commercial Bank
36	Paramount Universal Bank
37	Prime Bank (Kenya)
38	Sidian Bank
39	Standard Chartered Kenya
40	Trans National Bank Kenya
41	United Bank for Africa
42	Victoria Commercial Bank