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DETERMINANTS OF FINANCIAL STABILITY OF LISTED COMMERCIAL BANKS IN KENYA

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ABSTRACT

The main objective of this study was to establish the determinants of financial stability of listed commercial banks in Kenya. This study adopted a descriptive Survey research design. The study targeted 356 employees of commercial banks under study which included both permanent and pensionable staff and employees on contract. There were 11 listed commercial banks in Kenya as at June 2016 (CBK, 2016). Data was collected from Primary sources (primary data) by the administration of questionnaires to the target population. Data was analyzed by use of Statistical Package for Social Science version 18. It was concluded that there was significant positive influence of interest rate on financial stability of listed commercial banks in Kenya. It was also found that there was significant negative influence of operational cost on financial stability of listed commercial banks in Kenya. There was significant positive influence of bank size on financial stability of list commercial banks. It was also concluded that there was significant positive influence of liquidity on financial stability of listed commercial banks in Kenya. The study therefore recommended that commercial banks should be cross-checking liquidity ratios and liquidity flows which could prove to be useful in designing a robust prudential approach to liquidity which would results to financial stability.

***Key Words**: Interest Rate, Operational Costs, Bank Size, Liquidity, Financial Stability*

INTRODUCTION

Stability of the financial system in an economy is an important catalyst for economic growth due to its function in facilitating exchange of value (Swamy, 2014). Through their functions, they facilitate the flow of funds from surplus households to deficit households in a more efficient manner thereby promoting economic growth and development (Ratnovski, 2013). Commercial banks need to proactively study the operating environment and develop relevant strategies that would reduce the severity of their exposure to situations that are likely to affect their financial stability. According to Huang and Ratnovski (2011), an adequate regulatory mechanism beyond the traditional reserve requirements needs to be enforced to address and mitigate the systemic component of funding liquidity risk among commercial banks. The reserve ratios made by each bank may not be adequate for the liquidity exposure they face as they are subjectively determined. Allam (2013) argues that some commercial banks set their liquidity levels through mimicking behavior in liquidity choices which may also arise from learning motives.

According to Azam and Siddiqoui (2012), commercial banks have to learn, adopt and re-orient themselves to the changing environment if they are to be competitive and perform their intermediation function effectively. Like other organizations, the banking industry is faced with turbulence arising from increased globalization, internationalization, advancements in information, communication and technology and trade liberalization. Commercial banks therefore, ought to proactively engage themselves in strategies that will enable them to respond to the environmental challenges in order to gain competitive advantage (Khrawish, 2011). Financial stability describes the condition where the financial intermediation process functions smoothly thereby building confidence among users (Merga, 2013). It refers to the smooth operation of the system of financial intermediation processes between households, firms and the government through a range of financial institutions supported by a myriad of financial infrastructure (Khan, 2011).

Financial stability may be hampered by both internal processes and strong shocks leading to the emergence of weak spots. Such shocks may arise from the external environment, domestic macroeconomic developments, main debtors and creditors of financial institutions, economic policies or changes in the institutional environment (Azam & Siddiqoui, 2012). Any interaction between weak spots and shocks can result in the collapse of major financial institutions and disruption of the functions of the financial system as regards financial intermediation processes. In the extreme case, it may even lead to a financial crisis with adverse implications for the economy (Vento & Ganga, 2010).

The Financial stability of commercial banks can be affected by internal and external factors. These factors can be classified into bank specific (internal) and macroeconomic variables. The internal factors are individual bank characteristics which affect the bank's performance. These factors are basically influenced by the internal decisions of management and board (Almazari, 2014). The external factors are sector wide or country wide factors which are beyond the control of the company and affect the profitability of banks (Azam & Siddiqoui, 2012).

In the United States of America, fluctuations in the banking industry are a constant concern and due to this, they are prioritizing financial stability over financial growth, as growth maybe unsustainable over long periods of time (Schneider, 2015). To achieve financial stability, they are strengthening financial regulation. Without sound and effective regulation, financial systems can become unstable, triggering crises that can devastate the real economy as evidenced by the recent global financial crisis. Finances are meant to facilitate productive economic activity; the aim of regulation is to maintain financial stability and to promote economic growth (Tirole, 2010).

In Mexico, despite the wide and diverse range of financial intermediaries, the banking industry remains concentrated around conglomerate structures—which usually include a bank, a pension fund, a brokerage company, an insurance company, and a mutual fund. Said (2013) suggests that the seven largest banks (known as G-7), all fully owned by financial groups, account for about 80 percent of total bank assets. Mghaieth and Khanchel (2015) argue that despite all these momentous progress, commercial banks still struggle in the economy.

The Central Bank of Kenya was established in 1966 through an Act of Parliament (The Central Bank of Kenya Act of 1966), was as a result of the desire among the three East African countries to have independent monetary and financial policies. The Act determined the objectives, functions and autonomy of the Central Bank. The Act was restructured in April 1997 to conform to ongoing economic reforms. Further amendments have been done in October of 2015 to the CBK Act so as to conform to changes in the global financial sector (Njagi, 2009).

Prudential guidelines issued by CBK are to reduce the level of risk to which bank creditors are exposed and Bank supervision entails enforcement of rule and regulation and judgment concerning the soundness of bank asset, its capital adequacy and management (Ochieng, 2014). This regulatory structure creates transparency between institutions in the banking sector as well as the individuals and corporations with whom they conduct business with. The financial regulations for banks are being rewritten in response to the global financial crisis, but their implementation requires complex steps depending on each country's policies and procedures they could have very different effects on financial stability of the banks (Njeule, 2013). In 1988, the Basel committee issued Basel I Accord; Basel II Accord was issued in 2004 and in December 2010, the Committee announced proposals dubbed Basel III.

Statement of the Problem

A safe and sound banking system ensures that there is optimal allocation of capital resources. Regulators therefore aim to prevent costly banking system crises and their associated adverse feedback effects on the real economy (Jahn & Kick, 2012). A dysfunctional financial industry puts pressures on businesses and households thereby adversely affecting the real economy as capital may be prevented from flowing to worthy investments and may lead to credit crunches. A number of studies have been conducted on financial stability and financial sector responses across the world (Ahiawodzi et al, 2012; Njiwakale, (2013); Muguchu, (2013); Othieno, (2010); Odongo, (2014). Some scholars argue that interest rate, operation costs and bank size have significant effect on banks stability while others ascertain no significant relationships among the variables (Othieno, (2010); Odongo, (2014). These mixed results trigger further research. Banks management practices such as restructuring, reduction in physical bank branches and employee lay-offs are indicators of instability (CBK, 2016). Mergers, acquisition and change in shareholding in the banks such as the Spire Bank are in the rise. Secondly, many financial institutions including commercial banks and microfinance institutions are closing down in the Kenya for instance, Chase Bank and Imperial Commercial Bank (CBK, 2016). Profits for commercial banks shrunk by 5 per cent to Sh134billion in 2015 in a disruptive year that saw two lenders placed under receivership. The National Bank of Kenya has been going through a rough patch, with its profit after tax having dropped to Sh138.1 million in the period to September 2017 compared to Sh521 million reported over a similar period in 2016 (CBK, 2017). According to KBA (2017) members cut 1,933 jobs between August 2016 and the end of June 2017. Banks had 28,009 staff as at August 2016, but the firing spree saw the sector's workforce fall to 26,076 employees by June 2017. The country's biggest bank by asset, Kenya Commercial

Bank, announced it would lay off some staff. Sources put the number at more than 500, including 28 workers in its Rwanda branches. In June of the 2017, Barclays Bank of Kenya announced that it would lay off 130 employees through a voluntary exit scheme. First Community Bank, which does not even charge interest, also announced it would axe 106 staff. In early 2017, Equity Bank, Kenya's largest by customer base, let go of more than 400 workers. Standard Chartered Bank followed closely, sending home more than 300 workers while Sidian Bank let go of 108. The NIC Bank sacked 32. So far, at least 10 banks have shed part of their workforce. This study sought to understand the factors that affected the institutions' stability. These therefore triggered further research with an aim of understanding instability in the banking sector. Lastly, there was also little research done on banking stability in Lurambi Sub-county. This study therefore bridged this gap.

Objectives of the Study

The main objective of this study was to establish the determinants of financial stability of listed commercial banks in Kenya. The specific objectives were:-

- To investigate the influence of interest rate on the financial stability of listed commercial banks in Kenya.
- To assess the influence of operational costs on financial stability of listed commercial banks in Kenya.
- To examine the influence of Bank size on financial stability of listed commercial banks in Kenya.
- To investigate the influence of liquidity on the financial stability of the Listed commercial Banks in Kenya.

Research Hypotheses

- **H_{01}:** There is no significant statistical influence of interest rates on financial stability of the listed commercial Banks in Kenya.
- **H_{02}:** There is no significant statistical influence of operational cost on financial stability of the listed commercial Banks in Kenya.
- **H_{03}:** There is no significant statistical influence of bank size on financial stability of the listed commercial Banks in Kenya.
- **H_{04}:** There is no significant statistical influence of liquidity on financial stability of the listed commercial Banks in Kenya.

LITERATURE REVIEW

Theoretical Review

Theory of Systemic Risk and Design of Prudential Bank Regulation

This theory was proposed by Acharya. It states that banks accept deposits that take the form of a simple debt contract which is lent to individuals and institutions and this is a risky process. The depositor may also go at a loss when the bank fails to control defaulters. Systemic risk describes the correlation of returns on assets held by a financial institution (Acharya, 2009). This explains the limited liability of banks and the presence of a negative externality and economy-wide aggregate risk. This results to systemic risk-shifting as banks thereby undertaking correlated investments risks. In response to the risks, mechanism such as capital adequacy requirements and closure can be used in failures to mitigate the risks. Prudential regulation operates at a collective level by regulating each bank.

Bank Lending Channel Theory

According to the proponents of bank lending channel theory, Bernanke and Blinder (1988), monetary policy affects the supply of bank loans through an imperfect market for bank debt. A restrictive monetary policy leads to a drop in bank deposits. Only banks that have a larger share of liquid assets or that are bigger are able to shield their lending relationships from the monetary policy shock (Lúcio, 2007). Banks' asset decisions play an important role in monetary policy independently of the cost of capital. The theory

predicts that a reduction in reserves induces banks to scale back lending activities. This disproportionately affects a class of firms that cannot readily switch to other funds, those without access to credit markets. Small manufacturers, for instance, may be more dependent on banks than other firms, and without alternative financing, they may be forced to limit desired investment (or current production) for a given market interest rate (Bernanke et al, 1988).

The bank lending channel theory posits that during monetary contractions banks restrict some firms' loans, thus reducing their desired investment independently of interest rates. The theory assume that banks hold three assets – reserves, loans, and short term bonds – and issue one liability – bank deposits. Loans and bonds are imperfect substitutes, both as sources of finance to borrowers and as assets held in bank portfolios. In consequence the stock of bank credit depends on the spread between bank loan and bond market rates of interest (Jeffrey, 1999).

Financial Inclusion Theory

Financial inclusion was proposed by Chakrabarty (2011). It refers to the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular, at an affordable cost, in a fair and transparent manner, by mainstream institutional players (Chakrabarty, 2011). It can be seen as the absence of both price and non-price barriers in the use of financial services (Kofi et al., 2013). Financial inclusion or banking sector outreach can be defined broadly as the process of availing an array of required financial services, at a fair price, at the right place, form and time and without any form of discrimination to all members of the society. It aims at drawing the unbanked population into the formal financial system so that they have the opportunity to access financial services ranging from savings, payments, and transfers to credit and insurance (Aduda, 2012).

An inclusive financial sector provides access to credit for all bankable people and firms, to insurance for all insurable people and firms, to savings and payment services for everyone (United Nations, 2006). According to Kempson (2000), financial exclusion is most prevalent amongst those on low incomes. Unemployed people living on social security payments from the state are therefore especially vulnerable, as are low income households from ethnic minority communities who may also have relatively low levels of engagement with the financial services industry.

The Real Bills Doctrine of Liquidity Management Theory.

The main proponent of this theory is Sangmi. He asserts that liquidity management takes one of two forms based on the definition of liquidity. One type of liquidity refers to the ability to trade an asset, such as a stock or bond, at its current price. The other definition of liquidity applies to large organizations, such as financial institutions. Banks are often evaluated on their liquidity, or their ability to meet cash and collateral obligations without incurring substantial losses. In either case, liquidity management describes the effort of investors or managers to reduce liquidity risk exposure. The real bills doctrine or the commercial loan theory states that a commercial bank should advance only short-term self-liquidating productive loans to business firms. Tadesse (2015) asserts that Self-liquidating loans are those meant to finance the production, and movement of goods through the successive stages of production, storage, transportation and distribution. When such goods are ultimately sold, the loans are considered to liquidate themselves automatically. For instance, a loan given by the bank to a businessman to finance inventories would be repaid out of the receipts from the sale of those very inventories, and the loan would be automatically self-liquidated.

Conceptual Framework

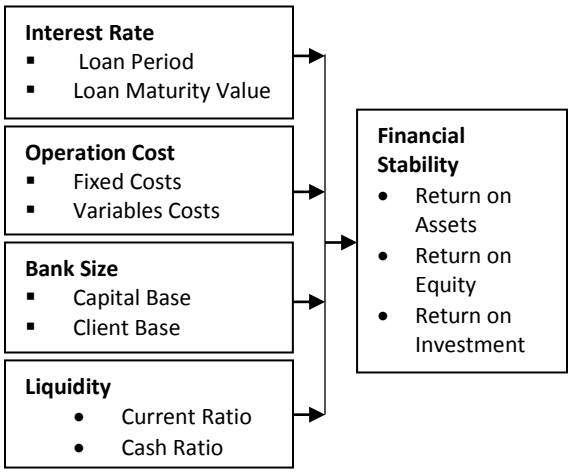

Figure 1: Conceptual Framework

Source: Author (2018)

Review of Variables

Interest Rates

Banks are involved in international trade especially foreign transactions. They are faced with more financial risks due to fluctuating inflation and interest rates which affects exchange rates (Jamal & Khalil, 2011). This in turn affects the attainable revenue from foreign exchange dealings and contracts. The central bank rate, cash reserve ratio, open market operation and uncertainty are caused by possible outcomes due to changes in monetary policies aimed at controlling inflation and interest rates. This in turn affects banks' lending behavior by commercial banks. The more they give out loans they more they face credit risks which have the potential to sink commercial banks all together (Kimani, 2013).

The relationship between interest rates and financial stability of commercial banks is particularly apparent for banks. This is because the interest rates during a recession period results in a slower growth in bank loans while at the same time increasing the amount of nonperforming loans and thus increased loan losses (Podder, 2012). This therefore means that commercial banks, particularly the smaller ones may have a lot of difficulties in maintaining their financial stability when the market rates are on a decreasing trend (Ventouri, 2012). Interest rates affect both the commercial banks and their customers in two major ways. When the interest rates rise, customers are unable to service their existing loans which leads to losses to the commercial banks since if the situation continues that way, they are forced to write off their debts (Makkar & Singh, 2013).

Bank Size

According to Shapiro (2008) large firms have more negotiating powers leading to lower financing costs on average which in turn improves on their overall stability in the market. In essence, large firms are able to hedge and diversify risks more in comparison to smaller firms. This in turn influences the company's ability to exploit varied methods of diversifying that in turn influences long term survival. Bowa (2015) examined the effect of bank capitalization on liquidity of commercial banks in Kenya. The regression results showed that size of bank and asset quality have an influence on banks liquidity ratio. However, it was identified that bank size had the highest influence on banks liquidity ratio. This therefore shows that the current held assets by banks that is both fixed and current assets determines the overall stability of banks to a great extent. The results suggested that larger banks essentially enjoy economies of scale which in turn positively influences their profitability and ultimately stability (Tumin, 2011).

Operating Cost

The level of operating expenses is normally looked at as a way of measuring the efficiency of a firm's management (Onuonga, 2014). Memmel and Raupach (2010) in their study of several European countries conclude that operating costs have a negative effect on profit measures despite their positive effect on net interest margins. Efficiency in cost management is normally measured as a ratio

(operating costs to assets). This is due to the fact that only operating expenses can be directly associated to the outcome of bank management (Athanasoglou et al. 2008). This has resulted in a negative relationship due to the fact that improved management of bank expenses lead to improved efficiency and thus improved profitability ratios. Commercial banks that are interested in achieving high profitability need to develop ways of ensuring that their costs of operations are maintained at an acceptable level. Firms that are able to minimize their costs of operations are considered to be more efficient and it is also expected that they post higher profits margins than their counterparts that have higher costs of operations (Ongore & Kusa, 2013).

Liquidity

Liquidity is another factor that determines the level of bank financial stability. Liquidity refers to the ability of the bank to fulfill its obligations, mainly of depositors. According to Dang (2011) adequate level of liquidity is positively related with bank profitability. Liquidity risk is the possibility that over a specific time period, the bank will become unable to settle obligations with immediacy (Drehmann & Nikolaou, 2013). It is a risk arising from a bank's inability to meet its obligations when they come due without incurring unacceptable losses. This risk can adversely affect both banks' earnings and the capital and therefore, it becomes the top priority of a bank's management to ensure the availability of sufficient funds to meet future demands of providers and borrowers, at reasonable costs. The vulnerability of banks to liquidity risk is determined by the funding risk and the market risk.

Financial Stability

The turmoil on the financial markets during 2007-2008, invalidated a number of paradigms, due to the fact that many large credit institutions with international activities, although they were assigned by rating agencies with lower levels of risk categories faced bankruptcy or last minute intervention of the state so that they can continue their activity (Hodachnik, 2009). Thus arose some controversy about the effectiveness of financial ratings as surveillance tools and on the level of trust that was given to this instrument for monitoring and evaluation of the stability of commercial banks in order to avoid an excessive level risk due to asymmetry information. Taking into account the fact that banks must have an appropriate tool to assess their strengths and their vulnerabilities in order to consolidate their capacity to trigger a systemic risk (Lavrushin & Mamonova, 2011).

METHODOLOGY

This study adopted a descriptive Survey research design. Descriptive Survey refers to research design that focuses on the accurate portrayal of the characteristics of persons, situations or groups (Polit & Hungler 2014). There were 11 listed commercial banks in Kenya as at June 2016 (CBK, 2016). The study targeted 356 employees of these commercial banks. These included both permanent and pensionable staff and employees on contract (sales representatives). Kenya had eleven listed commercial banks, which include Barclays Bank of Kenya Ltd, CFC Stanbic Kenya, Diamond Trust Bank of Kenya Ltd, Equity Group Holdings Ltd, Housing Finance Co. Ltd, I&M Holding Ltd, Kenya Commercial Bank Ltd, National Bank of Kenya Ltd, Standard Chartered Bank Ltd, The Co-operative Bank of Kenya Ltd and NIC Bank Ltd (CBK, 2017).

Data was collected from Primary sources (primary data) by the administration of questionnaires to the target population. Data was analyzed by use of Statistical Package for Social Science version 18. The linear regression analysis was used as the approach to analyze the data. The regression model was as follows:

$$Y= \beta 0 + \beta 1 X 1 + \beta 2 X 2 + \beta 3 X 3 + \beta 4 X 4 + \epsilon$$

$$FSB= \beta 0 + \beta 1 (INR) + \beta 2 (OPC) + \beta 3 (BKS) + \beta 4 (LIQ) + e$$

Where: FSB= Financial stability of banks
β0= regression constant derived from the y-intercept,
B1 to β4 = regression coefficients,
INR = Interest Rate
OPC = operation costs,
BKS = bank size,
LIQ = liquidity,
ε = error term.

RESULTS

Table 1: Pertinent results on Interest Rate

S.N	Interest Rate	Min	Max	SD	D	U	A	SA	Mean	SDV
1	The interest rate charged on loan is too high to generate more incomes for the bank	1	5	4.3 (3)	17.4 (12)	71 (49)	4.3 (3)	2.9 (2)	2.84	.69
2	High interest rate increases the banks financial risk	1	5	21.7 (15)	58 (40)	13 (9)	4.3 (3)	2.9 (2)	2.08	.88
3	The interest rates on loans have been increasing over the years	1	5	13 (9)	18.8 (13)	59.4 (41)	5.8 (4)	2.9 (2)	2.66	.88
4	The interest charged on the loans by the bank is always favourable	1	5	1.4 (1)	31.9 (22)	15.9 (11)	43.5 (30)	7.2 (5)	3.23	1.03
5	The interest rates charged by the banks can be revised over time	1	5	4.3 (3)	5.8 (4)	4.3 (3)	73.9 (51)	11.6 (8)	3.82	0.87
6	Bank interest rates are always fixed	1	5	21.7 (15)	62.3 (43)	8.7 (6)	4.3 (3)	2.9 (2)	2.04	.86
7	The interest rate increases with the amount the borrowings	1	5	7.2 (5)	42 (29)	39.1 (27)	10.1 (7)	1.4 (1)	2.56	.83
8	Interest rate reduces the profits of banks	1	5	10.1 (7)	52.2 (36)	18.8 (13)	15.9 (11)	2.9 (2)	2.49	.97
9	Credit amount extended by banks is based on the value and location of the collateral pledged	1	5	2.9 (2)	7.2 (5)	5.8 (4)	78.3 (54)	5.8 (4)	4	.78
10	The interest rate does affect my borrowing decision	1	5	5.8 (4)	2.9 (2)	39.1 (27)	37.7 (26)	14.5 (10)	3.52	.97

Majority of the respondents (71%) were undecided whether interest rate charged on loan was too high to generate more incomes for the bank while 3.2% agreed and additional 2.9% strongly agreed. With a mean of 2.8 and standard deviation 0.7, there was minimal deviation from the mean. It was also revealed that 58.0% of the respondents disagreed that high interest rate increased the banks financial risk and further 21.7% strongly disagree. A mean of 2.1 and standard deviation of 0.9 implied that there was some deviation from the mean (disagree). Further, 43.5% of the sampled respondents agreed that the interest charged on the loans by the bank was always favorable and additional 7.2% strongly agreed with a mean of 3.2 and standard deviation of 1.0.

It was found that 73.9% of the respondents and 11.6% of the respondent agreed and strongly agreed respectively that the interest rates charged by the banks can be revised over time. A mean of 3.8 and standard deviation of 0.9 suggested that there was some deviation from the mean. Majority of the respondents did not confirm that bank interest rates are always fixed of which 21.7% strongly disagreed and 62.3% agreed. Forty-two percent of the respondents disagreed that interest rate increases with the amount the borrowings while 39.1% were undecided. A mean of 2.6 and standard deviation of

0.8 revealed that there is some deviation from the mean.

On part of interest rate reduces the profits of banks, over half of the respondents (52.2%) disagree and 18.8% were undecided. A mean of 2.5 and standard deviation of 1.0 suggested that there is great deviation from the mean. It was also revealed that 78.3% of the respondents agreed that credit amount extended by banks is based on the value and location of the collateral pledged and 5.8% strongly agreed. A mean of 4 and standard deviation 0.8 implies there is some deviation from the mean. Lastly, 37.7% of the respondents agreed that the interest rate does affect borrower's borrowing decision and 14.5% strongly agreed. A mean of 3.5 and standard deviation of 1.0 implied that there is great deviation from the mean.

Table 2: Pertinent results on Operational Cost

S.N	Operational Cost	Min	Max	SD	D	U	A	SA	Mean	SDV
1	Uniqueness of products/services offered to the customers increase the operational costs in your bank	1	5	2.9 (2)	5.8 (4)	10.1 (7)	58 (40)	23.2 (16)	3.92	.91
2	The company adopt business process re-engineering to manage the operational costs	1	5	5.8 (4)	14.5 (10)	24.6 (17)	40.6 (28)	14.5 (10)	3.43	1.09
3	The company adopt consolidation of business functions as a strategy for managing the operational cost	1	5	2.9 (2)	10.1 (7)	7.2 (5)	68.1 (47)	11.6 (8)	3.75	.89
4	The company adopted mergers and acquisitions as an operational cost management strategy	1	5	1.4 (1)	13 (9)	7.2 (5)	53.6 (37)	24.6 (17)	3.86	.98
5	The company adopt restructuring cost management strategy to reduce the bank's operational costs	1	5	4.3 (3)	5.8 (4)	4.3 (3)	73.9 (51)	11.6 (8)	3.82	0.87
6	Company adopted rationalization of staff fringe benefit as strategy of managing the operational costs in your bank	1	5	2.9 (2)	4.3 (3)	7.2 (5)	69.6 (48)	15.9 (11)	3.91	.81
7	Bank adopts outsourcing as a strategy to manage the operational costs	1	5	2.9 (2)	4.3 (3)	8.7 (6)	76.8 (53)	7.2 (5)	3.81	.7
8	Company adopt customer re-bank cost management strategy so as to cut costs	1	5	1.4 (1)	2.9 (2)	7.2 (5)	79.7 (55)	8.7 (6)	3.91	.63
9	Lay off strategy enable banks to cut costs	1	5	4.3 (3)	5.8 (4)	7.2 (5)	72.5 (50)	10.1 (7)	3.66	.87
10	Technological costs are too high for banks	1	5	14.5 (10)	62.3 (43)	5.8 (4)	13 (9)	4.3 (3)	2.30	1.02

58% of the respondents agreed that Uniqueness of products/services offered to the customers increased the operational costs in your bank while 23.2% strongly agreed. A mean of 3.9 and standard deviation of 0.9 implied that there was great deviation from the mean. Forty point six percent of

the respondent agreed that the company adopt business process re-engineering to manage the operational costs and 14.5% strongly agreed on the same. A mean of 3.4 and standard deviation of 1.1 suggested that there was great deviation from the mean. It was also revealed that 68.1% of the respondents agreed that the company adopt consolidation of business functions as a strategy for managing the operational cost and an additional 11.6% strongly agree. A mean of 3.8 and standard deviation 0.9 suggested that there was great deviation from the mean. In regard to the company adopted mergers and acquisitions as an operational cost management strategy, the results revealed that over half (53.6%) of the respondents agreed and 24.6% strongly agreed. A mean of 3.9 and standard deviation of 1.0 implied that there is some deviation from the mean.

The results also revealed that 73.9% (51) and 11.6%(8) of the respondents agreed and strongly agreed that the company adopt restructuring cost management strategy to reduce the bank's operational costs with a mean of 3.8 and standard deviation of 0.9. On the part of the company adopted rationalization of staff fringe benefit as strategy of managing the operational costs in their bank, 69.6% of the respondent agreed and an additional 15.9% strongly agreed with a mean of 3.9 and standard deviation of 0.8. Seventy-six point eight percent of the respondents agreed and 7.2% strongly agreed that the bank adopts outsourcing as a strategy to manage the operational costs with a mean of 3.8 and standard deviation 0.8 implying that there is some deviation from the mean.

Regarding the company adopting customer re-bank cost management strategy so as to cut costs, the results revealed that 79.7% and 8.7% agreed and strongly agreed. A mean of 3.9 and standard deviation of 0.6 implied that there is some deviation from the mean. Seventy-two point five percent agreed and 10.1% strongly agreed that lay off strategy enable banks to cut costs. A mean of 3.7 and standard deviation of 0.9 indicated that there was some deviation from the mean. Lastly, 62.3%(43) of the respondents disagreed that technological costs are too high for banks while 14.5% strongly disagreed with a mean of 2.3 and standard deviation of 1.0.

Table 3: Pertinent Results on Bank Size

S.N	Bank size	Min	Max	1	2	3	4	5	Mean	SDV
1	My Bank relies on non-interest related sources of profitability	1	5	11.6 (8)	47.8 (33)	4.3 (3)	26.1 (18)	10.1 (7)	2.75	1.25
2	My bank more significantly impacted by levels of default risk	1	5	4.3 (3)	4.3 (3)	8.7 (6)	18.8 (13)	63.8 (44)	4.33	1.09
3	My bank's reserves have been increasing in the recent past	1	5	4.3 (3)	17.4 (12)	46.4 (32)	27.5 (19)	4.3 (3)	3.10	.89
4	My bank has in the recent past increased the number of branches in the country	1	5	1.4 (1)	13 (9)	7.2 (5)	53.6 (37)	24.6 (17)	3.86	.98
5	My bank has in the recent past increased the number of employees	1	5	4.3 (3)	5.8 (4)	14.5 (10)	62.3 (43)	13 (9)	3.73	.91
6	Deposits for my bank has in the recent years increased.	1	5	1.4 (1)	7.2 (5)	10.1 (7)	63.8 (44)	17.4 (12)	3.88	.83
7	My bank's assets have increased in the recent past.	1	5	2.9 (2)	7.2 (5)	7.2 (5)	75.4 (52)	7.2 (5)	3.76	.80
8	My bank's profits have been increasing in the recent past.	1	5	4.3 (3)	13 (9)	14.5 (10)	59.4 (41)	8.7 (6)	3.55	.97

9	My bank's market share has increased significantly in the recent past.	1	5	4.3 (3)	7.2 (5)	15.9 (11)	62.3 (43)	10.1 (7)	3.78	.91
10	My bank's customer base has increased significantly in the recent past.	1	5	2.9 (2)	4.3 (3)	10.1 (7)	71 (49)	11.6 (8)	3.84	.79

Forty-seven point eight percent of the respondents disagreed that their banks relies on non-interest related sources of profitability while 11.6% strongly disagreed. A mean of 2.8 and standard deviation of 1.3 suggested that there is a great deviation from the mean. In regard to my bank more significantly impacted by levels of default risk, 63.8% of the respondents strongly agreed and 18.8% agreed. A mean of 4.3 and standard deviation of 1.1 implied that there is great dispersion from the mean. The results also revealed that 27.5% of the respondents agreed that their bank's reserves have been increasing in the recent past while an additional 4.3% strongly agree with a mean of 3.1 and standard deviation of 0.9. More than half of the respondents (53.6%) agreed that their bank has in the recent past increased the number of branches in the country and additional 24.6% strongly agreed with a mean of 3.9 and standard deviation of 1.0.

In regard to my bank has in the recent past increased the number of employees, 62.3% of the respondents agree and 13% strongly agreed with a mean of 3.7 and standard deviation of 0.9. Further, 63.8% and 17.4% of the respondents agreed and strongly agreed respectively that deposit for their bank has in the recent years increased. A mean of 3.9 and standard deviation of 0.8 suggested that there is some deviation from the mean. Seventy-five point four percent of the respondents agreed that their bank's assets have increased in the recent past while 7.2% stonily agreed on the same with a mean of 3.8 and standard deviation of 0.8.

The results also revealed that 59.45% and 8.7% of the respondents agreed and strongly agreed respectively that bank's profits have been increasing in the recent past with a mean of 3.6 and standard deviation of 1.0. In regard to bank's profits have been increasing in the recent past, 62.3% of the respondents agreed and 10.1% strongly with a mean of 3.8 and standard deviation of 0.9. Lastly, 71.0% of the respondents agreed that their bank's customer base has increased significantly in the recent past and additional 11.6% strongly agreed. A mean of 3.8 and standard deviation of 0.8 implied that there is some deviation from the mean.

Table 4: Pertinent Results on Liquidity

S.N	Liquidity	Min	Max	1	2	3	4	5	Mean	SDV
1	Adherence to Credit administration policy to protect members deposits and elimination of delinquent loans	1	5	2.9 (2)	4.3 (3)	4.3 (3)	73.9 (51)	14.5 (10)	3.92	.79
2	Implementation of internal controls as they relate to financial performance of the bank	1	5	2.9 (2)	5.8 (4)	5.8 (4)	78.3 (54)	7.2 (5)	3.81	.77
3	The rate of loan default in the bank is minimal	1	5	4.3 (3)	11.6 (8)	44.9 (31)	34.8 (24)	4.3 (3)	3.23	.87
4	The bank gross loan portfolio is adequate	1	5	1.4 (1)	5.8 (4)	7.2 (5)	53.6 (37)	31.9 (22)	4.08	.87
5	Bank rely on external borrowing	1	5	11.6	18.8	30.4	31.9	7.2	3.04	1.13

	to finance their activities			(8)	(13)	(21)	(22)	(5)		
6	There is Protection of members deposit by bank management	1	5	1.4 (1)	2.9 (2)	8.7 (6)	68.1 (47)	18.8 (13)	4.00	.72
7	Bank has a financial reporting policy	1	5	2.9 (2)	4.3 (3)	5.8 (4)	76.8 (53)	10.1 (7)	3.86	.76
8	Integrity in deciding appropriate action in liquidity management positively affected the bank's financial performance	1	5	2.9 (2)	7.2 (5)	14.5 10)	63.8 (44)	11.6 (8)	3.73	.86
9	My bank usually Projects likely net withdrawals/inflows by our customers.	1	5	2.9 (2)	4.3 (3)	14.5 (10)	68.1 (47)	10.1 (7)	3.78	.80
10	My bank reconciles the volumes of assets and liabilities in terms of Maturity	1	5	2.9 (2)	4.3 (3)	8.7 (6)	72.5 (50)	11.6 (8)	3.85	.79

The results indicated that, 73.9% of the sampled respondents and 14.5% of the respondents agreed and strongly agreed respectively that adherence to Credit administration policy to protect members' deposits and elimination of delinquent loans. A mean of 3.9 and standard deviation 0.8 implied that there was some deviation from the mean. Similarly, 78.3% of the respondents agreed that implementation of internal controls as they related to financial performance of the bank and further 7.2% strongly agreed with a mean of 3.8 and standard deviation 0.8. However, 34.8% of the respondents agreed that the rate of loan default in the bank was minimal while 4.3% strongly agreed with a mean of 3.2 and standard deviation 0.9. More than half (53.6%) of the respondents agreed that the bank gross loan portfolio is adequate and additional 31.9% strongly agreed with a mean of 4.1 and standard deviation of 0.9.

On the part of bank rely on external borrowing to finance their activities, 31.9% of the respondents agreed while 7.2% of the respondent strongly agreed with a mean of 3.0 and standard deviation 1.1. Sixty eight point one percent of the respondents agreed that there is Protection of members deposit by bank management and additional 18.8% strongly agreed with a mean of 4.00 and standard deviation of 0.7 suggesting that there is minimal deviation from the mean. The results also revealed that 76.8% and 10.1% of the respondents agreed and strongly agreed that bank has a financial reporting policy with a mean of 3.9 and standard deviation 0.8.

Sixty three point eight percent of the respondents agreed that integrity in deciding appropriate action in liquidity management positively affected the bank's financial performance and additional 11.6% strongly agree with a mean of 3.7 and standard deviation of 0.9. The results also revealed that 68.1% and 10.1% of the respondents agreed and strongly agree respectively that their bank usually projects likely net withdrawals/inflows by our customers with a mean of 3.8 and standard deviation of 0.8. Lastly, 72.5% of the respondents agreed that their bank reconciles the volumes of assets and liabilities in terms of Maturity and further 11.6% of the respondents strongly agreed with a mean of 3.9 and standard deviation of 0.8.

Table 5: Pertinent Results on Financial Stability

S.N	Financial Stability	Min	Max	SD	D	U	A	SA	Mean	SDV
1	My bank has been prompt in paying of its debts when due	1	5	4.3 (3)	2.9 (2)	71 (49)	4.3 (3)	17.4 (12)	2.84	.69
2	The capital base of the	1	5	4.3	2.9	13	58	21.7	3.58	.88

	bank has consistently increased			(3)	(2)	(9)	(40)	(15)		
3	The bank assets have consistently increased	1	5	13 (9)	5.8 (4)	2.9 (2)	59.4 (41)	18.8 (13)	3.66	.88
4	The bank profits have consistently increased	1	5	1.4 (1)	7.2 (5)	15.9 (11)	43.5 (30)	31.9 (22)	3.83	1.03
5	Shareholders value in my bank has increased	1	5	4.3 (3)	5.8 (4)	40.7 (28)	42 (29)	11.6 (8)	3.82	0.87
6	The Level of non-performing loans has a decreasing trend	1	5	7.2 (5)	43.5 (30)	8.7 (6)	21.7 (15)	18.8 (13)	3.04	.86
7	My bank seldom depend on interbank credits	1	5	7.2 (5)	42 (29)	39.1 (27)	10.1 (7)	1.4 (1)	2.56	.83
8	My bank has employed more employees	1	5	2.9 (2)	10.1 (7)	15.9 (11)	52.2 (36)	18.8 (13)	3.49	.97
9	My bank has increased its number of branches across the country	1	5	2.9 (2)	7.2 (5)	5.8 (4)	78.3 (54)	5.8 (4)	3.77	.78
10	My bank pays dividends annually as per schedule	1	5	5.8 (4)	2.9 (2)	39.1 (27)	37.7 (26)	14.5 (10)	3.52	.97

Majority (71%) of the sampled respondents were undecided whether their bank had prompt in paying of its debts when due while 17.4% agreed and 4.3% strongly agreed with a mean of 2.9 and standard deviation of 0.7 implying their some deviation from the mean. Further, 58% of the respondents agreed that the capital base of the bank had consistently increased while 21.7% strongly agreed on the same with a mean of 3.6 and standard deviation of 0.9. Similarly, the bank assets had consistently increased as revealed by 59.4% of the respondents who agreed and 18.8% who strongly agreed with a mean of 3.7 and standard deviation of 0.9. On part of profitability, 43.5% and 31.9% of the respondents agreed and strongly agreed respectively that the bank profits have consistently increased with a mean of 3.8 and standard deviation of 1.0.

In regard to shareholders value, 42.0% of the respondents agreed that shareholders value in their bank had increased and additional 11.6% strongly agreed with a mean of 3.8 and standard deviation of 0.9. Forty three point five percent of the respondents disagreed that the level of non-performing loans has a decreasing trend while 21.7% agreed that the level of non-performing loans has a decreasing trend with a mean 3.0 and standard deviation of 0.9. It was also revealed that 42.0% of the respondents disagreed that their bank seldom depend on interbank credits while 10.1% agreed on the same with a mean of 2.6 and standard deviation of 0.8.

In regard to the number of employees, more than half of the respondents (52.2%) agreed that their banks had employed more employees and additional 18.8% strongly agreed with a mean of 3.5 and standard deviation 1.0. Similarly, 78.3% of the respondents agreed that their bank has increased its number of branches across the country while only 5.8% strongly agreed with a mean of 3.8 and standard deviation of 0.8. Lastly, 37.7% of the respondents agreed that their bank pays dividends annually as per schedule and 14.5% of the respondents strongly agree with a mean of 3.5 and standard deviation of 1.0.

Table 6: Correlation between determinants and financial stability

	N	Mean	STDEV	IR	OC	BS	LQ
IR	69	2.9043	.30459	1			
OC	69	1.9420	.44997	-.331**	1		
BS	69	3.6536	.21.37119	.359**	-.785**	1	
LQ	69	3.7348	.30040	.365**	-.474**	.526**	1
FS	69	3.7000	.38195	.520**	-.582**	.512**	.563**

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

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

Key: N=Sample Size**; STDEV=**Standard Deviation**; FS=**Financial stability**; IR=Interest Rate, OC=Operational Cost, LQ=liquidity, BS=Bank Size**

It was evident that there are all the dimensions of determinant were positively correlated with financial stability. The correlation of interest was obtained by examining the correlation between financial stability and each of the dimensions of determinants. The findings show that the lowest correlation coefficient was achieved between bank size and financial stability (r=0.512, p=.000). This correlation was positive and significant. This denotes that a positive association exist between the financial stability and the bank sizes as a result of larger banks are associated with financial stability.

The correlation between interest rate and financial stability was the second least correlation obtained in this study. The relationship was significant and positive as indicated by r=0.520, p=.000 which implies there is a relationship between interest rate and financial stability. The second highest correlation was obtained between liquidity and financial stability. This correlation coefficient was significant and positive as indicated by r value of 0.563, p=.000 suggesting that financial stability is influenced by the liquidity. Thereby, increase in liquidity would result to increase financial stability. The highest correlation amongst the determinant metrics, which was also a significant strong correlation, was the correlation between operational costs and financial stability, which was negative and significant (r=-0.582, p=.000). This means that as the commercial banks increase their operational cost, there will be a decrease in the financial stability.

However, due to inherent weakness in correlation results especially the third variable problem and difficulty in determination of causality (Field, 2005), there is therefore need to exercise caution when interpreting correlation results. The correlation results could not reveal other unmeasured or measured variables influencing the results. Therefore, regression results are considered handy in testing null hypothesis.

Table 7: Model Summary and ANOVA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.756[a]	.572	.545	.25761

a. Predictors: (Constant), IR, OC, BS, LQ

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.673	4	1.418	21.371	.000[b]
	Residual	4.247	64	.066		
	Total	9.920	68			

a. Dependent Variable: Financial stability

b. Predictors: (Constant), IR, OC, BS, LQ

The results from the model summary in Table 7 gave us information on the overall summary of the model. Looking at the R square column, we can deduce that all the determinants account for 57.2% significant variance in financial stability (R square =.572, P=0.000) implying that 42.8% of the variance in financial stability is accounted for by other variables not captured in this model. From the findings, also adjusted R square value is obtained, which was a corrected R square value to provide a useful estimate of true study population. The difference between R^2 and adjusted R^2 is obtained by subtracting the later from the former (.572-.545=0.027) a value when multiplied by 100% results in 2.7 percent. This reduction implies that should the model originated from the entire population instead of a sample, it would explain about 2.7% less variation in the study outcome.

In order to assess the significance of the model, simply whether the study model was a better significant predictor of the financial stability rather than using mean score which was considered as a guess, the study resorted to F Ratio. The F value from study findings indicated the proportion of the improvement in predicting the results from fitting the model relative to the inaccuracy or errors that still prevails in the study model. From the findings, the F value is more than one, as indicated by a value of 21.371, which means that enhancement as a result of model fitting is much larger than the model errors/inaccuracies that were not used in the model (F (4,68) = 21.371, P=0.000). The large F value is very unlikely to exist by chance (99.0%), thus implying that the final study model had significant improvement in it is prediction ability of commercial banks financial stability.

Table 8: Coefficients on effect of Constructs of Determinants on financial stability

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.140	.631		1.808	.075
IR	.320	.114	.255	2.807	.007
OC	-.270	.081	-.318	-3.341	.001
BS	.303	.108	.254	2.796	.007
LQ	.280	.126	.220	2.222	.030

a. Dependent Variable: Financial stability

From the findings presented, we looked at the model results and scan down through the unstandardized coefficients B column. All for determinants had significant effect on the financial stability. If the determinants are held at zero or it is absent, the financial stability of listed commercial bank would be 1.140, p=0.075. Though be positive but insignificant. It was revealed that interest rate had largest unique significant contribution to the model with B=.320, p=.007 suggesting that controlling of other variables in the model, a unit change in interest rate would result to significant change in financial stability by 0.320 in the same direction as a result of higher interest rate in the bank. Therefore, the first hypothesis was rejected since $\beta_1 \neq 0$ and P value <0.05.

The second largest beta coefficient was 0.303, which is coefficient value for business size. This values are significant (B=.303, p=.007) and also positive. This means that bank size has the strongest unique contribution to explaining the financial stability of the commercial banks in Kenya, when the variance explained by all other variables in the model is controlled. This implies that a unit change in bank size would result to change in financial stability by 0.303 in the same direction. Therefore, the second hypothesis was rejected since $\beta_2 \neq 0$ and P value <0.05.

Another variable that also had a unique significant contribution to the model was the value for liquidity (B=.280, p=.030), slightly lower than bank size. When other variables in the model are controlled, a unit change in liquidity would result to significant change in financial stability by 0.280 in the same direction. Therefore, the third hypothesis was rejected since $\beta_3 \neq 0$ and P value <0.05. Further, operational cost had also a unique significant contribution to the model with B=-0.270, p=.001 implying that when other variables in the model are controlled, a unit change in operational cost would result to significant change in financial stability by 0.270 in the opposite direction. Therefore, the first hypothesis was rejected since $\beta_4 \neq 0$ and P value <0.05.

A regression of the four predictor variables against financial stability established the multiple linear regression model below:

Financial Stability =1.140 + 0.320IR- 0.270OC+ 0.303BS+ 0.280LQ

Testing for null hypotheses

The results of simple linear regression as depicted in Tables were used in testing null hypotheses using B and t-statistics as illustrated hereunder

- **H_{01}:** There is no significant statistical effect of interest rate on financial stability of the listed commercial Banks in Kenya
  - **H_{A1}:** There is significant statistical effect of interest rate on financial stability of the listed commercial Banks in Kenya
  - **T-Test Statistics results:** (t=4.977; P=0.000<0.05)
  - **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=0.520) and P=0.000<0.05
  - **Verdict:** First null hypothesis is rejected
  - **Interpretation:** There exists significant effect of interest rate on financial stability of the listed commercial banks in Kenya.
- **H_{02}:** There is no significant statistical influence of operational cost on financial stability of the listed commercial Banks in Kenya
  - **H_{A2}:** There is significant statistical influence of operational cost on financial stability of the listed commercial Banks in Kenya
  - **T-Test Statistics results:** (t=-5.856; P=0.000<0.05)
  - **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=-0.582) and P=0.000<0.05
  - **Verdict:** Second null hypothesis is rejected
  - **Interpretation:** There is significant influence of operational cost on financial stability of the listed commercial Banks in Kenya
- **H_{03}:** There is no significant statistical influence of bank size on financial stability of the listed commercial Banks in Kenya
  - **H_{A3}:** There is significant influence of bank size on financial stability of the listed commercial Banks in Kenya
  - **T-Test Statistics results:** (t=4.882; P=0.000<0.05)
  - **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=-0.512) and P=0.000<0.05
  - **Verdict:** Third null hypothesis is rejected
  - **Interpretation:** There is significant influence of bank size on financial stability of the listed commercial Banks in Kenya
- **H_{04}:** There is no significant statistical influence of liquidity on financial stability of the listed commercial Banks in Kenya
  - **H_{A4}:** There is significant statistical influence of liquidity on financial stability of the listed commercial Banks in Kenya
  - **T-Test Statistics results:** (t=5.571; P=0.000<0.05)
  - **Beta Standardized Coefficient results:** $\beta_1 \neq 0$ (β_1=-0.563) and P=0.000<0.05
  - **Verdict:** Fourth null hypothesis is rejected
  - **Interpretation:** There is significant influence of liquidity on financial stability of the listed commercial Banks in Kenya

CONCLUSION

The study conclusion was derived from study findings after testing the study hypothesis which was derived from the study objectives.

Basing on first objective of the study, it was concluded that there was significant positive influence of interest rate on financial stability of listed commercial banks in Kenya. Therefore, the first research hypothesis was rejected. An increase in interest rate would make commercial banks more stable financially as it would increase bank revenue through interest income. The commercials banks were found to revise their interest rate overtime so as to comply with Central Bank of Kenya regulation on interest capping

Basing on second objective of the study, it was found that there is significant negative influence of operational cost on financial stability of listed commercial banks in Kenya. Thus the second research hypothesis was rejected. An increase in operational costs would make commercial banks less stable financially as it would make commercial banks to realize more profits. It was noted that listed commercial banks have adopted restructuring cost management strategy to reduce the bank's operational costs.

It was also concluded that there was significant positive influence of bank size on financial stability of list commercial banks. Thus the third research hypothesis was rejected. As the size of the commercial bank increases, it attains more financial stability due to increase in asset and economies of scale. This implies that large firms are able to hedge and diversify risks more therefore increasing their stability in the market. It was noted that the listed commercial banks have increased the number of branches countrywide due to increase in customer base.

Lastly, it was concluded that there was significant positive influence of liquidity on financial stability of listed commercial banks in Kenya. Therefore, the fourth research hypothesis was rejected. This implies that listed commercials banks are more liquid are found to be more financially stability as due are able to pay their debts promptly thus increase in liquidity would results to increase in financial stability. It was revealed that the listed banks adhered to Credit administration policy to protect members' deposits and elimination of delinquent loans and reconciled the volumes of assets and liabilities in terms of maturity.

RECOMMENDATIONS

Interest rate was found to have positive influence on financial stability of commercial banks. Therefore, the study recommends that even though there is capping on interest rate by CBK, financial institutions should review their interest rate regularly so as to increase their income and at the same time not to influence borrower decision negatively. This can be achieved by coming up with various financial products which attract different interest rates with various benefits to the borrowers.

Operating costs negatively influenced financial stability of listed commercial banks in Kenya. The study recommended that commercials banks needed to reduce their operational costs so as to increase their profit margins. This can be achieved by adoption of appropriate information technology to automate various processes and restructuring cost management strategy to reduce the bank's operational costs.

The study also found that the size of bank increases their financial stability. The bank managers should strive to increase their asset as this would results to increase in their ability to offer more credit to clients which would increase in their loan interest income. This can be done by expanding their operations geographically to regions where competition is not very high or to regions where the market is largely untapped. Such a move would increase the customer base of the bank in a significant manner and this would also lead to increased customer deposits.

Lastly, liquidity had significant positive influence on financial stability of commercial banks. The study therefore recommended that commercial banks should be cross-checking liquidity ratios and liquidity flows which could prove to be useful in designing a robust prudential approach to liquidity which would results to financial stability. This can be achieved through projecting likely net withdrawals/inflows by our customers as well as using short term financial instruments compared to long term financial instruments

Suggestion for Further studies

The study did not consider the influence of moderating or control variable on the relationship between the determinants and financial stability of listed commercial banks in Kenya. Further studies should consider inclusion of variables such as inflation rates and Gross Domestic product (GDP) as bank operation are influenced by these factors which in turn affect financial stability of commercial banks.

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