THE INFLUENCE OF UNSECURED PERSONAL LOANS ON INFLATION IN KENYA

BY

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DECLARATION

This management research project is my own original work and has not been submitted for any other degree in any other university

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ABSTRACT

The objective of this research is to identify how unsecured personal loans influence the inflation rates in Kenya. This study provides a comprehensive assessment of the content of the relationships and uses only a subset of data collected from the sources indicated against the samples (Tavana M, 2012, p227). The Research design I selected is Non-experimental research design. Within this approach, I focused on Relational Design in which a range of variables are measured. Relational designs are also called correlational studies. It is important to clarify here that correlation does not imply causation, but rather identifies dependence of one variable on another. Correlational designs are helpful in identifying the relation of one variable to another, and seeing the frequency of co-occurrence in two natural groups Creswell, J.W. (2012). The study involved the use of secondary data (Glass & Hopkins, 1984) these were mainly be based on information that was available in the public domain, through newspapers, publications of research establishments and regulators (Robson C,1993).

This study finds that apart from unsecured personal loans, there exists other factors like the weakening of the Kenya shilling against world major currencies in the period between January 2011 and May 2012 that also influenced inflation rate. Others were Fuel prices, Lending rates and Treasury bill rate, global economic meltdown affected Kenya through reduced foreign remittances. In August 2011, the Central Bank of Kenya through its Monetary Policy Committee finally figured out that there were twin issues to be addressed in order to manage inflation. First to contain the supply of money in circulation by raising the Central Bank Interest Rate and therefore forcing banks to increase lending rates which effectively reduced customer propensity to borrow and secondly to stabilize the Kenya shilling whose value was rapidly declining against all major currencies. The paper recognizes that inflation can be caused by other singular or multiple factors (Barrow, 2011, p215). I therefore recommend that while investigating a comprehensive list of influencers of inflation, these additional factors should be considered in a multivariate linear regression analysis. A study of this nature can further be strengthened by reviewing the effect inflation has in an economy.

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LIST OF ACRONYMS

ABCT...	Austrian Business Cycle Theory
BoE...	Bank of England
CBK...	Central Bank of Kenya
CBR...	Central Bank Rate
CPI...	Consumer Price Index
CRB...	Credit Reference Bureau
CRR...	Cash Reserve Ratio
FSA...	Financial Services Authority
FSD...	Financial Service Deepening
IMF...	International Monetary Fund
KNBS...	Kenya National Bureau of Statistics
LDC...	Least Developed Countries
MPC...	Monetary Policy Committee
OFT...	The Office of Fair Trading
QE...	Quantitative Easing
RPI...	Retail Price Index
UK...	United Kingdom
US...	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Between January 2011 and May 2012, Kenya experienced escalating high inflation rates. What followed was a mixture of reactions by the financial market regulator before they could figure out the correct measures required to remedy the situation. Eventually, there was tightening of the monetary policy by the Central Bank of Kenya (CBK) through its Monetary Policy Committee (MPC) to reign in on the rising inflation. There is on record at least four consecutive adjustments on the Central Bank Rate (CBR) that were made.

Monetary policy is the main tool used in the preservation of the value of the currency in an economy. It involves the control of liquidity circulating in an economy to levels consistent with growth and price objectives set by the Government. The volume of liquidity in circulation influences the levels of interest rates, and thus the relative value of the local currency against other currencies. It is the responsibility of the MPC to formulate the monetary policy of the CBK. Maintaining price stability is crucial for a proper functioning of a market-based economy (www.centralbank.go.ke/monetary).

The Monetary Policy Committee (MPC) (Gazette Notice 3771 on 30th April 2008) sets the rate of interest at which the CBK charge on loans to commercial banks. This rate referred to as the CBR. The rate signals the monetary policy stance of the CBK.

1.1.1 Concept of Loan/Debt Financing

Debt financing essentially means borrowing money to pay back with an interest, and equity financing is where money is invested in the business in exchange for part ownership. The main sources of Debt Financing are Commercial Banks (Sherman AJ, 2012).

About 48 percent of businesses use some form of debt financing during their initial year of operation. The sources most frequently used are personal credit card debt (30.2 percent), personal bank loans (18 percent), business credit card debt (14.6 percent), and loans from

friends and family (10.1 percent). Majority of debt financing is not in the form of a bank loan. Instead, business owners rely on more personal sources of debt financing to supplement their start-up needs (Solomon MD; Till BD; Hecler D; Bruce B, 2010).

1.1.2 Concept of Unsecured Personal Loan

Unsecured lending is where borrower does not have to assign an asset that can be sold in event of default (Harrison, 2005, p107). The concept of unsecured debt is easily understood when its opposite is considered. A good example of secured debt would be a mortgage. The bank loans out money to a lender who uses it to buy a house; the house becomes the asset backing the loan. In the case of unsecured debt, a lender loans money without the security that an underlying asset provides. For this reason, unsecured debt carries more risk for the lender, which in turn makes the loan more expensive. The more additional risk that a lender must take on, the higher the rate of interest a borrower must pay, making unsecured loans subject to higher rates (www.investopedia.com). There exist other forms of unsecured lending in bills for example electricity, medical bills, grocery store credit, School fees etc

To the financial institution that provides the credit facility, unsecured lending provides high revenues at a relatively low risk. The absence of a mature Credit Reference Bureau (CRB) makes it even a more lucrative business, as the sins of the few unknown individual are spread over a larger number of borrowers. Personal loans deliver higher returns than any of the other lending options explaining the rush to secure it before others join in the fray (Juma, 2010).

There is no restriction from the loan provider on the usage of the loan proceeds (Ndolo, 2008). For certain groups of people personal loans are a source of finance. Since personal loans need to be repaid in small monthly installments, it will be much more convenient to pay immediate expenses through personal loans than through ones personal resources. The decision with regards to the benefit will be on whether or not the use justifies the personal loan.

1.1.3 Linking Unsecured Personal Loans to Inflation and Economic Growth

"With all the easy loans being advertised around, Kenyans dive right into them without any forethought or fore planning. Because of the lack of specific projects, when the money comes,

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there is misuse." "When people save, they are able to invest. Such investments in turn contribute to economic production, which means more wealth for the country. But if the society is only spending and not investing, it means wealth is being exported (Muigai, 2011).

Loans spent on depreciating assets such as cars, furniture and electric appliances among others leave the borrowers poorer. An increase in interest rates is an additional expense, which compromises your savings. Spending borrowed money on imported luxury goods slows down growth of the economy, which leads to loss of jobs as companies seek to reduce operational costs. According to the University of Nairobi economist Dr Dorothy Kiriti, "For the economy to perform optimally, people need to spend more on production than on luxuries," "The overall health of the economy reflects productivity at the very personal level. If people only burn their income on consumption, the economy suffers as capital is being wasted, raising the level of inflation," she says. "There is no single country that was able to transform its economy by importing more than it exports. "It is a big priority for this government to discourage a culture of importation, especially of the finished goods that can be produced locally and the exporting products in their raw form. That is the only way you can create wealth here at home,"

The rise of the cost of loans is painful but key in killing off the exportation of national wealth. It becomes necessary sometimes to stifle money supply when the authorities realize that the capital is flowing to external markets without sustainable economic benefit for the local economy. The rapid increase in used car imports, imported luxuries like jewelry, clothes and so on financed by the cheap loans. It is because of this situation that the CBK raised the CBR in an attempt to stem the sharpest depreciation of the shilling since Kenya embraced a free market economy in the early 90s. Over a period of five years, personal loans disbursements by banks had more than doubled to Sh296 billion – more than to all other economic sectors combined. This is the money that has mostly ended up financing unsustainable spend at the expense of production (Muigai, 2011).

1.1.4 Concept of Inflation

Inflation is defined as too much money chasing too few goods and if it gets out of control it can devastate an economy. Not all goods and services have to experience price increases. The inflation rate itself is measured by defining a basket of goods and services used by a 'typical' consumer and then keeping track of the cost of that basket using such indices as the Retail Price Index (RPI). During the upswing stage of a business cycle there is a tendency to over-shoot, which can lead to the economy 'overheating'. As there is usually a lag while production struggles to catch up with demand, prices rise to 'ration' goods and services. Inflation is generally seen being a problem for a number of reasons:

'Inflation makes fools of us all' is a truism about the misleading signals sent by rapid changes in price. Consumers and businesses like certainty, and fluctuating rates of inflation make planning more difficult, which in turns leads to a loss of confidence. Inflation redistributes wealth in a haphazard and often unfair manner. For example, savers will find their purchasing power diminish as their fixed sum saved will buy fewer goods and services in the future. Borrowers will benefit as they are effectively paying back a capital sum that is being eroded in value by inflation. If the inflation rate is greater than that of other countries, domestic products become less competitive. So exports will be reduced and economic growth will slow. High inflation can lead to high wage demands, which can in turn lead to an upward spiral in costs and so feed further inflationary pressures.

Current economic wisdom has it that a modest degree of inflation is healthy provided that everyone knows what it will be and can factor it into their decision making. That is why central banks have as one of their functions monitoring inflation rates and taking action to keep below a certain figure – in the UK this is 2 per cent (Barrow, 2011, p215). As at June 2012, the target for CBK is to bring inflation to a single digit.

1.2 Research Problem

The practice of lending money at interest was met with hostility as far back as ancient Greece, and even Aristotle (384–322 b.c.) believed the practice to be unnatural and unjust. In the first

book of Politics he writes: The most hated sort of moneymaking, and with the greatest reason, is usury, which makes a gain out of money itself, and not from the natural use of it. For money was intended to be used in exchange, but not to increase at interest. And this term Usury which means the birth of money from money, is applied to the breeding of money, because the offspring resembles the parent. Wherefore of all modes of making money this is the most unnatural (Jowett B, Trans, 1885).

A developing economy, that is highly dependent on imports like Kenya is vulnerable to volatility in interest rate and currency exchange rate volatility (CBK Economic Review, March 2012). The complex nature of macro-economy and the dynamics of the international markets, like the Eurozone crisis and the sub-prime crisis in United States of America (US) exposes Kenya to instability in managing its financial and fiscal policy.(Anonymous, March2012, The Economist). By not intervening to reduce consumer exposure to unsecured lending, Commercial Banks have not helped the situation (www.cbk.go.ke).

This study therefore seeks to link the proliferation of unsecured personal loans to the escalation of inflation in Kenya in the period between January 2011 and May 2012, and the impact that has had on economic activities.

This study also explores the actions taken by Central Bank of Kenya through its MPC to increase interests rates, and therefore force commercial banks to increase its lending rates which in turn reduced the amount of money in circulation, managed the foreign currency exchange rates downwards and reduced the quantity and values of imports. As a result, inflationary pressure subsided.

1.2.1 Research gap

Linking inflation to unsecured personal lending has not been widely written about, making it difficult to source information on previous work. Unsecured lending is a rapidly evolving phenomenon in Kenya and it will take some time before conclusive observations are made in the aspect of benefits to individuals and economy, and the effects thereof.

This study is short on the advantages of unsecured lending and long on the disadvantages. This is because it seems paradoxical that while genuine hatred for a shylock is widespread, people everywhere often complain about being short of money. Miserliness is not socially or morally desirable for as the old saying goes "money is the root of all evil". Yet to a man, money is purchasing power, and the more money he has, the better he is able to satisfy his needs and wants. This being so, it occurs to many school children that the obvious solution to the worldwide problem of satisfying all human want is to have a lot of money printed and distributed generously among the people (Aik and Edmonds, 1976, p 169). However, this presents the next frontier for researchers.

1.3 Research question

Is there a link between the proliferation of unsecured personal loans and the escalation of inflation in Kenya.

1.4 Research Objectives

The objective of this research is to identify how unsecured personal loans influence the inflation rates in Kenya. Are there other factors like the weakening of the Kenya shilling against world major currencies in the period between January 2011 and May 2012?

1.5 Value of the Study

To Lenders: Inflation is bad for investment as it discourages savings in the economy. And if banks receive fewer funds from savers then they can't lend as much out to businesses for investment. Instead, rather than saving in a bank, high inflation may encourage people to put their money assets like houses or gold, which are less productive than the money being lent out for investment (Buckley G & Desai S, 2011).

To Regulators: To act fast in managing inflation and monitoring the activities of commercial banks when it result in personal financial stress. Therefore be proactive in preventing debt led inflation. In the United Kingdom (UK), the Office of Fair Trading (OFT) was responsible for

regulating this sector until 2005, at which point the Financial Services Authority (FSA) took over. This is part of the overhaul of the 1974 consumer credit act that followed a critical report from the commons treasury select committee in December 2003 which attacked the misleading advertising and terms of credit and store cards and laid part of the blame at the OFTs door (Corgdon, 2009).

To Borrowers: Take personal responsibility for their actions in the borrowing decision. Individuals or households dominate the non-performing loan registers, according to a new Central Bank of Kenya survey. Bad loans stood at about Sh3.5 billion, two per cent of amount given to households and individuals. The sector comprising households and consumer durables purchases received Sh174 billion loan between October 2009 and October 2010 (Irungu, 2011).

To Scholars : Bridge the gap created by the limited work of research in this area of linking the proliferation of consumer lending products to inflation and economic growth. There is room to explore other variables that may play a major role in driving inflation in Kenya. It may also be worth exploring other economies to establish convergent and divergent factors analysis in relation to economic blocks and stages of economic progress of these economies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The economy of a developing country like Kenya is impacted by the dynamics of local and international movements in financial fundamentals. The challenge of balancing the national current account hinges on the actions and activities of many players, and sometimes it is not easy to identify the real source of triggers to inflation. In this chapter, I explore the theories advanced by scholars in trying to explain the key factors that may influence inflation. This includes import/export balance, currency exchange rate, and international best practice in managing inflation among other theories.

2.2 Empirical Review

2.2.1 How Money Supply Influences Inflation

Tim Corgdon (2009) defines Quantitative Easing (QE) also referred to as asset purchase as consisting essentially of the direct injection of extra money in the form of bank deposits into the economy. In this scheme, central bank buys high value financial assets – like bonds and gilts from banks and non-financial institutions in order to increase the amount of money in circulation in the hope that this will spur spending, and in turn raise the inflation levels to meet target set by government. This scheme has been criticized by some as an unconventional monetary policy. It has been used only on few occasions in the past. Examples are in the USA and Japan, where it is said that the commitment of government to reduce long-term interest rate was more effective in adjusting inflation rates than the quantitative easing policy itself.

In the periods ensuing from the global financial crisis, economic activities declined. This had ripple effect in many sectors, key to it was a rise in unemployment. In Britain it was estimated

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that this will rise from 140,000 to 3,000,000 by the end of 2008. With projections like these, loan defaults would go up, consumer spending would reduce drastically and bank rates would rise to levels that would drive the economy to its knees. (Benford; Berry; Nikolov; Young & Robson, 2009)

QE remains controversial. Over the medium and long run, a given percent increase in the rate of growth of money is associated with a similar percent increase in the rate of growth of nominal national income. By implication, a large and sudden jump in the quantity of money ought to halt a deflation. However, in the short run, the relationship between money and national income is not precise. In fact, acceleration in growth rate of money may have little immediate effect on inflation, and particularly if high levels of unemployment and spare capacity are restraining price rises. Instead an upturn in real money growth tends to be accompanied by gains in asset values and real expenditure (Corgdon, 2009).

The benefits of QE are realized when the expected reaction is achieved. For instance, because most commercial banks buy securities from central bank with the sole aim of selling it back at a profit, they may well still keep the 'electronic' injection of new money into their balance sheets and decline to lend it. In Japan for instance, The success of the policy depended critically on the emergence of a secondary, indirect effect. Banks were expected to respond to the increase in their cash reserves by expanding total assets. This makes it a better option for Central Bank to buy these securities from non-banks and credit the bank accounts of the buyers directly. In this way, the banks end up with excess liquidity for which they have to identify investment options that generate higher returns than actual cash at times of high inflation. (Benford; Berry; Nikolov; Young & Robson, 2009)

The long-term success of QE depends not only on an immediate boost to the economy, but also on that economy being able to sustain enough economic growth so that the increase in the money supply can either be absorbed by the rapidly expanding economy, or it can be reversed without negative consequences by selling the bonds back into the market place, thus reducing the money supply without causing a sharp economic downturn.

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2.2.2 How Money Supply Influences Inflation – Local Perspectives

There exists a lagging relationship between the supply of money in the economy and inflation. This is depicted when central bank reacts through the MPC to manage inflation by limiting the quantity of money in circulation by adjusting interest rates. The two charts below demonstrates this relationship.

Different measures of money supply. Not all of them are widely used and the exact classifications depend on the country. M0 and M1, also called narrow money, normally include coins and notes in circulation and other money equivalents that are easily convertible into cash. M2 includes M1 plus short-term time deposits in banks and 24-hour money market funds. M3 includes M2 plus longer-term time deposits and money market funds with more than 24-hour maturity. The exact definitions of the three measures depend on the country. M4 includes M3 plus other deposits. The term broad money is used to describe M2, M3 or M4, depending on the local practice.

Chart 2.1 - Annual percentage change in Money Supply

Source: Central Bank of Kenya

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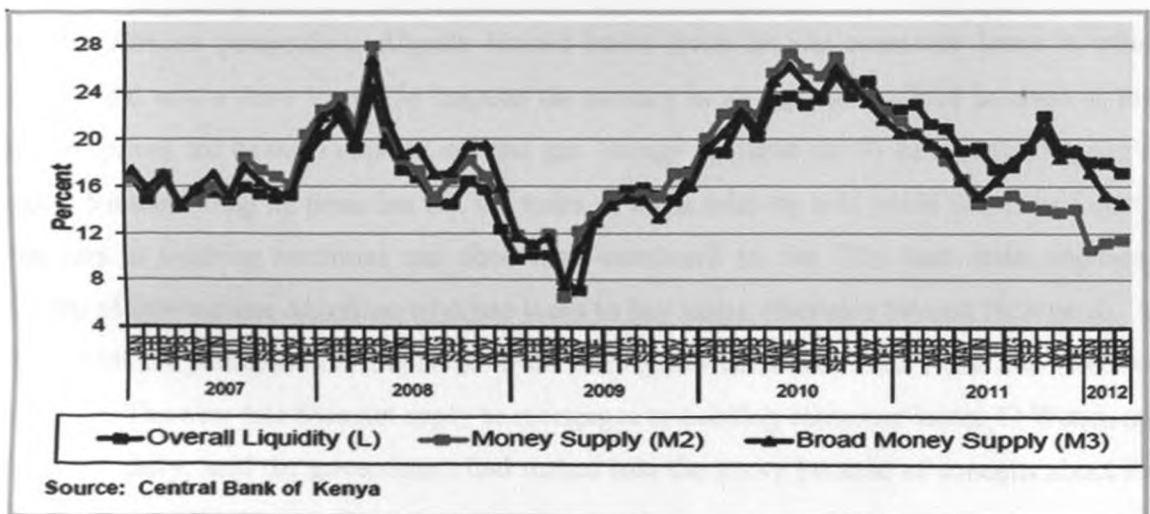
Chart 2.2 below shows the trends of inflation between February 2009 and March 2012
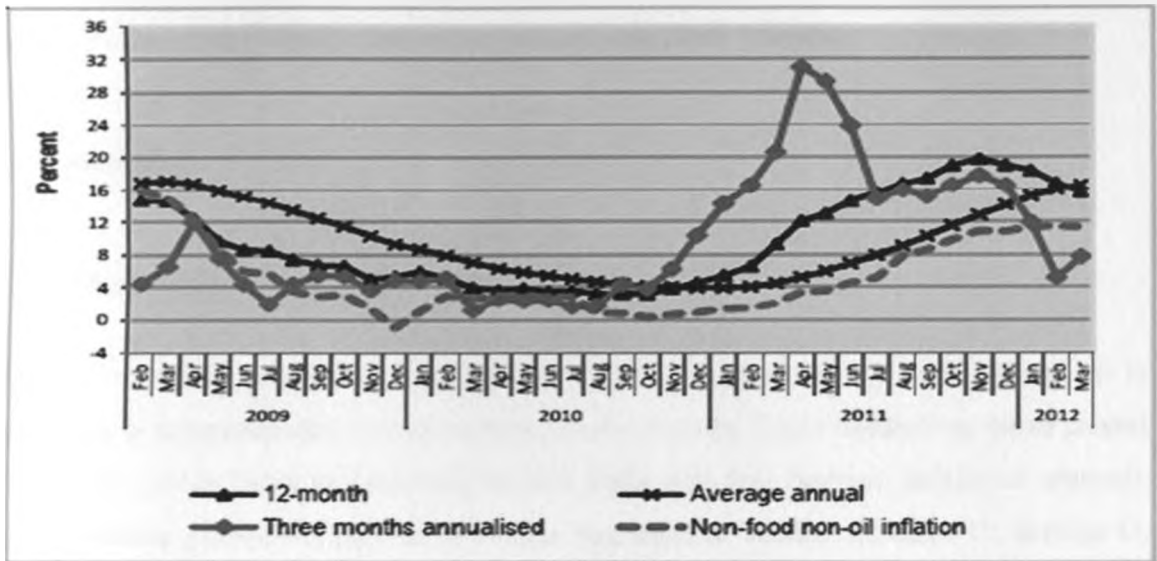
2.2.3 Import/Export Balance

From an African perspective, Algeria banned banks from issuing consumer loans in what analysts said was a drive to rein in imports the country is struggling to afford because of the slump in prices for its main exports, oil and gas. Energy accounts for 97 per cent of Algeria's exports but the falling oil price has cut the value of these sales by half, while imports of items from cars to washing machines and food have continued to rise. The bank risks angering millions of low-income Algerians who use loans to buy items otherwise beyond their reach. A Finance Ministry directive barring banks from issuing new consumer loans came into force on July 2009. The new rule does not apply to mortgages or existing consumer loans. El Watan, an influential daily, said the government had rushed into the move because of concern about its import bill.

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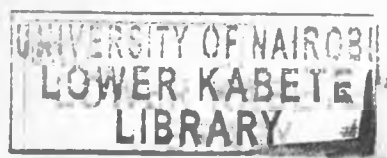
Algeria has for years been reliant on imports because it has few competitive home-grown manufacturers, a problem officials blame on its over-reliance on the energy sector. Imports reached a record $35 billion in 2008 (Anonymous, Aug 2009, Reuters).

2.3 Theoretical Review

2.3.1 Economic Cycles Definition

The term economic cycle, also called Business Cycle refers to economy-wide fluctuations in production or economic activity over several months or years. These fluctuations occur around a long-term growth trend, and typically involve shifts over time between periods of relatively rapid economic growth and periods of relative stagnation or decline. (Dickson C; Shenkar O, 2010).

2.3.1.1 The Austrian business cycle theory (ABCT)

attempts to explain business cycles through a set of ideas held by the Austrian School of economics. The theory views business cycles as the inevitable consequence of excessive growth in bank credit, exacerbated by inherently damaging and ineffective central bank policies, which cause interest rates to remain too low for too long, resulting in excessive credit creation, speculative economic bubbles and lowered savings. The creator of the Austrian business cycle theory was Austrian School economist and Nobel laureate Friedrich Hayek. Hayek won a Nobel Prize in economics in 1974 (shared with Gunnar Myrdal) in part for his work on this theory. It was in particular Ludwig von Mises (1881–1973) 1912 book on money and fiduciary media that laid the foundation for what became the Austrian business cycle theory

Proponents believe that a sustained period of low interest rates and excessive credit creation results in a volatile and unstable imbalance between saving and investment. According to the theory, the business cycle unfolds in the following way: Low interest rates tend to stimulate borrowing from the banking system. This expansion of credit causes an expansion of the supply of money, through the money creation process in a fractional reserve banking system. It

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is argued that this leads to an unsustainable credit-sourced boom during which the artificially stimulated borrowing seeks out diminishing investment opportunities. Proponents hold that a credit-sourced boom results in widespread mal-investments. In the theory, a correction or "credit crunch" – commonly called a "recession" or "bust" – occurs when exponential credit creation cannot be sustained. Then the money supply suddenly and sharply contracts when markets finally "clear", causing resources to be reallocated back towards more efficient uses.

The Austrian explanation of the business cycle differs significantly from the mainstream understanding of business cycles and is generally rejected by mainstream economists. In contrast to most mainstream theories on business cycles, Austrians focus on the credit cycle as the primary cause of most business cycles. Economists Milton Friedman, Gordon Tullock, Bryan Caplan and Paul Krugman have written about why they regard the theory as incorrect (Schlichter DS, 2011).

2.3.1.2 Credit cycle Theory

The credit cycle is the expansion and contraction of access to credit over the course of the business cycle. Some economists regard credit cycles as the fundamental process driving the business cycle. However, mainstream economists believe that the credit cycle can only partially explain the phenomenon of business cycles, with long term changes in national savings rates, and fiscal and monetary policy, and related multipliers important to sustainable GDP growth. During the upward phase in the credit cycle, asset prices experience bouts of competitive, leveraged bidding, inducing asset price inflation. This can then cause an unsustainable, speculative price "bubble" to develop. As this upswing in new debt creation also increases the money supply and stimulates economic activity, it tends to temporarily raise economic growth and employment.

When new borrowers cannot be found to purchase at inflated prices, a price collapse can occur in the market segment inflated by excess debt, along with a dramatic reduction in liquidity in that market. This can then cause insolvency, bankruptcy, and foreclosure for those borrowers who came in late to that market. If widespread, this can then damage the solvency and profitability of the private banking system itself, resulting in a dramatic reduction in new lending as lenders attempt to protect their balance sheets from further losses. This in turn

results in a contraction in the growth of the money supply, often referred to as a "credit squeeze" or a "drying up of liquidity".

In the Kiyotaki-Moore model of the business cycle, collateral constraints amplify the effects of shocks to the real economy. Prime examples of this "boom-bust" cycle of credit creation and destruction can be found in the United States housing bubble and the subsequent subprime mortgage crisis, the dot-com bubble and the Japanese asset price bubble. While credit causes have not been a primary theory of the economic cycle within the mainstream, they have gained occasional mention, such as (Eckstein & Sinai 1986), cited approvingly by (Summers LH,1986).

2.3.2 Theory of inflation - Monetarist Theory of Inflation

Back in the 1970s everyone defined inflation as an increase in prices. Milton Friedman convinced the public and the pundits that we needed to look at the cause of inflation instead of the effects, which Friedman defined as "an excessive increase in the supply of money." Monetarists argue that if the Money Supply rises faster than the rate of growth of national income then there will be inflation. If money supply increases in line with inflation then there will be no inflation. Friedman stated: "Inflation is always and everywhere a monetary phenomenon"

Quantity theory of Money (fischer Version) MV=PT, where M = Money Supply, V= Velocity of circulation, P= Price Level and T = Transactions. T is difficult to measure so it is often substituted for Y = National Income. Therefore MV = PY where Y =national output

The above equation must hold the value of expenditure on goods and services must equal the value of output. However they argue it is unwarranted increases in the money supply which cause inflation. Monetarists believe that in the short term velocity (V) is fixed. This is because the rate at which money circulates is determined by institutional factors e.g. how often workers are paid does not change very much. Friedman admitted it may vary a little but not very much so it can be treated as fixed. Monetarists also believe Output Y is fixed . They state it may vary

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in the short run but not in the long Run. Therefore an increase in the Money Supply will lead to an increase in inflation

Example: If MS is initially £1000 and the Velocity of circulation is 5. Level of output is 5000 units. The quantity equation is 1000*5 = 1*5000. If the money supply now doubles the equation = 2000*5 =2*5000 (the price level must double). Friedman predicted an increase in the money supply would take about 9-12 months to lead to higher output. After another year output will return to its initial equilibrium causing prices to rise to accommodate the rise in money supply. Cambridge Version of quantity theory states P= f(M) (Nathan P, 2011).

The balance of the evidence points firmly to monetary expansion as the chief proximate source of inflation. If this is accepted, then it has implication for the causes of balance of payments difficulties that is common in LDCs, for the excess demand generated by monetary expansion will increase demand for imports and exportables in addition to pulling up domestic prices (Aik & Edmonds 1976, p277).

Given government reluctance to depreciate currency in line with increases in domestic prices and costs relation to those of the outside world, inflation tends to result in overvalued currencies, which reduces the incentives to export and to produce local import substitutes.

Acceptance of this proposition that inflation usually has roots in the monetary system, thus lends support to the International Monetary Fund (IMF) view that a high proportion of countries foreign exchange difficulties have domestic origins (Aik & Edmonds 1976, p277).

Why do governments allow money supply to expand so fast as to produce unwanted inflation and payment difficulties? The answer is probably that effective measures to halt the monetary expansion are at least as unpopular as inflation and foreign exchange shortages themselves. Cutting back on government spending, imposing credit restrictions, increasing taxation, are all measures liable to worsen unemployment in economies already characterized by much unemployment, to reduce private consumption in countries with already low living standards and to reduce public sector investment in a situation of capital scarcity.

2.3.3 Origin of Money Supply

The growth of the banking system for taking care of money was supplemented by a more profitable activity. The early goldsmiths had noticed that only a very small proportion – about 8% of the funds of each depositor was in use regularly, being drawn out and paid in as funds were used or received. The proportion left on permanent deposit was about 92% of the average depositors funds. It seemed sensible to lend some of this money to people anxious to borrow for industrial and commercial reasons (Hoyle & Whitehead 1982, p6).

However, in lending out these surplus funds, the banks took a more sophisticated view of the unused balance than merely to regard them as funds available for lending. Consider a deposit of £100, of which only £8 is likely to be required to meet the customer needs. The balance of £92 is available. The bank did not regard this £92 as available to lend to customers, but as the cash ratio for loans to a much greater sum. Of what sum is £92 eight percent of?

The answer is £92 ÷ 8 x 100 = £1150

In theory, the banks could lend a customer £1150. The customer has borrowed the money to spend. Assuming this £1150 is used to buy cattle. The vendor of the cattle will not know that the money was a pure invention, and would pay the cheque for £1150 into his account. But the statistical probability was that he would only then ask for 8% of it, ie £92 – the exact sum which the bank has available.

We therefore see that "loans make deposits" and also make profits for the banks. If the rate of interest was 10%, and the loan was for 1 year, the interest earned would be £115, more than the original deposit. This whole process is usually called the "creation of credit" or the creation of money. This example is on the extreme for greater prudence, banks usually keep a liquidity ratio. Banks creating credit also need to pursue sound credit policies (Hoyle & Whitehead 1982, p6).

2.3.4 The Determinants of Interest Rate Levels

Around half the money used to finance businesses is borrowed and private individuals use mortgages, hire purchase and credit cards to fund many of their purchases. Governments too have to use debt through the sale of bonds, when taxes are insufficient to meet their spending plans. The 'price' of borrowed money is the interest paid. Governments can stimulate both business and consumer expenditure by lowering interest rates or choke off demand by raising it. Interest rates are the favorite tool of central banks to control inflation as it can be used to bring supply and demand back into balance.

Interest rates also have a direct bearing on a country's exchange rate. If it is higher than that in other comparable economies it will tend to support the exchange rate at a higher rate, and if lower, the currency will tend to be weaker. There are, however, several different interest rates and governments do not directly control them all:

Lending Rate: This is the rate at which banks will lend to businesses and private individuals. It can be anything from a fraction of a percent above either Bank Base Rate or Libor (whichever is the higher) for blue chip firms, a percent or two above for mortgages, and up to 15 per cent above for credit card loans; the higher the perceived risk the higher the rate (Barrow C, 2011, p216).

Real rate of interest: An interest rate determined in the absence of inflation. Inflation is the amount by which aggregate price levels rise over time. The real rate of interest is (1) the inflation-adjusted return earned by lender-savers and (2) the inflation-adjusted cost incurred by borrower-spenders when they borrow. However, the real rate of interest is not observable because all industrial economies operate with some degree of inflation. The fundamental determinants of interest rates are the returns earned on investments in productive assets (capital investments) and individuals' time preference for consumption

Equilibrium Condition: We have seen that people spend less when interest rates are higher and that higher interest rates choke off business investment (or spending) because fewer capital projects can earn a high enough return on investment to cover the added interest cost. At the same time, lender-savers want to lend more money when interest rates are high. The real rate

of interest depends on the interaction between these two opposing factors. Using a supply-and-demand framework, the below graph shows that the equilibrium market rate of interest (*r*) is the point where the desired level of borrowing (B) by borrower-spenders equals the desired level of lending (L) by lender-savers (Parrino R et al, 2011).

Chart 2.3 – Equilibrium Market rate of Interest
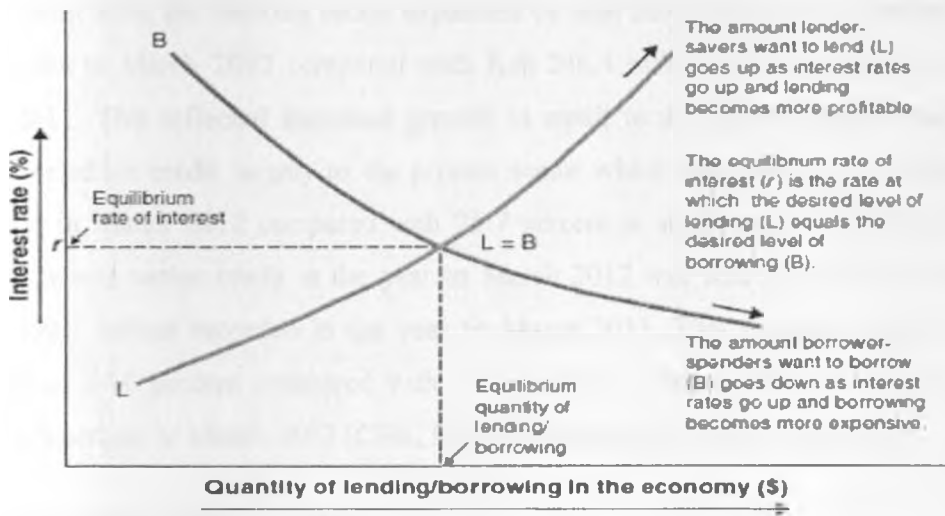
Source: Fundamentals of Corporate Finance, Second Edition 2011

In the supply-and-demand framework discussed above, any economic factor that causes a shift in desired lending or desired borrowing will cause a change in the equilibrium rate of interest

2.4 Contextual issues

2.4.1 Inflation in Kenya

Previously the term was used to refer to an increase in the money supply, which is now referred to as expansionary monetary policy or monetary inflation. Inflation is measured by comparing two sets of goods at two points in time, and computing the increase in cost not reflected by an increase in quality. There are, therefore, many measures of inflation depending on the specific circumstances. The most well known are the CPI which measures consumer prices, and the GDP deflator, which measures inflation in the whole of the domestic economy.

The prevailing view in mainstream economics is that inflation is caused by the interaction of the supply of money with output and interest rates.

2.4.2 Lending in Kenya

Domestic credit from the banking sector expanded by Ksh 269.7 billion (21.4 percent) in the twelve months to March 2012 compared with Ksh 244.1 billion (24.0 percent) in a similar period in 2011. This reflected increased growth in credit to the private sector. The banking sector channeled its credit largely to the private sector which accounted for 77.8 percent of total lending in March 2012 compared with 75.7 percent in similar period in 2011. The net increase in private sector credit in the year to March 2012 was Ksh 229.2 billion compared with Ksh 195.1 billion recorded in the year to March 2011. This translated into an annual growth rate of 24.0 percent compared with 25.7 percent in March 2011 and corresponding target of 24.3 percent in March 2012 (CBK, Monthly Economic Review, June 2012).

2.4.3 Advantages of Personal Loan:

Consumer credit is important to our economy because it sustains the economy through consumption, homes are purchased and furnished (Kapoor, Dlabay & Hughes, 1994,p149).

Education, home, car, emergencies payment is through future income, which means you will want to continue being productive. Credit is more than a substitute for cash, thus safety and convenience (Kapoor, Dlabay & Hughes, 1994,p151).

Finance is one of the building blocks of modern society, spurring economies to grow. Without finance and without debt, countries are poor and stay poor. When they can borrow and save, individuals can consume even without current income. With debt, businesses can invest when their sales would otherwise not allow it. And, when they are able to borrow, fiscal authorities can play their role in stabilising the macro-economy. But, history teaches us that borrowing can create vulnerabilities. When debt ratios rise beyond a certain level, financial crises become both more likely and more severe (Reinhart & Rogoff, 2009). This strongly suggests that there is a sense in which debt can become excessive. But when? (Cecchetti, Mohanty & Zampolli, 2011, p1). Like a cancer victim who cannot wait for scientists to find a cure, policymakers

cannot wait for academics to deliver the synthesis that will ultimately come. Instead, authorities must do the best they can with the knowledge they have. As they make their day-to-day policy decisions, central bankers, regulators and supervisors need some understanding of the role of debt in the economy. When is debt excessive? When should we worry about its level, growth rate and composition? (Cecchetti, Mohanty & Zampolli, 2011, p3).

2.5 Summary of Literature Review

Governments all over the world have a responsibility of managing fiscal stability in the internal economic system. There are many diverse factors and variables in the economy, with different competing effects which need to be accurately identified and potential threat to economic growth isolated and addressed. At any level of income, people can consume only the quantity of goods which exist. Since their incomes derive from producing consumer goods and investment goods, and since they can buy only the consumer goods, it follows that they must save a part of their income equal to the value of the investment goods which have been produced. In this sense, people must always save as much as has been invested. What they have thus forced to save may not, however, correspond to what they would like to save at that level of income. If they would like to save more, then they will reduce their expenditure on consumer goods, and vice verse. In either case, their expenditure will not exactly correspond to the value of the consumer goods produced. If people want to save more than is being invested, the producers of consumer goods will make losses, since part of the incomes they have paid out as costs are not returning to them as sales. And if people want to save less than is being invested, then the producers will make unexpected profits. Either of these disequilibria sets off a corrective movement. If people wish to save more than is being invested, the producers who are making losses will reduce their outlays, and incomes and employment will contract. The other way round, income will expand. This expansion of income will be reflected also in an expansion of real output and of employment if there are idle resources of labor, land and capital which can be absorbed. But if there is a shortage of one or all of the resources needed for expanding output, the expansion of income will show itself instead merely in an inflationary rise in prices. (Aik and Edmonds 1976, p 172)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out the steps I took in conducting the study so as to meet its objectives. This includes the research design, data collection method and data analysis. This study will provide a comprehensive assessment of the content of the relationships and uses only a subset of data collected from the sources indicated against the samples (Tavana M, 2012, p227).

Time series analysis, which compares actual and hypothesized longitudinal changes; and programme logic models, which combine pattern matching and times series analysis by predicting the evolution of an outcome from an initial event will be used in this study. Finally, analytic generalization can take place, whereby data is analyzed with a view to testing support for initial hypotheses (Passmore J, 2011). Researchers used to quantitative analysis frequently dismiss qualitative research as 'unscientific' and 'anecdotal'. It certainly doesn't have to succumb to such criticism, as the array of tools used in qualitative research is large and the tools have a well-documented and rigorous methodology for their application (Barrow C, 2011).

3.2 Research Design

The Research design I have selected is Non-experimental research design. The justification for this is that the use of a case study would have disproportionately excluded variables that may impact the outcome of the study. Within this approach, I focused on Relational Design in which a range of variables are measured. Relational designs are also called correlational studies. because correlational data are most often used for analysis. It is important to clarify here that correlation does not imply causation, but rather identifies dependence of one variable on another. Correlational designs are helpful in identifying the relation of one variable to another, and seeing the frequency of co-occurrence in two natural groups Creswell, J.W. (2012). The study involves the use of secondary data (Glass & Hopkins, 1984) these will

mainly be based on information that is available in the public domain, through newspapers, publications of research establishments and regulators (Robson C,1993).

3.3 Study Location

A Study location, also called a site may be an institution within a community (Lapan S.D et al, 2011). In this case, the site was in Nairobi, Kenya National Bureau of Statistics, banking institutions including Central Bank of Kenya. The study took approximately 2 months and should covered annual inflation data over the last five years in general and the period January 2011 to June 2012 in particular when the economy experienced high escalation of inflation.

3.4 Data collection

Data collection involved interrogation of information available to the public, through published research findings of Financial Service Deepening (FSD), Central Bank of Kenya (CBK) publications and Kenya National Bureau of Statistics (KNBS)

3.5 Data Analysis

The data was analyzed using Correlation and Simple Linear Regression Trend Analysis model to evaluate the relationship between unsecured personal loans and inflation. The tool of analysis here was Microsoft Excel (Black K, 2011).

3.5.1 Conceptual Model
The following function shows the mathematical relation between the dependant and the independent variable

$y = f\ (UPL)$ .... (1)

where :

y   =   Inflation

UPL   =   Unsecured Personal Loans

The data used in this model will be obtained from CBK and KNBS and will cover the period under study between Jan 2011 and May 2012

y will be picked from the actual monthly inflation reported in the monthly economic bulletins
UPL will be the summation of the domestic credit issued by commercial banks for consumer durables and private domestic use.

3.5.2 Empirical Model

This study used an empirical model to determine the relative significance of unsecured personal loans on inflation

$$y = \beta_0 + \beta_1 UPL + E \dotfill (2)$$

In this model

y   =   Inflation

β_0 =   Constant

β_1 =   Coefficient of variable

UPL   =   Unsecured Personal Loans

E   =   Error Term

The strength of the relationships between the variables will be measured by coefficient of correlation (r) whose numerical value ranges from +1 to -1.

if

$r > 0$ then there exists a positive relation, and if $r = +1$ then the relation is perfect positive

$r < 0$ then there exists a negative relation, and if $r = -1$ then the relation is perfect negative

$r = 0$ then there exists no relation, in other words there is spurious relation.

The higher the values of unsecured personal loans, the higher the inflation. The strength will be determined by the coefficient of the UPL. The closer the coefficient is to 1, the stronger the variable is a determinant of inflation.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this section, I present details of the data and analysis of the research and includes discussions and findings. During research additional information that may have a bearing on inflation were also discovered and these will form part of the Error term. The main analysis of the findings have however been limited to the period which was prescribed for the study, which is between January 2011 to May 2012.

4.2 Results and Discussion

Table 4.1 Sectoral Distribution of Credit Facilities from the Banking System (Shillings million) and inflation rates.

Year	Month	Loans (Kes M)	Inflation (12mnth Ave)
2011	Jan	282,432	5.42
2011	Feb	303,637	6.54
2011	Mar	313,618	9.19
2011	Apr	320,910	12.05
2011	May	332,287	12.95
2011	Jun	337,988	14.48
2011	Jul	334,763	15.53
2011	Aug	344,880	16.67
2011	Sep	362,540	17.32
2011	Oct	370,544	18.91
2011	Nov	364,603	19.72
2011	Dec	369,454	18.93
2012	Jan	360,900	18.31
2012	Feb	367,400	16.69
2012	Mar	364,000	15.61
2012	Apr	367,700	13.06
2012	May	377,900	12.22
2012	Jun	370,000	10.05

Source: Central Bank of Kenya.

Table 4.1 above is an extraction from CBK, detailed data is available on Appendix v and Appendix vi which provides data at a detailed level, of the value of unsecured loans in

commercial banks in Kenya, over the period July 2009 to June 2012. From the appendix, I have picked out the data that is relevant for this research and analyze it in Chart 4.1 below.

Chart 4.1 Trends of Unsecure Personal loans **against** Inflation

Unsecured Personal Loans Vs Inflation
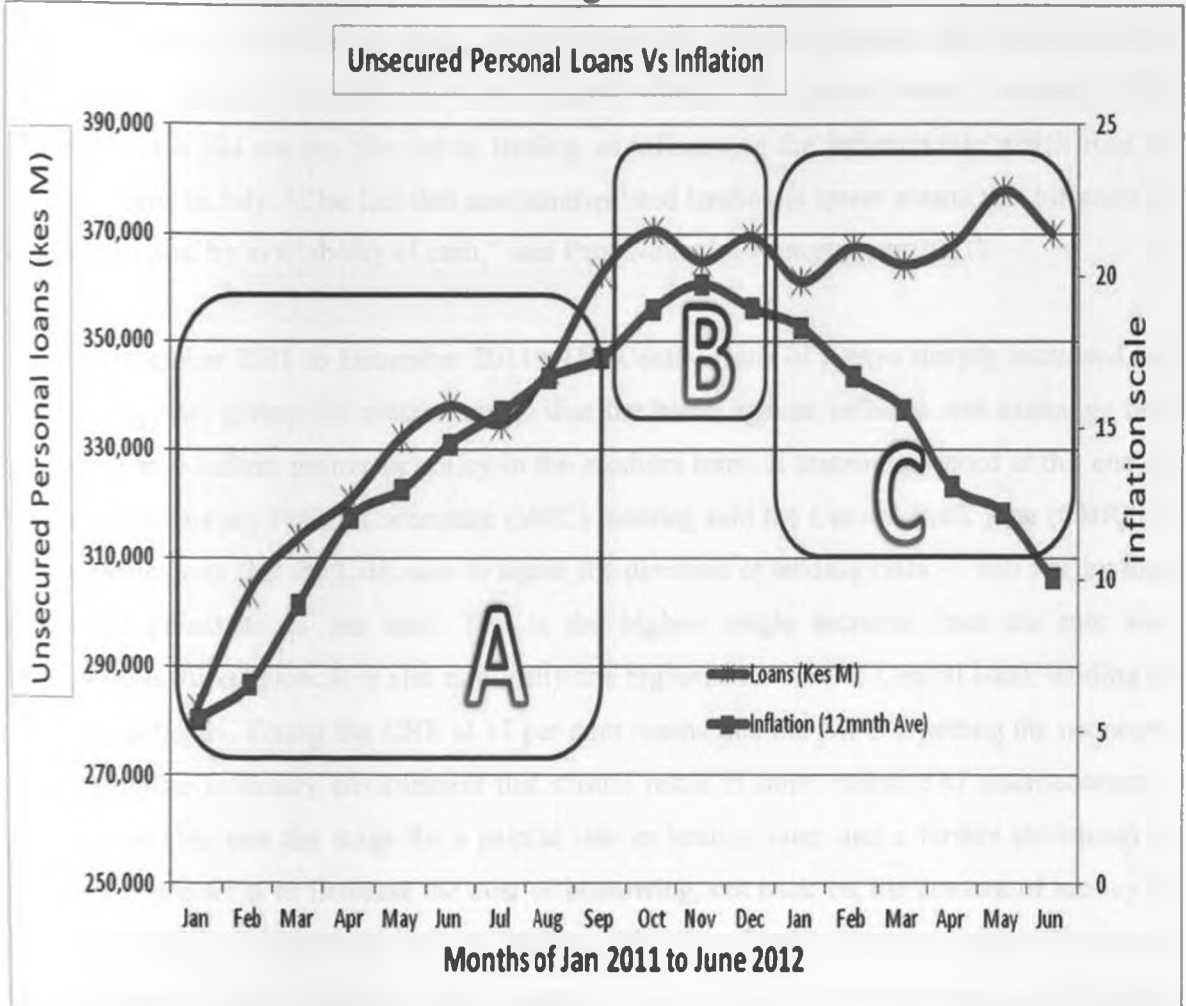
Source: Author

Period A (January 2011 to September 2011): As highlighted on the chart above is a period of rapid growth in both Unsecured personal lending and inflation rates. Nearly all commercial banks (93 per cent) had increased or were planning to raise lending rates by up to two percentage points, Higher interest rates could further soften demand for consumer loans, which shrunk by more than one-third in the second quarter of the year according to data by the Central Bank of Kenya. Key productive sectors of the economy however more than doubled their demand for loans during the second quarter, indicating more optimism among private

firms and farmers. The flipside to this increase is that it could lead to a rise in product inventories in a climate of lower consumer demand. "I know some analysts have been wondering why we didn't raise the Central Bank Rate. But why would we raise it and cause more problems for the economy when the real reason for inflation is supply-side driven and not excess money supply?" posed Governor Njuguna Ndung'u at a press briefing Monday. CBK however said it did not see the rise in lending as influencing the inflation rate which rose to 15.53 per cent in July. "The fact that consumer-related lending is lower means that inflation is not being driven by availability of cash," said Prof Ndung'u. (Irungu, Aug 2011)

Period B (October 2011 to December 2011): The Central Bank of Kenya sharply increased the key lending rate, giving the clearest signal that the battle against inflation and exchange rate turbulence will inform monetary policy in the medium term. A statement issued at the end of the special Monetary Policy Committee (MPC) meeting said the Central Bank Rate (CBR) — the key policy rate that the CBK uses to signal the direction of lending rates — will rise by four percentage points to 11 per cent. This is the highest single increase since the rate was formulated in June, 2006. It is also nominally the highest ever cost of Central Bank lending to commercial banks. Fixing the CBR at 11 per cent means that the MPC is setting the economy up for a tighter monetary environment that should result in some measure of macroeconomic stability but also sets the stage for a painful rise in lending rates and a further slowdown in growth. Its impact is to increase the cost of borrowing, cut back on the amount of money in circulation and slow down the rate of inflation. The pain for the common man will come in when the banks restrict lending. Credit squeeze is one of the time-tested methods of fighting inflation whose simplest definition is "too much money chasing a few goods". "In the short run we have to tighten our belts," said Njuguna Ndung'u the CBK governor. (Wahome, Oct 2011)

Period C (January 2012 to May 2012): Central Bank of Kenya, has yet again raised the CBR by 5.5 percentage points to 16.5 percent, barely a month after it raised the rate by four percentage points to 11 per cent. A statement issued at the end of the special MPC meeting also indicates that Cash Reserve Ratio (CRR)will increase by 0.5 percentage points to 5.25 percent starting December 15 2011 in a move to tame inflation, stabilise shilling, warning inflationary pressures and exchange rate volatility threatened the country's economic recovery. The

Committee reached on the move after meeting on Monday to assess the economy's response to the actions taken by MPC last month and the recent economic developments. This means banks are likely to raise their lending rates. Inflation continued to rise while exchange rate volatility persisted in October 2011. Consistent with the monetary policy stance taken by the last MPC meeting, there is therefore a need for further tightening of monetary policy to tame these inflationary pressures and stabilize the exchange rate. According to CBK Governor Njuguna Ndung'u, the Committee's analysis of data and assessment of events shows that the banking sector remained robust but both inflationary pressures resulting from accelerating growth of private sector credit and exchange rate volatility threaten the economic recovery and macroeconomic stability.

The MPC Market Perceptions Survey conducted in October 2011 showed that the private sector continues to expect high inflation to persist over the remainder of the year. Going forward, monetary policy has to reverse these expectations through further tightening that will bring inflation and inflationary expectations under control and stabilize the exchange rate to protect the economic growth base. "The Committee decided to raise the Central Bank Rate (CBR) by 550 basis points to 16.5 percent and the Cash Reserve Ratio (CRR) by 50 basis points to 5.25 percent. (Ratemo, Nov 2011)

4.3 Regression Analysis

Regression analysis is a statistical tool for the investigation of relationships between variables. Usually, the investigator seeks to ascertain the causal effect of one variable upon another—the effect of a price increase upon demand, for example, or the effect of changes in the money supply upon the inflation rate. To explore such issues, the investigator assembles data on the underlying variables of interest and employs regression to estimate the quantitative effect of the causal variables upon the variable that they influence. The investigator also typically assesses the "statistical significance" of the estimated relationships, that is, the degree of confidence that the true relationship is close to the estimated relationship.(Allan O S, 1997)

Table 4.2 below is an extraction from CBK, detailed data is available on Appendix v and Appendix vi which provides data at a detailed level, of the value of unsecured loans in commercial banks in Kenya, over the period July 2009 to June 2012. From the appendix, I have picked out the data that is relevant for this research and analyze it in Chart 4.2 below.

Table 4.2 Sectoral Distribution of Credit Facilities from the Banking System (Shillings million) and inflation rates.

Year	Month	Loans (Kes M)	Inflation (12mnth Ave)
2011	Jan	282,432	5.42
2011	Feb	303,637	6.54
2011	Mar	313,618	9.19
2011	Apr	320,910	12.05
2011	May	332,287	12.95
2011	Jun	337,988	14.48
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2012	Mar	364,000	15.61
2012	Apr	367,700	13.06
2012	May	377,900	12.22
2012	Jun	370,000	10.05

Source: Central Bank of Kenya.

Chart 4.2 Regression Curve - Unsecured Personal Loans Vs Inflation

Regression Curve - Unsecured Personal Loans Vs Inflation

$y = 0.0001x - 24.956$
$R^2 = 0.5245$
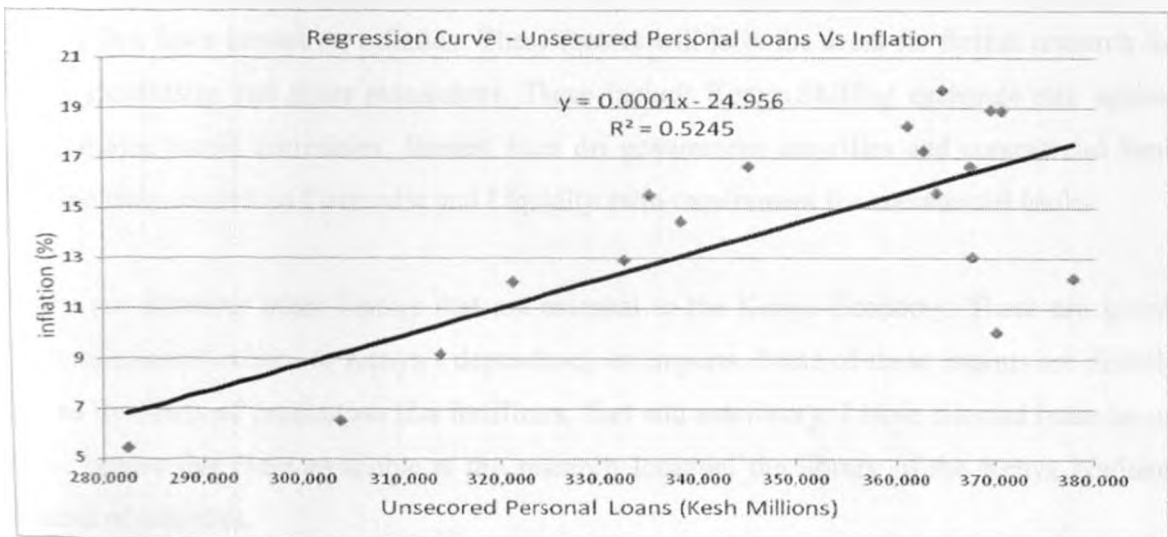
Source: Author

Using MS Excel regression model, the equation for the linear relationship is as follows

$y = 0.0001x - 24.956 + E$

And the Correlation Coefficient is
$R^2 = 0.5245$

Error Term – Analysis of Variance (ANOVA) using MS Excel

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	6359865189	17	374109717	1.000450253	0.499635179	2.271892889
Columns	1.08344E+12	1	1.08344E+12	2897.3499	1.9574E-20	4.451321691
Error	6357002926	17	373941348.6			
Total	1.09616E+12	35				

The P-Value indicates 0.49, which confirms the R^2 value of 0.52 found on the Correlation Coefficient.

4.4 Observation on some variables that contribute to the Error Term

During research, additional information that was out of scope for the research came across as factors that have impact on inflation. These factors will form the areas for further research for MBA candidates and other researchers. These include Kenya Shilling exchange rate against other major world currencies, Interest rates on government securities and commercial bank lending rates as well as Cash ratio and Liquidity ratio requirement for commercial banks.

There are however other factors that are external to the Kenya Economy. These are global economic issues related to Kenya's dependency on imports. Some of these imports are directly linked to inputs of production like fertilizers, fuel and machinery. I have selected material on local factors that were available at the research location, the library of the Kenya National Bureau of statistics.

Chart 4.3 US dollar exchange rate (a)

trends of kenya shilling strength against world major currencies resembles that of inflation rate

Source: Central Bank of Kenya
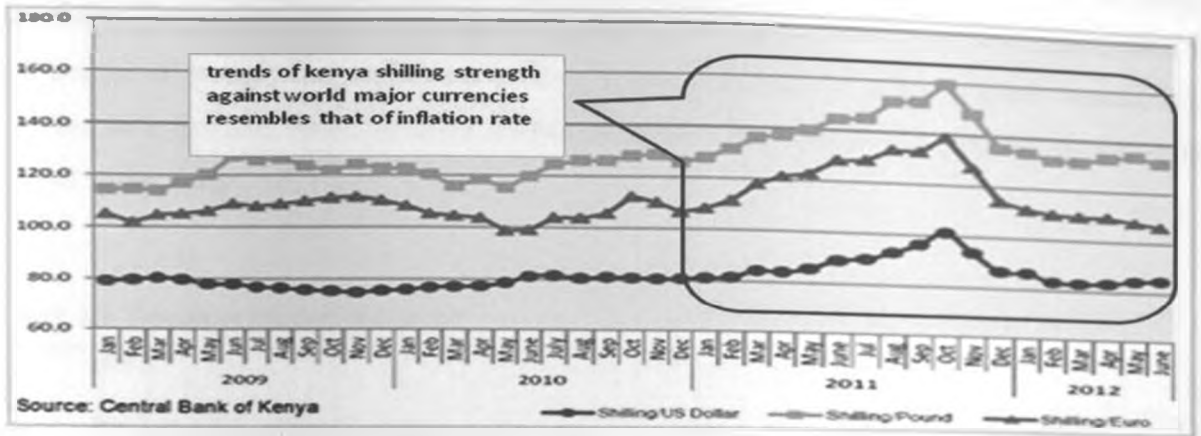
Source: Central Bank of Kenya

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Table 4.3: Selected Monthly Economic Indicators: Exchange rates

	2011	2011	2011	2011	2011	2011	2011	2012	2012	2012	2012	2012	2012
	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
11. AVERAGE EXCHANGE RATE													
Ksh/US$	88	88.9	92.79	96.36	101.27	93.68	86.66	86.34	83.18	82.9	83.19	84.38	84.75
Ksh/Pound Sterling	144.4	146	151.9	152.12	159.41	148.17	135.1	133.94	131.42	131.18	133.19	134.34	131.95
Ksh/ 100 Yen	110.6	109.07	120.32	125.55	131.97	120.85	111.33	112.23	105.1	100.6	102.26	105.88	106.91
Ksh/Euro	128.1	128.48	133.04	132.68	138.74	127.13	114.15	111.42	110.06	109.55	109.57	107.99	106.51

Source: Kenya National Bureau of Statistics, Ministry of Finance, Nairobi Stock Exchange and

Central Bank of Kenya: Kenya Monthly Economic Review, June 2012 Page 6

Chart 4.4 US dollar exchange rate (b)
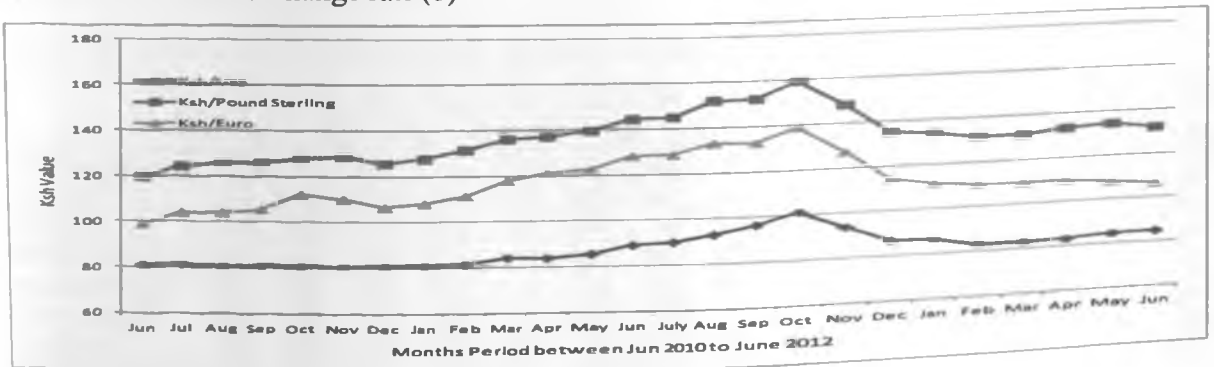
Source: Author

Chart 4.3 and Chart 4.4 is a reflection of additional variable that was out of scope for the study. The trends indicate that there was relative stability of exchange rates in the two years prior to the period of study. The implication of this is that inclusion of prior periods would have resulted in a spurious outcome in the overall analysis. Therefore it was prudent to select the period under study.

Chart 4.5 Trends in Interest Rates (a)
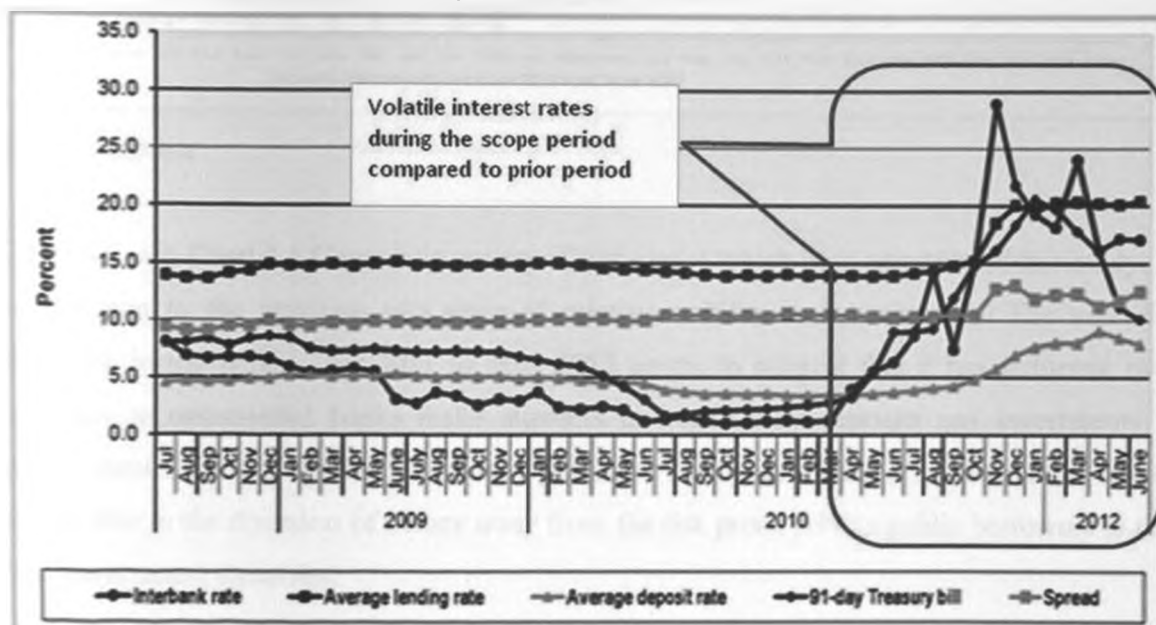
Source: Central Bank of Kenya

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Table 4.4: Selected Monthly Economic Indicators: Interest rates

	2011	2011	2011	2011	2011	2011	2011	2011	2012	2012	2012	2012	2012	2012
	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
91-day Treasury bill rate	5.35	8.95	8.99	9.23	11.93	14.8	16.14	18.3	20.56	19.7	17.8	16.01	11.18	10.09
Overdraft rate	13.72	13.59	13.88	14.28	14.64	14.87	18.64	20.2	20.33	20.52	20.52	20.27	20.41	20.3
Interbank rate	5.54	6.36	8.61	14.29	7.46	14.95	28.9	21.73	19.27	18.15	24.02	16.15	17.16	17.09
Average lending rate (1)	13.88	13.91	14.14	14.32	14.75	15.21	18.51	20.04	19.54	20.28	20.34	20.22	20.12	20.4
Average deposit rate (2)	3.57	3.66	3.88	4.07	4.21	4.88	5.75	6.99	7.66	8.01	8.01	9.04	8.42	7.86
0 to 3-month deposit	4.08	4.38	4.72	5.37	5.55	6.14	6.95	8.51	9.87	9.95	10.21	11.82	10.85	10.07
Savings deposits	1.38	1.37	1.37	1.37	1.35	1.38	1.41	1.95	1.62	1.66	1.72	1.95	1.95	1.46
Spread (1-2)	10.31	10.25	10.26	10.25	10.54	10.33	12.77	13.06	11.88	12.27	12.33	11.19	11.66	12.54

32

Chart 4.6 Trends in Interest Rates (b)
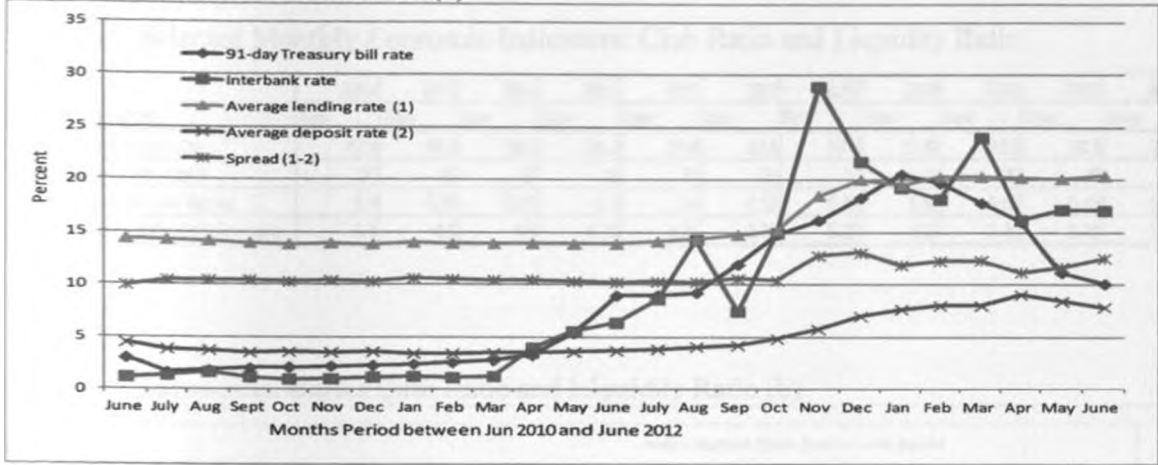
Source: Author

Chart 4.5 and Chart 4.6 Captures a season of turbulence which then necessitated this study. In comparison to the previous two years of relative stability in interest rates. The volatility observed in the period Mar 2011 to June 2012 seems to suggest that it has influence over inflation as commercial banks make attempts to hedge their deposits and investments in government securities against inflationary pressure. The result of this is a reduction in money supply due to the diversion of money away from the risk prone private public borrowers to risk free government securities.

Chart 4.7 Commercial Banks Cash Ratio and Liquidity Ratio (a)
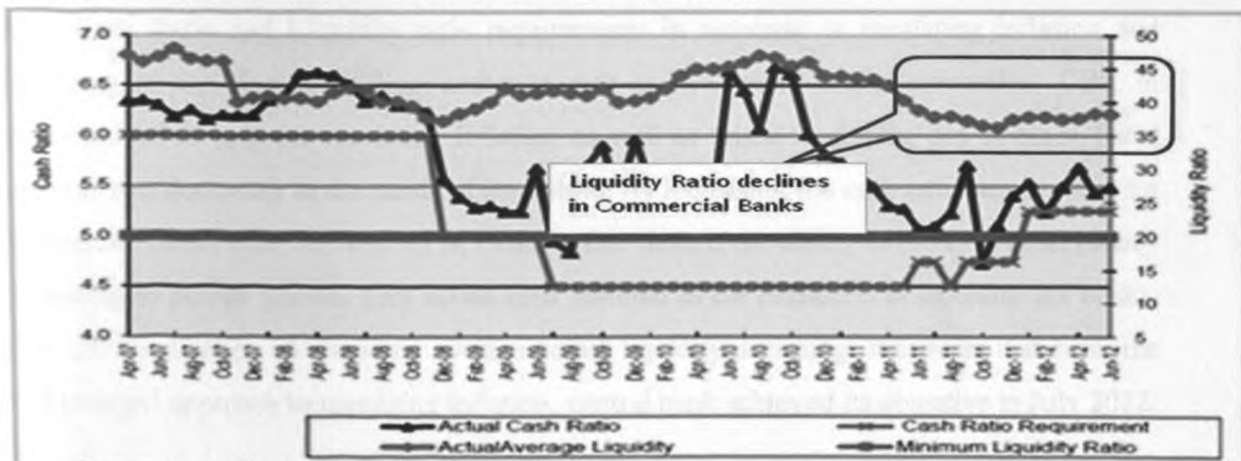
Source: Central Bank of Kenya

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Table 4.5: Selected Monthly Economic Indicators: Cash Ratio and Liquidity Ratio

Commercial Banks	2011 Apr	2011 May	2011 Jun	2011 Nov	2011 Dec	2012 Jan	2012 Feb	2012 Mar	2012 Apr	2012 May	2012 June
Actual Average Liquidity	42.5	40.3	38.8	36.2	37.4	37.8	37.8	37.45	37.6	38.3	38.2
Minimum Liquidity Ratio	20	20	20	20	20	20	20	20	20	20	20
Actual Cash Ratio - All Banks	5.3	5.28	5.07	5.1	5.4	5.53	5.23	5.48	5.68	5.43	5.48
Minimum Cash Ratio Requirement	4.5	4.5	4.5	4.75	4.75	5.25	5.25	5.25	5.25	5.25	5.25

Chart 4.8 Commercial Banks Cash Ratio and Liquidity Ratio (b)
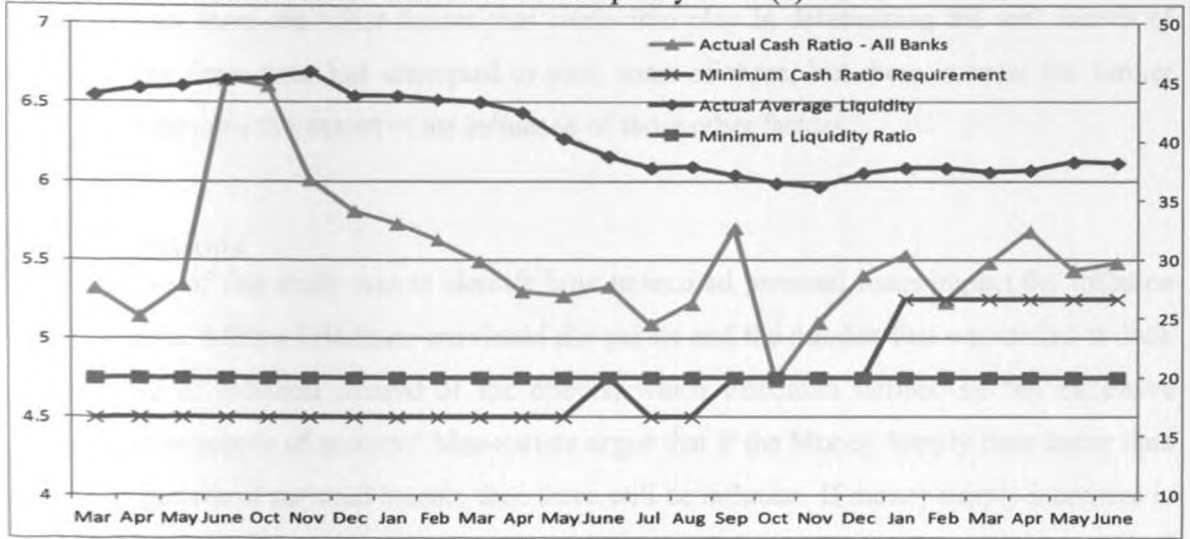
Chart 4.7 and Chart 4.8 Demonstrates the impact of changes made by CBK to commercial banks Cash Ratio and Liquidity ratio requirements in response to escalating inflation and weakening of the Kenya Shilling exchange rate against world major currencies. CBK in furtherance of its grip on escalating inflation as well as unstable shilling put in place fiscal measures to reduce cash in the hands of the public. By increasing the cash ratio requirement for Commercial banks from 4.5% to 5.5%, CBK further limited the ability of banks to avail money for lending to private public. This action then resulted in the reduction of liquidity for banks, hence the trend observed above on average actual liquidity declining. It appears that from the multi pronged approach to managing inflation, central bank achieved its objective in July 2012.

CHAPTER FIVE

CONCLUSION LIMITATIONS AND RECOMMENDATIONS

5.1 Introduction

This section sets out the conclusions, limitations and recommendations for further studies. I set out to establish if there is a relationship between unsecured lending and inflation. The data analysis in this study has indicated that there exists a relationship. There is also strong indication that there are other factors that come into play in determining the real causes of inflation. The error term has attempted to pick some of these, but there is room for further studies to determine the extent of the influence of those other factors.

5.2 Conclusions

The objective of this study was to identify how unsecured personal loans impact the inflation rates in Kenya. Milton Friedman convinced the public and the pundits that we needed to look at the cause of inflation instead of the effects, which Friedman defined as "an excessive increase in the supply of money." Monetarists argue that if the Money Supply rises faster than the rate of growth of national income then there will be inflation. If money supply increases in line with inflation then there will be no inflation. Friedman stated: "Inflation is always and everywhere a monetary phenomenon"

Quantity theory of Money (fischer Version) $MV=PT$, where M = Money Supply, V= Velocity of circulation, P= Price Level and T = Transactions. T is difficult to measure so it is often substituted for Y = National Income. Therefore $MV = PY$ where Y =national output. (Aik & Edmonds 1976, p277).

"With all the easy loans being advertised around, Kenyans dive right into them without any forethought or fore planning. Because of the lack of specific projects, when the money comes, there is misuse." "When people save, they are able to invest. Such investments in turn contribute to economic production, which means more wealth for the country. But if the
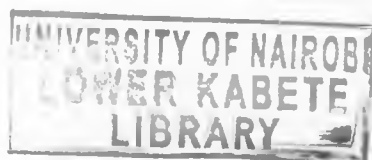
society is only spending and not investing, it means wealth is being exported. (Muigai, Aug2011)

Over a period of five years, personal loans disbursements by banks had more than doubled to Sh296 billion – more than to all other economic sectors combined. This is the money that Dr Kiriti fears has mostly ended up financing unsustainable spend at the expense of production (Muigai Oct2011).

The strength of the relationships between the variables will be measured by coefficient of correlation (r) whose numerical value ranges from +1 to -1.

if

r >0 then there exists a positive relation, and if r = +1 then the relation is perfect positive

r<0 then there exists a negative relation, and if r = -1 then the relation is perfect negative

r=0 then there exists no relation, in other words there is spurious relation.

The higher the values of personal loans, the higher the inflation. The strength will be determined by the coefficient of the UPL. The closer the coefficient is to 1, the stronger the variable is a determinant of inflation.

In our analysis in 4.3 above, we found that $R^2 = 0.5245$ or 52.4%. This outcome is right in the middle of 0 and +1. This drives us to the conclusion that the relationship between Unsecured Personal Loans and inflation is weak positive.

5.3 Limitations of the Study

This study focused on one variable as a key contributor to inflation. There are however several other causes of inflation and some have been noted during this study. This calls for a more sophisticated study and analysis methods that require assignment of weights to each aspect and variable as appropriate. Some of these variables are discussed below.

Interest Rates: The level of interest rates tends to rise and fall with changes in the actual rate of inflation. Thus, we feel comfortable concluding that inflationary expectations have a major impact on interest rates. Our findings also explain in part why interest rates can vary substantially between countries.

Gross Domestic Product: The level of interest rates tends to rise during periods of economic expansion and decline during periods of economic contraction. It makes sense that interest rates should increase during years of economic expansion. The reasoning is that as the economy expands, businesses begin to borrow money to build up inventories and to invest in more production capacity in anticipation of increased sales. As unemployment begins to decrease, the economic future looks bright, and consumers begin to buy more homes, cars, and other durable items on credit. As a result, the demand for funds by both businesses and consumers increases, driving interest rates up. Also, near the end of expansion, the rate of inflation begins to accelerate, which puts upward pressure on interest rates. At some point, the CBK becomes concerned over the increasing inflation in the economy and begins to tighten credit, which further raises interest rates, slowing the economy down. The higher interest rates in the economy choke off spending by both businesses and consumers.
During a recession, the opposite takes place; businesses and consumers rein in their spending and their use of credit, putting downward pressure on interest rates. To stimulate demand for goods and services, the CBK will typically begin to make more credit available. The result is to lower interest rates in the economy and encourage business and consumer spending.
We also note that periods of business expansion tend to be much longer than periods of contraction (recessions) (Parrino R; Kidwell D S; Bates T W, 2011).

Import / Export and Exchange Rates: The focus of the Chinese government is on growth, but not on growth at all costs. When inflation threatens to spoil the party, Beijing is happy to turn off the music and remove the punch bowl. Changes in the exchange rate impact inflation through two channels. First, by raising the cost of exports appreciation of the yuan reduces demand for Chinese products, helping to cool off an overheated economy. Second, by reducing the cost of imports appreciation of the yuan reduces the inflationary impact of crude oil, iron ore, and other imported commodities. Inflation is not the decisive factor in determining

Beijing's approach to the exchange rate, but a higher reading for the Consumer Price Index (CPI) does make it more likely that the government will allow a more rapid appreciation of the yuan (Orlik T, 2011).

Financial Resource: This limitation create a handicap in obtaining a comprehensive comparative analysis of other territories. This would have been useful in examining external factors. With the emerging global market and faster integration of economies, there is a possibility that factors beyond borders could influence inflation. These include Crude oil prices, The Arab spring, the US mortgage crisis and the Euro-zone crisis.

Complex financial markets: The financial markets in Kenya is developing at a fast pace in urban centers but the pace is slower in rural Kenya. The mix of sophistication and nativity make the research complex in the absence of uniform effect of inflation. In Kenya, the analysis of inflation is stratified in three categories of Lower, Middle and Upper income. The convergence of these groups into one inflation number may not accurately represent the full impact of personal lending on inflation.

5.4 Suggestions for Further Research

The variables mentioned on limitations offer the next frontiers for researchers. There are however additional areas that should be included to make the studies more comprehensive.

Deflation: This is precisely the opposite of inflation – it is when we see a sustained decline in the general level of prices or, in other words, when the rate of inflation falls below zero. It is important to distinguish this from a period of dis-inflation, which is when the rate of inflation (as opposed to the level of prices) is falling. Just as inflation can be caused by a rise in demand for goods & services, deflation is typically caused by weaker demand.

Hyperinflation: The polar opposite of deflation is hyperinflation. There is no agreed definition of what level of inflation constitutes hyperinflation but some have classified it as being when inflation approaches 50% per month (you know that inflation is out of control when you begin

to talk about it in monthly rather than annual rates!). Generally speaking, however, it is when inflation is so high that it becomes completely uncontrollable and leads to an exceptionally quick decline in the value of money.

In the past, the most serious hyperinflations have been caused when central banks have printed too much money in order to fund government borrowing – often in the aftermath of war. Hyperinflation can be seen as a particularly extreme version of the demand-pull inflation we looked at above. In Germany, for example, between 1922 and 1923 inflation ran at an average rate of over 300% per month (a doubling in prices every three weeks), while in Hungary after the Second World War inflation ran at a staggering average rate of 20000% per month between 1945 and 1946 (a doubling in prices every five days – and, at its peak, every half day). More recent examples include Yugoslavia in 1994 and Zimbabwe at the end of the last decade (Buckley G; Desai S, 2011).

Purchasing Power Parity (PPP): Consider how exchange rates react to differences in the price of the same good trading around the world. The Law of One Price argues that the same good should sell for the same price no matter where it is after adjusting for the "prices" of different currencies. Prices quoted in different currencies only reflect different scales. It's like measuring lumber in inches, feet, or meters—you can compare the different measures and figure out how long a board "really" is in familiar terms. Absolute purchasing power parity (PPP) applies the Law of One Price to exchange rates. Rather than applying it to every good, absolute PPP argues that the average price of a representative basket of goods and/or services should be the same in all countries after adjusting for the effect of different currencies. In other words, in fully competitive economies, the real price of a good or service should be the same everywhere. This implies that the equilibrium exchange rate between any two currencies equates the prices of the representative baskets from each country.

Uncompetitiveness and wage-price spiral: A problem with rising prices is that they encourage workers to bargain for higher pay to compensate. Looking at both demand-pull and cost-push inflation, if wages are higher that may lead to higher prices. In turn, workers then ask for higher wages and the upward spiral continues. Moreover, if wages rise by more than tax thresholds do, then workers will eventually move into higher tax brackets because of this

spiral, something that economists call 'fiscal drag'. If price rises are not followed by a fall in the currency, then the price of that country's goods & services may begin to look uncompetitive to overseas importers who will demand fewer goods & services from that country (George Buckley G; Desai S, 2011).

Deregulation: The regulatory framework that does not keep up to the mark with financial advancements. The shadow banking system, derivatives and off-balance sheet financing may become significant variables in inflation matrix. In cases where laws are altered and enforcement made weak in parts of the financial system. Regulators and accounting standard-setters permitting depository banks to shift important amounts of assets and liabilities off-balance sheet into complex legal entities. These were for instance among the main causes of American debt crisis.

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APPENDICES

Appendix i: Banking System Net Domestic Credit (Ksh Billion) April 2012

	2011 Apr		2012 Apr		Apr Absolute Change		Annual %age Change Apr	
	Ksh bn	Share (%)	Ksh bn	Share (%)	2010/11	2011/12	2010/11	2011/12
1. Credit to Government	241.9	23.7	318.8	20.5	25.1	51.8	10.4	19.4
Central Bank	-43	-4.2	18.9	1.2	47	15	-109.1	383.4
Commercial Banks & NBFIs	284.9	27.9	299.9	19.3	-21.9	36.8	-7.7	14
2. Credit to other public sector	11.4	1.1	37.6	2.4	6.7	19.6	58.6	108.7
Local government	-4.2	-0.4	0.9	0.1	3.4	1.8	-80.3	-210.8
Parastatals	15.6	1.5	36.7	2.4	3.3	17.8	20.9	94.5
3. Credit to private sector	769.5	75.2	1200.9	77.1	209.9	221.4	27.3	22.6
Agriculture	36.4	3.5	51.7	3.3	8.7	6.6	24	14.5
Manufacturing	93.6	9.3	153.7	9.9	24.9	35.2	26.6	29.7
Trade	130.1	12.6	202.3	13	28.7	43.5	22.1	27.4
Building and construction	35.4	2.9	58.5	3.8	1.4	21.8	3.9	59.4
Transport & communications	66	5.1	84.8	5.4	1.8	16.9	2.8	25
Finance & insurance	26.5	1.7	27.2	1.7	-3.7	4.4	-14	19.3
Real estate	57.1	8.3	144.9	9.3	55.2	32.6	96.6	29
Mining and quarrying	14	1.8	29.7	1.9	7.5	8.2	53.7	37.9
Private households	115	11	164.4	10.6	27.1	22.3	23.5	15.7
Consumer durables	54.7	5.1	76.1	4.9	27.5	-6.1	50.2	-7.4
Business services	70.5	6.6	80.4	5.2	14.8	-4.9	21	-5.7
Other activities	70.2	8	127.2	8.2	16	41	22.7	47.6
4. TOTAL (1+2+3) *	1022.8	100	1557.3	100	241.7	292.9	23.6	23.2

Source: Kenya Monthly Economic Review, April 2012 page 11

Appendix ii: Chart 4.5 Commercial Banks Cash Ratio and Liquidity Ratio

	2011 May		2012 May		May Absolute Change		Annual %age Change May	
	Ksh bn	Share (%)	Ksh bn	Share (%)	2010/11	2011/12	2010/11	2011/12
1. Credit to Government	282.2	21.6	315	20	20.7	32.9	7.9	11.7
Central Bank	5.5	0.4	24.8	1.6	19.2	19.3	-140.6	347.3
Commercial Banks & NBFIs	276.6	21.2	290.2	18.4	1.5	13.6	0.5	4.9
2. Credit to other public sector	20.4	1.6	38.1	2.4	12	17.7	143.4	86.9
Local government	0.9	0.1	-0.6	0	5.6	-1.5	-119.4	-164.5
Parastatals	19.5	1.5	38.7	2.5	6.4	19.2	48.7	98.7
3. Credit to private sector	1003.8	76.8	1222.3	77.6	215.9	218.5	27.4	21.8
Agriculture	46.2	3.5	52.8	3.3	8.1	6.6	21.4	14.3
Manufacturing	123.2	9.4	156.3	9.9	27.2	33.2	28.4	26.9
Trade	164.1	12.6	205.8	13.1	36.9	41.7	29	25.4
Building and construction	38.8	3	58.8	3.7	5.1	20.1	15.1	51.8
Transport & communications	68.3	5.2	87.9	5.6	2.5	19.6	3.8	28.7
Finance & insurance	23.5	1.8	27.7	1.8	-1.6	4.2	-6.5	17.9
Real estate	114.6	8.8	148.5	9.4	44.3	34	63	29.7
Mining and quarrying	23.2	1.8	25.5	1.6	7.3	2.3	45.9	10
Private households	147.7	11.3	166.9	10.6	26.7	19.3	22	13
Consumer durables	66.2	5.1	77	4.9	14.2	10.8	27.2	16.3
Business services	81.1	6.2	81.1	5.1	9.8	0	13.8	0
Other activities	107.2	8.2	134	8.5	35.4	26.8	49.2	25
4. TOTAL (1+2+3) *	1306.4	100	1575.5	100	248.6	269.1	23.5	20.6

Source: Kenya Monthly Economic Review, May 2012 page 14

Appendix iii: Principal Interest Rates Lending Interest Rates (percent)

End of	Central Bank				Commercial Banks \1		
	91-Day Treasury Bills	Rediscounts\2 Central Bank Rate	Reverse Repo Repurchase Agreements \3	Repurchase Agreements \4	Loans and Advances	Overdraft	Interbank \5
1998	11.07	14.07			10.65	26.13	26.66	9.37
1999	19.97	22.97			16.62	25.19	25.58	13.03
2000	12.9	15.9			12.26	19.6	19.73	9.79
2001	11.01	14.01			11.05	19.49	20.04	10.42
2002	8.38	11.38			8.14	18.34	18.56	8.69
2003	1.46	4.46			0.78	13.47	13.74	0.81
2004	8.04	11.04			8.97	12.25	12.69	9.41
2005	8.07	11.07			7.74	13.16	13.67	7.79
2006	5.73	10			6.34	13.74	13.91	6.34
2007	6.87	8.75			7.13	13.32	12.96	7.05
2008	8.59	8.5			6.36	14.87	14.59	6.68
2009							
July	7.24	7.75	3.35	-	14.79	13.94	2.67
August	7.25	7.75	4.31	-	14.76	13.9	3.68
September	7.29	7.75	3.49	-	14.74	13.76	3.51
October	7.26	7.75	3.5	-	14.78	14.03	2.53
November	7.22	7	0	-	14.85	14.24	3.11
December	6.82	7	1.66	-	14.87	14.13	2.94
2010							
January	6.56	7	3.91	-	14.98	14.48	3.72
February	6.21	7	2.8	-	14.98	14.25	2.99
March	5.98	6.75	2.43	-	14.8	14.06	2.92
April	5.17	6.75	2.46	-	14.58	14.5	2.46
May	4.21	6.75	2.41	-	14.46	14.37	2.16
June	2.98	6.75	0	-	14.33	14.23	1.15
July	1.63	6	1.72	-	14.29	14.03	1.35
August	1.83	6	1.84	-	14.18	13.97	1.66
September	2.04	6	0	-	13.98	13.81	1.18
October	2.12	6	0	-	13.85	13.64	0.98
November	2.21	6	1.43	-	13.95	13.77	1.01
December	2.28	6	1.41	-	13.87	13.69	1.18
2011							
January	2.41	5.75	1.25	-	14.03	13.93	1.24
February	2.57	5.75	1.18	-	13.92	13.65	1.13
March	2.77	6	1.18	1.66	13.92	13.6	1.24
April	3.26	6	2.99	3.75	13.92	13.68	3.97
May	5.35	6	0	5.72	13.88	13.72	5.54
June	6.35	8	1.36	3.82	13.91	13.59	6.36
July	8.99	6.25	6.25	-	14.14	13.89	8.61
August	9.23	6.25	6.25	-	14.32	14.28	14.29
September	11.93	7	5.75		14.79	14.64	7.46
October	14.8	11	0	18.89	15.21	14.87	14.95
November	16.14	16.5	0		18.48	18.56	28.9
December	18.3	18	0	17.75	20.04	20.2	21.75

Source: Central Bank of Kenya.
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\1 Commercial Banks lending rates are weighted averages. \2 Weighted average interest rates at which commercial banks borrow from the Central Bank. Effective June 2006, the Central Bank Rate was introduced in place of the rediscount rate. Begining October 2011, effective rates is CBR plus penalty \3 Interest rate at which Central Bank lends liquidity to commercial banks through repurchase agreement securities \4 Interest rate at which Central Bank mops excess liquidity from commercial banks through repurchase agreement securities. \5 Interest rate at which commercial banks borrow from each other. Source: Central Bank of Kenya.

Appendix iv: Sectoral Distribution of Credit Facilities from the Banking System
(Shillings million)

End of	Building & Construction	Transport & Communication	Finance & Insurance	Real Estate	Mining & Quarrying	Private House-holds	Consumer Durables	Business Services	Other Activity	Total	TOTAL
1998	20,423	11,507	11,016	19,901	2,653	7,565	5,069	20,553	33,052	254,301	359,877
1999	22,506	10,254	12,469	21,294	3,063	8,634	5,018	23,354	36,380	277,407	371,367
2000	20,758	10,113	14,861	22,389	2,944	9,543	4,488	27,651	35,912	289,478	381,325
2001	20,136	9,910	15,631	20,170	2,171	10,199	5,328	27,693	40,971	271,800	380,209
2002	20,034	16,708	21,121	21,067	1,983	18,130	5,757	24,122	42,939	288,831	410,232
2003	19,439	16,757	24,596	19,372	1,493	24,774	6,134	22,055	40,848	302,888	443,097
2004	20,075	20,290	27,566	20,229	1,943	38,229	5,946	25,038	68,044	368,683	501,160
2005	26,781	27,149	32,222	24,619	2,407	46,559	9,397	34,635	46,825	398,517	527,730
2006	34,413	39,871	25,471	24,452	3,170	50,402	13,102	45,829	51,247	446,824	600,017
2007	36,472	47,230	27,221	23,996	5,985	85,390	20,782	47,918	67,007	519,457	670,771
2008	29,247	57,100	17,634	22,440	10,268	129,026	36,277	69,499	63,425	652,829	824,142
2009											
July	35,594	56,501	18,347	43,781	21,262	81,229	44,058	75,550	84,559	684,178	888,579
August	36,026	57,324	18,220	43,171	19,240	81,148	44,086	74,632	87,179	689,749	899,881
September	37,916	58,837	18,552	46,380	5,482	96,711	44,964	75,460	73,267	691,101	917,351
October	35,463	57,959	39,416	49,909	6,126	101,429	42,002	65,255	75,448	706,600	933,115
November	44,545	56,730	22,758	51,582	7,847	103,248	50,919	62,344	77,090	718,702	954,604
December	30,414	63,884	23,866	37,712	8,193	92,174	51,471	68,230	111,128	747,312	978,339
2010											
January	34,575	64,396	24,762	50,967	15,515	108,361	52,671	66,569	88,861	746,021	991,658
February	33,940	63,832	27,814	51,401	16,905	107,391	53,179	66,548	87,640	753,725	1,015,302
March	35,887	65,818	28,110	37,831	14,039	112,593	54,656	66,139	101,485	768,205	1,045,999
April	35,351	66,026	26,476	40,687	14,030	112,271	54,667	70,478	99,186	779,322	1,057,366
May	33,654	65,743	25,108	53,387	15,881	118,244	52,021	71,294	101,514	797,948	1,094,873
June	31,101	66,423	23,699	64,701	16,339	115,216	50,415	74,903	98,393	809,024	1,142,051
July	32,833	61,774	19,792	82,672	18,557	118,141	50,265	77,702	86,140	824,648	1,157,375
August	33,828	58,963	20,451	87,867	16,963	115,770	51,132	81,969	85,835	837,437	1,177,547
September	31,732	60,046	21,304	92,968	16,110	114,177	52,545	83,534	90,088	852,607	1,222,050
October	31,470	58,977	22,554	95,941	18,746	115,764	55,284	85,126	93,224	874,947	1,246,337
November	32,433	57,368	23,241	98,097	15,871	117,802	55,443	87,007	97,048	885,991	1,256,266
December	32,637	60,136	22,807	98,866	14,584	120,554	57,901	87,692	95,803	898,513	1,276,883
2011											
January	33,927	60,822	22,675	100,021	13,658	126,890	60,677	89,453	94,865	915,229	1,286,750
February	33,390	65,273	22,066	101,153	20,840	131,072	63,130	79,245	109,435	939,888	1,315,140
March	36,276	63,825	21,665	104,935	22,396	135,790	63,882	82,898	113,946	964,808	1,339,224
April	36,726	67,854	22,777	112,309	21,565	138,933	82,118	85,293	99,859	989,957	1,327,735
May	38,750	68,273	23,489	114,169	23,173	144,530	66,195	81,109	121,562	1,014,626	1,360,570
June	39,534	75,470	24,273	117,966	25,496	147,648	65,610	85,074	124,730	1,054,465	1,399,226
July	45,536	77,926	25,108	121,667	25,987	148,702	67,119	84,688	118,942	1,088,689	1,437,784
August	46,169	76,189	25,701	124,059	24,638	153,324	70,331	85,651	121,225	1,107,874	1,464,832
September	49,370	77,170	26,372	128,455	23,621	158,478	72,818	87,169	131,244	1,158,794	1,529,701
October	48,266	78,220	28,087	130,209	27,291	160,554	75,095	88,030	134,895	1,179,441	1,526,555
November	48,161	84,043	29,286	134,869	28,223	157,136	74,076	86,386	133,391	1,170,545	1,530,543
December	50,805	87,359	29,919	137,409	25,271	158,147	73,338	82,643	137,969	1,173,137	1,526,774
2012											
January	52300	85700	25900	138400	26500	161800	73600	75700	125500		
February	55200	85600	27100	141000	26700	157500	75300	78900	134600		
March	56000	87000	27800	143400	26400	163100	76600	78800	124300		
April	58500	84800	27200	144900	29700	164400	76100	80400	127200		
May	58800	87900	27700	148500	25500	166900	77000	81100	134000		
June	59300	83300	26700	150700	25900	166800	75300	80800	127900		

Source: Central Bank of Kenya.
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Appendix v: Sectoral Distribution of Credit Facilities from the Banking System (Shillings million) and inflation rates.

| Year | End of month | Split of unsecured personal loans | | | Total | Percentage change | Inflation (12 month Ave. |
		Private House-holds	Consumer Durables	Other Activity			
2009	July	81,229	44,058	84,559	209,846		8.44
2009	August	81,148	44,086	87,179	212,413	1%	7.36
2009	September	96,711	44,964	73,267	214,942	1%	6.74
2009	October	101,429	42,002	75,448	218,879	2%	6.62
2009	November	103,248	50,919	77,090	231,257	5%	5
2009	December	92,174	51,471	111,128	254,773	9%	5.32
2010	January	108,361	52,671	88,861	249,893	-2%	5.95
2010	February	107,391	53,179	87,640	248,210	-1%	5.18
2010	March	112,593	54,656	101,485	268,734	8%	3.97
2010	April	112,271	54,667	99,186	266,124	-1%	3.65
2010	May	118,244	52,021	101,514	271,779	2%	3.88
2010	June	115,216	50,415	98,393	264,024	-3%	3.49
2010	July	118,141	50,265	86,140	254,546	-4%	3.57
2010	August	115,770	51,132	85,835	252,737	-1%	3.22
2010	September	114,177	52,545	90,088	256,810	2%	3.21
2010	October	115,764	55,284	93,224	264,272	3%	3.18
2010	November	117,802	55,443	97,048	270,293	2%	3.84
2010	December	120,554	57,901	95,803	274,258	1%	4.51
2011	January	126,890	60,677	94,865	282,432	3%	5.42
2011	February	131,072	63,130	109,435	303,637	7%	6.54
2011	March	135,790	63,882	113,946	313,618	3%	9.19
2011	April	138,933	82,118	99,859	320,910	2%	12.05
2011	May	144,530	66,195	121,562	332,287	3%	12.95
2011	June	147,648	65,610	124,730	337,988	2%	14.48
2011	July	148,702	67,119	118,942	334,763	-1%	15.53
2011	August	153,324	70,331	121,225	344,880	3%	16.67
2011	September	158,478	72,818	131,244	362,540	5%	17.32
2011	October	160,554	75,095	134,895	370,544	2%	18.91
2011	November	157,136	74,076	133,391	364,603	-2%	19.72
2011	December	158,147	73,338	137,969	369,454	1%	18.93
2012	January	161,800	73,600	125,500	360,900	-2%	18.31
2012	February	157,500	75,300	134,600	367,400	2%	16.69
2012	March	163,100	76,600	124,300	364,000	-1%	15.61
2012	April	164,400	76,100	127,200	367,700	1%	13.06
2012	May	166,900	77,000	134,000	377,900	3%	12.22
2012	June	166,800	75,300	127,900	370,000	-2%	10.05

Source: Central Bank of Kenya.

Appendix vi: Selected Monthly Economic Indicators

	Jun	July	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1. INFLATION (%)										
CPI	120.91	122.44	129.13	130.09	130.82	130.76	132.51	133.74	134.09	133.06
Overall Inflation										
12-month overall inflation	14.48	15.53	19.72	18.93	18.31	16.69	15.61	13.06	12.22	10.05
Average annual overall inflation	6.88	7.88	12.82	14.02	15.1	15.93	16.45	16.5	16.4	15.97
2. INTEREST RATES (%)										
91-day Treasury bill interest rate	8.95	8.99	16.14	18.3	20.56	19.7	17.8	16.01	11.18	10.09
Overdraft interest rate	13.59	13.89	18.67	20.2	20.38	20.53	20.53	20.27	20.41	20.36
5. MONEY AND CREDIT (Ksh bn.)										
Liquidity (L)[1]	1720.57	1743.3	1837.68	1854.93	1864.44	1889.87	1906.47	1920.42	1944.24	1970.47
Money Supply (M3)[2]	1380.73	1412.7	1489.75	1514.15	1505.76	1504.78	1517.13	1536.29	1561.57	1595.01
Reserve Money	220.44	222.7	245.37	255.01	244.14	231.67	257.91	244.52	236.99	259.26
Total Domestic Credit	1344.23	1392.14	1516.78	1505.13	1495.66	1512.09	1530.95	1557.31	1572.98	1550.52
Government	277.81	289.21	327	311.58	300.73	306.03	315.1	318.84	312.56	292.51
Private sector and other public sector	1066.42	1102.94	1189.78	1193.55	1194.93	1206.06	1215.85	1238.47	1260.43	1258.01
6. MONEY AND CREDIT (Annual % Change)										
Liquidity (L)[1]	19.2	17.44	19.16	19.05	18.16	18.09	17.25	17.23	17.11	15.29
Money Supply (M3)[2]	15.16	16.44	18.35	19.07	17.14	15.19	14.53	15.09	15.55	15.52
Reserve Money	4.85	11.5	9.52	14.54	17.21	10.42	23.17	14.74	13.15	17.61
Total Domestic Credit	23.69	27.59	29.11	26.65	23.87	22.14	21.39	23.16	20.41	15.35
11. AVERAGE EXCHANGE RATE										
Ksh/US$	89	89.9	93.68	86.66	86.34	83.18	82.9	83.19	84.38	84.79
Ksh/Pound Sterling	144.4	145	148.17	135.1	133.94	131.42	131.18	133.19	134.34	131.95
Ksh/ 100 Yen	110.6	109.07	120.85	111.33	112.23	106.1	100.6	102.26	105.83	106.91
Ksh/Euro	128.1	128.48	127.13	114.15	111.42	110.06	109.55	109.57	107.99	106.51

Source: Kenya National Bureau of Statistics, Ministry of Finance, Nairobi Stock Exchange and Central Bank of Kenya

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Appendix vii: Cash and Liquidity Ratio

CASH AND LIQUIDITY RATIOS* (%)

Commercial Banks	2011 Apr	2011 May	2011 Jun	2011 Nov	2011 Dec	2012 Jan	2012 Feb	2012 Mar	2012 Apr	2012 May	2012 June
Actual Average Liquidity	42.5	40.3	38.8	36.2	37.4	37.8	37.8	37.45	37.6	38.3	38.2
Minimum Liquidity Ratio	20	20	20	20	20	20	20	20	20	20	20
Actual Cash Ratio - All Banks	5.3	5.28	5.07	5.1	5.4	5.53	5.23	5.48	5.68	5.43	5.48
Minimum Cash Ratio Requirement	4.5	4.5	4.5	4.75	4.75	5.25	5.25	5.25	5.25	5.25	5.25
NBFIs											
Actual Average Liquidity Ratio	50.8	46.7	46.4	31.1	29.1	28.3	26.85	25.11	24.2	26.7	32
Minimum Liquidity Ratio	20	20	20	20	20	20	20	20	20	20	20

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Commercial Banks	2010 Aug	2010 Sept	2010 Oct	2010 Nov	2010 Dec	2011 Jun	2011 Jul	2011 Aug	2011 Sep	2011 Oct	2011 Nov	2011 Dec
Actual Average Liquidity	46.7	46.7	45.4	46	43.9	38.8	37.8	37.9	37.2	36.5	36.2	37.4
Minimum Liquidity Ratio	20	20	20	20	20	20	20	20	20	20	20	20
Actual Cash Ratio - All Banks	6.07	6.68	6.61	6.01	5.81	5.07	5.09	5.22	5.7	4.73	5.1	5.4
Minimum Cash Ratio Requirement	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.75	4.75	4.75	4.75
NBFIs												
Actual Average Liquidity Ratio	30.5	30.7	64.8	58.9	56	46.4	43.6	38.2	41.8	35.1	31.1	29.1
Minimum Liquidity Ratio	20	20	20	20	20	20	20	20	20	20	20	20

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	2010 June	2010 July	2010 Aug	2010 Sept	2010 Oct	2010 Nov	2010 Dec	2011 June	2011 July	2011 Aug	2011 Sep	2011 Oct	2011 Nov	2011 Dec
91-day Treasury bill rate	2.98	1.63	1.83	2.04	2.12	2.21	2.28	8.95	8.99	9.23	11.93	14.8	16.14	18.3
Overdraft rate	14.23	14.03	13.97	13.81	13.64	13.77	13.69	13.59	13.89	14.28	14.64	14.87	18.67	20.2
Interbank rate	1.15	1.35	1.66	1.18	0.98	1.01	1.18	6.36	8.61	14.29	7.46	14.95	28.9	21.75
Repo rate	-								5.75	0	0	18.89	0	17.75
Reverse Repo rate	1.95	1.72	1.81	-	-	1.53	1.41	-	6.25	6.25	5.75	-	-	-
Average lending rate (1)	14.39	14.29	14.18	13.98	13.85	13.95	13.87	13.91	14.14	14.32	14.79	15.21	18.51	20.04
Average deposit rate (2)	4.45	3.85	3.74	3.53	3.58	3.54	3.59	3.68	3.85	4.07	4.21	4.83	5.75	6.99
0 to 3 - month deposit	5.11	4.21	3.89	3.59	3.65	3.61	3.86	4.38	4.72	5.48	5.74	7.01	8.88	10.87
Savings deposits	1.75	1.55	1.5	1.47	1.46	1.4	1.45	1.37	1.37	1.37	1.35	1.33	1.41	1.59
Spread (1-2)	9.94	10.44	10.44	10.45	10.27	10.41	10.28	10.23	10.29	10.25	10.58	10.39	12.77	13.06

	2010 June	2010 July	2010 Aug	2010 Sept	2010 Oct	2010 Nov	2010 Dec	2011 Jan	2011 Feb	2011 Mar	2011 Apr	2011 May	2011 June
91-day Treasury bill rate	2.98	1.63	1.83	2.04	2.12	2.21	2.28	2.41	2.57	2.77	3.26	5.35	8.95
Overdraft rate	14.23	14.03	13.97	13.81	13.64	13.77	13.69	13.93	13.65	13.6	13.68	13.72	13.59
Interbank rate	1.15	1.35	1.66	1.18	0.98	1.01	1.18	1.24	1.13	1.24	3.97	5.54	6.36
Repo rate	-									1.66	4.5	5.72	-
Reverse Repo rate	1.95	1.72	1.81	-	-	1.53	1.41	1.19	1.18	1.18	2.99	-	-
Average lending rate (1)	14.39	14.29	14.18	13.98	13.85	13.95	13.87	14.03	13.92	13.92	13.92	13.88	13.91
Average deposit rate (2)	4.45	3.85	3.74	3.53	3.58	3.54	3.59	3.43	3.41	3.47	3.47	3.57	3.68
0 to 3 - month deposit	5.11	4.21	3.89	3.59	3.65	3.61	3.86	3.67	3.67	3.88	3.92	4.08	4.38
Savings deposits	1.75	1.55	1.5	1.47	1.46	1.4	1.45	1.25	1.41	1.37	1.39	1.38	1.37
Spread (1-2)	9.94	10.44	10.44	10.45	10.27	10.41	10.28	10.6	10.51	10.45	10.46	10.31	10.23

Sources: Kenya National Bureau of Statistics and Central Bank of Kenya
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	2011 May	2011 June	2011 July	2011 Aug	2011 Sep	2011 Oct	2011 Nov	2011 Dec	2012 Jan	2012 Feb	2012 Mar	2012 Apr	2012 May	2012 June
91-day Treasury bill rate	5.35	8.95	8.99	9.23	11.93	14.8	16.14	18.3	20.56	19.7	17.8	16.01	11.18	10.09
Overdraft rate	13.72	13.59	13.89	14.28	14.64	14.87	18.67	20.2	20.38	20.53	20.53	20.27	20.41	20.3
Interbank rate	5.54	6.36	8.61	14.29	7.46	14.95	28.9	21.75	19.27	18.15	24.02	16.15	17.16	17.09
Average lending rate (1)	13.88	13.91	14.14	14.32	14.79	15.21	18.51	20.04	19.54	20.28	20.34	20.22	20.12	20.41
Average deposit rate (2)	3.57	3.68	3.85	4.07	4.21	4.83	5.75	6.99	7.66	8.01	8.01	9.04	8.42	7.88
0 to 3 - month deposit	4.08	4.38	4.72	5.37	5.55	6.14	6.95	8.51	9.87	9.98	10.21	11.82	10.85	10.07
Savings deposits	1.38	1.37	1.37	1.37	1.35	1.33	1.41	1.59	1.62	1.69	1.72	1.58	1.59	1.46
Spread (1-2)	10.31	10.23	10.29	10.25	10.58	10.39	12.77	13.06	11.88	12.27	12.33	11.19	11.69	12.52

Sources: Kenya National Bureau of Statistics and Central Bank of Kenya
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Appendix vii: Selected Economic indicators

	2010 Oct	2010 Nov	2010 Dec	2011 Jun	2011 Jul	2011 Aug	2011 Sep	2011 Oct	2011 Nov	2011 Dec
1. INFLATION (%)										
CPI	106.97	107.86	109.38	120.91	122.44	123.97	125.23	127.2	129.13	130.09
Overall Inflation										
12-month overall inflation	3.18	3.84	4.51	14.48	15.53	16.67	17.32	18.91	19.72	18.93
Average annual overall inflation	4.12	4.02	3.96	6.88	7.88	9	10.18	11.49	12.82	14.02
2. INTEREST RATES (%)										
91-day Treasury bill interest rate	2.12	2.21	2.28	8.95	8.99	9.23	11.93	14.8	16.14	18.3
Overdraft interest rate	13.64	13.77	13.69	13.59	13.89	14.28	14.64	14.87	18.67	20.2
5. MONEY AND CREDIT (Ksh bn.)										
Liquidity (L)[1]	1531.8	1553.61	1569.57	1720.57	1743.3	1776	1819.94	1872.47	1836.03	1836.03
Money Supply (M3)[2]	1248.5	1258.81	1271.64	1380.73	1412.7	1440.9	1484.2	1513.66	1489.75	1489.75
Reserve Money	211	224.05	222.63	220.44	222.7	242.3	236.15	234.62	245.37	245.37
Total Domestic Credit	1162.8	1174.82	1188.4	1344.23	1392.14	1420.76	1481.98	1490.42	1516.78	1516.78
Government	279.8	279.94	277.78	277.81	289.21	292.7	300.49	288.98	327	327
Private sector and other public sector	883	894.87	910.62	1066.42	1102.94	1128.06	1181.49	1201.44	1189.78	1189.78
6. MONEY AND CREDIT (Annual % Change)										
Liquidity (L)[1]	23.2	24.93	22.58	19.2	17.44	17.62	19.15	21.76	18.18	19.53
Money Supply (M3)[2]	24.1	23.12	21.61	15.16	16.44	18.08	19.35	20.66	18.35	19.07
Reserve Money	29.1	25.75	22.36	4.85	11.5	14.82	12.51	8.12	9.52	14.54
Total Domestic Credit	27.1	24.69	24.33	23.69	27.59	29.1	30.1	28.18	29.11	26.65
11. AVERAGE EXCHANGE RATE										
Ksh/US$	80.71	80.46	80.57	89	89.9	92.79	96.36	101.27	93.68	86.66
Ksh/Pound Sterling	127.98	128.52	125.65	144.4	145	151.9	152.12	159.41	148.17	135.1
Ksh/ 100 Yen	98.6	97.65	96.78	110.6	109.07	120.32	125.55	131.97	120.85	111.33
Ksh/Euro	112.2	110.07	106.54	128.1	128.48	133.04	132.68	138.74	127.13	114.15

Sources: Kenya National Bureau of Statistics and Central Bank of Kenya
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	2011 Jun	2011 July	2011 Aug	2011 Sep	2011 Oct	2011 Nov	2011 Dec	2012 Jan	2012 Feb	2012 Mar	2012 Apr	2012 May	2012 Jun
1. INFLATION (%)													
CPI	120.91	122.44	123.97	125.23	127.2	129.13	130.09	130.82	130.76	132.51	133.74	134.09	133.06
Overall Inflation													
12-month overall inflation	14.48	15.53	16.67	17.32	18.91	19.72	18.93	18.31	16.69	15.61	13.06	12.22	10.05
Average annual overall inflation	6.88	7.88	9	10.18	11.49	12.82	14.02	15.1	15.93	16.45	16.5	16.4	15.97
2. INTEREST RATES (%)													
91-day Treasury bill interest rate	8.95	8.99	9.23	11.93	14.8	16.14	18.3	20.56	19.7	17.8	16.01	11.18	10.09
Overdraft interest rate	13.59	13.89	14.28	14.64	14.87	18.67	20.2	20.38	20.53	20.53	20.27	20.41	20.36
5. MONEY AND CREDIT (Ksh bn.)													
Liquidity (L)[1]	1720.57	1743.3	1776	1819.94	1872.47	1837.68	1854.93	1864.44	1889.87	1906.47	1920.42	1944.24	1970.47
Money Supply (M3)[3]	1380.73	1412.7	1440.9	1484.2	1513.66	1489.75	1514.15	1505.76	1504.78	1517.13	1536.29	1561.57	1595.01
Reserve Money	220.44	222.7	242.3	236.15	234.62	245.37	255.01	244.14	231.67	257.91	244.52	236.99	259.26
Total Domestic Credit	1344.23	1392.14	1420.76	1481.98	1490.42	1516.78	1505.13	1495.66	1512.09	1530.95	1557.31	1572.98	1550.52
Government	277.81	289.21	292.7	300.49	288.98	327	311.58	300.73	306.03	315.1	318.84	312.56	292.51
Private sector and other public sect	1066.42	1102.94	1128.06	1181.49	1201.44	1189.78	1193.55	1194.93	1206.06	1215.85	1238.47	1260.43	1258.01
6. MONEY AND CREDIT (Annual % Change)													
Liquidity (L)[1]	19.2	17.44	17.62	19.15	21.76	19.16	19.05	18.16	18.09	17.25	17.23	17.11	15.29
Money Supply (M3)[3]	15.16	16.44	18.08	19.35	20.66	18.35	19.07	17.14	15.19	14.53	15.09	15.55	15.52
Reserve Money	4.85	11.5	14.82	12.51	8.12	9.52	14.54	17.21	10.42	23.17	14.74	13.15	17.61
Total Domestic Credit	23.69	27.59	29.1	30.1	28.18	29.11	26.65	23.87	22.14	21.39	23.16	20.41	15.35
11. AVERAGE EXCHANGE RATE													
Ksh/US$	89	89.9	92.79	96.36	101.27	93.68	86.66	86.34	83.18	82.9	83.19	84.38	84.79
Ksh/Pound Sterling	144.4	145	151.9	152.12	159.41	148.17	135.1	133.94	131.42	131.18	133.19	134.34	131.95
Ksh/100 Yen	110.6	109.07	120.32	125.55	131.97	120.85	111.33	112.23	106.1	100.6	102.26	105.83	106.91
Ksh/Euro	128.1	128.48	133.04	132.68	138.74	127.13	114.15	111.42	110.06	109.55	109.57	107.99	106.51

Sources: Kenya National Bureau of Statistics and Central Bank of Kenya
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Appendix ix: Selected Economic indicators

	2010 Jun	2010 Jul	2010 Aug	2010 Sep	2010 Oct	2010 Nov	2010 Dec	2011 Jan	2011 Feb	2011 Mar	2011 Apr	2011 May	2011 Jun
1.INFLATION (%)													
CPI	105.61	105.98	106.25	106.74	106.97	107.86	109.38	110.57	112.06	114.62	118.29	119.48	120.91
Overall Inflation													
12-month overall inflation	3.49	3.57	3.22	3.21	3.18	3.84	4.51	5.42	6.54	9.19	12.05	12.95	14.49
Average annual overall inflation	5.43	5.03	4.69	4.4	4.12	4.02	3.96	3.93	4.05	4.49	5.2	5.96	6.88
2. INTEREST RATES (%)													
91-day Treasury bill interest rate	3.06	1.63	1.83	2.04	2.12	2.21	2.28	2.46	2.59	2.77	3.26	5.35	8.95
Overdraft interest rate	14.23	14.03	13.97	13.81	13.64	13.77	13.69	13.93	13.65	13.6	13.68	13.72	13.59
5. MONEY AND CREDIT (Ksh bn.)													
Liquidity (L)[1]	1442.85	1475.23	1497.27	1527.38	1531.8	1553.61	1570.08	1589.27	1612.06	1637.36	1649.31	1671.64	1720.57
Money Supply (M3)[3]	1198.93	1213.21	1216.83	1243.6	1248.5	1258.81	1271.64	1285.45	1306.4	1324.68	1334.9	1351.39	1380.73
Reserve Money	210.25	199.77	200.97	209.89	211	224.05	222.63	208.28	209.8	209.4	213.11	209.44	220.44
Total Domestic Credit	1086.75	1091.13	1100.48	1139.1	1162.8	1174.82	1188.4	1207.48	1237.96	1261.21	1264.43	1306.37	1344.23
Government	277.69	264.03	258.04	278.21	279.8	279.94	277.78	278.59	285.61	289.7	267	282.15	277.81
Private sector and other public sect	809.06	827.1	842.45	860.89	883	894.87	910.62	928.89	952.35	971.51	997.43	1024.22	1066.42
6. MONEY AND CREDIT (Annual % Change)													
Liquidity (L)[1]	23.65	22.94	23.36	25.38	23.2	24.93	22.58	22.45	22.94	21.27	20.87	19.02	19.2
Money Supply (M3)[3]	20.5	24.61	23.66	26.01	24.1	23.12	21.61	20.44	20.48	19.57	18.89	16.54	15.16
Reserve Money	31.46	26.48	28.1	28.39	29.1	25.75	22.36	16.07	19.71	18	20.06	7.89	4.85
Total Domestic Credit	25.75	25.61	24.19	27.9	27.1	24.69	24.33	22.63	22.69	23.99	23.63	23.5	23.69
11. AVERAGE EXCHANGE RATE													
Ksh/US$	81.02	81.43	80.44	80.91	80.71	80.46	80.57	81.03	81.47	84.21	83.9	85.4	89
Ksh/Pound Sterling	119.62	124.34	125.94	125.94	127.98	128.52	125.65	127.7	131.45	136.1	137.1	139.5	144.4
Ksh/100 Yen	89.18	92.9	94.08	95.88	98.6	97.65	96.78	98.13	98.65	102.97	100.6	105.3	110.6
Ksh/Euro	98.99	103.9	103.79	105.61	112.2	110.07	106.54	108.16	111.29	117.88	121.1	122.4	128.1

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Appendix x: Overall inflation

Overall Inflation	2009 Feb	2009 Mar	2009 Apr	2009 May	2009 Jun	2009 Jul	2009 Aug	2009 Sep	2009 Oct	2009 Nov	2009 Dec	2010 Jan	2010 Feb
12-month	14.69	14.6	12.42	9.61	8.6	8.44	7.36	6.74	6.62	5	5.32	5.95	5.18
Average annual	16.87	17.07	16.72	15.93	15.11	14.35	13.42	12.41	11.42	10.24	9.24	8.64	7.88
Three months annualised	4.42	6.56	11.97	7.56	4.38	1.95	4.4	5.49	5.37	3.68	4.87	4.76	5.11

Overall Inflation	2010 Jan	2010 Feb	2010 Mar	2010 Apr	2010 May	2010 Jun	2010 Jul	2010 Aug	2010 Sept	2010 Oct	2010 Nov	2010 Dec	2011 Jan	2011 Feb
12-month	5.95	5.18	3.97	3.65	3.88	3.49	3.57	3.22	3.21	3.18	3.84	4.51	5.42	6.54
Average annual	8.64	7.88	7.03	6.32	5.85	5.43	5.03	4.69	4.4	4.12	4.02	3.96	3.93	4.05
Three months annualised	4.76	5.11	1.19	2.58	2.35	2.46	1.6	1.75	4.35	3.79	6.22	10.27	14.16	16.46

Overall Inflation	2011 Jan	2011 Feb	2011 Mar	2011 Apr	2011 May	2011 Jun	2011 Jul	2011 Aug	2011 Sep	2011 Oct	2011 Nov	2011 Dec	2012 Jan	2012 Feb	2012 Mar	2012 Apr
12-month	5.42	6.54	9.19	12.05	12.95	14.48	15.53	16.67	17.32	18.91	19.72	18.93	18.31	16.69	15.61	13.06
Average annual	3.93	4.05	4.49	5.2	5.96	6.88	7.88	9	10.18	11.49	12.82	14.02	15.1	15.93	16.45	16.5
Three months annualised	14.16	16.49	20.58	30.98	29.26	23.82	14.81	15.88	15.08	16.47	17.71	16.45	11.86	5.16	7.66	9.24
Non-food non-oil inflation	1.34	1.46	2.05	3.42	3.54	4.52	5.17	7.88	8.51	9.75	10.82	10.76	11.27	11.39	11.27	9.95