

EFFECT OF MACROECONOMIC FACTORS ON INTERNET BANKING BY
COMMERCIAL BANKS IN KENYA

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DECLARATION

This research project is my original work and has not been presented to any university for any award or anywhere else for academic purposes.

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

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DEDICATION

I dedicate this research project to my dear husband Harun Wambugu, daughter Arashel, brother Bernard and my parents Mr. and Mrs. Munyasya for their love, understanding, encouragement and support while conducting this study and throughout the MBA course. This research is also dedicated to commercial banks in Kenya in a bid to further shed light on the effects of macroeconomic factors on internet banking.

ABSTRACT

Banking sector plays a major role in mobilizing and allocating resources to various sectors in an economy. However, the sector is faced with a number of challenges among them macroeconomic shocks. Thus to maximize profits and smoothen macroeconomic shocks, commercial banks adopt or create various financial innovations such as internet banking in order to increase consumer demand through improved product or service quality, while simultaneously bringing down the cost of production. In Kenya, little is known on the effects of macroeconomic factors on internet banking. Therefore, the objective of this study is to analyze the effects of macroeconomic factors on internet banking in Kenya. Specifically we sought to investigate the effects of macroeconomic and bank specific factors on internet banking in Kenya. The analysis focused on 33 commercial banks for a period between 2002 and 2012. To achieve the objectives of this study we employed linear regression analysis to estimate the effects of both macroeconomic and bank specific factors on internet banking in Kenya. We used random effects model since we had a panel data. The study found that macroeconomic factors such as inflation rate and economic growth bank specific factors such as asset base of the bank determines internet banking. However, interest rate, nonperforming loans and bank profit do not determine internet banking. Inflation rate and economic growth were found to negatively affect internet banking. On the other hand asset base of the bank was found to positively influence internet banking. The study concluded that macroeconomic factors have effect on internet banking in Kenya. Specifically, inflation rate and economic growth are key macroeconomic determinants of internet banking in Kenya. The study recommended that central bank should focus on enhancing macroeconomic stability by maintaining low inflation rate. Further, the government should devise policies that aim at increasing economic growth at the same time sensitizing people on the need to adopt internet banking. Commercial banks should ensure compliance on all borrowing requirements in order to avoid bad debts in order to increase their profitability and accumulating more assets. Accumulation of asset would provide a strong muscle for the commercial banks to invest in internet banking platforms.

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LIST OF ABBREVIATIONS

CBK	:	Central Bank of Kenya
GDP	:	Gross Domestic Product
ICTNET:		Information Communication Technology Network
MBA	:	Masters of Business Administration
NPLs	:	Non Performing Loans
OLS	:	Ordinary Least Square
RESET:		Regression Specification Error Test
SSA	:	Sub Saharan Africa
UN	:	United Nations

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, banking sector plays a key role in mobilizing and allocating resources to various sectors in an economy. In Sub Saharan Africa (SSA), banking systems plays a major role in intermediation and economic development. However, they are faced with a number of challenges among them macroeconomic shocks. To maximize profits, commercial banks adopt or create various financial innovations in order to increase consumer demand through improved product or service quality, while simultaneously bringing down the cost of production (ICTNET, 2011). We expound on financial innovations and macroeconomic factors that determine adoption of financial innovation specifically internet banking, in the sections that follow.

1.1.1 Internet Banking

Since the introduction of credit cards in the early 1950s, there have been a number of significant innovations in the financial sector (Mandell, 1990). Innovations as defined by Rogers (1998) is the application of new ideas to the products, processes or any other aspects of a firm's activities. While on the other hand, financial innovation is defined as the act of creating, and then popularizing new financial instruments, as well as new financial technologies, institutions and markets (Lerner & Tufano, 2011). It has been found that such innovations are typically divided into two categories.

Product innovations include new derivative contracts, new corporate securities, or new forms of pooled investment products. Process innovations include new means of distributing securities, processing transactions, or pricing them (Lerner & Tufano, 2011). By its very nature of introducing novelty, innovation empowers businesses to create value. Some of these financial innovations include mobile banking, internet banking among others.

With the introduction of internet as a medium of communication, Clemons and Hitt (2000) showed how the internet changed the cost and capabilities for marketing, distributing and servicing financial products while also enabling new products and services to be developed. They identified three critical ways by which the internet enabled these innovations. Firstly, it created transparency by enabling all market participants to clearly evaluate the available range and prices of financial services. It also enabled differential pricing by providing information necessary to distinguish between different groups of customers. Thirdly, it enabled disintermediation by eliminating the role of certain middle-men in the financial services value-chain.

Business innovations such as internet banking have the potential to increase consumer demand of bank products through improved product and service quality and lowering down the cost of transactions. These type of innovations ultimately enhances profit maximization of the banks (ICTNET, 2011). However, internet banking is not without its critics. In the wake of recent financial crises and rising number of cyber café fraud, pundits have associated this type of financial innovation with financial fragility and

neglected risks (Vishny et al., 2012). It has been claimed that financial innovations, such as internet banking, have the potential to give rise to systemic risks, bring harm to consumers, and promote wasteful use of private resources by financial innovators in rent-seeking behavior (Lerner & Tufano, 2011).

The severity of association between internet banking and risk was clearly illustrated in the comprehensive study on cyber crime conducted by (UN, 2013). Though internet banking is faced with a number of uncertainties, it is also one of the financial innovations that is seen as the force driving the global financial system towards its goal of greater economic efficiency (Merton, 1995). It has been found that internet banking as a type of financial innovations increases banks' appetite for risky investments in both the primary and secondary markets, and that this effect is stronger in environments with low aggregate macroeconomic risk (Kero, 2011).

1.1.2 Macroeconomic Factors

Macro-economics (from the Greek prefix *makro-* meaning "large" and economics) is a branch of economics dealing with the performance, structure, behavior, and decision-making of an economy as a whole, rather than individual markets. This applies to national, regional, and global economies. Macro-economic factors develop models that explain the relationship between inflation, national income, national income savings, and investments, among others (Snowdon & Vane, 2005).

These macro-economic factors include inflation, Gross Domestic Product (GDP), economic growth, level of education, unemployment levels, savings and investments. They are the key indicators of the performance of an economy (Snowdon & Vane, 2005). A study done in Kenya found that macro-economic factors had the greatest effect on financial innovation within the country's commercial banks. The study recommended that in order for the commercial banks to be effective in operation and service delivery, they should recognize the contribution of macro-economic factors on financial innovation such as internet banking. Additionally, the study recommended that for the commercial banks to effectively grow, expand and enhance their performance, they must consider macro-economic factors in their operations (Mwangi, 2007).

1.1.3 Macroeconomic Factors and Internet Banking

Macroeconomic factors that influence internet banking include the government regulation and creation of laws that enable diffusion of internet banking. As illustrated by Nasri and Charfeddine (2012) for the case of Tunisia, government support through creation of solid laws was found to significantly enhance adoption of internet banking. Creation of solid laws builds the customer confidence in the use of internet banking and also creates the much needed infrastructure that drives adoption of internet banking. Another study carried out by Gosnell and Nejadmalayeri (2010) on macro-economic news and risk factor innovation found that inflation, employment, consumption and business activities were found to affect levels and volatilities of risk factors.

However, these macro variables affected risk factors differently. Inflation and non-farm payrolls decreased the market risk premium while increasing the size premium. Personal income on the other hand increased the size premium while reducing the book-to-market premium. Meanwhile, industrial production and GDP were seen to only influence the level of the momentum factor. In the model specification used in the study, producer inflation and personal income increased the volatility of the size premium, while business inventories increased the volatility of the market premium (Gosnell & Nejadmalayeri, 2010).

An interaction of internet banking and macroeconomic factors has been documented by the study of (Davis & Kahn, 2008). The study illustrated how changes in inventory dynamics had contributed significantly to the reduced volatility of real GDP growth. Those changes were consistent with anecdotal evidence, case studies, and a downtrend in inventory-sales ratios. This suggested that firms were using information technology innovations such as internet banking and better practices to manage their inventories more efficiently.

Finally, variability in demand, tax regimes, market size and growth and general macroeconomic conditions were found to influence financial innovations such as internet banking (Frame & White, 2009). Further, Campbell (1988) argues that unstable macroeconomic conditions spur more innovations. This is because unstable macroeconomic conditions for example, high price, interest rates and exchange rates

volatility creates uncertainties and risks which induce innovations in order to mitigate those risks. Thus greater macroeconomic instability would lead to more innovations.

1.1.4 Macroeconomic Factors and Internet Banking in Kenya

Since the year 2002 Kenyan economic growth has experience has variations with the lowest economic growth been 0.54 percent in year 2002 and the highest been 7 percent in year 2007. In year 2008 economic growth fell down to 1.5 percent due to the effects of post election violence. Later on the economic growth started to steadily rise. Concerning inflation, the lowest value was 0.93 percent in year 2002 while the highest value was 13.4 percent in year 2008. However later on there has been a steady decline in the rate of inflation (WDI, 2012).

Lending interest has been on a downward trend since the year 2002 having reached a maximum rate of 18.45 in year 2002 and the lowest rate of 0.081 in year 2011 (WDI, 2012). On the other hand, the ratio of the number of internet banking transaction to total number of transactions for commercial banks is mixed. Some banks that adopted internet banking has experience a rise while others have experienced a decline in the ratio of internet banking to the total number of transactions. This trend calls for proper analysis in order to ascertain the causes of various factors on internet banking.

In Kenya, the determinants of internet banking are poorly document. As Mwangi (2007) alludes, financial innovations such as internet banking are key drivers of commercial banks performance. This is because commercial banks that have embraced internet banking and other financial innovations have realized positive performance as compared

to those institutions that have not. Financial innovation has consequently led to the growth of commercial banks, their positive performance, and an increase in the banks customer base due to ease of transaction in either the credit department dealing with lending, or the operations departments dealing with deposits and withdrawals of money.

Munyoki and Ngigi (2011) sought to understand the determinants of internet banking in Kenya. The authors found that the adoption of internet banking by commercial banks is influenced by security, inadequate regulatory support, poor infrastructure and inadequate in house professionals. However, this paper did not consider macroeconomic determinants of internet banking.

Gikandi and Bloor (2010) also sought to understand determinants of adoption and effectiveness of electronic banking in Kenya. The authors found that legal regulations did not influence adoption of electronic banking, cost reduction and customer related factors had a great influence on adoption of electronic banking. Other studies done in Kenya considered the effects of macroeconomic factors on adoption of financial innovations without specifically focusing on internet banking. For example, Cracknell (2012) showed how macroeconomic policies influence financial innovations. The study assessed the advances and potential shortcomings of financial innovations initiated by Equity Bank and services such as M-PESA. These innovations were examined in the larger context of the country's drive towards universal financial inclusion.

The author clearly illustrated the direct relationship between financial innovations occurring in the country and the macroeconomic factors. However, the author did not

specifically focus on understanding the effects of macroeconomic factors on internet banking by commercial banks in Kenya. Therefore, this study sought to estimate the effects of macroeconomic factors such as inflation, economic growth, interest rate and bank specific factors such as bank profit, nonperforming loans and asset of commercial banks on internet banking in Kenya.

1.2 Research Problem

Adoption of internet banking by commercial banks can be studied based on technology acceptance theory (Davis, 1989) and unified theory of acceptance and use of technology among other related theories (Venkatesh et al., 2003). As Clemons and Hitt (2000) argues, internet has reduced the cost of marketing and has increased the capabilities for marketing, distributing and servicing financial products while also enabling new products and services to be developed.

Empirical studies have shown that both macroeconomic and microeconomic factors do influence financial innovations such as internet banking (Abeka, 2012; Munyoki & Ngigi, 2011; Chan & Lu, 2004; Gikandi & Bloor, 2010). Despite internet banking, being a key feature of the world economy with important implications for the growth of commercial banks, it remains insufficiently studied in developing countries such as Kenya.

Internet banking has been recognized as one of the key drivers of commercial banks performance (Mwangi, 2007). Its importance in the banking sector cannot be overemphasized, however very few studies have sought to critically analyze the determinants of internet banking in Kenya.

Some studies (Gikandi and Bloor, 2010; Munyoki and Ngigi, 2011) focused on understanding factors that affect internet banking in Kenya's commercial banks but did not consider the macroeconomic factors as determinants of internet banking. Consequently, there is a need to investigate the relation between macroeconomic factors and internet banking so as to develop a better understanding of the dynamics that govern their interaction.

Therefore, this study seeks to fill this gap in knowledge by critically analyzing macroeconomic factors that determine internet banking by commercial banks in Kenya. Specifically, the study investigates the effects of inflation, economic growth, interest rate, bank profit, nonperforming loans and asset of commercial banks on internet banking in Kenya.

1.3 Research Objectives

The objective of the study is to analyze the effects of macroeconomic factors on internet banking by Kenya commercial banks.

1.4 Value of the Study

Kenya commercial banks play a key role in economic development of the country as highlighted in the background of this study. These banks seek to maximize profit by adopting and creating various financial innovations such as internet banking.

However, they face various uncertainties when it comes to creation and adoption of internet banking due to the fact that there are both bank specific and macroeconomic factors that determine adoption of internet banking.

Previous studies on effects of macroeconomic factors on internet banking are very scanty in Kenya (Gikandi & Bloor, 2010; Munyoki & Ngigi, 2011). These studies focused on internet banking and none of the studies have analyzed the macroeconomic determinants of internet banking by Kenya commercial banks. This study therefore contributes to the existing literature by analyzing the effects of macroeconomic factors on internet banking by Kenya commercial banks. Specifically, the study will be valuable to various stakeholders as outlined below.

1.4.1 Investors

Understanding the relationship between internet banking and macroeconomic factors will enable investors, especially bank owners to be strategic in their decision of adoption of internet banking. Further, other banks which have not embraced internet banking will have a clear perception on what determines internet banking in Kenya, this will enable them make informed decision regarding adoption of internet banking.

1.4.2 Regulatory Authorities

This study will provide the most sought for information on internet banking by regulatory authorities. Specifically, various regulatory authorities need to understand the determinants of adoption of internet banking in order to formulate appropriate policies on internet banking.

1.4.3 Consumers and Public

Consumers of various commercial bank products and the public in general may improve their knowledge on what determines internet banking by reading the findings of this study.

1.4.4 Researchers and Financial Practitioners

The findings of this study will be valuable to financial practitioners and innovators since it will provide information on the determinants of internet banking in Kenya. Further, researchers interested in the area of internet banking may use this study as their reference point.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical and empirical literature review. Specifically, Section 2.2 presents the review of theories on financial innovations and their adoption while Section 2.3 presents the empirical literature review and finally Section 2.4 presents the overview of the literature reviewed.

2.2 Theoretical Literature Review

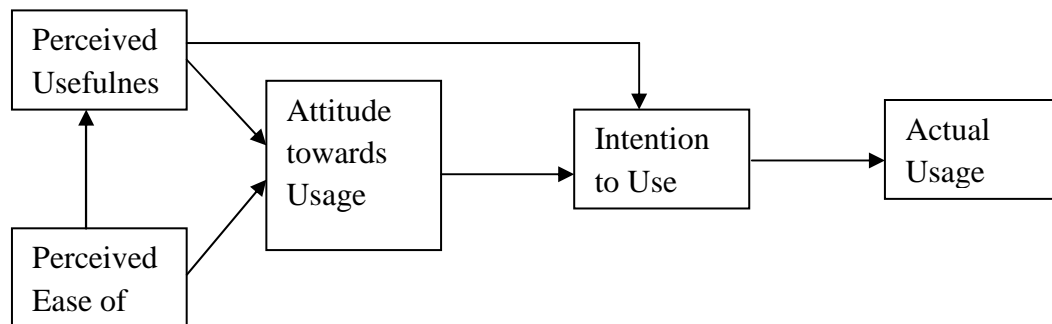
There are a number of theories that have been developed to explain adoption of innovations in general and specifically on financial innovations. Some of these theories are outlined below.

2.2.1 Technology Acceptance Model

This theory was originally proposed by Davis in 1986 to predict user's acceptance of Information Technology and its usage in an organization. The theory proposes attitude as one of the factors that explains the intention to use a certain technology. It further incorporates other factors that influence adoption and usage of a certain technology or service. Regarding perceptions, Davis (1989) established key factors that influence the decision about how and when to use a certain technology or service. These factors include perception usefulness and perceived ease of use.

Perception usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" while perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free from effort". Davis recognizes that individual behavior intention and actual behavior are influenced by perceived usefulness and perceived ease of use. However, perceived usefulness is a major predictor of intention to use since it has both direct and indirect effects. Finally, intention to use leads to actual usage as illustrated in Figure 2.1. This theory can be applied to study adoption of internet banking by commercial banks. As Davis (1989) argues the model captures the intentions of the user in this case commercial banks to adopt internet banking.

Figure 2.1: Technology Acceptance Model



Source: Davis (1989)

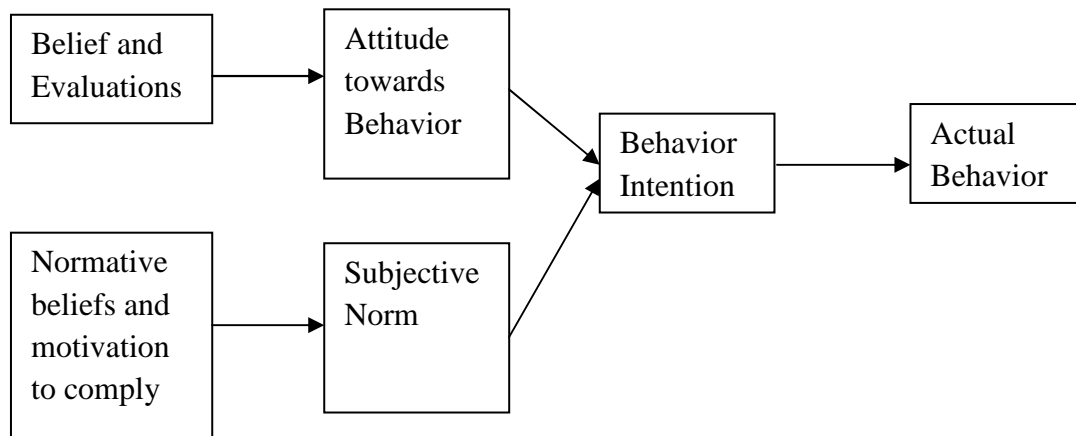
2.2.2 The Theory of Reasoned Action

The theory of reasoned action was developed by Fishbein and Ajzen (1975) which postulates that an individual's behavior intentions determine his or her actual behavior. The theory assumes that individual make rational decisions in forming their attitudes

towards a behavior. To form these attitudes, individuals evaluate their beliefs and multiply it by outcome evaluation and sum the entire set of beliefs. Further, to calculate the normative belief, individuals multiply the normative belief strength by the motivation to comply with that referent, and sum the entire set normative beliefs.

Specifically, behavior intention is influenced by both attitude towards behavior and subjective norm. Individuals form the attitude towards behavior through evaluation their beliefs while subjective norm is formed through normative beliefs and motivation to comply. Further, behavior intention determines the actual behavior of an individual in adopting a technology as shown in Figure 2.2.

Figure 2.2: Theory of Reason Action



Source: Fishbein and Ajzen (1975)

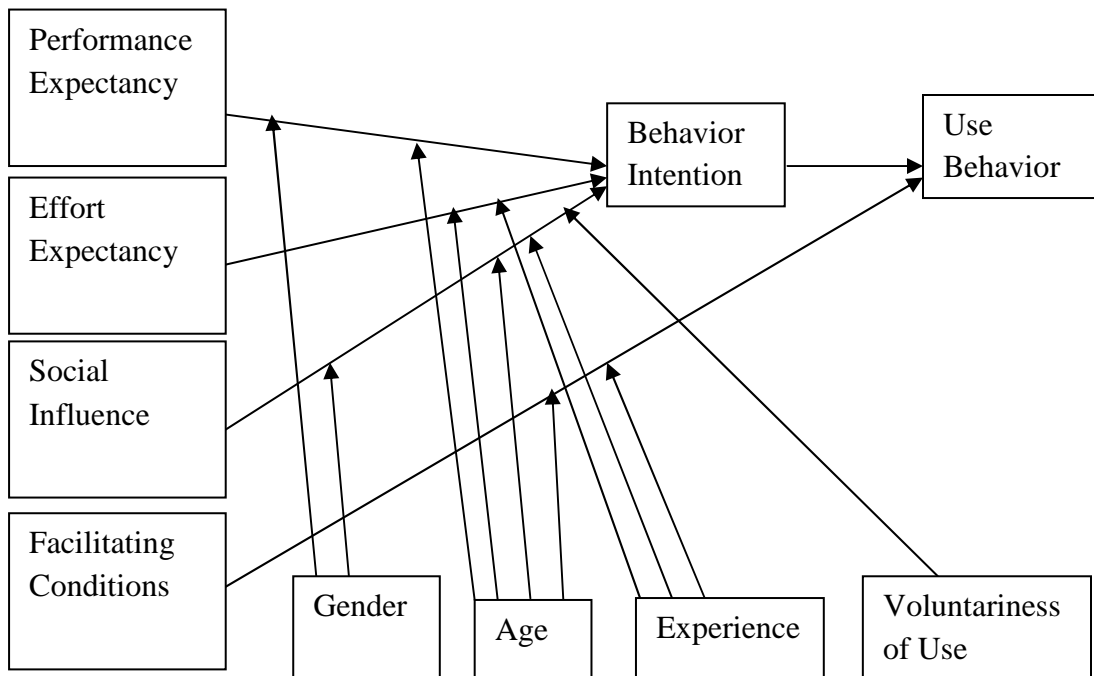
2.2.3 The Unified Theory of Acceptance and Use of Technology

Venkatesh et al. (2003) developed this theory by postulating that performance expectancy, effort expectancy and social influence determines the intention to use an information technology. Further they defined Performance expectancy as the degree to

which the user expects that using the system will help him or her attain gains in job performance while effort expectancy was defined as the degree of ease associated with the use of the system. Finally, they defined social influence as the degree to which an individual perceives that important others believe that he or she should use the new system.

As illustrated in Figure 2.3, the influence of performance expectancy on behavior intention is moderated by gender and age while the influence of effort expectancy on behavior intention is moderated by age and experience. Social influence is moderated by gender, age, experience and voluntariness if use while the influence of facilitating conditions on use behavior is moderated by age and experience of the individual (Venkatesh et al., 2003).

Figure 2.3: The Unified Theory of Acceptance and Use of Technology



Source: Venkatesh et al. (2003)

2.2.4 The Innovation Diffusion Theory

Rogers (1995) developed the theory of Innovation Diffusion that has been used to study a variety of innovations. The theory identifies, relative advantage, complexity, compatibility, trialability, and observability as the main attributes of an innovation that highly determine the adoption and acceptance of a certain technology. These attributes were expounded by Moore and Benbasat (1991) and defined them as follows; Relative Advantage is was defined as the degree to which an innovation is perceived as being better than its precursor while the ease of use is was defined as the degree to which an innovation is perceived as being difficult to use.

Image is was defined as the degree to which use of an innovation is perceived to enhance one's image or status in one's social system while visibility was defined as the degree to which one can see others using the system in the organization. Compatibility was defined as the degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters. Further, Results Demonstrability was defined as the tangibility of the results of using the innovation, including their observability and communicability. Finally, Voluntariness of Use was defined as the degree to which use of the innovation is perceived as being voluntary or of free will.

2.3 Empirical Literature Review

Internet banking is a form of self-service technology costing millions of dollars which leading retail banks have made available in the recent past. Phillip and Barton (2003)

identified eight characteristics of banks that influence adoption rate of internet banking. The paper found that adaptor of internet banking perceive it to be more convenient and less complex, more compatible to them and suite to those who are computer proficient. Further, the paper found adaptors to be more financial innovative. The perception of adaptors in comparison to non-adaptors about confidentiality, accessibility and economic benefits were also found to be different.

Yaghoubi and Bahmani (2010) sought to study the determinants of user adoption of online banking services among citizens of Isfahan province (Iran). Using a sample of 349 citizens in Iran and integrating the Technology Acceptance and Theory of Planned Behavior models found that the intention to use online banking was positively influenced by perceived behavioral control and perceived usefulness. These conformed to the integration of the Technology Acceptance model and Theory of Planned Behavior model.

Pooja and Balwinder (2007) analyzed the factors affecting internet banking in India by examining the relationship between the bank adoption decision of various banks and market characteristics. Panel data of 88 banks in India covering the financial year 1997-1998 to 2004-2005 were used and logistic regression technique was employed to study the relationship. The findings were that lager banks and banks with younger age, private ownership, and higher expenses of fixed assets, higher deposits and lower branch intensity had a higher likelihood of adopting internet banking. This study's limitation is the size of sample as well as omission of some variables such as market, environmental regulatory that has effect on decision of adoption of internet banking.

Nofie (2011) states that innovation is the launching of a new or better product aiming at lowering costs of producing financial services. A survey carried out in Indonesia presents a special case of Asian tiger economies especially after recession and economic reform. The findings of this study show that banks in Indonesia are directed by customers and competitors in adopting e-banking services. The main jargon in Indonesia is “free based income” and “third part funds” the bigger and older banks are found to be less innovative compared to the smaller newer banks.

Nasri and Charfeddine (2012) used a theoretical model to determine the factors that influence adoption of internet banking. Using a sample of 253 respondents in Tunisia, where 95 of the respondents were internet banking user and 158 were not. The study found out that this internet banking was greatly influenced by convenience, risk, security and prior internet knowledge. Demographic factors also played a role in affecting internet banking behavior specifically occupation and instruction. This paper also suggests that understanding of factors affecting internet banking is very important to those planning to promote new forms of banking in current competitive markets.

Milind (1999) quantified the factors affecting the adoption of internet banking by consumers. He specifically looked at customer awareness of the existence of the technology, customer perceptions concerning ease of use, customer concerns with regards to the security of online banking, customer perception of the affordability, availability of infrastructure and customer resistance to change. He found that lack of infrastructure was the least significant factor while security concerns were the most prominent ones.

Wang et al. (2003) used the Technology Acceptance Model to examine the determinants of user acceptance of internet banking. The paper found that ease of use, usefulness and credibility to rank high among these determinants. Other studies such as that by Chan and Lu (2004) used structural equation modeling to test the factors influencing the use of internet banking and found that computer self-efficacy was a significant factor in this respect.

Abeka (2012) sought to identify the factors that influence corporate customers' adoption of Internet banking services in Kenya, Uganda, Tanzania and Rwanda. The author carried out a survey of 137 respondents for the Kenya, Uganda, Tanzania and Rwanda and found that internet banking usage by corporate customers was influenced by the ease to use and operate of the internet system and platforms.

Gikandi and Bloor (2010) studied the adoption and effectiveness of electronic banking using a three stage survey for Kenya's formal banking industry. The paper found that internet security was a major determinant of adoption of electronic banking in the retail banks. Legal regulations were found to have low influence on adoption of electronic banking while cost reduction and customer related factors were the main determinants of adoption of electronic banking.

Njuguna et al. (2012) sought to study the adoption of internet banking by individual who had accounts with commercial banks in Nairobi County between the period of 2010 and 2011. The study considered a survey of 300 respondents and found that only 24.82 percent of the respondents were using internet banking services.

Further the results shows that perceived usefulness, perceived ease of use, self-efficacy, relative advantage, compatibility, and result demonstrability were the main determinants of the intention to use internet banking. However, risk, visibility and trialability were found to be insignificant in explaining the intention to use internet banking in Nairobi County. Finally, the study found that users of internet banking had positive perceptions regarding various aspects of internet banking while no users of internet banking had a negative perception of various aspects of internet banking.

Munyoki and Ngigi (2011) investigated the challenges that commercial banks face in Kenya in their quest to adopt electronic banking. The paper found that the adoption of internet banking by commercial banks is influenced by security, inadequate regulatory support, poor infrastructure and inadequate in house professionals. In Kenya, there are relatively few studies on the effects of macroeconomic factors on internet banking. Majority of the studies focused on the effects of macroeconomic variables on financial innovations in general.

Among these studies are Cracknell (2012) who found that macroeconomic policies do influence financial innovations. The author clearly illustrated the direct relationship between financial innovations occurring in the country and the macroeconomic factors. Aduka (2010) sought to study the effects of financial innovations on macroeconomic factors using data for 44 commercial banks for year 2007 to 2009. The study considered the effects of mobile banking on savings, investments and inflation in Kenya and found

that there was no direct relationship between macroeconomic factors (inflation, savings and investments) and mobile banking.

Finally, Mwangi (2007) investigated the determinants of financial innovations in Kenya and found out that macro-economic factors had the greatest effect on financial innovation within the country's commercial banks. The study recommended that in order for the commercial banks to be effective in operation and service delivery and increase their performance they should recognize the contribution of macro-economic factors on financial innovation.

2.4 Summary of Literature Review

This chapter reviewed both theoretical and empirical literature on adoption of innovations, specifically internet banking. Various theories have been developed to explain the determinants and diffusion of innovations. Among other factors, macroeconomic factors have been hypothesized to influence adoption of internet banking. The empirical literature review on the determinants of internet banking has revealed that macroeconomic factors were not incorporated in the analysis of what determines adoption of internet banking.

Though macroeconomic factors have been hypothesized as important determinants of adoption of internet banking, the review found that there is scanty literature on the effects of macroeconomic factors on adoption of internet banking. This is no exception for the case of Kenya where there are few studies on the relationship between macroeconomic factors and internet banking. This study therefore seeks to determine the influence of

macroeconomic factors on internet banking in Kenya thereby bridging the existing gap in the literature.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the analytical model to be used in the estimation, research design, population, sample design, data collection and finally data analysis.

3.2 Research Design

According to Mutai (2001), the research design refers to the procedures to be employed to achieve the objectives of the research. The research design constitutes the blueprint for the collection, measurement and analysis of data (Cooper & Schinder, 2006). The research will endeavor to give an explanation of the relationship between macroeconomic factors and internet banking by Kenyan commercial banks. Therefore a correlation design will be employed to provide an explanation on the relationship between macroeconomic factors and internet banking by commercial banks in Kenya.

3.3 Population/Sample

Target Population refers to all the members a real or hypothetical set of people, events or subjects to which a researcher wishes to generalize his results of the study (Ngechu 2004). The target population of this study will be all commercial banks in Kenya. The total number of commercial banks in Kenya is 43 as shown in Appendix 4. However since not all commercial banks have adopted internet banking, we consider 33 commercial banks that have internet banking.

3.4 Data Collection

The data used in this study is panel data for year 2002 to 2012. The data on asset base, bank profit and the level of nonperforming loans for the commercial banks in Kenya will be from the balance sheets of each commercial bank. This secondary data is available from the Central Bank of Kenya (CBK). Data on macroeconomic factors that is, inflation rate, economic growth, real interest rate and literacy rate will be from World Development Indicators of the World Bank. The author will download this data from the World Bank website. Finally, data on internet banking will be collected from CBK. The author will seek to know if a certain commercial bank has adopted internet banking, if so, which year did it adopt. This information will be sought from each commercial bank publications.

3.5 Data Analysis

The study will conduct both descriptive and inferential analyses in a statistical package called Stata. Before estimating Equation 1.1 we will conduct various diagnostic tests to check for violation of Ordinary Least Square (OLS) assumptions. Some of these diagnostic tests are; Multicollinearity, Heteroskedasticity, assumption of model specification, among others. The results will be presented in Tables and graphs for visual understanding.

3.6 Analytical Model

To estimate the effects of macroeconomic factors on internet banking we specify a model as shown in Equation 1.1.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \varepsilon_{it} \dots \dots \dots (1.1)$$

Where, Y_{it} denotes internet banking adopted by commercial bank i at time t , $t = 2002$ to 2012 . The dependent variable Y_{it} is measured as the ratio of the volume of internet banking to total volume of transactions in bank i at time t .

X_1 is a macroeconomic variable that denotes inflation rate. Inflation is measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used.

X_2 is a macroeconomic variable that denotes economic growth. Economic growth is measured as the annual percentage growth rate of GDP at market prices based on constant local currency.

X_3 is a macroeconomic variable that denotes real lending interest rate. Real interest rate is measured as the lending interest rate adjusted for inflation.

X_4 is a bank specific variable that denotes asset base of the bank. The asset base of a bank is the total asset that a specific commercial bank holds. This is measured by summing the cash balances, balances due from Central bank of Kenya, Kenya government securities, foreign currency treasury bills and bonds, deposits and balances due from local and foreign banking institutions, government and other securities held for dealing purposes, tax recoverable, net loans and advances to customers, investment securities, balances due from group companies, investment in associates, investment in subsidiary companies,

investment in joint ventures, investment in properties, property and equipment, Prepaid lease rentals, Intangible assets, deferred tax asset, Retirement benefit asset and other assets.

X_5 is a bank specific variable that denotes bank profit. Bank profit is measured as the difference between total revenue minus total cost of a specific bank in a specified period, usually one year.

X_6 is a bank specific variable that denotes non performing loans (NPLs). Nonperforming loan is measured as a loan that payments of interest and principal are past due by 90 days or more, or at least 90 days of interest payments have been capitalized, refinanced or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons to doubt that payments will be made in full.

β 's are parameters to be estimated

ε_i is the error term that is assumed to be white noise

We expect high inflation, non performing loans and interest rate to negatively influence adoption of internet banking, high economic growth, asset base, bank profit to positively influence adoption of internet banking.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings from data analysis and the discussion of the results. Specifically Section 4.2 presents the descriptive statistics and finally Section 4.3 presents the regression results and their interpretation.

4.2 Descriptive Statistics

From Table 4.1 the internet banking had a mean of 0.106 and a standard deviation of 0.075 with the lowest bank having a minimum and maximum value of internet banking as 0.002 and 0.36 respectively. For the period ranging between 2002 and 2012, the mean of profit for commercial banks was Kshs 1,041.128 millions with a standard deviation of Kshs 2, 481.887 millions. The minimum and maximum values were Kshs -2,000 and Kshs 19,000 million respectively. This shows that there is huge variation in terms of bank profits for the period under consideration.

Nonperforming loans for the period between 2002 and 2012 had a mean value of Kshs 2,167.424 million and a standard deviation of Kshs 6,623.271 millions with a maximum value of Kshs 95,000 millions. On the other hand, the mean for bank asset for the period ranging 2002 to 2012 was Kshs 33,900 million and a standard deviation of Kshs 61, 700 millions with minimum and maximum values of Kshs 1,100 millions and Kshs 730,000 million respectively. Regarding macroeconomic factors, the average rate of inflation for

the period between 2002 and 2012 was 6.2 percent with a standard deviation of 3.3 percent. Inflation rate had a minimum and maximum value of 0.93 and 13.41 respectively.

For the period under consideration, the Kenyan economy grew at about 4.2 on average and the growth rate had a standard deviation of 1.97 with minimum and maximum values of 0.55 and 6.99 respectively. Real lending interest rate had a mean of 15 percent and a standard deviation of 2.2 with minimum and maximum values of 12.53 and 19.67 respectively.

Table 4.1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Internet	0.1060682	0.0751885	0.00155	0.361143
Asset	33,900	61, 700	1,100	730,000
Profit	1,041.128	2, 481.887	-2,000	19,000
NPLs	2,167.424	6,623.271	-148	95,000
Inflation	6.288926	3.318662	0.9332055	13.4107
GDP Growth	4.244276	1.972553	0.5468595	6.993285
Lending Rate	15.03059	2.196809	12.53167	19.67

We conducted various diagnostic tests in order to detect whether the assumptions of OLS are violated. There is need to test for violation of the OLS assumptions and account for these violations if there is any so as to get consistent, efficient and unbiased parameter

estimates. We conducted the following diagnostic tests. We tested for Multicollinearity using correlation Matrix as shown in Appendix 1. The term Multicollinearity originally meant the existence of a perfect or exact linear relationship among some or all explanatory variables of a regression model.

If there is perfect Multicollinearity, the regression coefficients remain indeterminate and their standard errors are infinite. On the other hand, if Multicollinearity is imperfect but high, estimation of the regression coefficients may be possible but could possess large standard errors, which implies that the coefficients cannot be estimated with great precision or accuracy (Gujarati, 2003).

According to Gujarati (2003) Multicollinearity becomes a serious problem if the pair-wise or zero-order correlation coefficient between two independent variables is greater than 0.8. If we detect Multicollinearity we use ridge regression or we drop the variable that is causing Multicollinearity. The test result for Multicollinearity using the Correlation Matrix in Appendix shows that there is no variable which has a correlation coefficient greater than 0.8 implying that severe Multicollinearity does not exist hence we do not have a problem of Multicollinearity.

Further, we tested for Heteroskedasticity. According to Greene (2000), the classical linear regression assumes that the variance of the error term is constant over time, that is, the error term is Homoskedastic. If the variance of the error term is changing over time then the assumption of Homoskedastic is violated leading to Heteroskedasticity. Ordinary least squares estimates are consistent in the presence Heteroskedasticity but the

conventional computed standard errors are no longer valid. If there is some evidence of Heteroskedasticity, we estimate Equation 1.1 using the robust standard errors to account for the problem of Heteroskedasticity. We tested for Heteroskedasticity using Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity. The test result reports a Chi Square of 0.15 with a P value of 0.034 implying that the Chi Square statistic is significant at 5 percent level of significance. Therefore, we reject the null hypothesis of constant variance thus Heteroskedasticity is present in our data.

We tested for model misspecification using the Ramsey RESET Test using the Regression Specification Error Test (RESET). Here the errors are tested to determine whether the model in question has been correctly specified. RESET tests for the following types of specification errors: omitted variables, incorrect functional form and measurement errors (Greene, 2000). If this assumption is violated we will either; add more variables, use appropriate functional form or use simultaneous equation models. The test statistic of the Ramsey RESET Test is the F with a value of 0.732 and a P value of 0.567 implying that we do not reject the null hypothesis that the model is correctly specified.

4.3 Regression Results and their Interpretation

Having conducted the diagnostic tests, we run the panel regression with both random and fixed effects. We use panel regression with random effects in order to account for bank specific effects as shown in Table 4.2. Table 4.2 presents the panel regression estimates where we take into account the unobservable bank specific characteristics. We regressed

internet banking on inflation, economic growth, interest rate, profit, non performing loans and asset base of the bank. We transformed asset, nonperforming loans and bank profit into logarithm in order to linearize the variables.

Further, we report robust standard errors which accounts for the presence of Heteroskedasticity. The panel analysis reports three R squares with R square for within having a value of 0.1124, R square for between having the value of 0.0021 and finally the overall R square of 0.0387. The R square for between is less than that for within implying that the individual effects are more important than time effects.

Table 4.2: Random-Effects Generalized Least Squares Regression Results

Dependent Variable: Internet Banking

Variable	Coefficient	Robust Std. Err.	z	P>z
Asset	0.0128341**	0.00632222	2.03	0.030
Profit	0.0029044	0.0083004	0.35	0.726
NPLs	-0.005269	0.010006	-0.53	0.598
Inflation	-0.0023786**	0.00082878	-2.87	0.039
GDP Growth	-0.0032157***	0.00124158	-2.59	0.058
Lending rate	0.0024609	0.0030327	0.81	0.417
Constant	-0.0824964	0.0960686	-0.86	0.390

(*), (**) and (***) denotes 1%, 5% and 10% level of significance

Number of obs = 207, Number of groups = 31, R-sq: Within = 0.1124, R-sq: Between = 0.0021, R-sq: Overall = 0.0387, Wald Chi Square (6) = 27.18.

The results further gibes a Wald test with a Chi Square of 27.18 with a P value of 0.0001 implying that jointly inflation, economic growth, interest rate, profit, nonperforming loans and asset base explains internet banking in Kenya.

From Table 4.2 it is evident that inflation rate, economic growth and asset base of the bank determines the adoption of internet banking in Kenya. However, lending interest rate, nonperforming loans and bank profit do not determine adoption of internet banking. Specifically, inflation rate negatively influence adoption of internet banking in Kenya. The coefficient of inflation is -0.0023786 and is statistically significant at 5 percent level. This implies that a one unit increase in inflation rate would lead to about 0.0024 units decrease in internet banking. This result could be explained by the fact that inflation increases the overall cost of doing business in an economy and reduces the purchasing power of bank customers thus reducing the number of bank transactions per individual.

From the results, economic growth negatively influences the adoption of internet banking among the Kenyan commercial banks. Economic growth has a coefficient of -0.0032157 which is statistically significant at 10 percent level. This implies that a unit increase in the growth rate of the Kenyan economy would lead to about 0.0032 decreases in internet banking among the commercial banks. Though economic growth leads to expansion of an economy which translates into increased private lending, improvement in the welfare of the people among other multiplier effects. Some of the effects that economic growth may have on the banking sector are increased borrowing which according to this study, translates into reduced volume of transactions including transactions through internet

banking. Another avenue through which economic growth may influence internet banking is through the use of advanced information communication technologies such as mobile banking as an alternative to internet banking.

Concerning the bank specific factors, only asset base of a bank determine internet banking while profit and nonperforming loans does not influence internet banking in Kenya. Asset base of a bank positively influences adoption of internet banking in Kenya. The coefficient of asset base has a value of 0.0128341 which is statistically significant at 5 percent level. This implies that a percentage change in asset base would lead to about 0.013 increases in internet banking. This could be explained by the fact that, higher asset base of a bank increases its chances of diversifying and trying out new banking technologies. Further, adoption of internet banking is costly and requires huge investment thus a bank with big asset base will find it easy to invest in internet banking as compared to a bank with small asset base.

On the other hand, nonperforming loans has the expected negative sign implying that it negatively affects internet banking but it is statistically insignificant. This could be explained by the fact that nonperforming loans increases the risk of a commercial banks and ties up the much needed resources but this does not have any effect on development of internet banking platforms. Profit and lending rate also have the expected signs but they do not influence internet banking in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This Chapter is divided into three sections, Section 5.2 presents the conclusion of the study, Section 5.3 presents the recommendations and finally Section 5.4 presents the areas of further research.

5.2 Summary

This study focused on understanding the effects of macroeconomic determinants on internet banking by Kenya commercial banks. The study began by presenting a contextual background on the importance of financial innovations globally followed by SSA and later on Kenya. It was evident that internet banking plays an important role in development and performance of the commercial banks in Kenya. However, the determinants of internet banking have not been studied thoroughly.

In the statement of the problem, the study recognized that there is need to understand the macroeconomic determinants of internet banking in order to inform policy and strategically leverage on this technology. The objective of the study was to analyze the effects of macroeconomic factors on adoption of internet banking by Kenya commercial banks. Specifically the study investigated the effects of inflation, economic growth, interest rate, bank profit, nonperforming loans and asset base of commercial banks on internet banking in Kenya.

Focusing on 33 commercial banks for a period between 2002 and 2012, the study employed linear regression analysis to estimate the effects of both macroeconomic and bank specific factors on internet banking in Kenya. Using the random effects model the study found that inflation rate, economic growth and asset base determine internet banking. However, interest rate, nonperforming loans and bank profit do not determine internet banking. Both inflation rate and economic growth were found to negatively affect internet banking while asset base was found to positively determine internet banking.

The study established that macroeconomic factors such as inflation rate and economic growth are key determinants of internet banking in Kenya. The study recommended that central bank should focus on enhancing macroeconomic stability by maintaining low inflation rate. Further, the government should devise policies that aim at increasing economic growth. Finally, commercial banks should aim at building up their asset base since this will provide a strong muscle for them to invest in internet banking platforms.

5.3 Conclusion

The study sought to analyze the macroeconomic determinants of internet banking by commercial banks in Kenya. We started by giving the contextual background of internet banking and its determinants in Africa and later on in Kenya. Then we sought to investigate the effects of inflation, economic growth, interest rate, bank profit, nonperforming loans and asset base of commercial banks on adoption of internet banking in Kenya. The analysis focused on 33 commercial banks for a period between 2002 and

2012. To achieve the objective of the study we employed panel data analysis techniques. Specifically, we employed Random Effects model to estimate the effects of both macroeconomic and bank specific factors on internet banking in Kenya.

However, before running the Random Effects model, we conducted various diagnostic tests which revealed presence of Heteroskedasticity in the data. We accounted for this violation of the OLS assumption by reporting robust standard errors. The analysis revealed that inflation rate, economic growth and asset base of the bank determines the adoption of internet banking in Kenya. However, lending interest rate, nonperforming loans and bank profit do not determine adoption of internet banking.

Inflation rate was found to affect adoption of internet banking negatively. Inflation increases the overall cost of doing business in an economy thus reducing the number of internet banking transactions per individual. Economic growth was found to negatively determine the adoption of internet banking because economic growth may lead to increased bank borrowing and use of other banking avenues other than internet banking. These findings are different from the results that Mwangi (2007) got.

Asset base of a bank was found to positively determine adoption of internet banking. The explanation of this was based on the fact that higher asset base increases its chances of a bank to diversify and try out new banking technologies such as internet banking. Nonperforming loans bank profit and lending rate were found to have no influence on adoption of internet banking in Kenya.

5.4 Recommendation

From the analysis of the macroeconomic determinants of internet banking, the study recommends that for adoption of internet banking to accelerate there is need to maintain macroeconomic stability. Thus the central bank should focus on enhancing macroeconomic stability by maintaining low inflation rates. This is because high inflation rate has negative impact on adoption of internet banking.

The government ought to devise policies that aim at increasing economic growth rate but ensure that commercial banks encourage the use of internet banking. Some of the policies that the country could pursue to enhance growth at the same time improving internet banking are; to focus on completely liberalizing banking sector, creating an enabling environment for financial innovations to thrive and creating secure internet banking platforms.

Commercial banks should be cautious on how they advance funds to customers. The banks should be vigilant and ensure compliance on all borrowing requirements in order to avoid bad debts. Reduction in bad debts would lead to increased profit and ultimately resulting to accumulation of assets. Building up on the asset base would provide a strong muscle for commercial banks to invest in internet banking platforms.

5.5 Limitations of the Study

The study was limited to commercial banks in Kenya and did not focus on microfinance institutions. This was due to time constraints and limited resources available to the researcher. Further, the study focused commercial banks in Kenya and did not consider

commercial banks for the entire Africa. Thus the findings may not accurately draw a good picture of other developing countries in Africa since the factors involved and technological advances are significantly different. Finally the study did not consider analyzing the bi causality between macroeconomic factors and internet banking in Kenya.

5.6 Suggestions for Further Research

This study focused on the macroeconomic determinants of internet banking in Kenya for the period 2002 to 2012 due to data and time constraints. Future studies should focus on analyzing the microeconomic determinants of internet banking and may consider analyzing the determinants of adoption of financial innovations as a package rather than a single technology.

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APPENDICIES

Appendix 1: Correlation Matrix

Variable	Internet	Asset	Profit	NPLs	Inflation	GDP growth	Lending Rate
Internet	1.0000						
Asset	0.1090	1.0000					
Profit	0.0576	0.9067	1.0000				
NPLs	0.0640	0.5640	0.3835	1.0000			
Inflation	-0.1012	-0.0598	-0.0470	-0.0215	1.0000		
GDP growth	-0.0106	-0.0492	-0.0083	0.0347	-0.6160	1.0000	
Lending Rate	0.1409	0.2323	0.3003	-0.0975	0.0689	-0.201	1.0000

Appendix 2: List of All Commercial Banks

Bank Name	Bank Name
African Banking Corporation Ltd	Giro Commercial Bank
Bank of Baroda	Guardian Bank
Barclays Bank of Kenya	Gulf Africa Bank
Bank of India	Habib Bank AG Zurich
Bank of Africa	Habib Bank
Commercial Bank of Africa	Housing Finance Company of Kenya
CFC Stanbic Bank	I&M Bank
Chase Bank	Imperial Bank Kenya
Citi Bank	Jamii Bora Bank
Consolidated Bank of Kenya	Kenya Commercial Bank
Co-operative Bank of Kenya	K-Rep Bank
Credit Bank	Middle East Bank Kenya
Development Bank of Kenya	National Bank of Kenya
Diamond Trust Bank	NIC Bank
Dubai Bank Kenya	Oriental Commercial Bank
EcoBank	Paramount Universal Bank
Equatorial Commercial Bank	Prime Bank
Equity Bank	Standard Chartered Kenya
Family Bank	Trans National Bank Kenya

First Community Bank	United bank of Africa
Fidelity Commercial Bank	Victoria Commercial Bank
Fina Bank	

Appendix 3: Data used in the Analysis

Bank	Bank Id	Year	Asset (000)	Profit (000)	NPLs (000)	Internet banking	Inflation	Gdp Growth	Interest rate
ABC	1	2002	3400000	30102	151586		0.933206	0.54686	18.4533
ABC	1	2003	3400000	17993	159923	0.043221	6.19731	2.93248	16.5733
ABC	1	2004	4200000	78121	130467	0.057802	7.12684	5.1043	12.5317
ABC	1	2005	4200000	45510	174441	0.104795	4.89965	5.90667	12.8825
ABC	1	2006	5400000	96702	351157	0.184176	7.78674	6.33063	13.6355
ABC	1	2007	5400000	96702	351157	0.086679	5.61481	6.99329	13.3403
ABC	1	2008	6600000	156626	297689	0.218458	13.4107	1.528	14.0169
ABC	1	2009	8800000	176634	376302	0.061064	9.15751	2.64478	14.8045
ABC	1	2010	10000000	342228	313794	0.155239	2.17834	5.55157	14.3715
ABC	1	2011	13000000	373392	280010	0.271449	3.67	4.5	15.05
ABC	1	2012	19000000	557000	229000	0.281449	8.29	4.6	19.67
BBK	3	2002	86000000	1800000	8000000	0.021673	0.933206	0.54686	18.4533
BBK	3	2003	91000000	1300000	7900000	0.094475	6.19731	2.93248	16.5733
BBK	3	2004	110000000	3700000	9100000	0.058066	7.12684	5.1043	12.5317
BBK	3	2005	100000000	1500000	11000000	0.175949	4.89965	5.90667	12.8825
BBK	3	2006	120000000	260593	299412	0.171528	7.78674	6.33063	13.6355
BBK	3	2007	120000000	260593	299412	0.299069	5.61481	6.99329	13.3403
BBK	3	2008	170000000	5500000	6600000	0.232269	13.4107	1.528	14.0169
BBK	3	2009	170000000	6100000	7500000	0.198188	9.15751	2.64478	14.8045
BBK	3	2010	170000000	11000000	6500000	0.21484	2.17834	5.55157	14.3715
BBK	3	2011	170000000	8100000	6500000	0.203387	3.67	4.5	15.05
BBK	3	2012	190000000	13000000	3200000	0.213387	8.29	4.6	19.67
CBA	6	2002	16000000	338889	525241	0.215534	0.933206	0.54686	18.4533
CBA	6	2003	16000000	159851	487373	0.15284	6.19731	2.93248	16.5733
CBA	6	2004	20000000	282195	485441	0.131106	7.12684	5.1043	12.5317
CBA	6	2005	24000000	181860	470787	0.125559	4.89965	5.90667	12.8825
CBA	6	2006	38000000	903043	1400000	0.036927	7.78674	6.33063	13.6355
CBA	6	2007	38000000	903043	1400000	0.171803	5.61481	6.99329	13.3403
CBA	6	2008	50000000	1300000	1600000	0.190384	13.4107	1.528	14.0169
CBA	6	2009	58000000	1200000	1800000	0.228377	9.15751	2.64478	14.8045
CBA	6	2010	64000000	1900000	2600000	0.295372	2.17834	5.55157	14.3715
CBA	6	2011	83000000	1600000	2600000	0.285451	3.67	4.5	15.05
CBA	6	2012	100000000	3900000	1700000	0.245451	8.29	4.6	19.67
CFCSTANBIC	7	2002					0.933206	0.54686	18.4533
CFCSTANBIC	7	2003					6.19731	2.93248	16.5733
CFCSTANBIC	7	2004					7.12684	5.1043	12.5317
CFCSTANBIC	7	2005					4.89965	5.90667	12.8825
CFCSTANBIC	7	2006					7.78674	6.33063	13.6355
CFCSTANBIC	7	2007					5.61481	6.99329	13.3403

CFCSTANBIC	7	2008	83000000	892288	3700000	0.118988	13.4107	1.528	14.0169
CFCSTANBIC	7	2009	97000000	794694	1800000	0.075373	9.15751	2.64478	14.8045
CFCSTANBIC	7	2010	110000000	1500000	1700000	0.256784	2.17834	5.55157	14.3715
CFCSTANBIC	7	2011	140000000	1900000	1000000	0.152719	3.67	4.5	15.05
CFCSTANBIC	7	2012	130000000	4700000	942000	0.015171	8.29	4.6	19.67
CHASE	8	2002	1200000	32158	1581		0.933206	0.54686	18.4533
CHASE	8	2003	1600000	18001	1581		6.19731	2.93248	16.5733
CHASE	8	2004	2100000	-67120	118276		7.12684	5.1043	12.5317
CHASE	8	2005	2300000	18903	97525		4.89965	5.90667	12.8825
CHASE	8	2006	4100000	78080	124236	0.05515	7.78674	6.33063	13.6355
CHASE	8	2007	4100000	78080	124236	0.044519	5.61481	6.99329	13.3403
CHASE	8	2008	10000000	169185	360828	0.124156	13.4107	1.528	14.0169
CHASE	8	2009	13000000	210514	365193	0.298346	9.15751	2.64478	14.8045
CHASE	8	2010	22000000	381393	435746	0.221925	2.17834	5.55157	14.3715
CHASE	8	2011	37000000	602246	609695	0.141409	3.67	4.5	15.05
CHASE	8	2012	49000000	1300000	911000	0.131409	8.29	4.6	19.67
CITIBNK	9	2002	30000000	786824	348312	0.089618	0.933206	0.54686	18.4533
CITIBNK	9	2003	29000000	371941	323702	0.047818	6.19731	2.93248	16.5733
CITIBNK	9	2004	25000000	124805	386237	0.110738	7.12684	5.1043	12.5317
CITIBNK	9	2005	28000000	319048	370276	0.144109	4.89965	5.90667	12.8825
CITIBNK	9	2006	38000000	899877	487966	0.253039	7.78674	6.33063	13.6355
CITIBNK	9	2007	38000000	899877	487966	0.143753	5.61481	6.99329	13.3403
CITIBANK	9	2008	48000000	1900000	303870	0.140369	13.4107	1.528	14.0169
CITIBANK	9	2009	51000000	1900000	333958	0.133116	9.15751	2.64478	14.8045
CITIBANK	9	2010	62000000	1700000	377863	0.102609	2.17834	5.55157	14.3715
CITIBANK	9	2011	75000000	2900000	405277	0.163233	3.67	4.5	15.05
CITIBANK	9	2012	70000000	7200000	-148000	0.123232	8.29	4.6	19.67
CONSOL.	10	2002	2700000	77204	711781		0.933206	0.54686	18.4533
CONSOL.	10	2003	2300000	12891	842386		6.19731	2.93248	16.5733
CONSOL.	10	2004	2800000	71021	874110	0.087148	7.12684	5.1043	12.5317
CONSOL.	10	2005	2700000	14184	863362	0.084007	4.89965	5.90667	12.8825
CONSOL.	10	2006	3400000	16263	1400000	0.046055	7.78674	6.33063	13.6355
CONSOL.	10	2007	3400000	16263	1400000	0.091199	5.61481	6.99329	13.3403
CONSOL.	10	2008	4700000	96223	1200000	0.012168	13.4107	1.528	14.0169
CONSOL.	10	2009	6900000	80938	923383	0.049801	9.15751	2.64478	14.8045
CONSOL.	10	2010	10000000	172478	1000000	0.069501	2.17834	5.55157	14.3715
CONSOL.	10	2011	15000000	149824	1100000	0.11085	3.67	4.5	15.05
CONSOL.	10	2012	18000000	176000	553000	0.10085	8.29	4.6	19.67
CO-OP	11	2002	29000000	276424	7700000		0.933206	0.54686	18.4533
CO-OP	11	2003	29000000	47523	8100000		6.19731	2.93248	16.5733

CO-OP	11	2004	46000000	206609	8700000	0.077171	7.12684	5.1043	12.5317
CO-OP	11	2005	51000000	289456	8800000	0.123489	4.89965	5.90667	12.8825
CO-OP	11	2006	58000000	851625	17000000	0.187574	7.78674	6.33063	13.6355
CO-OP	11	2007	58000000	851625	17000000	0.073825	5.61481	6.99329	13.3403
CO-OP	11	2008	84000000	2400000	9400000	0.108246	13.4107	1.528	14.0169
CO-OP	11	2009	110000000	3000000	6600000	0.262916	9.15751	2.64478	14.8045
CO-OP	11	2010	150000000	4400000	4900000	0.173492	2.17834	5.55157	14.3715
CO-OP	11	2011	170000000	5200000	5200000	0.279201	3.67	4.5	15.05
CO-OP	11	2012	200000000	8200000	3300000	0.172916	8.29	4.6	19.67
CREDIT	12	2002	1800000	21954	138971		0.933206	0.54686	18.4533
CREDIT	12	2003	2100000	21364	113666		6.19731	2.93248	16.5733
CREDIT	12	2004	2700000	32678	166572		7.12684	5.1043	12.5317
CREDIT	12	2005	2900000	56389	165613		4.89965	5.90667	12.8825
CREDIT	12	2006	2600000	63380	354428	0.075099	7.78674	6.33063	13.6355
CREDIT	12	2007	2600000	63380	354428	0.109054	5.61481	6.99329	13.3403
CREDIT	12	2008	3600000	54049	341700	0.142099	13.4107	1.528	14.0169
CREDIT	12	2009	3700000	57803	289787	0.11372	9.15751	2.64478	14.8045
CREDIT	12	2010	4500000	33791.4	500894	0.174584	2.17834	5.55157	14.3715
CREDIT	12	2011	5400000	47073.8	440337	0.106487	3.67	4.5	15.05
CREDIT	12	2012	6400000	81000	231000	0.12973	8.29	4.6	19.67
DEV. BK	13	2002	2600000	29066	707957		0.933206	0.54686	18.4533
DEV. BK	13	2003	2500000	-43371	718863		6.19731	2.93248	16.5733
DEV. BK	13	2004	2200000	65402	263213		7.12684	5.1043	12.5317
DEV. BK	13	2005	2400000	66491	251181		4.89965	5.90667	12.8825
DEV. BK	13	2006	3300000	87578	355935		7.78674	6.33063	13.6355
DEV. BK	13	2007	3300000	87578	355935		5.61481	6.99329	13.3403
DEV. BK	13	2008	6500000	119688	407191		13.4107	1.528	14.0169
DEV. BK	13	2009	8100000	134894	648276		9.15751	2.64478	14.8045
DEV. BK	13	2010	11000000	160222	785223	0.071691	2.17834	5.55157	14.3715
DEV. BK	13	2011	12000000	157437	1100000	0.261143	3.67	4.5	15.05
DEV. BK	13	2012	13000000	96000	497000	0.361143	8.29	4.6	19.67
DIAMOND	14	2002	6200000	73002	161669		0.933206	0.54686	18.4533
DIAMOND	14	2003	6400000	44615	145045		6.19731	2.93248	16.5733
DIAMOND	14	2004	11000000	131666	114673		7.12684	5.1043	12.5317
DIAMOND	14	2005	13000000	177769			4.89965	5.90667	12.8825
DIAMOND	14	2006	22000000	444900	422120		7.78674	6.33063	13.6355
DIAMOND	14	2007	22000000	444900	422120		5.61481	6.99329	13.3403
DIAMOND	14	2008	42000000	905119	505212	0.003698	13.4107	1.528	14.0169
DIAMOND	14	2009	47000000	1100000	610463	0.022969	9.15751	2.64478	14.8045
DIAMOND	14	2010	59000000	2100000	682849	0.073324	2.17834	5.55157	14.3715

DIAMOND	14	2011	77000000	2200000	661705	0.019747	3.67	4.5	15.05
DIAMOND	14	2012	95000000	4700000	932000	0.049214	8.29	4.6	19.67
ECOBANK	16	2002					0.933206	0.54686	18.4533
ECOBANK	16	2003					6.19731	2.93248	16.5733
ECOBANK	16	2004					7.12684	5.1043	12.5317
ECOBANK	16	2005					4.89965	5.90667	12.8825
ECOBANK	16	2006	8900000	27474	2900000		7.78674	6.33063	13.6355
ECOBANK	16	2007					5.61481	6.99329	13.3403
ECOBANK	16	2008	10000000	68920	4100000	0.038283	13.4107	1.528	14.0169
ECOBANK	16	2009	14000000	-796261	2900000	0.00155	9.15751	2.64478	14.8045
ECOBANK	16	2010	27000000	125122	3400000	0.097271	2.17834	5.55157	14.3715
ECOBANK	16	2011	27000000	202106	589038	0.01071	3.67	4.5	15.05
ECOBANK	16	2012	32000000	-1500000	1700000	0.097271	8.29	4.6	19.67
EQUATRL	17	2002	2500000	43915	148222		0.933206	0.54686	18.4533
EQUATRL	17	2003	2500000	31731	122123		6.19731	2.93248	16.5733
EQUATRL	17	2004	2900000	69912	73141		7.12684	5.1043	12.5317
EQUATRL	17	2005	3100000	42406	140260	0.077029	4.89965	5.90667	12.8825
EQUATRL	17	2006	4000000	63307	247840	0.026713	7.78674	6.33063	13.6355
EQUATRL	17	2007	4000000	63307	247840	0.013351	5.61481	6.99329	13.3403
EQUATRL	17	2008	4400000	5707	215162	0.15918	13.4107	1.528	14.0169
EQUATRL	17	2009	4500000	53698.5	404544	0.14157	9.15751	2.64478	14.8045
EQUATRL	17	2010	10000000	-106785	1200000	0.008758	2.17834	5.55157	14.3715
EQUATRL	17	2011	13000000	72340.9	589038	0.107236	3.67	4.5	15.05
EQUATRL	17	2012	14000000	-667000	463000	0.125652	8.29	4.6	19.67
EQUITY	18	2002					0.933206	0.54686	18.4533
EQUITY	18	2003					6.19731	2.93248	16.5733
EQUITY	18	2004	6700000	49748	242496		7.12684	5.1043	12.5317
EQUITY	18	2005					4.89965	5.90667	12.8825
EQUITY	18	2006	20000000	750717	794612		7.78674	6.33063	13.6355
EQUITY	18	2007	20000000	750717	794612		5.61481	6.99329	13.3403
EQUITY	18	2008	77000000	3800000	2400000		13.4107	1.528	14.0169
EQUITY	18	2009	97000000	4600000	4600000	0.008696	9.15751	2.64478	14.8045
EQUITY	18	2010	130000000	7600000	3500000	0.007783	2.17834	5.55157	14.3715
EQUITY	18	2011	180000000	9800000	3100000	0.008247	3.67	4.5	15.05
EQUITY	18	2012	220000000	16000000	3200000	0.006958	8.29	4.6	19.67
FCB	20	2002					0.933206	0.54686	18.4533
FCB	20	2003					6.19731	2.93248	16.5733
FCB	20	2004					7.12684	5.1043	12.5317
FCB	20	2005					4.89965	5.90667	12.8825
FCB	20	2006					7.78674	6.33063	13.6355

FCB	20	2007					5.61481	6.99329	13.3403
FCB	20	2008	4300000	42190	132720	0.082948	13.4107	1.528	14.0169
FCB	20	2009	4500000	-112429	20877	0.013688	9.15751	2.64478	14.8045
FCB	20	2010	6400000	-97507	219189	0.168324	2.17834	5.55157	14.3715
FCB	20	2011	8700000	71324.1	544438	0.171572	3.67	4.5	15.05
FCB	20	2012	10000000	294000	93000	0.108758	8.29	4.6	19.67
FIDELITY	21	2002	1200000	14292	227694		0.933206	0.54686	18.4533
FIDELITY	21	2003	1100000	12446	239924		6.19731	2.93248	16.5733
FIDELITY	21	2004	1600000	1901	196258	0.019502	7.12684	5.1043	12.5317
FIDELITY	21	2005	1600000	9148	140938	0.023033	4.89965	5.90667	12.8825
FIDELITY	21	2006	2300000	18237	211573	0.082678	7.78674	6.33063	13.6355
FIDEL	21	2007	2300000	18237	211573	0.096092	5.61481	6.99329	13.3403
FIDELITY	21	2008	9900000	34419	531093	0.102437	13.4107	1.528	14.0169
FIDELITY	21	2009	5500000	48148	156449	0.112516	9.15751	2.64478	14.8045
FIDELITY	21	2010	8200000	271778	466831	0.114873	2.17834	5.55157	14.3715
FIDELITY	21	2011	11000000	197196	491749	0.161839	3.67	4.5	15.05
FIDELITY	21	2012	12000000	99000	337000	0.185728	8.29	4.6	19.67
GIRO	23	2002	4100000	21502	753315		0.933206	0.54686	18.4533
GIRO	23	2003	4200000	16691	731565		6.19731	2.93248	16.5733
GIRO	23	2004	4700000	10215	774013	0.008791	7.12684	5.1043	12.5317
GIRO	23	2005	4600000	19154	772470	0.142299	4.89965	5.90667	12.8825
GIRO	23	2006	5100000	42646	475153	0.272299	7.78674	6.33063	13.6355
GIRO	23	2007	5100000	42646	475153	0.222985	5.61481	6.99329	13.3403
GIRO	23	2008	5900000	80157	325809	0.278298	13.4107	1.528	14.0169
GIRO	23	2009	6900000	148887	164618	0.142299	9.15751	2.64478	14.8045
GIRO	23	2010	10000000	513763	205114	0.142299	2.17834	5.55157	14.3715
GIRO	23	2011	12000000	301096	144416	0.212298	3.67	4.5	15.05
GIRO	23	2012	12000000	207000	99000	0.222299	8.29	4.6	19.67
GUARDIAN	24	2002	3900000	23124	415419		0.933206	0.54686	18.4533
GUARDIAN	24	2003	3600000	28776	427699		6.19731	2.93248	16.5733
GUARDIAN	24	2004	4000000	36025	209476		7.12684	5.1043	12.5317
GUARDIAN	24	2005	4500000	24768	460124		4.89965	5.90667	12.8825
GUARDIAN	24	2006	4900000	34125	1500000		7.78674	6.33063	13.6355
GUARDIAN	24	2007	4900000	34125	1500000	0.053814	5.61481	6.99329	13.3403
GUARDIAN	24	2008	5600000	29493	1200000	0.07089	13.4107	1.528	14.0169
GUARDIAN	24	2009	6800000	38351	1000000	0.145289	9.15751	2.64478	14.8045
GUARDIAN	24	2010	8000000	75233	669940	0.148131	2.17834	5.55157	14.3715
GUARDIAN	24	2011	8800000	116606	572440	0.213559	3.67	4.5	15.05
GUARDIAN	24	2012	12000000	223000	565000	0.15177	8.29	4.6	19.67
GULF	25	2002					0.933206	0.54686	18.4533

GULF	25	2003					6.19731	2.93248	16.5733
GULF	25	2004					7.12684	5.1043	12.5317
GULF	25	2005					4.89965	5.90667	12.8825
GULF	25	2006					7.78674	6.33063	13.6355
GULF	25	2007					5.61481	6.99329	13.3403
GULF	25	2008	5000000	-281381	0	0.014442	13.4107	1.528	14.0169
GULF	25	2009	7700000	-123357	14437	0.040077	9.15751	2.64478	14.8045
GULF	25	2010	9600000	73894	146238	0.054192	2.17834	5.55157	14.3715
GULF	25	2011	13000000	95335	478955	0.054358	3.67	4.5	15.05
GULF	25	2012	14000000	374000	132000	0.081037	8.29	4.6	19.67
I&M	29	2002	7200000	59766	582957		0.933206	0.54686	18.4533
I&M	29	2003	10000000	91096	631032		6.19731	2.93248	16.5733
I&M	29	2004	15000000	254649	766030	0.048578	7.12684	5.1043	12.5317
I&M	29	2005	16000000	210313	634361	0.027598	4.89965	5.90667	12.8825
I&M	29	2006	9400000	272505	465097	0.02137	7.78674	6.33063	13.6355
I&M	29	2007	9400000	272505	465097	0.107339	5.61481	6.99329	13.3403
I&M	29	2008	37000000	1100000	1900000	0.127761	13.4107	1.528	14.0169
I&M	29	2009	44000000	1200000	1100000	0.173887	9.15751	2.64478	14.8045
I&M	29	2010	63000000	2100000	1200000	0.103662	2.17834	5.55157	14.3715
I&M	29	2011	77000000	3100000	1000000	0.100703	3.67	4.5	15.05
I&M	29	2012	92000000	4600000	612000	0.103662	8.29	4.6	19.67
IMPERIAL	30	2002	4200000	127377	235325		0.933206	0.54686	18.4533
IMPERIAL	30	2003	4100000	84541	236750		6.19731	2.93248	16.5733
IMPERIAL	30	2004	5800000	184368	358742		7.12684	5.1043	12.5317
IMPERIAL	30	2005	7500000	89356	330411	0.066966	4.89965	5.90667	12.8825
IMPERIAL	30	2006	22000000	1200000	357918	0.025051	7.78674	6.33063	13.6355
IMPERIAL	30	2007	22000000	1200000	357918	0.038546	5.61481	6.99329	13.3403
IMPERIAL	30	2008	13000000	465687	560674	0.18834	13.4107	1.528	14.0169
IMPERIAL	30	2009	15000000	555878	663508	0.099952	9.15751	2.64478	14.8045
IMPERIAL	30	2010	19000000	896056	776665	0.189204	2.17834	5.55157	14.3715
IMPERIAL	30	2011	26000000	1200000	827736	0.297194	3.67	4.5	15.05
IMPERIAL	30	2012	35000000	1900000	609000	0.101204	8.29	4.6	19.67
KCB	32	2002	57000000	-2000000	20000000		0.933206	0.54686	18.4533
KCB	32	2003	61000000	309048	17000000		6.19731	2.93248	16.5733
KCB	32	2004	66000000	793105	16000000		7.12684	5.1043	12.5317
KCB	32	2005	71000000	601388	13000000	0.095058	4.89965	5.90667	12.8825
KCB	32	2006	87000000	2400000	11000000	0.025898	7.78674	6.33063	13.6355
KCB	32	2007	87000000	2400000	11000000	0.112831	5.61481	6.99329	13.3403
KCB	32	2008	170000000	3800000	9600000	0.082697	13.4107	1.528	14.0169
K-REP	32	2009	7100000	-208540	1200000	0.114293	9.15751	2.64478	14.8045

KCB	32	2010	220000000	8800000	13000000	0.106238	2.17834	5.55157	14.3715
KCB	32	2011	280000000	9800000	10000000	0.09243	3.67	4.5	15.05
KCB	32	2012	300000000	16000000	5800000	0.11243	8.29	4.6	19.67
K-REP	33	2002	1700000	60275	17459		0.933206	0.54686	18.4533
K-REP	33	2003	1800000	35674	30567		6.19731	2.93248	16.5733
K-REP	33	2004	2700000	75937	88022		7.12684	5.1043	12.5317
K-REP	33	2005	3000000	30111	90089		4.89965	5.90667	12.8825
K-REP	33	2006	5200000	100911	133208		7.78674	6.33063	13.6355
K-REP	33	2007	5200000	100911	133208		5.61481	6.99329	13.3403
K-REP	33	2008	8200000	-348569	1100000		13.4107	1.528	14.0169
MIDEAST	33	2009	3100000	28928	39986		9.15751	2.64478	14.8045
K-REP	33	2010	7700000	50638.9	1200000		2.17834	5.55157	14.3715
K-REP	33	2011	9300000	173366	900874		3.67	4.5	15.05
K-REP	33	2012	9500000	167000	598000		8.29	4.6	19.67
MIDEAST	34	2002	3900000	40038	405827		0.933206	0.54686	18.4533
MIDEAST	34	2003	3700000	34367	342898		6.19731	2.93248	16.5733
MIDEAST	34	2004	4000000	23385	399801		7.12684	5.1043	12.5317
MIDEAST	34	2005	4200000	33717	209417		4.89965	5.90667	12.8825
MIDEAST	34	2006	3400000	68137	121532	0.004485	7.78674	6.33063	13.6355
MIDEAST	34	2007	3400000	68137	121532	0.017456	5.61481	6.99329	13.3403
MIDEAST	34	2008	3300000	17994	330988	0.080282	13.4107	1.528	14.0169
NBK	34	2009	51000000	1500000	1300000	0.022166	9.15751	2.64478	14.8045
MIDEAST	34	2010	4000000	140709	39859	0.109444	2.17834	5.55157	14.3715
MIDEAST	34	2011	4600000	94196	64345	0.112259	3.67	4.5	15.05
MIDEAST	34	2012	6400000	81000	231000	0.132166	8.29	4.6	19.67
NBK	35	2002	25000000	198758	15000000		0.933206	0.54686	18.4533
NBK	35	2003	25000000	158350	16000000		6.19731	2.93248	16.5733
NBK	35	2004	31000000	382611	17000000		7.12684	5.1043	12.5317
NBK	35	2005	69000000	2000000	1600000		4.89965	5.90667	12.8825
NBK	35	2006	36000000	624493	34000000		7.78674	6.33063	13.6355
NBK	35	2007	36000000	624493	34000000		5.61481	6.99329	13.3403
NBK	35	2008	43000000	1200000	2400000		13.4107	1.528	14.0169
NIC	35	2009	45000000	1100000	2100000	0.04654	9.15751	2.64478	14.8045
NBK	35	2010	60000000	2000000	936290	0.095282	2.17834	5.55157	14.3715
NBK	35	2011	69000000	1500000	1200000	0.092487	3.67	4.5	15.05
NBK	35	2012	67000000	1100000	1600000	0.12302	8.29	4.6	19.67
NIC	36	2002	9300000	229135	946578		0.933206	0.54686	18.4533
NIC	36	2003	9200000	105709	885189		6.19731	2.93248	16.5733
NIC	36	2004	17000000	261356	589512		7.12684	5.1043	12.5317
NIC	36	2005	19000000	34743	600793		4.89965	5.90667	12.8825

NIC	36	2006	26000000	434636	1400000		7.78674	6.33063	13.6355
NIC	36	2007	26000000	434636	1400000	0.094223	5.61481	6.99329	13.3403
NIC	36	2008	43000000	1000000	1300000	0.067785	13.4107	1.528	14.0169
ORIENTAL	36	2009	3100000	38210	445226	0.018964	9.15751	2.64478	14.8045
NIC	36	2010	55000000	1700000	2200000	0.083581	2.17834	5.55157	14.3715
NIC	36	2011	74000000	2500000	2700000	0.104888	3.67	4.5	15.05
NIC	36	2012	100000000	4300000	2700000	0.108281	8.29	4.6	19.67
ORIENTAL	37	2002					0.933206	0.54686	18.4533
ORIENTAL	37	2003					6.19731	2.93248	16.5733
ORIENTAL	37	2004	1600000	-262038	1100000		7.12684	5.1043	12.5317
ORIENTAL	37	2005	1500000	-26812	1100000		4.89965	5.90667	12.8825
ORIENTAL	37	2006	1400000	-49577	707093	0.002757	7.78674	6.33063	13.6355
ORIENTAL	37	2007	1400000	-49577	707093	0.097035	5.61481	6.99329	13.3403
ORIENTAL	37	2008	2300000	48526	565143	0.10081	13.4107	1.528	14.0169
PARA-UNIV	37	2009	3100000	34367	481272	0.12229	9.15751	2.64478	14.8045
ORIENTAL	37	2010	4600000	155771	328259	0.141985	2.17834	5.55157	14.3715
ORIENTAL	37	2011	5000000	152005	410454	0.103213	3.67	4.5	15.05
ORIENTAL	37	2012	6200000	111000	450000	0.10234	8.29	4.6	19.67
PARA-UNIV	38	2002	1300000	5904	362204		0.933206	0.54686	18.4533
PARA-UNIV	38	2003	1200000	5287	332717		6.19731	2.93248	16.5733
PARA-UNIV	38	2004	1300000	8163	433384		7.12684	5.1043	12.5317
PARA-UNIV	38	2005	1400000	-1119	370015		4.89965	5.90667	12.8825
PARA-UNIV	38	2006	2200000	21520	752537		7.78674	6.33063	13.6355
PARA-UNIV	38	2007	2200000	21520	752537	0.005932	5.61481	6.99329	13.3403
PARA-UNIV	38	2008	2600000	36725	1000000	0.008347	13.4107	1.528	14.0169
PRIME	38	2009	24000000	404078	619381	0.043749	9.15751	2.64478	14.8045
PARA-UNIV	38	2010	4400000	252245	631046	0.056515	2.17834	5.55157	14.3715
PARA-UNIV	38	2011	4700000	100470	714301	0.056913	3.67	4.5	15.05
PARA-UNIV	38	2012	9500000	306000	598000	0.07817	8.29	4.6	19.67
PRIME	39	2002	3800000	50238	194394		0.933206	0.54686	18.4533
PRIME	39	2003	4700000	27514	289008		6.19731	2.93248	16.5733
PRIME	39	2004	5700000	76077	394462		7.12684	5.1043	12.5317
PRIME	39	2005	6000000	32654	425680	0.031289	4.89965	5.90667	12.8825
PRIME	39	2006	10000000	138052	420715	0.014461	7.78674	6.33063	13.6355
PRIME	39	2007	10000000	138052	420715	0.028668	5.61481	6.99329	13.3403
PRIME	39	2008	20000000	330347	756954	0.047171	13.4107	1.528	14.0169
PRIME	39	2010	32000000	606413	607023	0.165316	2.17834	5.55157	14.3715
PRIME	39	2011	35000000	834424	779113	0.084153	3.67	4.5	15.05
PRIME	39	2012	43000000	1100000	660000	0.029056	8.29	4.6	19.67
STANCHART	40	2002	62000000	2200000	1400000		0.933206	0.54686	18.4533

STANCHART	40	2003	63000000	1200000	1400000	0.014461	6.19731	2.93248	16.5733
STANCHART	40	2004	67000000	1800000	1600000	0.068668	7.12684	5.1043	12.5317
STANCHART	40	2005	69000000	1100000	1600000	0.031289	4.89965	5.90667	12.8825
STANCHART	40	2006	81000000	2600000	2600000	0.014461	7.78674	6.33063	13.6355
STANCHART	40	2007	81000000	2600000	2600000	0.128668	5.61481	6.99329	13.3403
STANCHART	40	2008	99000000	3200000	1700000	0.047171	13.4107	1.528	14.0169
STANCHART	40	2009	120000000	4700000	1500000	0.079056	9.15751	2.64478	14.8045
STANCHART	40	2010	140000000	5400000	1200000	0.165316	2.17834	5.55157	14.3715
STANCHART	40	2011	160000000	5800000	1000000	0.084153	3.67	4.5	15.05
STANCHART	40	2012	200000000	12000000	1100000	0.029056	8.29	4.6	19.67
TRANSN'TL	41	2002	1700000	134175	417916		0.933206	0.54686	18.4533
TRANSN'TL	41	2003	1400000	133863	240260		6.19731	2.93248	16.5733
TRANSN'TL	41	2004	2400000	1000000	217630		7.12684	5.1043	12.5317
TRANSN'TL	41	2005	2100000	35432	305048		4.89965	5.90667	12.8825
TRANSN'TL	41	2006	4300000	90855	12881		7.78674	6.33063	13.6355
TRANSN'TL	41	2007	2600000	62394	463676	0.024546	5.61481	6.99329	13.3403
TRANSN'TL	41	2008	3400000	132413	479338	0.017951	13.4107	1.528	14.0169
TRANSN'TL	41	2009	3400000	90156.2	504296	0.051953	9.15751	2.64478	14.8045
TRANSN'TL	41	2010	4800000	142342	537197	0.101792	2.17834	5.55157	14.3715
TRANSN'TL	41	2011	7300000	202580	380176	0.10815	3.67	4.5	15.05
TRANSN'TL	41	2012	8800000	216000	286000	0.053211	8.29	4.6	19.67
UBA	42	2002					0.933206	0.54686	18.4533
UBA	42	2003					6.19731	2.93248	16.5733
UBA	42	2004					7.12684	5.1043	12.5317
UBA	42	2005					4.89965	5.90667	12.8825
UBA	42	2006					7.78674	6.33063	13.6355
UBA	42	2007					5.61481	6.99329	13.3403
UBA	42	2008					13.4107	1.528	14.0169
UBA	42	2009	1200000	-155385	0	0.023795	9.15751	2.64478	14.8045
UBA	42	2010	2400000	-106630	0	0.020179	2.17834	5.55157	14.3715
UBA	42	2011	3200000	-152149	21273	0.10615	3.67	4.5	15.05
UBA	42	2012	2900000	-397000	51000	0.10315	8.29	4.6	19.67
VICTORIA	43	2002	3100000	14399	257844		0.933206	0.54686	18.4533
VICTORIA	43	2003	3400000	14682	220439		6.19731	2.93248	16.5733
VICTORIA	43	2004	3600000	30631	50631		7.12684	5.1043	12.5317
VICTORIA	43	2005	3800000	47142	37968		4.89965	5.90667	12.8825
VICTORIA	43	2006	730000000	19000000	95000000		7.78674	6.33063	13.6355
VICTORIA	43	2007	4300000	90855	12881	0.025455	5.61481	6.99329	13.3403
VICTORIA	43	2008	4500000	116815	10191	0.027951	13.4107	1.528	14.0169
VICTORIA	43	2009	5100000	150469	0	0.041395	9.15751	2.64478	14.8045

VICTORIA	43	2010	6200000	214774	0	0.100179	2.17834	5.55157	14.3715
VICTORIA	43	2011	7600000	230250	0	0.011496	3.67	4.5	15.05
VICTORIA	43	2012	10000000	483000		0.012115	8.29	4.6	19.67