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RESEARCH ARTICLE

FINANCIAL PERFORMANCE OF BANKS LISTED AT THE NAIROBI SECURITIES EXCHANGE: THE IMPACT OF INTEREST RATE FLUCTUATIONS

***Carolyn C. Lagat and Evans Ogoti Okendo**

Catholic University of Eastern Africa (CUEA), Gaba Campus; P. O. Box 908-30100, Eldoret, Kenya

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ABSTRACT

The study sought to ascertain the relationship and effects of foreign exchange liberalization on financial performance of commercial banks listed in Kenya's Nairobi Securities Exchange. Baed on the study, this paper explores the extent to which interest rate fluctuations affect financial performance of banks listed at the NSE. The development of literature was guided by the interest rate parity theory. The study used a time series correlation research design targeting all commercial banks that are listed at the Nairobi Securities Exchange from 2006 to 2013. Data was sourced from the Central Bank of Kenya and published yearly accounts of listed banks. The study used multivariate Linear Regressions to establish the relationship between interest rates and bank performance indicators. The research results revealed a weak positive relationship between interest rate fluctuations and financial performance of commercial banks listed at the NSE. It is, therefore, recommended that the Central Bank of Kenya should come up with regulations to determine the interest rate of commercial banks and also help mitigate moral hazards incidental to financial performance of commercial banks.

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INTRODUCTION

Interest rate is described as the price a borrower pays for the use of money he/she does not own, and has to return to the lender who receives for deferring his/her consumption, by lending to the borrower. In this paper, interest rate fluctuations refer to the changes experienced from year to year on the interest rates set by the Central Bank of Kenya. Interest rates fluctuations are largely influenced by global economic liberalization. Liberalization is the lessening of government regulations and restrictions in an economy in exchange for greater participation by private entities. It is the removal of controls in order to encourage economic development. Kaminsky and Schmukler (2003) define financial liberalization as the deregulation of the foreign sector capital account, the domestic financial sector and the stock market sector viewed separately from the domestic financial sector. The liberalization of the capital account is captured by the regulations on offshore borrowing by financial institutions and by non-financial corporations, on multiple exchange rate markets and on capital outflow controls. In a fully liberalized capital account regime, banks and corporations are allowed to borrow abroad freely. A fully liberalized domestic financial system is characterized by lack of controls on lending and borrowing interest rates and certainly by the lack of credit controls. Moreover, deposits in foreign currencies are permitted. In a fully liberalized stock market, foreign investors are allowed to hold domestic equity without restrictions and capital, dividends and interest can be repatriated freely within two years of the initial investment. A commercial bank is a type of financial intermediary and a type of bank. Commercial banking is also known as business banking. It is a bank that provides current accounts, savings account and money market accounts, and one that accepts deposits of valuables. It raises funds by collecting deposits from clients and consumers via checkable deposits, savings deposits and frequent or term deposits. It advances loans to clients and consumers. It also buys corporate bonds and government bonds. Commercial banks' primary liabilities are deposits and the primary assets are loans and bonds. The banking industry in Kenya is governed by the Companies Act, the Banking Act and the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK). The CBK, which falls under the Minister of Finance docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of

Corresponding author: Carolyn C. Lagat,
Catholic University of Eastern Africa (CUEA), Gaba Campus; P. O. Box 908-30100, Eldoret, Kenya.

the financial system. The CBK publishes information on Kenya commercial banks and non-banking financial institutions, interest rates and other publications and guidelines. The banks are brought together under the Kenya Bankers Association (KBA), which serves as a lobby for the banks interests and also addresses issues affecting its members. According to Central Bank of Kenya (2014), there are forty-three banks and non-bank financial institutions, fifteen micro-finance institutions and forty-eight foreign exchange bureaus. Ten of the major banks are listed on the Nairobi Securities Exchange. The commercial banks and non-banking financial institutions offer corporate and retail banking services but a small number, mainly comprising the larger banks, offer other services, including investment banking.

Literature Review

Bayoumi (1993) has studied the effects of financial reforms in eleven standard regions of the United Kingdom on private savings. According to the author, exogenous short run fall in savings is expected as a result of financial reforms. Moreover, savings sensitivity to demographic factors, real interest rates, wealth and current income increase following deregulation of financial markets. The data of the model tested finds household savings exhibiting decline which is linked with financial innovations. The sensitivity of savings to current income, wealth and interest rates is also confirmed. Although the results of Bayoumi (1993) imply that the decline in savings is as a result of a rise in wealth, he argues that financial reforms also have played a significant direct role. According to the author, the 2.25% fall in private savings rate is as a result of financial liberalization alone. Banderia *et al.* (2000) have analyzed the effects that different financial liberalization measures have on eight countries, namely Ghana, Korea, Mexico, Chile, Malaysia, Zimbabwe, Turkey and Indonesia that have reformed their financial systems from 1970 to 1994. An econometric relationship that expresses private savings ratio as a function of real interest rate and financial liberalization index together with inflation, income and public savings was estimated. They found no evidence of positive impact of reforms on savings. In Korea and Mexico the effects were significantly negative, positive in Ghana and Turkey while the results were insignificant in the others. Owoeye and Ogunmakin (2013), using two proxies for bank performance (loan loss to total advances ratio and capital deposit ratio), have examined the impact of unstable exchange rates on bank performance in Nigeria. Their specified models indicated that the impact of exchange rate on bank performance is sensitive to the type of proxy used to capture bank performance. Loan loss to total advance ratio showed that fluctuating exchange rates may affect the ability of lenders to manage loans resulting into high level of bad loans, while capital deposit ratio does not have significant relationship with exchange rate.

Baliamoune-Lutz (2006) has explored the long-run linkages and short-run dynamics between financial liberalization reforms and domestic savings mobilization in Morocco over the period 1960 to 1999 using a vector error correction model approach. Financial depth is found by the author to be positively related to private savings whereas increase in real rates of interest have negatively related. This implies that effectiveness of financial intermediation as a result of financial liberalization does not directly affect savings but instead influences the volume of intermediation significantly. Baliamoune-Lutz (2006) found savings to have stable relationship with financial liberalization in the long run although the influence of interest rate is still negative. This implies that in the long run income effect is dominant. Ogwumike and Ofoegbu (2012) have investigated the impact of financial liberalization on domestic savings in Nigeria over the period 1970 to 2009. The study utilized autoregressive distributed lag estimation technique. The authors observed a significant positive effect on domestic savings in the short run while in the long run the effect turns significantly negative. The authors, therefore, concluded that financial liberalization has not worked to increase domestic savings in Nigeria through rise in interest rates.

Mwega *et al.* (1990) have tested the McKinnon and Shaw hypothesis to ascertain whether or not real interest rates significantly impact positively on both financial and non financial savings in Kenya over the period 1966 to 1985. To do this the authors examined the proposition that private financial and aggregate savings in Kenya rises significantly as real deposit rates rise. The rise in financial savings was reflected by increase in credit flow to the private sector. Their research results do not support the McKinnon and Shaw hypothesis. They instead showed the rate of private savings and demand for real money to be insignificantly responsive to a representative deposit interest rate. Nevertheless, the study does not fully capture the complementarily hypothesis since Kenya as a country embarked on full implementation of reforms as of 1991. Ndung'u (2001) has studied Kenya's exchange rate movement in a liberalized environment. Using an error correction formulation, the empirical results showed that widening of the interest rate differential, improvements in the current account balance and increases in the external inflows are strongly associated with the appreciation of exchange rates. A rise in the price differential is also associated with real exchange rate appreciation. In addition, the exchange rate movements are significantly driven by events such as expectations regarding the outcome of withholding donor funding and other intermittent changes in the economy. This partly explains the high volatility of exchange rates in the 1990s.

Bundi (2013) has investigated the effects of financial liberalization on private domestic savings in Kenya. From his analysis, it is evident that the positive relationship which was postulated by financial liberalization policy between real deposit interest rate and private domestic savings does not exist for the case of Kenya. This implies that interest rates liberalization has not led to increased savings mobilization in Kenya. This is contrary to the McKinnon and Shaw hypothesis which postulated positive interest rate influencing savings mobilization. According to Bundi (2013), therefore, financial liberalization has not worked through interest rate liberalization. In addition, financial intermediation (proxy for opening of the financial sector to foreign investors) is positively related to private domestic savings (Bundi, 2013). This indicates that opening the financial sector to foreign investors has enhanced intermediation. This further implies

that financial liberalization has worked through financial intermediation. On the basis of this finding, it is prudent for the Kenya government to continue the efforts of liberalizing financial markets to allow more foreign investors in order to enhance financial intermediation. Otuori (2013) has conducted a study of the determinant factors of exchange rates and their effects on the performance of commercial banks in Kenya. The results show that interest rate and external debt have positive and significant effects on performance while inflation rate and external debt have negative and significant effects on performance. The study concludes that higher levels of interest rate lead to higher profitability in commercial banks in Kenya. The study further concludes that higher levels of inflation rate result in lower bank profitability in Kenya. Moreover, higher levels of external debt result in lower bank profitability in Kenya. Lastly, higher levels of exports and imports lead to higher profitability in commercial banks.

The Interest Rate Parity Theory

The interest rate parity condition was developed by Keynes in 1923. Today, it is known as the interest rate parity to link the exchange rate, interest rate and inflation. As early as the period of the gold standard, monetary policy makers found that exchange rates were influenced by changes in monetary policy. The rise of the home interest rate is usually followed by the appreciation of the home currency, and a fall in the home interest rate is followed by a depreciation of the home currency. This indicates that the price of assets plays a role in exchange rate variations. The theory has two forms, i.e. the covered interest rate parity (CIRP) and uncovered interest rate parity (UCIRP). The CIRP describes the relationship of the spot market and forward market exchange rates with interest rates on bonds in two economies. On the other hand, the UCIRP describes the relationship of the spot and expected exchange rate with nominal interest rates on bonds in two economies.

Covered Interest Rate Parity (CIRP) relates the nominal interest rate in any economy, e.g. Kenya, to the nominal interest rate in any other economy, say, United States, and the forward premium on the nominal exchange rate between the two economies' currencies. Therefore, CIRP postulates in a short equation that any nominal interest rate gains of Kenyan shilling (KES) cash deposits over United States dollars (USD) cash deposits, KES and USD will be wiped out completed by the depreciation of the KES against the USD. There is an arbitrage; whenever there is no investment, there is no risk, but there is a profit. In financial-market equilibrium, such a *free lunch* will not prevail for long. If there is an arbitrage, market participants will exploit the opportunity, and prices adjust until there is no more gain from an arbitrage. As such, financial-market equilibrium implies that there is no arbitrage. This means that whenever there is no investment, there is no risk, and then there must not be a profit. Covered Interest Rate Parity states that the domestic interest rate must be higher than the foreign interest rate by an amount equal to the forward premium or discount on domestic currency. According to CIRP, if the exchange rate is fixed, the interests of the two countries should be equal. Thus, a small country with a pegged exchange rate regime cannot carry out its monetary policy independently. However, investors face uncertainty over future events. In a rational expectation framework, the forward exchange rate may be strongly influenced by the market expectations about the future exchange rate if new information is taken into consideration. In an uncertain environment, an un-hedged interest rate parity condition may hold. Given that, all other variable symbols do not change but that the forward exchange rate is substituted by the expected exchange rate. Interest rate parity rests on certain assumptions, the first being that capital is mobile and investors can readily exchange domestic assets for foreign assets. The second assumption is that assets have perfect substitutability, following from their similarities in riskness and liquidity. Given capital mobility and perfect substitutability, investors would be expected to hold those assets offering greater returns, be they domestic or foreign assets. However, both domestic and foreign assets are held by investors. Therefore, it must be true that no difference can exist between the returns on domestic assets and the returns on foreign assets. This is not to say that domestic investors and foreign investors will earn equivalent returns, but that a single investor on any given side would expect to earn equivalent returns from either investment decision. This theory assumes that if two currencies have different interest rates, this difference will lead to a discount or premium for the exchange rate in order to avoid arbitrage opportunities. However, interest rate parity has not shown much proof that it is working recently. Currencies of countries where interest rates are high, in many cases, increase in value, because central banks are determined to cool an overheating economy by raising interest rates. Therefore, this influence on currencies is not related to arbitrage.

Statement of the Problem

Following the liberalization of the foreign exchange market, Kenya attained monetary independence to control inflationary pressures. The recurring policy objective in Kenya has been to maintain an exchange rate that will ensure international competitiveness while at the same time keep the domestic rate of inflation at low levels, conduct a strict monetary stance and maintain a positive real interest rate. The objective of liberalizing the foreign exchange market was to allow the market forces of demand and supply to determine the price of buying and selling currencies. Despite Kenya liberalizing its foreign exchange market, it lost the nominal anchor to tie domestic prices down and thus globalization effects are transmitted directly into the country. This is characterized by the volatility of the exchange rate, and also the spread between buying and selling rates of the foreign currency. A large spread indicates the existence of arbitrage opportunities that encourages speculators to buy more currencies cheaply and sell them dearly. The management of commercial banks needs to know with precision how the foreign exchange market is affecting their financial performance, since the exchange rate is quite volatile. Could it be that foreign exchange reforms have a negative influence on the financial performance of banks? Most studies done have mainly focused on the effects of foreign exchange on domestic savings in Kenya, and a limited number of studies has explored the relationship between foreign exchange liberalization on financial performance of commercial banks in Kenya. Mwega *et al.*

(1990) and Bundi (2013) have found that financial liberalization does not have an effect on domestic savings in Kenya. The study that informed this paper, therefore, sought to fill the knowledge gap and establish the relationship and effect of foreign exchange liberalization and financial performance of commercial banks listed in Kenya. This paper explores the relationship between fluctuations in interest rates and the financial performance of commercial banks listed in Nairobi Securities Exchange.

MATERIALS AND METHODS

The study was sought to establish the influence of foreign exchange liberalization on financial performance of commercial banks that are listed in Kenya. As such, the study used a descriptive time series correlation research design. The target population for the study was all commercial banks that had been listed in the Nairobi Securities Exchange for a period of eight years, i.e. 2006 to 2013. There were ten banks listed in the Nairobi securities exchange in Kenya at the time. A census was used to establish the sample size, which comprised was all the ten commercial banks listed on the Nairobi Securities Exchange. The research instrument that the researcher used for data collection was a documents analysis guide. There were two document analysis guides, one was used to collect data from the central Bank of Kenya and the second was used to collect data from the Kenya National Bureau of statistics to establish the exchange rates, inflation rates and interest rates at the end of each of the eight years. Data on foreign exchange rates, interest rates and inflation rates was extracted from published audited financial statements for performance indicators and the Central Bank of Kenya and the Kenya National Bureau of Statistics based on the research objectives. Secondary data from the audited financial statements of the commercial banks' reports was reviewed for completeness and consistency and subjected to statistical analysis. The study focused on five key variables. The dependent variable was measured using return on equity, return on capital employed and earnings per share (to measure financial performance of commercial banks). Foreign exchange liberalization was measured using the independent variables, i.e. foreign exchange rates, inflation rates and interest rates. A regression analysis was conducted to establish the effect of foreign exchange liberalization on the financial performance of commercial banks in Kenya. The processed data was presented using tables, graphs and explanations provided. The researcher used multivariate linear regressions to establish the relationship between foreign exchange rate fluctuations, inflation rates, interest rates and bank performance indicators. Pearson product moment correlation (r) was applied to establish the relationship between foreign exchange rates spread, inflation rates, interest rates and bank performance indicators of return on capital employed, return on equity and earnings per share.

RESULTS AND DISCUSSION

The study sought to investigate the extent to which interest rate fluctuation affect financial performance of banks listed at the NSE. From the research findings, interest rate had an average minimum of 13.1% and a maximum of 20.41% with a mean of 15.25% and a standard deviation of 2.25%. The results on correlation analysis on interest rate changes as a factor in financial performance of banks were as shown in Table 1 below.

Table 1. Correlation between Interest Rate and Financial Performance of Banks

		Interest Rate	ROCE	ROE	EPS
Interest Rate	Pearson Correlation	1	0.092	0.051	0.141
	Sig. (2-tailed)		0.417	0.650	0.212
	N	80	80	80	80
ROCE	Pearson Correlation	0.092	1	0.940**	0.297**
	Sig. (2-tailed)	0.417		0.000	0.007
	N	80	80	80	80
ROE	Pearson Correlation	0.051	0.940**	1	0.271*
	Sig. (2-tailed)	0.650	0.000		0.015
	N	80	80	80	80
EPS	Pearson Correlation	0.141	0.297**	0.271*	1
	Sig. (2-tailed)	0.212	0.007	0.015	
	N	80	80	80	80

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

Source: Authors (2015)

The research results in Table 1 above indicate that there is a positive correlation between interest rate and the financial performance indicators with ROCE having 0.092, ROE having 0.051 and EPS having 0.141. Similarly, a one unit change in interest rates leads to an increase of 0.111 in the ROCE of listed commercial banks. The table below presents the findings on the test of coefficients.

The findings of the study in the table above show that a one unit change in interest rates leads to an increase of 0.111 in the ROCE of listed commercial banks. The table below presents the results of the tests of coefficients for interest rates fluctuations having ROE as the dependent variable.

From the findings in the table above, it is clear that a one unit change in interest rates leads to an increase of 0.071 in the ROE of listed commercial banks. Table 4 below indicates the results of the test of coefficients for interest rates with EPS being the dependent variable.

As shown in the table above, a one unit change in interest rates leads to an increase of 0.554 in the EPS of listed commercial banks. Generally, the research results on the effect of interest rate fluctuations on financial performance of banks disagree with the positions of Obidike *et al.* (2015) in relation to the impact of interest rate spread on the performance of Nigerian banking industry. The result of their study showed that interest rate spread negatively and significantly impact on bank performance in the long-run. They concluded that banks should not rely only on interest income if they must continue in business, but the government should improve the macro-economic environment by striving to develop the level of infrastructural facilities as well as reducing the level of insecurity by curbing the menace of violent groups such as the Boko-Haram sect and general militancy in Nigeria. This is contrary to the results of the present study.

Table 2. Test of Coefficients for Interest Rates having ROCE as Dependent Variable

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.468	13.831		0.468	0.641
Interest Rate	0.111	0.783	0.023	0.141	0.888
a. Dependent Variable: ROCE					

Source: Authors (2015)

Table 3. T-tests of Coefficients having ROE as Dependent Variable

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	13.723	12.892		1.065	0.290
Interest Rate	0.071	0.553	0.021	0.128	0.899
b. Dependent Variable: ROE					

Source: Authors (2015)

Table 4. Tests of Coefficients having EPS as Dependent Variable

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.462	11.373		0.304	0.762
Interest Rate	0.554	0.488	0.187	1.135	0.260
c. Dependent Variable: EPS					

Source: Authors (2015)

Besides, what drives the level of interest spread in Nigeria are more of macro-economic factors that are inimical to bank performance. This means that banks do not just increase interest rate spread with a view to making profit since such increases will inversely affect their level of profit.

Conclusion and Recommendations

There is a relationship between interest rate fluctuations and financial performance indicators. The study found a positive correlation between interest rate fluctuations and ROCE, ROE and EPS. Therefore, it can be concluded that commercial banks always maintain interest rate spread that ensures they remain profitable. They vary their lending rates and deposits from time to time but retain an interest rate that earns profit. Commercial banks are in business to earn profit on assets employed. They set interest rates that ensure a margin to cover their costs, remain competitive, profitable and ensure fair return on assets employed. The study recommends that the Central Bank of Kenya should set the interest rates that can help commercial banks be profitable while at the same time not punitive to the borrowers. This will help grow the credit market and at the same time develop the economy of Kenya. The Central Bank of Kenya should, therefore, come up with such regulations to determine the interest rate in commercial banks and also help mitigate moral hazards incidental to financial performance of commercial banks.

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