Factors That Inhibit the Development of Financial Derivatives in the Kenyan Financial Sector

BY
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SPRING 2016
DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: _________________________ Date: _________________

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This project has been presented for examination with my approval as the appointed supervisor.

Signed: _________________________ Date: _________________

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Dean, Chandaria School of Business
ABSTRACT

This study investigated the factors that hinder the development of financial derivatives in the Kenyan financial sector and had the following specific objectives: To establish the financial derivatives used in the Kenyan financial market, to establish the factors that enable usage of financial derivatives in the Kenyan financial market, to ascertain the challenges experienced by Kenyan Commercial Banks in development of financial derivatives and to propose Strategies to be used in addressing the challenges of developing financial derivatives in Kenya.

The study was conducted through a descriptive survey of 44 commercial banks in Kenya as at June 2014 and focused on the banks’ trading in financial derivatives. A total of 22 respondents composed of 8 top level managers, 7 middle level managers, 5 line managers and 2 risk officers were selected from the 22 commercial banks that formed the sample of study. The sample consisted of 7 subsidiaries of international commercial banks and 15 local commercial banks. Data was collected using self-developed questionnaire and administered with the help of a trained research assistant. The data was analysed through univariate analysis with the help of the Statistical Package for Social Sciences software (SPSS). This gave distribution measures for the data collected such as frequency and percentages. The qualitative data was presented in narrative form under relevant identified themes while the quantitative data was presented in form of figures and tables including charts and tables.

The study found that the Kenyan Financial market is still in the development stage as characterised by the domination of over the counter financial derivatives like forward contracts, options and swaps and the non-existence of the more sophisticated exchange traded financial derivative instruments like structured notes and credit derivatives. Usage of financial derivatives in Kenya, was also found to be enabled by the need for firms and financial institutions to hedge risk of losses from volatility of interest rates and the fluctuating value of the Kenyan currency. Trading in Options and currency swaps was found to be enabled by the adequacy of liquidity. The study also found the main challenge facing commercial banks in their bid to develop financial derivatives in Kenya to include poor structural facilities including inaccessibility to trading platforms, poor trading systems, weak trading rules and non-existence of a central counterparty. The study also concluded that the development of financial derivatives in Kenya would only be possible if market players including commercial banks and government agencies invested heavily in structural facilities.
The study recommends that the Capital Markets Authority, Nairobi Securities Exchange and the credit referencing bureaus in Kenya take advantage of the high liquidity levels among the multinational corporations and financial institutions to increase trade volumes in forward contracts, swaps and options. The study also recommends a similar study incorporating respondents from regulatory agencies like Central Bank of Kenya and Capital Markets Authority in order to widen the awareness of the factors hindering development of financial derivatives in Kenya.
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United States International University
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Finally, I am deeply grateful to the Almighty God who makes all things possible and for giving me strength, good health and sound mind throughout the study period.
DEDICATION

I dedicate this research project to the Almighty God for the grace, mercy and blessings that have seen me through.

To my sweetheart Nancy who encouraged me whenever I felt like giving up.
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ATS</td>
<td>Automated Trading System</td>
</tr>
<tr>
<td>BIS</td>
<td>Bank of International Settlements</td>
</tr>
<tr>
<td>CBK</td>
<td>Central Bank of Kenya</td>
</tr>
<tr>
<td>CMA</td>
<td>Capital Markets Authority</td>
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<tr>
<td>EME</td>
<td>Emerging Middle Economies</td>
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<tr>
<td>EUR</td>
<td>Euro</td>
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<tr>
<td>FRA</td>
<td>Forward Rate Agreements</td>
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<tr>
<td>FX</td>
<td>Foreign Exchange</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>IOs</td>
<td>Interest Only Securities</td>
</tr>
<tr>
<td>ISD</td>
<td>Investment Services Directive</td>
</tr>
<tr>
<td>JSE</td>
<td>Johannesburg Stock Exchange</td>
</tr>
<tr>
<td>KES</td>
<td>Kenya Shillings</td>
</tr>
<tr>
<td>NSE</td>
<td>Nairobi Securities Exchange</td>
</tr>
<tr>
<td>OTC</td>
<td>Over the Counter</td>
</tr>
<tr>
<td>PAC</td>
<td>Planned Amortization Classes</td>
</tr>
<tr>
<td>Pos</td>
<td>Principal Only Securities</td>
</tr>
<tr>
<td>R &amp; D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>SAFEX</td>
<td>South African Futures Exchange</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub Saharan Africa</td>
</tr>
<tr>
<td>TFP</td>
<td>Total Factor Productivity</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>USA</td>
<td>United States of America</td>
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<tr>
<td>USD</td>
<td>United States Dollar</td>
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<td>ZAR</td>
<td>South African Rand</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study
Financial derivatives comprise instruments whose value can be derived from a unit or various underlying financial assets. The underlying asset may be a financial security, a class of securities index, or some mix of securities, indexes, and commodities (Balvinder, 2005). Pandey (2011) further posited that derivatives are financial instruments under which there was a pay-off derived from another asset hereby referred to an underlying asset. The major distinguishing factor is that these items do not carry independent values, rather they have derived values. Over time, derivatives have engraved themselves into a significant place in the finance and risk management circles. A major concern for investors, analysts, managers and shareholders around the world has been management of financial risks. According to Balvinder (2005), derivatives are useful in managing foreign exchange rate fluctuations and interest rate risks. While these instruments are only one tool of risk management, the use of derivatives can be interpreted as a proxy for corporate risk management, and various theories have established a case for hedging at the firms level based on market imperfections such as underinvestment, price and exchange rate volatility, taxes, financial distress and management incentives (Pandey, 2011).

According to UNCTAD (2006), the liberalization of global financial market and advancements in technological innovation has led to a surge in the rapid development and adoption of financial derivatives markets. These advancement in technology have been identified as key in managing global and domestic commodity price risks. According to Brigham (2005) risk management tools are gradually overtaking government support programmes. Brigham (2015) argues that this is seen as a proactive approach for minimizing uncertainty. Adelegan (2009) concurs with this assertion and further argues that these risk management tools facilitate an alternative for raising price predictability, eventually guaranteeing producer income stability. Adelegan (2009) notes that the rapid expansion in world trade has led to exponential income growth in emerging markets. This has elevated demand for all services and products. Furthermore, it has contributed to greater price volatility, validating the need for instruments that could mitigate uncertainties associated with unexpected price changes (Adelegan, 2009).
The Bank for International Settlement Report (2014) indicates that the derivatives market is the second largest single segment of the world financial market. As of June 2007, the global derivatives market amounted to EUR457 trillion in terms of notional amount outstanding. By this measure, the derivatives market is more than four times larger than the combined global equity and bond markets measured by market capitalization. However, the estimated gross market values of all derivatives outstanding total only EUR10 trillion, which is markedly lower than the equity and bond markets with a market capitalization of EUR43 trillion and EUR55 trillion, respectively (Mishkin and Eakins, 2012).

The derivatives market is the fastest growing segment of the financial sector (Chicago Mercantile Exchange Holdings, 2006). Since 1995, its size has increased by around 24 percent per year in terms of notional amount outstanding, far outpacing other financial instruments such as equities (11 percent) and bonds (9 percent). The Bank of International Settlements report (2010) holds that derivatives markets in EMEs remain small compared to those in advanced economies. Average daily turnover of derivatives in 33 EMEs for which data are available was USD1.2 trillion in April 2010 (6.2% of those economies’ GDP), compared to USD13.8 trillion (36% of GDP) in advanced economies. Though small, derivatives markets in EMEs have expanded rapidly: average daily turnover has increased by 300% since 2001, and by 25% over the past three years, despite the crisis in 2008–09. This was higher than the growth of turnover in advanced economies (250% since 2001, and 22% since 2007). The report also contends that OTC derivatives are relatively more important in emerging markets than in advanced economies. In EMEs, derivatives are traded in almost equal proportions over the counter and on exchanges (Ross et al, 2010).

Evidence shows the South African Futures Exchange recorded growth out of informal market forces in April 1987 (Adelegan (2009). During the period, Rand Merchant Bank, a local merchant founded an informal financial market. These were subsequently followed by introduction of option contracts in October 1992, followed by agriculture commodity futures in 1995 and the realization of a fully automated trading system in May 1996. Since 1990, the operation of The Equity Derivative division of the Johannesburg Stock Exchange (JSE) has seen tremendous growth coordinating trading activities in warrants, single stock futures (SSF), and equity indices. There is also trading in interest rate futures and options. The major Market players are retail investors, professional traders, asset managers and short–term equity traders (Vashishtha and Kumar, 2010).
The growth and economic efficiency of derivatives industry, both in developed and emerging sub-Saharan market, relies on international harmonization of accounting standards based on fair – market valuation (Duffie, 2007). The provision of information that is crucial to investment decisions and corporate governance is greatly influenced by effective accounting disclosure. It’s generally evident that derivatives pose special challenges to effective accounting disclosure. The fair market values of some types of derivatives can be difficult to estimate because of reliance on complex mathematical models, whose empirical relevance or inputs are often difficult to validate. This has been especially the case for structured credit products that are exposed to the degree of correlation of default of different borrowers. Moreover, a derivative contract can pack a lot of economic exposure into a contract that has little or no market value when written (Mihaljek and Packer, 2010).

In terms of the usage of financial derivatives by comparison, advanced economies account for almost two thirds of derivatives traded on exchanges and 38% of these are over the counter. Conversely, derivatives are not well understood or exchange-traded anywhere in Africa. This is with the exception of South Africa, Ghana and Nigerian Banks. In this case, they seem to have recognized that the next challenge lies with understanding, mastering and implementing the concepts embedded in high finance and have begun a prognosis of the prospects of Financial Derivatives (Mishkin and Eakins, 2012. This can be attributed to evidence that shows that financial markets have increasingly have become subject to greater swings in interest rate movements than in past decades. As a result, strategies to address various challenges of developing financial derivatives have inclined towards appealing to corporate treasurers who wish to take advantage of favourable interest rates in the management of corporate debt without the expense of issuing new debt securities. For example, if a corporation has issued long term debt with an interest rate of 10 percent and current interest rates are 8 percent, the corporate treasurer may choose to exchange (swap), interest rate payments on the long term debt for a floating interest rate, without disturbing the underlying principal amount of the debt itself. These strategies works without market interruptions (Levinson, 2006).

Ideally, and as Levinson, (2006) postulated, the derivatives market development is part of the financial market development and encompasses the following aspects: Improvement of the usage of the financial derivatives, establishing the factors that enable usage, researching on the challenges and establishing the strategies that would be used to mitigate the challenges.
For optimal efficiency and competitiveness of the sector, there is need for availability of a wide range of financial services. This will lead to increase in diversity of institutions, increase in the amount of money intermediated through the financial system, enhancing capital allocation by private sector and enhancing regulation and stability of the financial sector. This improves access to more financial services by the population (Madura, 2011).

1.2 Statement of the Problem
A study conducted by Alberta Market Solutions Limited (2003) on the key success factors in building a new derivative market found out that the pre-requisites for successful financial derivatives market development and growth include good governance in terms of the rule of law, good public sector management and fight against of corruption. It also includes macroeconomic stability, financial market safety nets and competitive environment, a robust legal framework, technology, institutional reforms, regulatory institutions, need for risk diversification and innovations in financial markets (development of new products, formation of new institutions, embracing new technology and other aspects that portray newness in the financial markets (Endl, 2012).

Adelegan (2009) conducted a study on the derivatives market in South Africa and recommends that strong regional cooperation is critical for the establishment of a regional derivatives market to enable African countries insure against the volatility of capital flows. Global Analytics Consulting Limited (2012), conducted a study on why Nigerian Banks are understudying financial derivatives and found out that any person, organization or entity, whose rate of learning is less than, or equal to the rate of change in its environment, is gradually becoming extinct because financial derivatives is the next step forward for commercial banks, a crown to the financial sector and the imperative banking reforms. From the above, it is clear that financial derivatives development in the developed world market is at its peak, and in the Emerging Middle Economies (EMEs) it is in its upward trend. Nonetheless, in Africa (Kenya’s financial Market included); derivatives development is still at its infancy stage; with non-existent Exchange Traded Derivatives and under-developed OTC derivatives markets, except for South Africa, Ghana and Nigeria. The various studies referred to above despite being recent and Africa oriented; have actually focused on other African Markets and no specific study on the Kenyan Financial Sector has been conducted. Secondly, while the findings and recommendations of the studies can be applied in Kenya there is still need to identify the unique factors that hinder development of financial
derivatives in Kenya. Lastly, the recent up-gradation of Nairobi Stock Exchange to Nairobi Securities Exchange is a clear indication that derivatives’ trading is the next possibility of the Kenyan financial sector and a study on the specific hindrances to the development of financial derivatives instruments shall be timely and highly valuable.

1.3 Purpose of the Study
The purpose of the study was to investigate the factors that inhibit the development of financial derivatives in the Kenyan financial Sector.

1.4 Research Questions
1. Which financial derivatives are used in the Kenyan financial market?
2. What factors enable usage of financial derivatives in the Kenyan financial market?
3. What challenges are experienced by Kenyan Commercial Banks in development of financial derivatives?
4. Which strategies are used in addressing the challenges of developing financial derivatives in Kenya?

1.5 Importance of the Study
This study is of great significance to scholars, practitioners and regulators within Kenya, Africa and the entire world financial market as discussed below.

1.5.1 Scholars
This study increases the knowledge on how Financial Derivatives can be developed in the Kenyan financial market. The knowledge is applicable to other markets and forms theoretical frameworks that can be quoted in academic and research papers across the world.

1.5.2 Practitioners
Management teams of banking institutions can use the findings of this study to understand and appreciate the necessary environment for financial derivatives to thrive. The study also sheds light on major criticisms, shortcomings and risks that are associated with financial derivatives instruments. In general, commercial banks practitioners and other participants in the Kenyan financial sector can use the findings to improve on the nature, organization and capital outlay of their present and future financial derivatives investments.

1.5.3 Regulators
The regulators like the Capital Markets Authority, Central Bank of Kenya and Kenya Bankers Association can use the findings, recommendations and conclusions of this study to enact and improve regulation and operation procedures of financial derivatives in Kenya.
1.5.4 Commercial Banks
The commercial banks will use the findings and recommendations of this study to allocate resources to the areas that will spur growth of financial derivatives and deliver greater returns to their shareholders.

1.6 Scope of the Study
The study focused on both multinational and local commercial banks in Kenya. The banks were chosen because they are the main traders in financial derivatives in the Kenyan financial market. Data was collected from the headquarters of the commercial banks located in Nairobi City. The study targeted relevant and subject expert’s employee’s of all 43 commercial banks in Kenya. However, the researcher selected a representative sample of 22 commercial banks and used stratified random sampling to attain a representative sample of 22 respondents. The study was limited to the period between 2005 and 2014.

1.7 Definition of Terms
1.7.1 Derivative
A derivative is a financial contract whose value is based on, or "derived" from, a traditional security (such as a stock or bond), an asset (such as a commodity), or a market index. They are risk-shifting financial instruments that are commonly used to reduce exposure to changes in foreign exchange rates, interest rates, or stock indexes. It’s an asset that derives its value from another asset. Examples of derivatives include, call options, put options, convertible bonds, futures contracts, and convertible preferred stock (Harvey, 2011).

1.7.2 Financial Derivative
This term has been defined in complex and often sinister language. It is defined as a financial instrument that changes in value based on fluctuations of underlying variables. Simple financial derivatives are futures, forwards, options, and swaps. However, over time, financial derivatives cover everything from stock market index moves, consumer price index changes, and even weather conditions (Harvey, 2011).

1.7.3 Over the Counter Derivatives
These are contracts, whether forward contracts, futures, or options which are privately negotiated between two counterparties. The terms of the contracts are customized to suit the parties to the trade (Mervyn, 2010).
1.7.4 Exchange Traded Derivatives
These are contracts traded over a futures exchange. Two important points with exchange traded contracts is that they tend to be liquid and there is no counterparty risk. Exchange traded contracts are based on equities, bonds and short-term interest rates (Mervyn, 2010)

1.7.5 Central Counterparty
This is an independent player in the derivatives market who facilitates exchange of derivatives instruments and bears risk of default. (Harvey, 2011)

1.7.6 Clearing Fund
This is a central fund where market participants get compensated from in case of undue losses while participating in the market. (Harvey, 2011)

1.7.7 Critical Mass
These are the general public members (Harvey, 2011).

1.7.8 Data Vendor
A player in the derivative market who provides necessary data like prices in the market (Harvey, 2011)

1.8 Chapter Summary
This chapter focused on introduction of the concepts of derivatives and financial derivatives. It also explained the context of derivative instruments in the various markets in Europe, America, Middle East, Asia and Africa. It proceeded to state the purpose of the study as an investigation of the factors hindering development of financial derivatives in the Kenyan financial sector. The chapter also described the scope of the study in terms of population of interest; listed commercial banks on Nairobi Stock Exchange; and period of study; between 2005 and 2014. It thus set pace for the evaluation of related literature in line with the study objectives and also the research methodology that shall be able to provide conclusive explanations and establishment of the factors that inhibit development of financial derivatives in Kenya.

The chapter two reviewed the literature available on financial derivatives, use of financial derivative instruments, challenges in development of financial derivatives and the strategies used to address the challenges. It also critiqued the literature on the various factors that inhibit development of financial derivative markets. Chapter three described the methodology used in the study; this included population, sample size and sampling techniques as well as
methods of data collection and data analysis. The chapter also addressed the format in which the results were to be presented. Chapter four presented the results and findings while chapter five provided discussion, conclusions and recommendations for further research.
CHAPTER TWO
2.0 LITERATURE REVIEW

2.1 Introduction
This chapter presents a review of the literature on financial derivatives and the theoretical factors necessary for the development of financial derivatives markets. The chapter is structured on the basis of the research questions: these are, financial derivatives in use, factors that enable usage of financial derivatives, challenges in development of financial derivatives and the strategies to address the challenges of developing financial derivatives.

2.2 Financial Derivatives
Derivatives are securities or financial instruments whose value is derived from the value of another underlying asset (Mishkin and Eakins, 2012). They are a class of assets that can be bought, sold, and traded like other financial instruments such as shares. The underlying assets or instruments on which derivatives can be based include commodities, equities, residential mortgages, commercial real estate, loans, bonds, interest rates, exchange rates, stock market indices, consumer price indices, and weather conditions (Lydenberg, 2007).

There many categories of derivatives. However, the main types in use are options, forward contracts and futures and credit derivatives which are based on loans. Others are structured notes and swaps. The pricing and performance of derivatives is often based on that of the underlying asset, although the reverse may also be true. Derivatives can drive the underlying market and the volumes traded in certain futures and options contracts can even exceed those in the underlying cash markets. Derivatives can be traded on an exchange or in an over-the-counter (OTC) market. The estimated annual global derivatives traded market volume is in the hundreds of trillions of dollars (Tonello, 2006).

2.2.1 Options
An option is merely a contract between two investors. The buyer of the option is, in a sense, betting against the writer (seller) of the option. The cap and floor will have different strike rates but the same maturity date. A borrower’s collar is buying the cap and selling the floor. The lenders collar is buying the floor and selling the cap. In complete markets, option trading should convey no new information to market participants because options are derivative securities and are then redundant [Black and Scholes (1973) and Merton (1973)]. This is logical since the spot and the option markets should reflect simultaneously the arrival of
information. However, in the absence of market completeness, informed traders may prefer to trade options instead of the underlying stocks for a couple of reasons. First, authors such as Black (1975) and Mayhew, Sarin, and Shastri (1995), among others, argue that reduced transaction costs and increased financial leverage may induce informed traders to trade in the option market instead of the stock market, to which we must add the lack of short sales constraints in these markets. Second, Back (1993) and Cherian (1993) point out that investors that bet on volatility can only do so in the options market. Nevertheless, what might dissuade investors from engaging in the above practices is a possible preference to trade in the underlying asset market, which offers a higher level of liquidity than the options market (Rutledge & Bertram, 1995).

2.2.2 Forward Contracts & Futures
According to Njoroge, Matumo, and Maina, (2013), the commonly used derivatives instruments by Kenyan companies are the forward contracts and swaps. Indeed, companies use forward contracts to hedge against their imports and exports while swaps are used when making arrangements to exchange cash flows over time. Furthermore, Nzuki (2010) found out that oil companies in Kenya seem to give due consideration to crude oil price volatility and as a consequence, they use a hybrid of derivatives, mainly futures market and forward contracts.

2.2.3 Credit Derivatives
Alan Greenspan (2004) concluded that credit derivatives and other complex financial instruments have contributed “to the development of a far more flexible, efficient, and hence resilient financial system than existed just a quarter-century ago. He further stated the new instruments of risk dispersion have enabled the largest and most sophisticated banks in their credit-granting role to divest themselves of much credit risk by passing it to institutions with far less leverage (Greenspan, 2004). Statistics from the Bank for International Settlements (BIS 2004) show that the market for credit derivatives has grown dramatically in recent years. The notional amount of credit derivatives increased from $698 billion at the end of June 2001 to $4,664 billion by the end of June 2004, an annual growth rate of 88% (BIS, 2004).

2.2.4 Structured Notes
Structured notes are debt instruments where the principal and/or the interest rate are indexed to an unrelated indicator. An example of a structured note would be a bond whose interest rate is decided by interest rates in England or the price of a barrel of crude oil. Sometimes the two elements of a structured note are inversely related, so as the index goes up, the rate of
payment (the coupon rate) goes down. This instrument is known as an inverse floater. With leveraging, structured notes may fluctuate to a greater degree than the underlying index. Therefore, structured notes can be an extremely volatile derivative with high risk potential and a need for close monitoring. Structured notes generally are traded OTC (Mervyn 2010)

2.2.5 Swaps.
According to Saxena and Villar (2008) a Swap is a simultaneous buying and selling of the same security or obligation. Swaps exist in various states depending on the terms and parties involved. Balvinder (2005) notes that perhaps the best-known Swap occurs when two parties exchange interest payments based on an identical principal amount, called the "notional principal amount". For instance if Party A holds a 10-year USD10,000 home equity loan that has a fixed interest rate of 7 percent, and Party B holds a 10-year USD10,000 home equity loan that has an adjustable interest rate that will change over the life of the mortgage. This in turn implies that if Party A and Party B were to exchange interest rate payments on their otherwise identical mortgages, they would have engaged in an interest rate Swap. Van Horne and Wachowicz (2004) argues that interest rate swaps occur generally in three scenarios: Exchanges of a fixed rate for a floating rate; a floating rate for a fixed rate; or a floating rate for a floating rate.

Another type of a swap is the cross currency swap. Bernanke (2008) describes a cross currency swap as where the interest rates exchanged are in two different currencies. These are the only swaps where there is an exchange of principal. This exchange of principal can occur at the start of the swap but must always occur at the end of the swap. The spot rate used to do the exchange principal is the same at the start and end of the swap (Bernanke, 2008).

2.3 Factors That Enable Usage of Financial Derivatives
According to Saxena and Villar (2008) there are various factors that influence the usage of financial derivatives in any given market. This explains the deviations in volume traded in various derivative markets that are closely or relatively similar. The following are some of these factors.

2.3.1 Trading platforms
It was Mervyn (2010) who identified that a trading platform refers to the market for securities and they are usually organized auction markets with standardized security contracts. There is also the Over the Counter market for securities. The expression over the counter refers to days when securities were literally bought and sold at counters in offices around the world.
However, today, a significant fraction of the market for securities and almost all market for long-term debt have no central location; the many dealers are connected electronically (Ross et al, 2010). In fact, the largest trading platform is the New York Stock Exchange (NYSE) which accounts for more than 85 per cent of the shares traded in auction markets (Ross et al, 2008). Other trading platforms include the American Stock Exchange (AMEX) and regional exchanges such as Pacific Stock Exchange. In Africa we have the South African Futures Exchange and the Johannesburg Stock Exchange (Falconbridge, 2007).

The IMF Working Paper (2012) asserts that trading in South Africa’s derivatives takes place in both the over-the-counter (OTC) market and on the established stock exchanges. Trading on warrants, equity futures and options, and the agricultural commodity futures and options takes place on the JSE. Trading on fixed-income derivatives such as bond futures, FRA, vanilla swaps and standard bond options takes place on the BESA. Trading on interest rate futures and options takes place on both exchanges. Trading on the currency futures and fixed income derivatives (such as interest rate futures) are mainly concentrated in the OTC market. Exchange-based trading on interest rate futures and options commenced in 2003 on the BESA through Intersec, a fixed income derivative platform. Exchange-based trading on currency futures commenced on the JSE currency futures exchange platform in 2007. In Kenya we have the Nairobi Securities Exchange which facilitates trading of common stocks, corporate securities, and government securities and is currently being developed to accommodate derivatives trading (The IMF Working Paper 2012).

2.3.2 Technological innovations

Technology is the label which reflects the convergence of several streams of technical developments, including micro-electronics, computer science, telecommunications, software engineering, and systems analysis (Zuboff 1988). Technology is characterized by integration, internet, and interactivity (Stjernqvist 1997). For the functioning of a derivative market, the software should have the requisite flexibility to handle derivatives trading. If the intention is to trade futures only then it is probably feasible to use a cash market based system, but if options are to be traded, then it will be necessary to use a system that has been specifically built with options functionality. Therefore, the key to the right technological tools and equipment for usage in derivative trading is compatibility with the derivative product being traded and customization to the user of the technology (Mervyn, 2010).
The BIS Annual Report (2011) concludes that the OTC segment operates with almost complete disregard of national borders due to its level of adoption of technology. Derivatives exchanges themselves provide equal access to customers worldwide due to telecommunications advancement. As long as local market regulation does not impose access barriers, participants can connect and trade remotely and seamlessly from around the world (e.g. from their London trading desk to the Eurex exchange in Frankfurt). The fully integrated, single derivatives market is clearly a reality within the European Union (Galati & Heath (2007).

2.3.3 Central counterparty
It is also called the settlement service provider and plays a key role, arranging the settlement and helping investors manage both their cash flow and the flow of securities. This is done first by obtaining confirmation that the seller of a security has a security ready to deliver. If this is not the case then the loan of a security can be arranged to cover the settlement period. The central counterparty is the legal counterparty to all matched trades. But since it is on both the buy and sell side of all trades, the central counterparty is neither a net buyer nor a net seller of securities and does not have any involvement in subsequent clearing and settlement, other than providing information to settlement institutions. (Mervyn, 2010). The largest number of information flows in derivatives trading comes to and from the settlement service provider. It reflects its critical role in the final stage of clearing and settlement.

2.3.4 Intermediaries infrastructure
We also have intermediaries and they refer to the constituency of institutions who have access to requisite skills to service a derivatives exchange, clearing house and customer base. They include commercial banks, investment schemes, brokers, investment banks and other specialised financial and non-financial institutions (Carmichael & Pomerleano 2002).

Commercial banks provide credit for trading in the financial markets. However there is always the risk that the counterparty will default on its obligations under the contract. It is more prominent when future rates change against one party during the course of the contract. From a particular firm’s view, it can be minimized by arranging a contract with a financial institution of good standing or via an exchange where there is appropriate positive attitude towards the products. There should also be enough brokers to serve the market properly. The key attributes amongst the broker community should include prior experience of derivatives at some level, an understanding of the need to market new products to clients and a positive attitude toward the derivative products. A key need in the financial markets is the proper
regulation of all intermediaries to avoid their failure and ensure their participation within the market does not encourage vices like insider trading, excessive marginal trading and withdrawal of information from the critical mass (Mervyn, 2010).

In particular, intermediaries need special tools in the front-office and back-office software which is suited to the specific needs of derivatives trading, clearing and settlement. Some of the infrastructure for front office includes derivatives pricing tools, risk management software to monitor position risk, automated submission of quotes that can interface with the above and with the exchange. The back-office would require client portfolio software able to store derivatives positions, margin calculation for client positions, exercise/assignment and allocation processing tools and interface between derivatives processing and underlying market processing e.g. margin during delivery (Mervyn, 2010).

2.3.5 Clearing Fund
The clearing fund also known as the clearing house should be allowed some independence from the exchange, even if the exchange owns the clearinghouse. The clearing house personnel need to be focused on risk management and the best interests of all market participants without undue interference from exchange operators and governing brokers (Falconbridge, 2007). The clearing house may need to take steps which may not be seen as being in the best interests of the executives of the exchange or the member firms. Secondly, if a clearing house does suffer from a major default which results in its having to use its own assets, it is not desirable that the exchange’s assets should be exposed in this way and so it should be under a separate ownership structure. In this regard the desire of the exchange to protect its assets has the effect of creating a natural independence on the part of the clearing house. Thirdly, it is also preferable to use an existing clearing institution for clearing new derivatives rather than setting up a new one- this makes it easier for members who will generally prefer to be members of as few organisations as possible. It also lowers costs for members and eliminates one of the set-up risks- namely that people may prefer not to subscribe for membership of a new clearinghouse (Baba & Packer, 2009).

2.4 Challenges in Development of Financial Derivatives
Trading in financial derivatives requires an enabling environment in form of stable interest rates, reasonable transaction taxes, adequate liquidity, healthy industry competition and accommodative cultural orientations (Bliss, 2006).
2.4.1 Challenges Emanating From Environmental Factors

Scott (2003) holds that four environmental factors that hinder development of financial derivatives include volatile interest rates, high transaction taxes, inadequate liquidity, unhealthy competition and negative cultural orientations. High or volatile interest rates create demand for risk management using debt derivatives market and thus they might be said to be “good” for an emerging debt derivatives market. However, such an environment is very bad for equity derivatives. The fact that high interest rates tend to coincide with bear markets (and derivatives trading often declines once a bear market has been established), and the threat of high overnight rates can send an equity market into turmoil. This is because arbitrage and market-making is funded by borrowing overnight funds while a high interest cost will force traders to liquidate non-cash positions which creates a downward spiral effect in the stock market. More so volatile interest rates discourages such traders from ever returning to the market even after the crisis is over because they fear that high interest rates will return (Falconbridge, 2007)

If there is a transaction tax payable on underlying transactions (e.g. stocks), this will have a detrimental effect on financial derivatives trading (particularly options) unless the rate is exceptionally low. The same applies to exchange trading and/or clearing fees. The reason for this is that the percentage eats into the very thin margins that are available to market makers. On the other hand, an unusually high transaction tax can be a benefit to a derivatives market if it allows the introduction of products which track the underlying asset values without incurring the tax (Goldberg, 2010).

According to Falconbridge (2007), liquidity in the underlying market implies there is interest in the asset itself and therefore a demand for investors to use derivatives to hedge their exposure to that asset. Without that demand, a derivatives market would rely solely on speculators who are scarcely ever able to sustain a market on their own. Moreover, without that liquidity, potential market makers and other suppliers of liquidity in the derivatives market would be unable to hedge effectively. There is competition from surrogate products. These can pose a challenge to the establishment of nascent derivative products. Many developing markets already have surrogate derivative products, which are effectively competitors to a nascent futures or options market. Therefore a derivatives market must address inefficiencies which are not met by existing products or services- but it is worth
dwelling on developing the nascent products so that the surrogate products can be submerged or improved accordingly (Book, 2001)

Local customs may also have an impact on the derivatives market in addition to the “moral” ones such as a cultural aversion to gambling. In some societies, local clerics have the authority to declare a public holiday without giving notice. If this happens on an expiry date, it creates confusion in the options market in particular since option pricing assumes a fixed expiration day. A similar effect can arise where outside factors regularly halt commercial activity e.g. floods or other extreme weather conditions (Scott 2003)

2.4.2 Challenges Emanating From the Set of Skills of Market Participants

The derivatives market participants can boost trade in the derivatives market if they possess the right set of skills while any shortcomings in the same can be a source of challenges in the usage of financial derivatives. Investors and users in a derivative market include the professional traders, retail investors and institutional investors who engage in the derivatives market with an aim of securing returns on their investments. A truly successful derivatives market should have professional traders, retail investors and institutions all contributing in reasonable proportions and ideally, the type of brokers one targets when trying to secure participation will be ones who can provide a mix of all three types of users. In practice, this rarely happens and the market tends to be dominated by one group or another (Ross et al 2010)

Speculators are the participants who engage in the derivatives market with a view to take advantage of the fluctuating process in assets due to various environmental factors. They aim to gain returns upon buying low and selling high. Options markets often- though perhaps not always- thrive in a culture where there are few outlets for speculative trading. There is no hard evidence to support the correlation between a society’s appetite for gambling and the success of its derivatives markets. But it can be shown that even where gambling is not particularly popular pastime, derivatives market can succeed (Falconbridge, 2007).

Hedging is the art of mitigating risks by buying assets whose prices move in opposite directions so that if of one asset’s prices in one direction the overall effect of the risk is reduced by the other asset’s price movements in a more favourable direction. Hedging is a very vital practice in derivatives market and the hedgers increase trade volumes since
hedging is a necessary tool in asset and liability management of financial institutions (Pandey 2011)

Market making is the art of committing huge capital outlays in the market and determining the prices of assets hence driving other market participants towards the same direction. In order for options markets to thrive, market maker skills are essential. The market operators need to ensure that there are enough skilled people in the trading community to do the job. If necessary, powerful incentives should be offered at the outset to encourage market makers to commit to the market. Without market makers, an options market cannot function (Greene, 2004).

There should be a critical mass of users. This means there needs to be a variety of unconnected participants. Proprietary traders in particular can sometimes cluster within one or two dominant institutions (banks, very often) and this is not a situation that favours growth in the market. If the market structure is one that does not have reasonably diverse participation by people with reasonably different potential market views, then this lowers the likelihood of success of a derivatives market (Ross et al 2010).

Regulators of the derivatives market includes the external and internal mechanisms of controlling and facilitating the trading in derivatives. Internal mechanisms include the exchange rules and regulations and the ethics and standards imposed by the players in their associations. External regulation from the capital market authorities and other government agencies if characterised by outright hostility to the participants and lack of support to the general market environment like interest rate regimes, transaction charges, taxation rate and licensing fees would affect the derivatives market and even discourage investors and other users from participating (Peetz and Genreith, 2011).

The media is a very strong member of the derivatives market and its ability to shape sentiments and perceptions of the market can either grow or suppress the derivatives market’s veracity. For instance, common phrase like “derivatives are weapons of mass destruction” can discourage investors and other users from participating. The media should also take a lead role in publicising and sensitising the market participants on the available opportunities in the market (Ross et al 2010).
2.5 Strategies to Address the Challenges of Developing Financial Derivatives.

These are the necessary physical, environmental, technological, political, legal and regulatory requirements that enable the establishment and entrenchment of the Financial Derivatives Instruments. According to Domowitz & Steil (2002), there are various strategies that are necessary for the development of financial derivatives. These include appropriate legal and regulatory framework, adequate support services, conducive market environment, proper structural facilities, skilled participants and financial sector development.

2.5.1 Legal and Regulatory Framework Strategy

The potential for the law and/or regulators to scupper initiatives should not be underestimated. The following legal and regulatory framework has been discussed by Mervyn (2010) in view of suggesting the appropriate frameworks to support the growth of a derivatives market. These are the laws and regulations that address the legality of derivatives. In many jurisdictions, derivatives trading contravene the laws - particularly those related to gambling. In order to develop financial derivatives, there would be need to change such laws. However, this requires securing of the political will to do so. This can be very time-consuming and complicated if it requires convincing influential authority figures (Kashyap, et al., 2008).

2.5.2 Clearing and Trading Rules

The clearing house and trading rules should be robust and aimed at ensuring continuity of the operations of the derivatives market. The creation of such rules should be through a consultative process of all the market participants with the supervision of the market regulators to ensure that no illegality or malpractice is allowed to infiltrate the market. The clearing house should also have privileges so that it can avoid ranking as regular creditors in the event of a bankruptcy (and thus forced to hand over margin funds which may be needed to protect their own exposure). This sometimes requires responsive change of laws (Mervyn 2010).

The question whether a broker acts as an agent or principal in a derivatives transaction has a crucial impact on the integrity of the clearing operation( if the broker acts as an agent, then an investor may have a claim against the clearing house). Any regulations or laws banning or unreasonably inhibiting proprietary traders’ activities such as providing liquidity when the investor supply and demand is inadequate will be detrimental to the market’s chances of success (Mervyn 2010).
All market participants especially brokers need to be licensed to engage in whatever activity they are doing. The regulator will first need to establish its policy on licensing and then impose its requirements on the intermediaries. Indeed it will extend to clients of those intermediaries and proprietary traders so that all market users will need to make preparations to participate in the market (Galati & Melvin, 2004).

It is commonplace to hear allegations of hedge funds and the like manipulating markets by using derivatives, especially in smaller, less diversified markets and thus the foreigner-ban is often applied even more severely in derivatives markets than in other market segments. Limits on foreign participation may not matter quite as much in the case of futures markets where local participation can generally be relied upon to provide liquidity—at least for the more prominent benchmarks. Nonetheless, the derivatives market is likely to achieve much greater success if overseas investors can use the derivatives market for their own risk management needs and for strategy trading using arbitrage and other risk-based techniques, which can add considerable liquidity to a market (Mervyn 2010).

**2.5.3 Adequate Support Services Strategy**

Support services as described by Peetz and Genreith, (2011) include all the other promotional activities that assist in marketing the derivatives market and growing it through research and development and agitation of its interests. Support service range from marketing services, support from academia, research and development and support from interest groups. Marketing needs should be targeted at all levels of participants whereby intermediaries like brokers need to be sold the idea that derivatives will help their business. The investors need to understand how different tools can help them in their investment objectives. The general public would need to ideally understand what derivatives are and how they work. This is needed to counter the scathing attacks from the media and politicians (King & Mallo, 2010).

A good relationship between the derivatives market and the local academics can be useful for two purposes. First academics can be marshalled to provide support in making the argument about the benefits of derivatives. Business schools tend to be enthusiastic supporters of derivatives and open markets and academics are generally respected by the public. Secondly, educational institutions can provide material and resources for running training courses for the other market participants (Peetz and Genreith, 2011).
Research and development is the key to innovations in the derivatives market. This should be encouraged internally through establishment of research and development departments within the investors and other users’ organization structures. The market research institutions and academic institutions can also be encouraged to do research on derivative instruments. The government can also participate through the capital markets authorities and national research institutions. Support groups include the associations of the derivatives market participants like the dealers associations, brokers associations, data vendors and lobby groups like consumer organizations. These groups have the ability to sway public opinions and affect the derivatives markets. There is need for the derivative market participants to cultivate a good working relationship with the support groups so that they can get positive criticism and support where possible (King & Rime, 2010).

2.5.4 Conducive Market Environment Strategy

A conducive market environment would include elimination of traditional barriers like outright hostility from politicians, regulator and the media due to the poor reputation of derivatives, which have often been blamed for market crashes, excessive speculation and bankruptcies (Van Horne & Wachowicz 2004). It also addresses lack of product knowledge amongst both investors and “professionals” like brokers, exchange personnel and fund managers; which limits the capability and demand for product development. It also includes inadequate competition in the securities industry due to brokers who are unfamiliar with the products hence makes derivatives trading unattractive and absence of affordable, efficient electronic platforms due to a misguided belief that open-outcry trading is more suitable for derivatives! (King, & Rime, 2010). It goes further to address issues touching on liquidity in the underlying market which implies that there should be interest in the asset itself and therefore a demand for investors to use derivatives to hedge their exposure to that asset. It also addresses market inefficiencies like counter-party inflexibility where a buyer of a future might find it difficult to get out of the delivery obligation if he decided he did not wish to deliver. It also involves complexity of trade execution where for instance an investor who wishes to track a benchmark index may find it impossible to immediately buy or sell the full set of constituent index stocks. Further it addresses stifling trading rules like the ban or restriction on short selling which is enhanced by use of a future or an options contract. If the underlying market is subject to taxation that increases the cost of trading, a derivatives market can provide some relief. Barriers to trade for wanting to protect its own commodity producers can be sorted by a derivatives exchange
within that protected territory by allowing an island of liquidity for locals barred from using overseas exchanges (Peetz and Genreith, 2011).

Other issues that ought to be streamlined include fear-based attitude to derivatives that they disrupt the underlying market but this should be countered by the many studies that have indicated that derivatives have either a benign or positive influence on the underlying market. Existing competition from surrogate derivative products should also be countered by the fact that a derivative market addresses inefficiencies which are not met by existing products or services. Introduction of warrants and other structured products can be a useful stepping stone to introduce investors to the concept of leverage and risk management through derivatives. Also if Exchange traded funds are traded on margin, they give something very close to the risk profile of a something very close to the risk profile of a futures contract and could provide competition to index futures. Lastly it may be legitimate for a home market to create a futures market solely to pre-empt foreign competition, regardless of the likelihood of success (Ross et al 2011).

### 2.5.5 Structural Facilities Strategy

These include dealing with trading rules like interferences with trading practices through major market movements and suspension of securities from trading and encouraging corporate events like share splits, mergers and re-capitalizations to increase the need for risk management tools. There is also need to discourage domination by a small number of stocks because it makes introduction of futures difficult especially if there is margin trading. A high interest rate environment might be good for emerging debt derivatives but would hurt the equity derivatives thus depending on the derivatives being introduced the interest rate environment becomes a key factor to consider. Also transaction taxes payable on underlying transactions will have a detrimental effect on derivatives trading unless the rate is exceptionally low; the same applies to exchange and clearing fees because the percentage eats into the very thin margins that are available to market makers. Lastly, it is worth exploring areas where local customs may have an impact on the derivatives market in addition to the moral ones such as a cultural aversion to gambling. For example in societies where local clerics have the authority to declare a public holiday without giving notice it can create confusion in the options market in particular since option pricing assumes a fixed expiration day (Mervyn 2010)
2.5.6 Improved Skill Set of Participant’s Strategy
This focuses on the quality and quantity of the following participants including brokers, investors and users, critical mass, speculators, vested interests, data vendors and market makers. Brigham (2005) holds that the brokers should have prior experience of derivatives at some level, an understanding of the need to market new products to clients and a positive attitude towards the products. However, once the on-line method has been fully accepted, the attitudes of the brokers may come to matter much less since investors will decide what they want to trade and they will derive their inspiration about trading strategies from the general market place rather than from individual strategy may well change but, until then, the brokers are vital. A truly successful derivatives market must have professional traders, retail investors and institutions all contributing in reasonable proportions. There should be a critical mass of users who should include a variety of unconnected participants. If the market does not have reasonably diverse participation by people with reasonably different potential market views, then this lowers the likelihood of success for new derivatives contracts (Galati & Melvin, 2004).

Even though there is no hard evidence to support any correlation between a society’s appetite for gambling and the success of its derivatives markets; it can be shown that even where gambling is not particularly popular pastime, derivatives markets can succeed. Where a strong structured products market exists, it is important to be aware of how the participants in that market may not provide much support for a fledgling derivatives market. Dominant institutions want to prevent the development of an exchange-traded environment for other reasons too: for example there may be a thriving OTC options and equity swaps market which the investment banks may fear would be damaged by a transparent exchange. A start up exchange would do well to seriously study its price dissemination policy and ensure that it has support of the primary data vendors in distributing prices. Lastly, the market operators need to ensure that there are enough skilled people in the trading community to do the job. If necessary, powerful incentives should be offered at the outset to encourage market makers to commit to the market.

2.5.7 Financial Market Development Strategy
This focuses on the product design and the safest approach is to introduce standard products that have been tried and successfully tested elsewhere. Pandey (2011) contends that the products that satisfy this standard include index futures, index options, and debt and commodity futures. Other derivatives like equity derivatives, single share futures, options,
warrants, exchange-traded funds, fixed income and commodities ought to be simple and relevant in terms of the natural management needs of the investor bearing in mind that an asset which does not exhibit much medium term volatility is not likely to attract enough liquidity for a derivatives contract while excessive volatility is not a good thing either (Levine, 1997). As Lipsey & Crystal (2007) put it, infrastructural considerations include the clearing infrastructure whereby it is sensible to allow the clearinghouse some independence from the exchange, even if the exchange owns the clearinghouse. Intermediary infrastructure like front-office and back-office tools including software which is suited to the specific needs of derivatives trading, clearing and settlement should be available to intermediaries in advance of launching the market. Marketing is a vital and most easily underestimated success factor in the creation of a new derivatives environment. Without good marketing, a new market cannot achieve success. Galati & Melvin, (2004) also held that the intermediaries need to be sold on the idea that derivatives will help their business, the investors need to understand how and why these tools can help them in their investment objectives while the general public should ideally understand what derivatives are and how they work. Worth noting is that the marketing effort can only be effective if it is accompanied by a responsible and effective education program. For instance regulators should require that brokers pass an examination before being allowed to market derivatives to clients. Lastly, a good relationship with the local academics can be useful for two purposes: First, academics can be marshalled to provide support in making the argument about the benefits of derivatives and secondly, educational institutions can provide material and resources for running training courses (Lipsey & Crystal, 2007).

2.6 Chapter Summary

The chapter reviewed literature on the factors necessary for establishment of new derivatives markets and development of existing derivatives market. Empirical studies on factors hindering the development of financial derivatives were also reviewed. Lastly, established strategies used by developed markets in developing the derivatives market were also discussed.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction
This chapter outlines the research design that was used in the study, the target population, sample design, data collection instruments and procedures used in the research and data analysis procedures.

3.2 Research Design
The research was conducted through a descriptive survey design. Orodho (2003) holds that a descriptive survey is a method of collecting information or administering a questionnaire to a sample of individuals. It can be used when collecting information about people’s attitudes, opinions, habits or any of the variety of education or social issues. The descriptive survey design was appropriate for carrying out a holistic, in depth and comprehensive investigation where much emphasis was to be placed on the full analysis of the factors that inhibit development of financial derivatives in the Kenyan financial sector. It also provided a very focused and valuable insight on the possible strategies that can enhance development of financial derivatives within the Kenyan financial sector. The factors inhibiting development of financial derivatives were the independent variables while the dependent variable was the financial derivative instruments.

3.3 Population and Sampling Design

3.3.1 Population
The target population of study was selected from 44 commercial banks licensed by the Central Bank of Kenya. These were individuals that are directly involved in formulating derivative policy and execution of derivatives trading and operations in their respective institutions.

3.3.2 Sampling Design
The study employed probabilistic sampling design. The 44 commercial banks were stratified into two strata consisting of international commercial banks stratum and local commercial banks stratum. Stratified random sampling technique was used to come up with a sample of 22 commercial banks composed of 7 subsidiaries of international banks and 15 local commercial banks. A total of 22 respondents composed of top level managers, were selected.
3.3.3 Sample Frame
Sampling frame is an objective list of the population from which the researcher can make a selection (Denscombe, 1998). Cooper and Schindler (2000) add that a sampling frame should be a complete and correct list of population members only. The sampling frame for this study was a list of all top level managers in the commercial banks. The sample frame was extracted from the licensed commercial banks in the Kenyan economy.

3.3.4 Sample Size
Dealing with all members even for a smaller accessible population is difficult due to the tremendous amount of time and resources needed. For this reason, a given number of members from the accessible population were selected. This subgroup was carefully selected from the commercial banks top managerial positions so as to provide relevant data for the study. A sample, being a smaller population obtained from the accessible population (Mugenda and Mugenda, 2003) was picked consisting of the 22 top level managers as shown in Table 3.1.

Table 3.1 Target Population and Sample

<table>
<thead>
<tr>
<th>Population Categories</th>
<th>Target Population</th>
<th>Sample Size</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Banks</td>
<td>9</td>
<td>7</td>
<td>32%</td>
</tr>
<tr>
<td>Local Banks</td>
<td>35</td>
<td>15</td>
<td>68%</td>
</tr>
<tr>
<td><strong>Total Population</strong></td>
<td><strong>44</strong></td>
<td><strong>22</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods
Through the use of questionnaires, the researcher collected data for the research through a semi-structured questionnaire. The questionnaire was developed by the researcher and the questions organized on the basis of the research objectives to ensure relevance to the research problem. The questionnaires were administered to the chosen respondents of the various commercial banks forming the sample size. The respondents were limited to the Chief Executive Officers, Heads of Treasurers, Credit Managers and Risk Managers of the chosen commercial banks. The respondents were selected because they were in positions of authority and possessed key strategic and operational experience on matters related to financial derivatives at their respective commercial banks.

The questionnaire was standard for all respondents and had closed questions that aided in the descriptive approach of the study. The questions were deductive in nature hence they were
more reliable in extracting relevant information. Comments were allowed at the end of each questionnaire segment.

3.5 Research Procedures
The questionnaires were designed by the researcher based on the research questions. They were pre-tested to ascertain the suitability of the tool before the actual administration. Pre-testing was done by administering the questionnaire to 10 respondents who were selected randomly from the commercial banks. This enabled the researcher to fine tune the questionnaire for objectivity and efficiency of the process. The questionnaire was estimated to take fifteen minutes to complete. One research assistant, who was trained on communication and interviewing respondents using the questionnaire tool, was used to administer the refined questionnaire and also help in data entry.

3.6 Data Analysis Methods
This study used the quantitative method of data analysis. For ease of analysis, the questionnaire was coded based on each variable of the study. This ensured the margin of error was minimized to assure accuracy during data analysis. The quantitative analysis was applied using descriptive statistics. Data was analyzed using univariate analysis. Univariate analysis involved the examination across cases of a single variable at a time. During univariate analysis, a researcher pays close attention to three major characteristics of a single variable. These characteristics are distribution, the central tendency, and the dispersion. The measures of distribution were largely utilized in the study. This included frequency and percentages. The analysis was done with the help of Statistical Package for Social Sciences (SPSS) program. Data was coded in and this was used to generate frequencies such as mean scores and percentages. These were later presented using tables and pie charts to give a clear picture of the research findings at a glance. This was enhanced by offering a narrative explanation.

3.7 Chapter Summary
The chapter mainly describes the methodology that was used in conducting the study. The research design was descriptive in nature focusing on commercial banks in Kenya. The population was all top level managers in the commercial banks who have a direct bearing on the operations of the banks. The sample size, the sampling techniques and questionnaire as a primary data collection instrument have all been described. The questionnaire developed was pilot tested before a refined one was administered to the respondents. The chapter has also
indicated that, data was analysed with the help of SPSS and presented in inform of narrative, chart and tables. The next chapter presents the findings of the research.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction
This chapter presents the results of the analysis. From the 22 questionnaires distributed, all were collected and used in the survey. This shows that the response rate was 100%. The findings are based on these responses as presented in this chapter. First, the sample characteristics are shown. This is followed by a presentation of the results based on the study objectives.

4.2 General Information
This section presents the findings on the general information and characteristics of the respondents.

4.2.1 Nature of the Banks
The study found that 68% of the respondent banks were locally owned while the remaining 32% were foreign owned. This shows that majority of the respondent banks in the survey were local. The results are summarized and presented in Table 4.1.

Table 4.1 Types of Commercial Banks

<table>
<thead>
<tr>
<th>Type of commercial Bank</th>
<th>Number of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Commercial Banks</td>
<td>15</td>
<td>68%</td>
</tr>
<tr>
<td>Foreign Banks</td>
<td>7</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The type of the respondent banks was sought after to give an insight on whether the findings can be generalized across both local and foreign owned banks. The findings show that most of the respondent banks were locally owned and thus the findings may have a Kenyan bias. The large proportion of local banks may be due to the fact that the registration and management of a bank is somehow risky and this is why fewer foreign banks are present in the market. However due to the nature of information sought out the researcher felt that the issue of bias due to the domicile of the bank did not arise during the course of the study.

4.2.2 Respondents Nature of Role in the Bank
The study revealed that 45% of the respondents were in credit management, 23% were in risk management, a similar number were heading treasury while 9% were chief executive officers.
These results are summarized and presented in Table 4.1. The results imply that majority of the respondents were in charge of credit management.

![Pie chart showing the nature of roles played by the respondents.]

**Figure 4.1 Nature of Roles Played by the Respondents**

These findings point to the fact that most of the respondents are in credit management at 45%. They are well informed on most issues concerning the area of study and thus the researcher was confident that these were the right people to involve in a study.

**4.2.3 Respondents Working Experience**

In terms of the respondents’ working experience, the study found that 41% had worked for between 5-10 years, 36% had worked for 11-15 years, and 14% had worked for less than 5 years while 9% had worked for over 15 years. These results are summarized and presented in Table 4.2. The results imply that majority of the respondents had worked for between 5-10 years.
Table 4.2 Working experience of the sampled respondents

<table>
<thead>
<tr>
<th>Length of work experience</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 years</td>
<td>3</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>5 - 10 years</td>
<td>9</td>
<td>41%</td>
<td>55%</td>
</tr>
<tr>
<td>11 - 15 years</td>
<td>8</td>
<td>36%</td>
<td>91%</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>2</td>
<td>9%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

The working experience points to the fact that most of the respondents are well versed and thus easily understood the issues raised in the questionnaire concerning the area of study. Given the number of years of experience, the respondents also clearly understood the ethics of research and thus were expected to give honest and informative responses which would lead to credibility of the final research findings and report.

4.2.4 Nature of Clients and Volumes of Trade in Derivatives

The study further revealed that 58% of the respondents were large corporations, 22% were financial institutions while 20% were small and medium enterprises. This shows that most of the respondents were large corporations. These results are summarized and presented in Figure 4.2 below.

Figure 4.2 Nature of clients and trade volumes in derivatives

These finding show that most of the respondents were from large corporation’s category in the banking sector. These may be explained by the fact that dealing in derivatives requires a good standing in the financial sector. The nature and volumes of trade in derivatives is however substantial to give credence to the research findings as the respondents were well
versed with the current goings on in the area of study thus were bound to give most recent information.

4.3 Financial derivatives used in the Kenyan financial market

The first objective was to establish the financial derivatives used in the Kenyan financial market. This was done to determine the preference of investors in Kenya as well as in establishing the distribution with which derivatives were being traded in the Kenyan market. The study in this regard sought data that would indicate the volumes of each of the derivatives traded. The frequency of individual financial derivatives was indicated as number of transactions while the resulting volumes were presented as percentages as tabulated below in table 4.3.

![Chart showing the volumes traded for each of the derivatives in a year](image)

**Figure 4.3 Volumes Traded for Each of the Derivatives in a Year**

The findings in this case show that 14% of all the trades in financial derivatives traded for the period between 2009-2014 were options. There were 38% transactions in swaps of the total trade volumes. Lastly, there were 48% transactions in forward contracts among the total traded volumes in financial derivatives. Notably, it was found out that futures, credit derivatives and structured notes were never traded through Kenyan commercial banks for the period between 2009 and 2014.

The study further sought to establish the average of the annual volumes of financial derivatives traded in Kenya. This was done by finding the average figure for the individual financial derivatives. For purposes of this study, 100 financial derivatives was used as the benchmark upon which the average figures were assessed. The findings in this case are presented in table 4.3.
Table 4.3 Average annual volumes of financial derivatives traded

<table>
<thead>
<tr>
<th>Type of financial derivative</th>
<th>Average annual volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Swaps</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Forward Contracts</td>
<td>101-500</td>
</tr>
<tr>
<td>Futures</td>
<td>NA</td>
</tr>
<tr>
<td>Credit Derivatives</td>
<td>NA</td>
</tr>
<tr>
<td>Structured Notes</td>
<td>NA</td>
</tr>
<tr>
<td>Others</td>
<td>NA</td>
</tr>
</tbody>
</table>

From table 4.3 above it can be seen that an average of <100 options and similarly for swaps were transacted annually according to the sampled commercial banks. However, the average number of forward contracts transacted is relatively higher given that it was ranging between 101 and 500. Other financial derivatives like futures, credit derivatives and structured notes did not feature in the sampled commercial banks.

4.4 Factors enabling usage of financial derivatives in the Kenyan financial market.

The study further sought to establish the factors that enable usage of financial derivatives in the Kenyan financial market. The study in this case sought to find out the extent to which various factors enabled usage of financial derivatives in the sampled commercial banks. The factors considered in this case were; structural factors, market participants, environmental factors, legal factors, and support services. The findings on the implication of each of these factors is discussed below.

4.4.1 Extent to which structural factors enable usage of financial derivatives

The implication of structural factors in enabling the usage of financial derivatives was considered in the study. In this case various categories of structural factors that facilitate trading of financial derivatives were highlighted. The respondents were then required to give a rating of the extent to which each of the stated categories enable the usage of financial derivatives on a scale of 1-4 with 4 being the greatest extent and 1 the least extent. The findings in this case are presented in Figure 4.4 below.
Figure 4.4 Extent to which structural factors enable usage of financial derivatives

From figure 4.4 above it can be seen that trading platforms, suitable trading systems and existence of a central counterparty (settlement service provider) are the structural factors which enable usage of financial derivatives. The three factors were rated by the respondents as enabling usage of financial derivatives to either a great extent or very great extent. Requisite knowledge and skills also enables usage of financial derivatives though 4.55% of the respondents felt that it only enabled usage to a moderate extent.

4.4.2 Extent to which market participants enable usage of financial derivatives

The study further sought to determine the implication of various market participants in enabling the usage of financial derivatives. In this regard, the respondents were required to rate various categories of market participants that facilitate trading of financial derivatives. The respondents were required to rate these participants on a scale of 1 - 4 in order of the extent to which the participants enable usage of financial derivatives with 4 being the greatest extent and 1 the least extent. The findings in this case are presented in Table 4.4.
Table 4.4 Extent to which market participants enable usage of financial derivatives

<table>
<thead>
<tr>
<th>Market Participants</th>
<th>Very Great Extent</th>
<th>Great Extent</th>
<th>Moderate Extent</th>
<th>Least Extent</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td>95.45%</td>
<td>4.55%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Speculators</td>
<td>90.91%</td>
<td>9.09%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Hedgers</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Market Makers</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Critical Mass</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Regulators</td>
<td>0.00%</td>
<td>0.00%</td>
<td>81.82%</td>
<td>18.18%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

From table 4.4 it is evident that investors, speculators, hedgers, market makers, media and data vendors enable usage of financial derivatives to either a very great or a great extent as rated by the respondents. On the other hand, a 100% of the respondents felt that the critical mass had the least contribution to the usage of financial derivatives in the sampled commercial banks. 81.82% of the respondents felt that regulators enabled usage of financial derivatives to a moderate extent while 18.18% of the respondents held that regulators had the least contribution in enabling usage of financial derivatives in the sampled commercial banks.

4.4.3 Extent to which environmental factors enable usage of financial derivatives

The study further sought to determine the implication of environmental factors in enabling the usage of financial derivatives among commercial banks in Kenya. In this regard, the respondents were required to rate various environmental factors that enable trading of financial derivatives. The respondents were required to rate these factors on a scale of 1 - 4 in order of the extent to which the environmental factors enable usage of financial derivatives with 4 being the greatest extent and 1 the least extent. The findings in this case are presented in figure 4.5 below.
Figure 4.5 Extent to which environmental factors enable usage of financial derivatives

From figure 4.5 above it is imminent that market risk instruments had the least contribution towards enabling usage of financial derivatives in the sampled commercial banks with 100% of the respondents rating it least extent. On the other hand 100% of the respondents held that transaction taxes, liquidity, and competition were the major environmental factors contributing towards enabling usage of financial derivatives. 90.91% of the respondents also held that cultural orientation contributed to a very great extent, while the rest rated it great extent.

4.4.4 Extent to which legal factors enable usage of financial derivatives

The study further sought to determine the effect of legal factors in enabling the usage of financial derivatives among commercial banks in Kenya. In this case, the respondents were required to rate various legal factors that facilitate trading of financial derivatives. The respondents were required to rate these legal factors on a scale of 1 - 4 in order of the extent to which the legal factors facilitate usage of financial derivatives with 4 being the greatest extent and 1 the least extent. The findings in this case are presented in Figure 4.6.
The findings in this case show that legal framework on derivatives and clearing or trading rules have the least contribution towards enabling usage of financial derivatives in the sampled commercial banks with 100% and 95.45% ratings of least extent. On the other hand 100% of the respondents held that foreign participation rules enable usage of financial derivatives to a very great extent. Agent versus principals were rated very great extent by 95.45% of the respondents while the rest rated it great extent.

**4.4.5 Extent to which support services enable usage of financial derivatives**

In determining the extent to which support services facilitate the usage of financial derivatives, the study sought to establish the implication of some predetermined support services. In this case, the respondents were required to rate various legal factors that facilitate trading of financial derivatives. The respondents were required to rate these support services on a scale of 1 - 4 in order of the extent to which these services facilitate usage of financial derivatives with 4 being the greatest extent and 1 the least extent. The findings in this case are presented in Table 4. 5 below.
### Table 4.5 Extent to which support services enable usage of financial derivatives

<table>
<thead>
<tr>
<th>Support Services</th>
<th>Very Extent</th>
<th>Great Extent</th>
<th>Great Extent</th>
<th>Moderate Extent</th>
<th>Least Extent</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Services</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Support from Academia</td>
<td>0.00%</td>
<td>0.00%</td>
<td>4.55%</td>
<td>95.45%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Research and Development</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Support from Interest Groups</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

From the findings presented above, it is evident that support services like marketing services, support from academia, and research and development have the least contribution towards enabling usage of financial derivatives in the sampled commercial banks given the proportions of respondents who rated them least extent. On the other hand 100% of held that support from interest groups enabled usage of financial derivatives to a very great extent.

### 4.5 Challenges experienced by Kenyan commercial banks in the development of financial derivatives

The study financial Derivatives further pursued to ascertain the challenges experienced by Kenyan Commercial Banks in the development of financial derivatives. The study in this case sought to find out the extent to which various factors hindered the development of financial derivatives at the sampled commercial banks. The results were analyzed as per the questions asked to the respondents. The challenges were assessed based on five categories, namely; structural factors, market participants, environmental factors, legal factors, and support services. The findings in this regard are discussed below.

#### 4.5.1 Extent to which structural factors hinder development of financial derivatives

In this case, the study first sought to determine the challenges attributable to structural factors. In this regard, the study highlighted some structural factors responsible for the development of financial derivatives markets. The respondents were further required to rate the various structural factors on a scale of 1 - 4 in order of the extent to which the factors
hinder development of financial derivatives at the sampled commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in figure 4.7 below.

**Figure 4. 7 Extent to which structural factors hinder development of financial derivatives**

The findings in this case show that access and availability of suitable trading systems and the non-existence of a central counterparty or settlement service provider are the main hindrances to the development of financial derivatives given the level of rating on the very high priority and high priority. These two factors were rated by the respondents as hindrances to development of financial derivatives to either a great extent or very great extent. Access to trading platforms, and the requisite knowledge and skills on the workings of derivative products and markets were identified as the factors with the least hindrance to the development of financial derivatives in the sampled commercial banks.

**4.5.2 Extent to which market participants hinder development of financial derivatives**

The study further sought to determine the challenges attributable to market participants. In this regard, the study highlighted some market participants who have an impact on the development of financial derivatives markets. The respondents were further required to rate these participants on a scale of 1 - 4 in order of the extent to which the participants hinder development of financial derivatives at the sampled commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in Table 4. 6.
Table 4. 6 Extent to which market participants hinder development of financial derivatives

<table>
<thead>
<tr>
<th>Market Participants</th>
<th>Very Great Extent</th>
<th>Great Extent</th>
<th>Moderate Extent</th>
<th>Least Extent</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Speculators</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Hedgers</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Market Makers</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Critical Mass</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Regulators</td>
<td>90.91%</td>
<td>9.09%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Media and Data Vendors</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

The findings show that investors, speculators, hedgers, market makers, media and data vendors are the support factors that were identified to pose the least hindrance to the development of financial derivatives with 100% of the respondents rating the hindrance at least extent. On the other hand, a 100% of respondents felt that the critical mass posed the greatest hindrance to the development of financial derivatives. 90.91% of the respondents rated regulators hindrance at very great extent with the rest rating it at great extent. This implies that the greatest hindrance is attributed to critical mass and regulators in that order.

4.5.3 Extent to which environmental factors hinder development of Financial Derivatives

The study further sought to determine the challenges to development of financial derivatives attributable to environmental factors. In this regard, the study selected some environmental factors that can have an adverse impact on the development of financial derivatives markets. The respondents were further required to rate these factors on a scale of 1 - 4 in order of the extent to which the factors hinder development of financial derivatives at the sampled
commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in figure 4.8 below.

![Figure 4.8 Extent to which environmental factors hinder development of financial derivatives](image)

**Figure 4.8 Extent to which environmental factors hinder development of financial derivatives**

The findings in this case shown that market risk instruments and transaction taxes pose the greatest hindrance to the development of financial derivatives in the sampled commercial banks given by the 100% response rating of very great extent. On the other hand, 95.45% of the respondents held that liquidity and cultural orientations had the least hindrance to development of financial derivatives by assigning a least extent rating of 95.45% on both factors. A total of 90.91% of the respondents held that competition hindered development of financial derivatives to the least extent while the rest held that its hindrance was to a moderate extent.

**4.5.4 Extent to which legal factors hinder development of financial derivatives**

The study further sought to determine the challenges to development of financial derivatives attributable to legal factors. In this regard, the study selected some legal factors that can have an adverse impact on the development of financial derivatives markets. The respondents were further required to rate these factors on a scale of 1 - 4 in order of the extent to which the factors hinder development of financial derivatives at the sampled commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in Table 4.7 below.
Table 4.7 Extent to which legal factors hinder development of financial derivatives

<table>
<thead>
<tr>
<th>Legal Factors</th>
<th>Very Great Extent</th>
<th>Great Extent</th>
<th>Moderate Extent</th>
<th>Least Extent</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal Framework on Derivatives</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Clearing/Trading Rules</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Agents Vs. Principals Rules</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Foreign Participation Rules</td>
<td>0.00%</td>
<td>0.00%</td>
<td>4.55%</td>
<td>95.45%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

From Table 4.7 above it can be seen that legal framework on derivatives and clearing (trading) rules are the greatest hindrances to the development of financial derivatives in the sampled commercial banks. This is given by the 100% rating of very great extent that legal framework on derivatives and clearing (settlement rules) hindered development of financial derivatives to a very great extent. On the other hand, a 100% of the respondents held the view that agents versus principals’ rules had the least hindrance to the development of financial derivatives. Moreover, 95.45% of the respondents held the view that foreign participation rules had the least hindrance to the development of financial derivatives while the rest held the view that foreign participation rules hindered development of financial derivatives to a moderate extent.

4.5.5 Extent to which support services hinder development of financial derivatives

The study further sought to determine the challenges to development of financial derivatives attributable to support services. In this regard, the study predetermined some support services that can have an adverse impact on the development of financial derivatives markets. The respondents were further required to rate these services on a scale of 1 - 4 in order of the extent to which the services hamper development of financial derivatives at the sampled commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in Figure 4.9.
Figure 4.9 Extent to which support services hinder development of financial derivatives

From figure 4.8 above it is evident that support services like marketing services, support from academia and research and development hinder development of financial derivatives to a very great extent. This is given by the 100% rating to this effect. On the other hand, support from interest groups was identified to pose the least hindrance to the development of financial derivatives. 100% of the respondents held that support from interest groups hindered the development of financial derivatives to the least extent.

4.6 Strategies to address the challenges of developing financial derivatives in Kenya

The study further pursued to determine strategies that can be adopted to address the challenges experienced by Kenyan Commercial Banks in the development of financial derivatives. The study in this case sought to find out the priority with which various factors should be addressed in the Kenyan financial sector in order to facilitate development of financial derivatives at the sampled commercial banks. The results were analyzed through five questions seeking to establish the priorities with which various factors should be addressed to facilitate development of financial derivatives in each of the sampled commercial banks. The findings in this regard are discussed below.

4.6.1 Priority with which to address structural factors

In this case, the study first sought to determine the priority with which structural factors affecting the usage of financial derivatives could be addressed. In this regard, the study highlighted some structural factors responsible for the development of financial derivatives markets. The respondents were further required to rate the various structural factors on a
scale of 1 - 4 in order of the extent to which the factors required priority in promoting development of financial derivatives at the sampled commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in Figure 4.10 below.

![Figure 4. 10 Priority with which structural factors should be addressed to facilitate development of financial derivatives](image)

From the table above it can be seen that access to trading platforms, access and availability of suitable trading systems and a central counterparty need to be addressed as a matter of high priority in order to facilitate development of financial derivatives. 100% of the respondents identified the three factors as very high priority items in order to facilitate development of financial derivatives at the sampled commercial banks. On the other hand, requisite knowledge and skills on the workings of derivative products and markets needs to be addressed as a matter of average priority. This is given by the 100% rating of this factor as average priority.

**4.6.2 Priority with which to address market participants**

The study further sought to determine the priority with which market participants affecting the usage of financial derivatives could be addressed. In this regard, the study highlighted some market participants who responsible for the development of financial derivatives markets. The respondents were further required to rate the various participants on a scale of 1 - 4 in order of the extent to which the factors required priority in promoting development of financial derivatives at the sampled commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in Table 4. 8.
Table 4. 8 Priority with which to address market participants to facilitate development of financial derivatives

<table>
<thead>
<tr>
<th>Market Participants</th>
<th>Very High Priority</th>
<th>High Priority</th>
<th>Average Priority</th>
<th>Least Priority</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Speculators</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Hedgers</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Market Makers</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Critical Mass</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Regulators</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Media and Data Vendors</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

From table 4.8 above it can be seen that investors, speculators, hedgers, market makers, media and data vendors are the market participants that need to be addressed as a matter of very high priority given that 100% of the respondents rated them so. On the other hand, 100% of the respondents felt that the critical mass and regulators needed to be addressed as a matter of average priority.

4.6.3 Priority with which to address environmental factors

In this case, the study sought to determine the priority with which environmental factors affecting the usage of financial derivatives could be addressed. In this regard, the study highlighted some environmental factors responsible for the development of financial derivatives markets. The respondents were further required to rate the various environmental factors on a scale of 1 - 4 in order of the extent to which the factors required priority in promoting development of financial derivatives at the sampled commercial banks, with 4 being the greatest priority and 1 the least priority. The findings in this regard are presented in figure 4.11 below.
The findings in this case show that 100% of the respondents held that market risk instruments should be addressed as a matter of high priority in order to facilitate development of financial derivatives in the sampled commercial banks. Transaction taxes also need to be addressed as a matter of very high priority as held by 100% of the respondents. On the other hand, 100% respondents held that liquidity, competition and cultural orientations did not require much attention by rating them least priority.

4.6.4 Priority with which legal factors should be addressed

In this case, the study sought to determine the priority with which legal factors affecting the usage of financial derivatives could be addressed. In this regard, the study highlighted some legal factors responsible for the development of financial derivatives markets. The respondents were further required to rate the various legal factors on a scale of 1 - 4 in order of the extent to which the factors required priority in promoting development of financial derivatives at the sampled commercial banks, with 4 being the greatest priority and 1 the least priority. The findings in this regard are presented in figure 4.12.
Figure 4.12 Priority with which legal factors should be addressed to facilitate development of financial derivatives

From figure 4.12 it can be seen that legal framework on derivatives and clearing rules require attention as a matter of very high priority given the 100% rating of the same. 100% of the respondents held that the view that agents versus principals’ rules required to be addressed as a matter of average priority. Moreover, 100% of the respondents held the view that foreign participation rules required to be addressed as a matter of least priority.

4.6.5 Priority with which to address support services

In this case, the study first sought to determine the priority with which support services affecting the usage of financial derivatives could be addressed. In this regard, the study highlighted some support services responsible for the development of financial derivatives markets. The respondents were further required to rate the various support services on a scale of 1 - 4 in order of the extent to which the services required priority in promoting development of financial derivatives at the sampled commercial banks, with 4 being the greatest extent and 1 the least extent. The findings in this regard are presented in Table 4.9 below.
Table 4.9 Priority with which to address support services to facilitate development of financial derivatives

<table>
<thead>
<tr>
<th>Support Services</th>
<th>Very High Priority</th>
<th>High Priority</th>
<th>Average Priority</th>
<th>Least Priority</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Services</td>
<td>0.00%</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Support from Academia</td>
<td>0.00%</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Research and Development</td>
<td>100.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Support from Interest Groups</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

From table 4.9 it can be seen that support services like marketing services and support from academia need to be addressed as a matter of high priority as held by 100% of the respondents. However, 100% of the respondents held that research and development services need to be addressed as a matter of very high priority if financial derivatives are to be developed in the sampled commercial banks. However, support from interest groups was identified as the only support service that needed to be addressed as a matter of least priority given the rating by 100% of the respondents.

4.7 Chapter summary

This chapter mainly reported the findings and conducted the analysis of the data collected. The study also presented this data in a concise manner taking the advantage of figures and tables that offer a clear visual impression of the information held therein. This information forms the basis of chapter five.
CHAPTER FIVE

5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter provides the summary of the study, discussion of the findings of the study, the conclusions derived from the findings and recommendations for improvement and further research. The chapter is also presented as per the research objectives.

5.2 Summary of the study
The purpose of the study was to investigate the factors that inhibit the development of financial derivatives in the Kenyan financial sector. The study focused on both multinational and local commercial banks in Kenya for the period between 2005 and 2014. Specifically, the study set out to establish the financial derivatives used in the Kenyan financial market, establish the factors that enable usage of financial derivatives in the Kenyan financial market, ascertain the challenges experienced by Kenyan Commercial Banks in development of financial derivatives and propose strategies to be used in addressing the challenges of developing financial derivatives in Kenya.

It was revealed that the main financial derivatives used in the Kenyan financial sector include options (14%), swaps (38%), and forward contracts (48%). The main clients for these financial derivatives were large corporations (58%), financial institutions (22%), and small and medium enterprises (20%). The main structural factors that were identified as being enablers of financial derivatives trading include trading platforms, trading systems and requisite knowledge and skills. The environmental factors include liquidity, competition and cultural orientations. The legal factors identified include agents versus principals’ rules and foreigners’ participation rules. The market participants that enabled trading in financial derivatives included investors, speculators, hedgers, market makers, media and data vendors. The support service identified as an enabler of financial derivative trading was support from interest groups.

The challenges in developing financial derivatives trading were identified as lack of adequate trading systems and non-existence of a central counterparty. The main market participants that hindered development of financial derivatives were the critical mass and the regulators. The environmental factors that hindered development of financial derivatives were market
risk instruments and high transaction taxes. The legal issues that were identified to be hindrances were the framework on financial derivatives and the clearing and trading rules. Lastly, the findings revealed that marketing services, support from academia and research and development were lacking in the Kenyan financial sector.

The strategies proposed to develop financial derivatives trading included enhancement of trading platforms, trading systems and establishment of a central counterparty. The activity of investors, speculators, hedgers, market makers, the media and data vendors should also be encouraged. Market risk instruments and transaction taxes should also be addressed. The need to create a framework on financial derivatives and establish clearing and trading rules was also identified. Lastly, the findings revealed that marketing services and support from academia were some of the great needs while research and development services was the greatest need in the development of financial derivatives in the Kenyan financial sector.

5.3 Discussions

In this section, the research findings are discussed in line with the research objectives. The basis of discussion is the theoretical and empirical literature.

5.3.1 Financial derivatives used in the Kenyan financial market.

It was also established that in the Kenyan financial sector other types of financial derivatives like futures, credit derivatives and structured notes were not traded in the period between 2005 and 2014. This therefore indicated that these types of financial derivatives are non-existent in the Kenyan financial market. Rutledge and Bertram (1995) hold that the counterparty to a futures contract is the clearing corporation on the appropriate exchange. The fact that there is non-existence of a clearing corporation in Kenya explains the lack of futures in the market. A credit derivative is a securitized derivative whereby the credit risk is transferred to an entity other than the lender the credit (Ross et al. 2010). Therefore, credit derivatives were lacking due to lack of a robust credit referencing bureau to ensure that all credit facilities are held by credit worthy persons to facilitate their trade in the securities exchange. The nonexistence of structured notes was equally attributed to lack of a developed mortgage business in Kenya. This was attributed to high interest rates and fluctuations in lending rates making mortgages unreachable by many clients of the commercial banks.

5.3.2 Factors that enable usage of financial derivatives in the Kenyan financial market.

The study further sought to ascertain the factors that enable usage of financial derivatives in the Kenyan financial market. The findings revealed that some aspects of the structural
factors, environmental factors, legal factors, market participants and support services were adequately developed and enabled usage of the available financial derivatives like forward contracts, currency swaps and options.

The main structural factors that were identified as enablers of financial derivatives trading were access to the trading platform at Nairobi Securities Exchange and existence of trading and clearing systems like the ATS (Automated Trading System) and RTGS (Real Time Gross Settlement) respectively. The Nairobi Securities Exchange facilitates trading of common stocks, corporate securities, and government securities and is currently being developed to accommodate derivatives trading (The IMF Working Paper 2014). Indeed, the Nairobi Securities Exchange runs the ATS and utilises the RTGS services from the Central Bank of Kenya in the execution of trades related to equities, treasury bills and treasury bonds. This same facility could explain the high trading in forward contracts, options and swaps.

The findings indicated that in Kenya, there is adequate liquidity, competition among the commercial banks and a favourable cultural orientation that enables the usage of financial derivatives. Scott (2003) confirms that liquidity in the underlying market implies there is interest in the asset itself and therefore a demand for investors to use derivatives to hedge their exposure to that asset. Therefore, the trading in currency swaps, forward contracts and interest rate options could be as a result of the favourable liquidity levels amongst the large corporate, financial institutions and SMEs.

The legal factors that were identified as the biggest enablers of financial derivatives trading in Kenya were agent versus principal’s regulations and the foreign participation rules. This could be as a result of the foreign policy of Kenyan government to attract foreign direct investments and the new constitutional dispensation that has given a lease of life to the judiciary and its role in resolving civil matters like violation of business contracts.

The findings indicated that main market participants that enable usage of financial derivatives include investors, speculators, hedgers and market makers. These market participants are driven by the desire to make financial gains through the participation in financial derivatives trading. Other market participants that play a critical role in enabling usage of financial derivatives in Kenya include the Media and data vendors. The media involves the monthly research publications by stock brokers and statistical provisions by the Nairobi Securities
Exchange through their daily and weekly bulletins (Capital Markets Authority News Letter, 2011).

Support from interest groups was identified as one of the main support services that enable usage of financial derivatives. The main interest group is the Dealers Guilt composed of dealers from main players like Standard Chartered Bank, Barclay Bank, Equity Bank, Kenya Commercial Bank and National Bank. The support group leads the way in advocating for a developed securities exchange to facilitate trading in futures and other exchange traded products like structured notes (Nairobi Securities Exchange Bulletin 2011).

5.3.3 The challenges experienced by Kenyan Commercial Banks in development of financial derivatives.

The study further sought to find out the challenges experienced by Kenyan commercial banks in the development of financial derivatives. The main findings indicated that the main challenges oscillated around underdeveloped trading systems and non-existence of a central counterparty to facilitate clearing and settlement of derivative transactions. Other challenges were identified as lack of requisite knowledge among the critical mass and high transaction taxes levied by the regulators.

Lack of instruments to gauge market risk, a robust legal framework on derivative products, adequate clearing and settlement rules and insufficient support from marketers, academia and research and development institutions were also identified. Indeed, Mervyn (2010) confirms that any derivatives market thrives on technologically advanced trading systems, active financial intermediaries, knowledgeable participants and a conducive regulatory environment and support services.

5.3.4 Strategies to be used in addressing the challenges of developing financial derivatives in Kenya.

The study subsequently sought to propose strategies that can address the challenges of developing financial derivatives in Kenya. The main findings indicated that the areas that need to be addressed include the trading platforms, trading systems and establishment of a central counterparty to assist in clearing and settlement of derivative transactions. There is also an urgent need promote the activities of investors, speculators, hedgers and market makers through provision of information and capital. Other participants like the media and data vendors need an enabling environment to disseminate information and hold forums with the practitioners to educate the public on the use and benefits of financial derivatives.
The need to make use of market risk instruments to mitigate against market risks was identified as a means of overcoming the environmental constraints. Another suggestion was reduction of transaction taxes to ensure that investors, hedgers and speculators maximised their income and thus get motivated to participate in the financial derivatives market. The findings indicated that the legal framework on derivative products and the clearing and trading rules are not adequately developed. The need to legislate on these issues was identified as a critical success factor in the development of financial derivatives in Kenya.

Lastly, there is also need for commercial banks to invest in marketing services to promote use of financial derivatives. The players including regulators like the Capital Market Authority and the Central Bank of Kenya should also provide support and finance for research initiatives aimed at encouraging innovations and new products in the financial derivatives market. Indeed, Scott (2003) holds that trading platforms, trading systems, knowledge level of investors and hedgers, reasonable tax regimes and adequate marketing services are the basic needs of any new derivatives market. Mervyn (2010) also holds that research and development is the key to sustainable innovations in the derivatives market.

5.4 Conclusions
From the foregoing findings and discussions, the study came to the following conclusions.

5.4.1 Financial derivatives used in Kenya
The Kenyan Financial market is still in the development stage as characterised by the domination of over the counter financial derivatives like forward contracts, options and swaps and the non-existence of the more sophisticated exchange traded financial derivative instruments like structured notes and credit derivatives.

5.4.2 Factors that enable usage of financial derivatives in Kenya
Usage of financial derivatives in Kenya, especially forward contracts, is enabled by the need for firms and financial institutions to hedge the risk of losses that may result from volatility of interest rates and the fluctuating value of the Kenyan currency. Trading in Options and currency swaps is enabled by the adequate liquidity amongst the market participants more especially the multinational corporations who transact in foreign currencies.
5.4.3 Challenges faced by commercial banks in the development of financial derivatives in Kenya
The main challenge facing commercial banks in their bid to develop financial derivatives in Kenya include poor structural facilities including inaccessibility to trading platforms, poor trading systems, weak trading rules and non-existence of a central counterparty. The other challenge is posed by weak environmental factors like poor market risk management and high transaction taxes. Other challenges emanate from a poor regulatory framework on derivatives products and lack of adequate investment in marketing, research and development services.

5.4.4 Strategies to facilitate development of financial derivatives in Kenya
The development of financial derivatives in Kenya would only be possible if market players including commercial banks and government agencies invested heavily in structural facilities like trading platforms and trading systems; environmental facilities like low tax regimes and modern market risk management systems; regulatory frameworks like robust financial derivatives frameworks and vibrant support services like marketing and research and development initiatives.

5.5 Recommendations
The study finally made some recommendations based on the findings made and analyzed. These recommendations were categorized into two, namely; recommendations for improvement as far as financial derivatives is concerned, and recommendations for further study. These recommendations are discussed below.

5.5.1 Recommendations for Improvement
The following aspects of the factors that enable financial derivatives trading should be addressed:

5.5.1.1 Financial Derivatives Used In Kenya
The Capital Markets Authority, Nairobi Securities Exchange and the credit referencing bureaus in Kenya, should work jointly to fast track the introduction of exchange traded financial derivative instruments like structured notes and credit derivatives.

5.5.1.2 Factors that enable usage of financial derivatives in Kenya
The capital market players should take advantage of the high liquidity levels among the multinational corporations and financial institutions to increase trade volumes in forward contracts, swaps and options. The high levels of inflation and volatility of interest rates
should be selling points of these financial derivatives more especially for multinational corporations who need to hedge against volatile foreign exchange rates and interest rates.

5.5.1.3 Challenges faced by commercial banks in the development of financial derivatives in Kenya

There is urgent need for the Nairobi Securities Exchange to embrace modern technology to improve access to sophisticated trading platforms like NYSE and AMEX. The NSE should also dedicate funds to research and development and aggressive marketing campaigns to increase awareness on the benefits of trading in derivatives.

5.5.1.4 Strategies to facilitate development of financial derivatives in Kenya

There is need to improve the integrity and reliability of trading systems at Nairobi Securities Exchange. The Capital Market Authority should also fast track the creation of a regulatory framework on the central counterparty. There is also need to provide a regulatory framework for other financial derivatives like credit derivatives and structured notes. The government of Kenya should lower transaction taxes to assure traders of attractive returns. Lastly, all the capital market players should invest in research and development more especially through academic institutions.

5.5.2 Recommendations for further study

The researcher recommends a similar study incorporating respondents from regulatory agencies like Central Bank of Kenya and Capital Markets Authority in order to widen the awareness of the factors hindering development of financial derivatives in Kenya. Secondly, there is need for a further study on the factors inhibiting development of other types of derivatives types like commodity derivatives for oil and coffee.
REFERENCES


Goldberg, L (2010). *Is the international role of the dollar changing?* Current Issues in Economics and Finance, Iss. 9, Pg 45.


King, M & Mallo, C. (2010). *A user’s guide to the Triennial Central Bank Survey of foreign exchange market activity,* BIS Quarterly Review, Iss. no. 14 Pg. 16

King, M & Rime, C. (2010): “*The $4 trillion question: what explains FX growth since the 2007 survey?* BIS Quarterly Review, Iss. no. 34 Pg. 21


Schinasi, G. et al. (2000). *Modern banking and OTC derivatives markets.* IMF Occasional Papers, Iss. 203 Pg. 27


APPENDICES

APPENDIX A: LETTER OF INTRODUCTION

Michael Eganza Rundu  
P.O. Box 30003-00100  
Nairobi.  
Tel: 0722-427728

Dear Sir/Madam,

RE: LETTER OF INTRODUCTION

I am a student undertaking a degree of Master of Business Administration at the United States International University, Nairobi. As a requirement to complete the program; I will need to submit a project report on a management problem. I would like to do a research project on the factors inhibiting development of financial derivatives in the Kenyan financial sector.

I do hereby request for your permission and time to fill the study questionnaire.

The results will be used solely for academic purposes and a copy of the same will be availed to you on request.

Thank you.

Yours faithfully,
Michael Eganza Rundu  
MBA Student.

Supervisor,

United States International University, Nairobi
APPENDIX B: QUESTIONNAIRE

Section A: Profile and General Information

1. State the nature of your organization:

<table>
<thead>
<tr>
<th>Nature of Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Commercial Bank</td>
</tr>
<tr>
<td>Subsidiary of an International Bank</td>
</tr>
</tbody>
</table>

2. State the nature of your role in the organization:

<table>
<thead>
<tr>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Heads of Treasury</td>
</tr>
<tr>
<td>Credit Managers</td>
</tr>
<tr>
<td>Risk Managers</td>
</tr>
</tbody>
</table>

Comments: -------------------------------------------------------------------------------------------------------------------------------------------------------------------

3. State the length of your work experience in the current role:

<table>
<thead>
<tr>
<th>Experience Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5 Years</td>
</tr>
<tr>
<td>5-10 Years</td>
</tr>
<tr>
<td>11-15 Years</td>
</tr>
<tr>
<td>&gt;15 Years</td>
</tr>
</tbody>
</table>

Comments: -------------------------------------------------------------------------------------------------------------------------------------------------------------------

4. State the nature of clients who trade in derivatives:

<table>
<thead>
<tr>
<th>Type of Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial institutions</td>
</tr>
<tr>
<td>Large Corporations</td>
</tr>
<tr>
<td>Small and Medium Enterprises</td>
</tr>
<tr>
<td>Individuals</td>
</tr>
</tbody>
</table>

Comments: -------------------------------------------------------------------------------------------------------------------------------------------------------------------
Section C: Financial Derivatives in the Kenyan Financial Market

1. State the approximate volumes traded for each of the derivatives in a year?

<table>
<thead>
<tr>
<th></th>
<th>&lt;100</th>
<th>101-500</th>
<th>501-1000</th>
<th>&gt;1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swaps</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Contracts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Futures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit Derivatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured Notes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others 1: _____</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Others 2: _____</td>
<td></td>
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<td></td>
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<tr>
<td>Others 2: _____</td>
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</tr>
</tbody>
</table>

Comments: ........................................................................................................


Section D: Factors that enable usage of Financial Derivatives in the Kenyan Financial Market

1. Describe the extent to which the following structural factors enable usage of financial derivatives in the Kenyan financial market:


<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Trading Platform e.g. NYSE, AMEX, NSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access &amp; Availability of Suitable Trading Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existence of Central Counterparty/Settlement service provider/Exchange</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requisite Knowledge &amp; Skills on the workings of derivative products and markets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

........................................................................................................

........................................................................................................

61
2. Describe the extent to which the following market participants enable usage of financial derivatives in the Kenyan financial market


<table>
<thead>
<tr>
<th>Investments</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speculators</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedgers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Makers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Mass/Diverse market participants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulators</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media/Data vendors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: ----------------------------------------------------------------------------------------------------------------------------------

3. Describe the extent to which the following environmental factors enable usage of financial derivatives in the Kenyan Financial Market


<table>
<thead>
<tr>
<th>Market risk instruments</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction Taxes/Taxation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquidity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural Impediments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: ---------------------------------------------------------------------------------------------------------------------------------
4. Describe the extent to which the following legal factors enable usage of financial derivatives in the Kenyan Financial Market


<table>
<thead>
<tr>
<th>Legal Factors</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevailing Legal framework on Derivatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearing/Settlement and Trading Rules</td>
<td></td>
<td></td>
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<tr>
<td>Agents Vs Principals Rules</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign Participation Rules</td>
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<td></td>
</tr>
</tbody>
</table>

Comments:  
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5. Describe the extent to which the following support services enable usage of financial derivatives in the Kenyan Financial Market:


<table>
<thead>
<tr>
<th>Services</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Support from Academia</td>
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<tr>
<td>Research and Development</td>
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<tr>
<td>Support from Interest Groups</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Comments:  
___________________________________________________________________________
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63
Section E: Challenges experienced by Commercial Banks in Development of Financial Derivatives in the Kenyan Financial Market

1. Describe the extent to which the following structural factors hinder the development of financial derivatives at your commercial bank:


<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Trading Platform e.g. NYSE, AMEX, NSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access &amp; Availability of Suitable Trading Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Existence of Central Counterparty/Settlement service provider/Exchange</td>
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<td></td>
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<tr>
<td>Requisite Knowledge &amp; Skills on the workings of derivative products and markets</td>
<td></td>
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</tbody>
</table>

Comments: ........................................................................................................

2. Describe the extent to which the following market participants hinder development of financial derivatives at your commercial bank:


<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Speculators</td>
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<tr>
<td>Hedgers</td>
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</tr>
<tr>
<td>Market Makers</td>
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<tr>
<td>Critical Mass/Diverse market participants</td>
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<tr>
<td>Regulators</td>
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</tr>
<tr>
<td>Media/Data vendors</td>
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</tr>
</tbody>
</table>
3. Describe the extent to which the following environmental factors hinder the development of financial derivatives at your commercial bank:


<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market risk instruments</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Transaction Taxes/Taxation</td>
<td></td>
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<tr>
<td>Liquidity</td>
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<td>Competition</td>
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<tr>
<td>Cultural Impediments</td>
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</tbody>
</table>

Comments: ---------------------------------------------------------------------------

4. Describe the extent to which the following legal factors hinder the development of financial derivatives at your commercial bank:


<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevailing Legal framework on Derivatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearing/Settlement and Trading Rules</td>
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<tr>
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<tr>
<td>Foreign Participation Rules</td>
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</tr>
</tbody>
</table>
5. Describe the extent to which the following support services hinder the development of financial derivatives at your commercial bank:


<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
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</thead>
<tbody>
<tr>
<td>Marketing Services</td>
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<tr>
<td>Support from Academia</td>
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<tr>
<td>Research and Development</td>
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<tr>
<td>Support from Interest Groups</td>
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</tbody>
</table>

Comments: ---------------------------------------------------------------

______________________________________________________________

______________________________________________________________
Section F: Strategies to Address the Challenges of Developing Financial Derivatives in the Kenyan Financial Market

1. State the priority in which the following structural factors should be addressed in the Kenyan financial sector:

<table>
<thead>
<tr>
<th>Factor</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Trading Platform e.g. NYSE, AMEX, NSE</td>
<td></td>
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<tr>
<td>Access &amp; Availability of Suitable Trading Systems</td>
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<tr>
<td>Existence of Central Counterparty/Settlement service provider/Exchange</td>
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<tr>
<td>Requisite Knowledge &amp; Skills on the workings of derivative products and markets</td>
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</tr>
<tr>
<td>Access to Trading Platform e.g. NYSE, AMEX, NSE</td>
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</tbody>
</table>

Comments: __________________________________________________________

2. State the priority with which the following market participants should be addressed in the Kenyan financial sector:

<table>
<thead>
<tr>
<th>Participant</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
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<tr>
<td>Speculators</td>
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<tr>
<td>Hedgers</td>
<td></td>
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<tr>
<td>Market Makers</td>
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<tr>
<td>Critical Mass/Diverse market participants</td>
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<tr>
<td>Regulators</td>
<td></td>
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<tr>
<td>Media/Data vendors</td>
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</tbody>
</table>

Comments: __________________________________________________________

67
3. State the priority with which the following environmental factors should be addressed in the Kenyan financial sector:

<table>
<thead>
<tr>
<th>Factor</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Market risk instruments</td>
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<tr>
<td>Transaction Taxes/Taxation</td>
<td></td>
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<tr>
<td>Liquidity</td>
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<tr>
<td>Competition</td>
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<tr>
<td>Cultural Impediments</td>
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</table>

Comments: 

4. State the priority with which the following legal factors should be addressed in the Kenyan financial sector:

<table>
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<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevailing Legal framework on Derivatives</td>
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<tr>
<td>Clearing/Settlement and Trading Rules</td>
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</tbody>
</table>

Comments: 

5. State the priority with which the following support services should be addressed in the Kenyan financial sector:

<table>
<thead>
<tr>
<th>Service</th>
<th>4</th>
<th>3</th>
<th>2</th>
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Comments: 

END.

THANKS FOR YOUR RESPONSE.