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RESEARCH ARTICLE

INTEREST RATE VARIATIONS AND THE PROFITABILITY OF ISLAMIC BANKS IN KENYA.

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Abstract

This study examines the impact of market interest rate fluctuations on the profitability of Islamic banks in Kenya. Kenya is fast developing as the Islamic finance hub of East Africa. Gulf African Bank and the First Community Bank have operated in Kenya as fully fledged Islamic banks since the year 2007. The Central Bank of Kenya has also licensed several conventional banks to offer Islamic banking products. Most studies done on the profitability determinants of Islamic banks have been mainly focusing on the Middle East countries. This study therefore contributes to literature by examining the Islamic banks within the East African region. Islamic banking financial model does not involve the charging or receiving of interest which is prohibited under the *shariah* rules. As opposed to the conventional banks which derive their profits mainly from interest charged on borrowings, islamic banks derive their income from arrangements that include joint ventures *(musharakah)* as well as cost-plus *(murahaba)* and profit-sharing *(mudharabah)* undertakings. Though these financial institutions do not charge or receive interest, they exist in an economy characterized by market interest rates which quite often fluctuate. This study therefore sought to establish whether such market interest rate fluctuations directly or indirectly affect the profitability of the Islamic banks. The study adopted a longitudinal survey design in which the banks' financial data and the average central bank rates (CBR) over a five-year period (2009-2013) were analyzed. The study concluded that there is a positive relationship between the market interest rate changes and profitability of Islamic banks in Kenya.

Introduction:-

Interest rates measure the price paid by a borrower or debtor to a lender or creditor for the use of resources during time intervals (Fabozzi and Modigliani, 2003). The market interest rate, which is the interest rate offered most commonly on deposits in banks, other interest bearing accounts and bank loans is determined by the supply and demand for credit (Farlex, 2009).

Islamic banking is a banking system that is consistent with Islamic law (*shariah*). *Shariah* prohibits the fixed or floating payment or acceptance of specific interest or fees known as *riba* for loans of money. Therefore as opposed to conventional banks, Islamic banks will not have interest as their source of income. Their sources of income mainly emanate from profit sharing and cost plus arrangements. Islamic banks like all other commercial banks exist in the larger Kenyan banking industry which is regulated by the Central Bank of Kenya. One of the roles of the Central Bank of Kenya is that of liquidity control which it achieves by publishing various interest rates at different times depending on the market. Such market interest rate movements have significant effects on the profitability of commercial banks including Islamic banks. It is widely believed that fluctuations of market interest rates exert significant influence on the performance of commercial banks whose profits increase with rising interest rates (Samuelson, 1945). Samuelson (1945) argued that the banking system as a whole is immeasurably helped rather than hindered by an increase in interest rates.

Interest Rate Variations:-

Interest rates represent the cost of borrowing capital for a given period of time. Price changes are anticipated in the real world and these expectations are part of the process that determines interest rates (Gardner and Cooperman, 2005)

Market interest rate largely depends on the supply and demand for credit, competition in the loan market, and other economic factors, such as inflation rate, expectation of investors and monetary policy of the government. There can be many different types of market interest rates in a given currency. These include the treasury rate, the interbank borrowing and lending rate, the mortgage rate, the deposit rate, the prime rate, the federal fund rate and the repo rate (Euphemia, 2011).

According to the periodic supervisory reports from the central bank of Kenya, the key rates include the Central Bank rate, the interbank rate, the Central Bank of Kenya discount window rate, the 91-day Treasury bill rate, the repo rate and the inflation rate. This study focused on the Central Bank rate.

Section 36 (4) of the Central Bank of Kenya Act stipulates that the Central bank shall publish the lowest rate of interest it charges on loans to banks and that rate shall be known as the Central Bank Rate (CBR). The level of CBR is reviewed and announced every two months and its movements, both in direction and magnitude signals the monetary policy stance. Whenever the Central Bank is injecting liquidity through a reverse repo, the CBR is the lowest acceptable rate. Similarly, whenever the bank wishes to withdraw liquidity through vertical repo, the CBR is the highest rate that the CBK will pay on any bid received. Changes in CBR will reflect the monetary policy stance that the bank is pursuing.

Market interest rate variations are mainly caused by factors such as the changes in the supply and demand for credit, competition in the loan market, changes in inflation rates and the government monetary policy (Farlex, 2009).

Interest Rate Variation and Profitability:-

Profitability is both an internal metric and a benchmark. High profits often indicate a strong ability to reinvest earnings and compete heavily for market share in the business environment. Most of previous profitability studies have been focused on conventional banks. The studies done on the profitability determinants of Islamic banks have been mainly focusing on the Middle East countries. According to the studies, there are several determinants of the profitability of Islamic banks. Interest rate has been considered as one of the determinants. Syed and Shafique (2011) point out GDP, industrial production rate, interest rate, inflation and unemployment as the profitability determinants. Capital cost, overhead cost, output in gross domestic product and interest rates are also enumerated as Islamic bank profitability determinants according to Hasan and Bashir (2003). Gardner *et al* (2005) also considers interest rates, among other factors, as being a key determinant of profitability of Islamic banks.

Revell (1980) believed that inflation could be a factor in the causation of variations in bank's profitability. This hypothesis was empirically tested by Bourke (1989) and Molyneux and Thornton (1992). Using the consumer price index (CPI) as a proxy for inflation, both studies found that inflation had a significant relationship with profit.

Locally, Kipng'etich (2011) in a study on the relationship between interest rate and financial performance of commercial banks in Kenya established a positive relationship between interest rates and financial performance of commercial banks in Kenya. Kibe (2003) in his study on the relationship between interest rate spread and profitability of commercial banks in Kenya found a positive relationship.

Profitability is a key metric in business as companies need to know how much they make from their activities. There are various measures used in calculating the profitability of a firm. Each method is proper for measuring financial returns, although a company can only use one which it desires (Dar and Presley 2000). According to Alton and David, (2007), measures of after-tax rate of return, such as return on average total assets (ROA) and return on total equity (ROE) are widely used to assess the performance of firms, including commercial banks. They further state that bank regulators and analysts have used ROA and ROE to assess industry performance, to forecast trends in market structure, as inputs in statistical models to predict bank failures and mergers, and for a variety of other purposes where a measure of profitability is desired.

Return on assets (ROA) according to Jeff (2007) is a financial ratio that shows the percentage of profit that a company earns in relation to its overall resources (total assets). Return on assets is a key profitability ratio which measures the amount of profit made by a company per dollar of its assets. It shows the company's ability to generate profits before leverage, rather than by using leverage. Unlike other profitability ratios, such as return on equity (ROE), ROA measurements include all of a company's assets – including those which arise from liabilities to creditors as well as those which arise from contributions by investors. Therefore ROA gives an idea as to how efficiently management use company assets to generate profit. The formula for its calculation is:

ROA = Net Income after tax / Total assets (or Average Total assets)

Jeff (2007) further explains that Return on Assets ratio gives an idea of how efficient management is at using its assets to generate profit. Return on Assets can vary substantially across different industries. This is the reason why it is recommended to compare it against company's previous values or the return of a similar company. The only common rule is that the higher return on assets is, the better, because the company is earning more money on its assets. A low return on assets compared with the industry average indicates inefficient use of company's assets. Return on Assets is therefore a key profitability ratios which is usually expressed as a percentage.

Return on equity (ROE) is the amount of net income returned as a percentage of shareholders equity. It reveals how much profit a company earned in comparison to the total amount of shareholder equity found on the balance sheet. ROE is one of the most important financial ratios and profitability metrics. It is often said to be the ultimate ratio or the 'mother of all ratios' that can be obtained from a company's financial statement. It measures how profitable a company is for the owner of the investment, and how profitably a company employs its equity. The formula for its calculation is:

ROE = Net income after tax / Shareholder's equity

This study utilized, as a measure of profitability, the Return on Equity (ROE) ratio.

Islamic Banking:-

Islamic banking is growing very rapidly across the world, becoming very popular in the Muslim countries as well as the non-Muslim countries because of the growing number of Muslims (Shah *et al* 2012). Islamic Banking is a banking system that is consistent with Islamic law *(shariah)* principles and guided by Islamic economics. Islamic law does not restrict commercial or financial transaction providers to be Muslims. However the particular product or transaction must be in compliance with *shariah* guidelines (Saed, 1996).

While Islamic banks play roles similar to conventional banks, fundamental differences exist between the two models. The main difference between Islamic and conventional banks is that the former operate in accordance with the rules of *Shariah*, the legal code of Islam. *Sharia* prohibits the fixed or floating payment or acceptance of specific interest or fees known as *Riba* or *usury* for loans of money.

The central concept in Islamic banking and finance is justice, which is achieved mainly through the sharing of risk. Stakeholders are supposed to share profits and losses, and charging interest is prohibited. There are also differences in terms of financial intermediation and the paper notes. While conventional intermediation is largely debt based, and allows for risk transfer, Islamic intermediation, by contrast, is asset based, and centers on risk sharing (Nienhaus, 1983). One key difference between conventional banks and Islamic banks is that the latter's model does not allow investing in or financing the kind of instruments that have adversely affected their conventional competitors and triggered the global financial crisis. These include toxic assets, derivatives, and conventional financial institution securities (IMF Survey, 2010).

The first modern experiment with Islamic banking took place in Egypt in the 1960s. It was undercover in the form of a saving bank based on profit sharing. Since then the system has spread throughout the world. Its popularity has particularly increase following the global financial crisis from which Islamic banks have been seen as a safer and more ethical means of raising money (Wilson 1983).

Estimates according to Standards & Poors' Islamic Finance Outlook (2012) indicate that today more than 700 Islamic financial institutions are operating across the globe with around $1.2 trillion assets under management in

more than 85 countries. The industry is growing at a rate of roughly 15-20% per year. According to CIMB Group Holdings Berhad Annual Report (2012), Islamic finance is the fastest growing segment of the global financial system.

Kenya is fast developing as the Islamic finance hub of East Africa. The Central Bank of Kenya has licensed two fully fledged Islamic Banks; the Gulf African Bank (GAB) and the First Community Bank (FCB) under Cap 488 of the Banking Act of Kenya. In terms of capital and deposits, FCB is the largest Islamic Bank in Kenya. It was licensed to operate by the Central Bank in May 2007 and opened doors to its customers in June 2008. It currently has 18 branches countrywide. (Source: First Community Bank Company Profile). Gulf African Bank was licensed in late 2007 and began offering services early 2009. It currently has 14 branches countrywide. (Source: Gulf African Bank Company Profile). The banks appeal not just to the Kenyan Muslim population but also to the non-Muslims looking for an alternative to conventional banking. The impact of Islamic banking in Kenya is slowly being felt in the country's financial system. The two fully fledged Islamic banks currently control one per cent of the banking sector assets. In addition, the Central Bank of Kenya has also licensed several conventional banks to offer Islamic Banking products by exempting them from the provisions of Sec 12(a) and (c) of the Banking Act Cap 488 Laws of Kenya which restricts banks from trading in assets. The licensed banks include the National Bank of Kenya, KCB, Standard Chartered Bank and Barclays Bank of Kenya.

Literature Review:-

In the last three decades many studies have been undertaken to determine the profitability determinants of banks. The focus of these studies tends to be in one of the following four areas: structure-conduct performance relationship theory, efficient-structure theory, expense –preference behavior theory and risk-aversion theory. Most of these studies however relate to conventional banks and not the Islamic banks (Ahmad and Sudin, 1998). Irving Fisher's theory of interest rates relates the nominal interest rate to the rate of inflation. The real rate of interest is the interest rate after adjustment for inflation. It is the interest rate that lenders have to have to be willing to loan out their funds (Fisher, 1907). Irving Fisher's theory has proved to be a most durable and influential contribution to economic theory. The central element of Fisher's contribution is the Fisher hypothesis that, over the longer term, the real rate of interest is approximately constant, being determined largely by time preference, with movements in the nominal interest rate reflecting movements in the rate of inflation one-for-one. (Carmichael & Stebbing, 1982)

According to Keynes (1936), the rate of interest is determined by two variables including the liquidity preference and the supply of money. He asserted that people will prefer to hold on to cash which is more liquid and will demand a premium for investing in less liquid assets such as real estate, bonds and stocks. Keynes (1936), also noted that there are three reasons why people prefer to hold cash. These include the speculative motive, transaction motive and the precautionary motive. According to him, the higher the rate of interest, the lower the speculative demand for money, and the lower the rate of interest, the higher the speculative demand for money. This theory has however been criticized for among other reasons not explaining the existence of different rates of interest prevailing in the market at the same time. In addition, liquidity preference is not the only factor governing the rate of interest (Rothbard, 1962).

The Structure Conduct Performance (SCP) theory was first introduced by Mason in 1939 as a method of analyzing markets and firms (Worthington, Ian, Briton & Rees, 2001). The SCP theory explains that the market concentration fosters collusion among large firms in the industry which subsequently leads to higher profits, hence SCP points out that changes in market concentration may have a positive influence on a firm's financial performance (Goldberg,Lawrence and Rai, 1996). Some contemporary studies have, however, challenged the acceptability of the positive relationship predicted between market concentration and profitability. Smirlock (1985) posited that there is no relationship between concentration and profitability but between profitability and market share. He showed that market concentration is not a signal of collusive behavior but rather the superior efficiency of the leading firms.

Hassan (1993), suggests that Islamic banks should be considered as a different industry when compared to conventional banks. These two types of banks have different objectives, rely on different operations and organizations and therefore instead of the concentration ratio, market share is the most appropriate means of measuring the effect of market collusion between Islamic and conventional banks.

The Efficient Structure Theory states that aggressive behavior of efficient firms in the market leads to an increase in those firms' size and market share. This behavior of the efficient firms allowed such firms to concentrate and earn

higher profits with further enhancing their market share (Williams, Molyneux, Thornton, 1994). Accordingly, the efficient structure theory stated that the positive relationship between profit and concentration results from the lower cost achieved through superior management and efficient production process (Goldberg, Lawrence and Rai, 1996). According to Demsetz (1973) and Peltzman (1977) the efficient structure hypothesis provides an explanation for the positive link between bank profitability and concentration/market share. Ideally most commercial banks are profit maximisers, but under the expense preference behavior theory, the banks are considered stakeholders' banks whose motive is not profit maximization. They are not-for-profit organizations competing under the same regulatory and competitive conditions as the profit maximisers. The expense preference theory of Williamson (1963) and Rees (1974) envisages firms as organizations where managers wish to maximize their utilities through pursuit of non-profit-maximizing policies, subject to the constraint of not having operating losses. In particular, it is usually accepted that managers increase staff expenditures, managerial emoluments, and discretionary profits beyond the profit maximizing point. Therefore in its narrow operational form, the expense preference theory points that firms will hire more staff and/or pay higher managerial wages than profit maximizing firms, everything else being equal (Edwards, 1977).

According to Oscar (2010), stakeholder banks are less risk-inclined and outperform commercial banks in market share and profits. A bank, independently of its ownership structure, is less stable and less profitable when competing against a stakeholder bank. Many studies have been carried out on the profitability of Islamic banks and in particular, the various factors determining their profitability. This study's focus is on the interest rate variations as a determinant of the profitability of Islamic banks. Syed and Shafique (2011) in their study of determinants of profitability of Islamic banks in Pakistan examined five external economic factors including GDP, industrial production rate, interest rate, inflation and unemployment. They studied the six listed Islamic banks in Pakistan with the time period of the data being from 2003 to 2009. Profitability was determined through return on asset (ROA) and return on equity (ROE). Data was analyzed through regression analysis. According to the findings of this study, they concluded that out of the five economic factors, there was only one factor which had a significant impact on the profitability of the Islamic banks, the interest rate.

Nienhaus (1983) tried to link the profitability of Islamic banks with the market structure. Based on his simplistic equilibrium model, he postulated that the profit sharing ratio of Islamic banks was positively related to the lending rate of the conventional banks. He not only suggested that Islamic banks use the interest rate as a basis for calculating profit-sharing ratio, but also recommended that the profit-sharing ratio be equivalent to the interest rate offered by the conventional banks. Hasan and Bashir (2003) studied the effect of controlled and uncontrolled variables towards the profits gained in Islamic Banking. They sampled fourteen Islamic banks from the Middle East over a period of six years (1993-1998). They related some factors such as capital cost, overhead cost, output in gross domestic product and interest rates, which they found to have a positive relationship to the profitability in the Islamic banking.

Harun and Sudin (2004) examine three factors in determining profitability of Islamic banking. The internal factor included cash flow, total expenditure, investment in Islamic securities, and the ratio of profits between the bank and the entrepreneur. The external factor included interest rates, stock market and capital bank and finally the capital factor is composed of the capital of the depositors, the bank's capital reserves and money supply. The effect of inflation on bank profitability was first discussed by Revell (1980). He believed that inflation could be a factor in the causation of variations in bank's profitability. This hypothesis was empirically tested by Bourke (1989) and Molyneux and Thornton (1992). Using the consumer price index (CPI) as a proxy for inflation, both studies found that inflation had a significant relationship with profit.

Kipng'etich (2011), who studied the relationship between interest rate and financial performance of commercial banks in Kenya, used secondary data collected from published reports for a period of five years between 2006 and 2010. Using regression models where financial performance was the independent variable and interest rates as the dependent variable, he noted a positive relationship between interest rates and financial performance of commercial banks in Kenya. Kibe (2003) in his study on the relationship between interest rate spread and profitability of commercial banks in Kenya also found a positive relationship.

Interest rates measure the price paid by a borrower or debtor to a lender or creditor for the use of resources during time intervals (Fabozzi and Modigliani, 2003). Goedhuys (1982), defined interest rate as the general level in financial assets and claims of all types whether call loans or debentures, company shares or government bonds, bank

overdraft or bill of exchange. There are nominal and real interest rates. Nominal interest rate is the rate not corrected for inflation, it relates to the amount of interest on the loan to the amount of money lent. Real interest rate on the other hand incorporates the effect of inflation; it is measured in terms of purchasing power (Kaufman, 1986). The market interest rate is the interest rate offered most commonly on deposits in banks, other interest bearing accounts, as well as loans. It is determined by the supply and demand for credit (Farlex, 2009). Market interest rate largely depends on the supply and demand for credit, competition in the loan market, and other economic factors, such as inflation rate, expectation of investors and monetary policy of the government.

Changes in interest rate are determined by many factors which include the supply and demand for credit, competition in the loan market and other economic factors such as inflation rate and government monetary policy. In a free market system, interest rate is determined in the market place by the interaction of borrowers and lenders. Such interactions result in equilibrium interest rate, when preference of borrowers and lenders are successfully matched (Shetty *et al*, 1995). When the demand for funds increases, the price of funds (interest rate) will rise and vice versa.

Inflation affects interest rate because it affects the value of money promised in future (Kohn, 2004). The rate of interest quoted in the financial market is sometimes contrasted with the real rate of interest, which is the observed market rate, corrected for price changes (Goedhuys, 1982). According to Fisher effect, expectations of high inflation causes savers to require higher nominal (market) interest rate, as it is the only way they can maintain the existing real rate of interest. Real interest rate is measured as nominal interest rate minus expected inflation rate, because an expectation about future inflations definitely affects market interest rate (Kaufman, 1986)

Interest rate risk refers to the effect of interest rate volatility on rate earning assets and rate paying liabilities. For a given change (1%), interest rate risk also includes the effect of shift in volume and composition of assets and liabilities (Saha *et al*, 2009). Studies have shown that maturity mismatch of banks assets and liabilities, and unexpected changes in interest rates potentially expose the commercial banks to interest rate risk. This exposure will result in refinancing or reinvestment risk, depending on the direction and level of interest rate change (Saunders and Cornett, 2003). Due to the fact that the Islamic banking model does not involve the aspect of interest, it may therefore seem that Islamic banks are not exposed to interest rate risk since they do not hold rate sensitive assets and liabilities. However, indeed these banks exist in the larger banking sector which is faced with the general market interest rates such as the interbank rates and the Central Bank Rate. Whereas the efficiency of conventional banks is measured by both *ex- ante* and *ex- post* spreads calculated from the contractual rates charged on loans and rates paid on deposits, in the case of Islamic banks, the spread can be calculated from the rates of return generated from various non-interest banking activities including participation in direct investment (Bashir, 2000).

As opposed to the conventional interest based banks, Islamic banks are not money lending institutions but work as trading/investment houses. They work under the socio-religious guidelines that prohibit charging and paying interest (Ahmad 2012). Whereas conventional banks treat money as a commodity and lend it against interest as compensation, Islamic banking products are usually asset backed and involves trading of assets, renting of assets and participation on a profit & loss basis. Any loan given by Islamic Banks must be interest free (Siddiqui 2012).

Profitability connotes a situation where the income generated during a given period exceeds the expenses incurred over the same length of time for the sole purpose of generating income (Sanni, 2006). The determinants of profitability of banks can be divided into two parts; the internal determinants and the external determinants. Internal drivers of bank performance or profitability can be defined as factors that are influenced by the bank's management decisions such as the sources and uses of funds management, capital and liquidity management, and expenses management. Such management effects will definitely affect the operating results of banks (Krakah and Ameyaw, 2010). The external determinants of bank profitability are the factors that are beyond the control of a bank's management. They represent events outside the influence of the bank and include inflation, government policies, taxes and competition (Syed and Shafique, 2011). However the management can anticipate changes in the external environment and try to position the institution to take advantage of anticipated developments. The two major components of the external determinants are macroeconomic factors and financial structure factors (Krakah and Ameyaw, 2010). The profitability of Islamic banks emanates from other arrangements since the Islamic banks operate on an interest free concept.

The major Islamic banking concepts forming the basis of Islamic banking transactions include the cost-plus asset financing (*murahaba)* whereby rather than the bank lending a buyer money to purchase an asset from the seller, the bank will buy the item itself and resell to the buyer at a profit, while allowing the buyer to repay in installments. Another concept is the profit sharing arrangement *(mudharabah)* which is a contract where one party provides 100 percent of the capital and the other party provides its specialized knowledge to invest the capital and manage the investment project. Under this arrangement, the bank bears loss if the project fails and may earn a return on the invested funds provided it shares in the risk of the investment (Aggarwal & Yousaf 2000).

The Joint Venture (*musharakah*) concept also practiced by Islamic banks entails a joint enterprise formed for conducting some business in which all partners share the profit according to a specific ratio while the loss is shared according to the ratio of the contribution. Assets in the venture are jointly owned in proportion to each partner's contribution (Aggarwal & Yousaf 2000). Empirical evidence from countries in the Middle East, North Africa, East Asia, South Asia and Sub Saharan Africa where Islamic banking has been practiced for a considerable period of time indicates that the cost plus *(murahaba)* instrument accounts for between 45 and 67 per cent of total financing in Islamic Banks (Yousef 2004).

As much as the Islamic banks operate on an interest free concept, it is important to note that they exist in the larger banking industry that is obviously affected by the market variables including interest rate variations. This research therefore sought to study the interest rate variations in the market with respect to the profitability of Islamic banks in Kenya.

Research Methodology:-

The objective of this study was to establish whether there exists a relationship between the market interest rate fluctuations and the profitability of the Islamic banks. The study adopted a longitudinal study whereby data over a five year period was analyzed. A longitudinal study is a correlational research study that involves repeated observations of the same variables over long periods of time. This observational research technique involves studying the same group of individuals over an extended period of time (Cooper & Schindler, 2001).

Islamic bank profitability data and the market interest rate data was analyzed for the period 2009 to 2013. The dependent variable was the profitability of the Islamic banks which was measured by the average Return on Equity (ROE) of the two fully fledged Islamic Banks in Kenya whereas the independent variable was the average annual interest rate (Central Bank Rate) for each of the years being studied. Information on financial performance was collected from the published Financial Statements over a five year period from 2009 to 2013. The Return on Equity (ROE) for each of the two banks was computed and an average for each of the years was obtained representing the two Kenyan Islamic banks' ROE. Information on market interest rates was collected from the Central Bank of Kenya (CBK). This rate (CBR) is published by the CBK every two months. The annual CBR was obtained by computing the average rate for each of the five years being studied i.e. from 2009 to 2013.

Data on financial performance was obtained from the published financial statements and management accounts of the individual banks. Quantitative analysis of data was carried out using the following model:-

$$Yi = b0 + biXi + E$$

Where:

Yi – Average Return on Equity (ROE)
b0 – the value of profitability when interest rate is zero
bi – the strength & direction of the relationship/gradient
Xi – interest rate
E – error term

Findings and Conclusions:-

The study sought to establish the relationship between the market interest rate as represented by the Central Bank Rate and the profitability of the Kenyan Islamic banks as represented by the average Return on Equity (ROE) of the two Kenyan Islamic Banks. Table 1 below shows the trends of interest rates and profitability of the two Islamic banks:

Table 1: Descriptive statistics for Market Interest rates and ROE

	Return On Equity (Average for both (Banks)	**Central Bank Rate (Annual Average) (%)**
2009	-10.73	7.89
2010	6.04	6.54
2011	7.23	9.59
2012	22.39	16.5
2013	10.78	8.83

Source: Research Data, 2014

From table 1 above, it can be observed that the average ROE rose steadily from the year 2009 to 2012 and then declined in 2013. The Central Bank Rate (CBR) however fluctuated; it decreased in 2010, increased up to the year 2012 and finally decreased in 2013. Table 2 below shows the measures of central tendency for both the Return on Equity and the Central Bank Rate.

Table 2: Measures of central tendency

Variable	Label	Mean	Std Dev	Minimum	Maximum
ROE	ROE	0.09	0.10	-0.11	0.22
CBR	CBR	0.10	0.04	0.07	0.17

Source: Research Data, 2014

The mean Return on Equity (ROE) was 9% with a standard deviation of 10% whereas the mean Central Bank Rate (CBR) was 10% with a standard deviation of 4%. The correlation between ROE and CBR and the Pearson correlation coefficients are shown in table 3 and table 4 below.

Table 3: Simple Statistics

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
ROE	7	0.08856	0.10238	0.61991	-0.10727	0.22387	ROE
CBR	10	0.09869	0.03656	0.98687	0.06540	0.16500	CBR

Source: Research Data, 2014

Table4: Pearson Correlation coefficients

Pearson Correlation Coefficients Prob > |r| under H0: Rho=0 Number of Observations		
	ROE	CBR
ROE ROE	1.00000 7	0.70988 0.0739 7
CBR CBR	0.70988 0.0739 7	1.00000 10

Source: Research Data, 2014

The Pearson correlation matrix gives us a sense of the relationships between the two variables. The results show a high positive correlation between ROE and CBR (ρ=0.71). This suggests a positive relationship between the two variables.

From table 5 below, that shows the parameter estimates, the relationship between Kenyan Islamic banks' return on equity (ROE) and the Central Bank rate (CBR) can be given by the equation: ROE = –0.10067 + 1.77378(CBR) + $\mathcal{E}$

Table 5: Parameter Estimates

Parameter Estimates								
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
Intercept	Intercept	1	-0.10067	0.08911	-1.13	0.3099	-0.32974	0.12840
CBR	CBR	1	1.77378	0.78705	2.25	0.0739	-0.24940	3.79696

Source: Research Data, 2014

The findings of the study showed that the profitability of the Kenyan Islamic banks steadily rose from the year 2009 to 2013. The market interest rates however kept on fluctuating over the years under study. The linear model established from this five year data showed that there was a positive relationship between the Kenyan Islamic banks' Return on Equity (ROE) and the Central Bank Rate (CBR). For every increase in the CBR, the ROE will increase by 177.38%. The findings also indicate that if the Central Bank Rate is zero, then the Return on Equity will be negative 10.07%.

The finding of this study indicate that the Kenyan Islamic banks, though operating as an interest free form of banking, are affected by the market interest rate fluctuations. The linear model can therefore be used as a predictor of the profitability of Kenyan Islamic banks. However care should be taken given that the fluctuations of market interest rate are not the only factor affecting the profitability of the Kenyan Islamic banks. Previous studies undertaken in establishing the relationship between market interest rates and profitability of all Kenyan commercial banks also indicated that there existed a positive relationship (Kipng'etich, 2011). This therefore means that all banks whether Islamic or conventional are positively affected by the fluctuations in market interest rates. The findings of the study will therefore be useful to the investors as it will be an eye opener to the investment opportunities in Islamic Banks in Kenya. To the policy makers, the findings of this study will guide them by providing the right information in regards to their policies on Islamic Banking in the country.
The period of the study was fairly short, being 5 years only. This was due to the fact that Islamic banking is a fairly new concept in Kenya and the two fully fledged Islamic banks have only existed since the year 2008. It was therefore not possible to have an extended period.

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