IMPLICATIONS OF BASEL III ACCORD ADHERENCE
ON FINANCIAL DISTRESS STATUS OF
COMMERCIAL BANKS IN KENYA

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Abstract

The study aimed at examining the relationship between adherence to Basel III accord and financial distress status of commercial banks in Kenya. This study adopted a descriptive research design and the population for this study consisted of all the 43 commercial banks in Kenya. The study used secondary data, which was obtained from the listed companies financial statements from 2013-2014. The study used descriptive and inferential statistics to analyze the data. The study findings established that capital requirements, leverage requirements and liquidity requirements have a positive relationship with financial distress status of commercial banks in Kenya hence the Basel III accord requirements positively influence the financial

distress of commercial banks in Kenya. The study concluded that that the adoption of Basel III influences the financial distress status of commercial banks in Kenya and recommended that commercial banks should develop effective policies to ensure that they implement the Basel III Accord since its implementation would help the banks reduce the probability of financial distress.

Keywords: Basel III Accord, Financial Distress, Liquidity, Commercial Banks, Leverage, Bankruptcy, Non-performing loans

INTRODUCTION

Banks are important financial institutions whose investments and expertise play an active part in the development of the national economy in many parts of the world. Banks are key players in the financial system, and they help mitigate the significant informational costs of assessing and monitoring the creditworthiness of borrowers. Modern societies rely on the financial system to help spread capital efficiently throughout the economy (Hartlage, 2012). Banking is a practice that has direct contact with the public activities. As an important sector in the economy role of a country, banking has a unique function of business, as well as stabilizing the State financial atmosphere (Sjahril, Priharta, Parewangi, Hermiyetti, 2015). A modem banking system performs several crucial roles in spreading capital, including transferring resources across time and space, managing risk, clearing and settling payments, pooling resources, and providing information (Hartlage, 2012). Bank assets are created through a process of intermediation by accepting deposits; the basic function of intermediation itself is a source of credit and liquidity risks for any banking institution (Jayadev, 2013). Banks are exposed to various market and non-market risks in performing their functions. These risks expose banks to events, both expected and unexpected, with the potential to cause losses, putting depositors' money at risk (Jayadev, 2013). Commercial banks have also been the major victims of recent financial crisis, debt crisis and continuing market turmoil that have been witnessed in the past, which led to collapse of several banks (Lilius, 2012). The banking financial crises have always been seen as painful constituents of the economic system and most of the bank failures have been blamed on lack of proper financial regulation (Nowak, 2011).

The importance of the role of banks in both maintaining economic growth and enormously contributing in economic collapses, prompted the Basel Committee to focus on adequately regulating the banking sector and forcing banks of the member countries to apply its capital standards (Kcharem, 2014). Currently, financial institutions are required to meet more

stringent capital requirements than they were before the recent financial crisis; in particular, the capital requirement for a large bank is trading book under the Basel Accord (Zaiwen, Xianhua, Xin, Xiaodi, &Xiaoling, 2013). Effective banking supervision and sufficient bank capitalization are stipulated as the two cornerstones for a stable financial system and will reduce the likelihood of financial distress (Witte &Deuchert, 2012). There exist supervisory guidelines developed by the Basel Committee on Banking Supervision, namely the Basel Core Principles for Effective Banking Supervision. There are three Basel Accords: Basel I, Basel II and Basel III (Witte &Deuchert, 2012). The Basel I, II and III are outcomes of that effort of regulators around the world. The purpose of the Basel accords is to provide a common risk-based assessment of bank assets and required capital levels. Basel I separated assets into categories and gave risk weights ranging from 0% to 100% to each category (Acharya, 2012). Basel II was introduced in the year 2005 to address new risks, which had arisen in the world of Banking. Credit risk was enhanced to evaluate risk at client level for wholesale banking while Basel I evaluated it at a sector level (Raman, 2012). However, the economic downturn resulting from huge downturn of ratings of sub-prime backed securities and collapse of some banking organizations in 2008 led the Bank of International Settlements to strengthen the capital requirements for banks to prevent banks from collapse by taking excessive risks (Raman, 2012). These led to revised guidelines, which are referred to as Basel III.

Since the onset of the financial crisis in 2007, calls and cases for better financial regulation have been made and it has become clear that the financial sector is in a phase of profound change around the world (Lilius, 2012). Kenya banking sector has not been left behind as the in 2007 the Central Bank of Kenya (CBK) began a process that will lead to the preparation of a comprehensive roadmap for implementation of Basel accords a process of which to date the implementation is in progress. In addition, the companies Act, the Banking Act and the Central Bank of Kenya, govern the banking industry (KPMG, 2012).In Kenya, financial distress in the banking sector in not a new thing. Past studies for instance, Kariuki (2013) established Kenyan banks a prone to financial distress hence they should implement the Basel III accord to strengthen their capital and liquidity bases. The Kenya's banking industry is highly competitive, and banks must develop strategic initiatives to remain competitive and profitable. The Kenyan banking sector is one of the fastest rising in the economy today. It plays major roles in the country contributing immensely to the GDP of the country. There are 43 banks in Kenya with 11 of them listed at the Nairobi securities Exchange (CBK, 2015). Commercial banks in Kenya are the most dominant of financial institutions and function as financial intermediaries to fulfill a number of important roles.

Research Problem

Bank failures and corporate scandals in recent years have led to bank regulations reforms. This was to ensure that banks don't face financial crisis even in times of economic crisis (Outecheva, 2007). This has witnessed an increment in capital adequacy ratio by 20% in Kenyan banks. However, the non-performing loans concentration has increased by 33.6% and has led to collapse of banks like Dubai bank and Imperial bank (CBK, 2015). These distressed banks were put under receivership by the Deposit Protection Fund Board. Additionally, many countries bank regulations differ on the model practiced in most advanced economies in terms of capital adequacy requirements, restrictions on banks' large loan concentrations, foreign exchange exposures and business activities which fall outside of traditional commercial banking (Kaskende, Bagyenda & Brownbridge, 2013) as the accords are intended to be global minimum standards. Commercial banks in Kenya face various challenges like national economic downturns, lack of effective debt collection policies, and increased failure by customers in providing vital information during bank loan applications (Waweru & Kalani, 2009). This has challenged the main business goal of Basel III of improving risk management processes for banks. It may also deter the achievement of 6.2% Kenyan GDP growth in 2030 and may suffer from the forecasted China economic slowdown and restructuring (World Bank, 2015).Locally, few studies have been carried out on Basel Accords. For example a study by Mukangu (2013) examined the extent of Basel II adoption in Kenyan commercial banks and its effects on profitability. Waithaka (2013) also examined the effect of Basel II requirement on Kenyan commercial banks' lending. Since the researchers did not portray the relationship between the adherences to Basel III Accord with financial distress, the researcher found a need for the study.

Research Objective

To examine the relationship between adherence to Basel III accord and financial distress status of commercial banks in Kenya

LITERATURE REVIEW

Irrelevance Theory of Capital Structure

The theory was developed by Modigliani and Miller (1950). The theory states that in a perfect market where there are no taxes, asymmetric information, and bankruptcy cost, the value of organizations is unaffected by how it is financed whether through debt or equity or both of the two, or even the firm's dividends policy (Baker & Martin, 2011). According to Baker and Martin (2011), the value of the firm is determined by the risks of its underlying asset, its earning power and its independent way of raising finance for its investments. Based on these assumptions, the

Weighted Average Cost of Capital (WACC) will remain constant even if there are changes in the firm's capital structure. For instance, if a firm raises capital via debt; there will be no tax benefits from interest payments and thus no change in WACC (Baker & Martin, 2011). However, the assumptions of the Modigliani and Miller capital structure irrelevance are only applicable in an ideal world. Financial leverage reduces the cost of capital but however has certain risks. A high degree of financial leverage means that a firm will have high interest payments which will negatively impact on the firm's earnings per share. In addition, if the firm is not keen, the interest rates on debt can be higher than the required rate of return (Espen, 2011). This will imply that the firm is making a loss from its investment.

Entropy theory

The entropy theory is also described as the Balance Sheet Decomposition Measure (Memba&Abuga, 2013). According to Aziz and Dar (2004), entropy theory postulates that financial distress can be identified by analyzing the changes in an institution's balance sheet. Aziz and Dar (2004) argue that significant changes in a firm's financial statements imply that a firm is incapable of maintaining an equilibrium state between its assets and liabilities. Since these changes may be uncontrollable presently and in the future, the firm may likely face financial distress in the future. The theory utilizes Multiple Discriminant Analysis (MDA) and Univariate Analysis in evaluating changes in the balance sheet (Memba&Abuga, 2013). Univariate Analysis is the use of market indicators or accounting based ratios in determining financial distress risk. MDA is used to counter the inadequacies of Univariate Analysis. MDA is the statistical analysis whereby more than one variable is analyzed at the same time. A number of research studies on institutional financial distress have used entropy theory as their theoretical framework. Memba and Abuga (2013) adopted entropy theory when they conducted a study which sought to determine the causes of financial distress to various Kenyan organizations. Aziz and Dar (2004), Sayari (2013), and Sun and Li (2008) have also used entropy theory as the theoretical foundation for investing studies on financial distress.

Wreckers Theory of Financial Distress

The wreckers' theory of financial distress emanated from Campbell, Hilscher and Szilagi (2005) and it is based on taking one-step back and trying to tell the story of profiting from ship wreckage in a completely different perspective. The wreckers' theory of financial distress seeks to explain the benefits that may step out of financial distress to stakeholders. It is not necessary to attribute the negative excess returns of distressed firms to inefficient or irrational markets. Such negative excess returns can be shown to be the equilibrium outcome under efficiency in

an environment where a subset of participants is able to draw returns (in kind) from distressed companies (Nyamboga *et al.*, 2014). The wrecker's theory of financial distress paints an illusion of a firm being hit by a series of negative shocks, making losses and approaching a state of financial distress. With higher leverage, volatility of share prices increases with respect to private information; the ultimate fate of the firm depends on issues unknown to the general public (Nyamboga *et al.*, 2014).

Normative theory of Bankruptcy

The normative theory, also called modern theory of bankruptcy emanates from Alder (2002) and it relates the results of a bankruptcy procedure to earlier stages in the life of the borrowing firm. This theory posits that: interest rates (cost of debt) fall as the efficiency of the applicable bankruptcy system increases (a more efficient system increases creditor payoffs). Thus, the society that wants to maximize social welfare would prefer firms to pursue every project for which credit can be raised; debt-financed firms pursue fewer projects than society prefers because firms must surrender bad state returns to creditors, but must share good state returns with them (Nyamboga *et al.*, (2014). For instance, a system that rescues only financially distressed firms generates higher payoffs for creditors than a system that attempts to rescue economically distressed firms as well. At the borrowing stage, a competitive credit market reduces the amounts that lenders require solvent firms to repay when the lenders' expected insolvency payoffs increase (Nyamboga *et al.*, (2014).

Empirical Review

Gottschalk and Griffith-Jones (2006) examined the implementation of Basel II in low-income countries (LIC). The study assessed the low-income countries' views and concerns on Basel II, whether and how they intend to implement the new Basel Capital Accord, and the challenges they may face in doing so. In addition, the study discussed the possible implications of Basel II implementation for competitiveness of LIC banking sectors and financial inclusion. The study findings established that most LICs are adopting a very cautious approach towards Basel II. The study intentions were first to understand better how Basel II works and to have a better grasp of their possible implications, in order to be able to adopt an informed decision on the issue. Furthermore, the study found out that several LIC countries felt that they have previous tasks to complete within Basle 1 or more generally within banking regulations before they tackle Basle II and III.

Slovik and Cournede (2011) estimated the medium-term impact on economic output of the announced Basel III capital requirements using a consistent approach across the three main

OECD economies. The analysis used an average impact on annual GDP growth in the range of −0.05 to −0.15 percentage point during a five-year period. In addition, the study established that economic output is mainly affected by an increase in bank lending spreads as banks pass a rise in bank funding costs, due to higher capital requirements, to their customers. To meet the capital requirements effective in 2015 (4.5% for the common equity ratio, 6% for the Tier 1 capital ratio), banks are estimated to increase their lending spreads on average by about 15 basis points. The capital requirements effective as of 2019 (7% for the common equity ratio, 8.5% for the Tier 1 capital ratio) could increase bank lending spreads by about 50 basis points.

Paolo (2011) assessed the long-term economic impact of the new regulatory standards (the Basel III reform). The study aimed at determining the impact of the reform on long-term economic performance, economic fluctuations and the adoption of countercyclical capital buffers on economic fluctuations. The study findings established that each percentage point increase in the capital ratio causes a median 0.09 percent decline in the level of steady state output, relative to the baseline. In addition, the study revealed that the impact of the new liquidity regulation is of a similar order of magnitude, at 0.08 percent.

Kcharem (2014) studied the impact of Basel III capital requirements on the financial sector and the real economy. The study tried to identify the reasons of regulating banks and introduced the two previous Basel Accords. The study concluded that Basel III capital requirements are still not enough robust to keep abreast of continuous banking and financial developments, In addition the study concluded that the implementation of the new regulatory framework will have both negative and positive repercussions for market participants.

Tan (2015) examined financial distress and firm performance evidence from the Asian financial crisis. Using a sample of 277 firms from eight East Asian economies, the relationship between financial distress and firm performance during the Asian Financial Crisis of 1997-1998 was tested. This was because the crisis provided an exogenous shock, which reduced the endogeneity issues between firm performance and leverage. The results from the study established that firms with low financial leverage tend to perform better than firms with high financial leverage. Additionally, the study established that the Asian Financial Crisis of 1997-1998 magnified the negative relationship between financial distress and firm performance. High-leverage firms were found to experience worse performance during a crisis.

Maina and Sakwa (2012) assessed the financial distress among listed firms in Nairobi Stock Exchange in Kenya. The study utilizes the Z'-score multi-discriminant financial analysis model which provides the framework for gauging the financial performance of the firms. In addition, the study used ANOVA and correlation tests in support of the evidences from the Z-

score model. The sample constituted selected firms listed in Nairobi Stock Exchange divided into five different sectors. The results revealed that the financial health of the listed companies needed to be improved. In addition, a disjoint was noted in the correlation between what is expected of the listed companies in terms of financial performance and the benefits to be accrued from CMA surveillance on them. On the analysis of the financial statements of the listed firms it was postulated that the financial distress experienced by the firms are emanating from functioning of these firms. The study recommended that the NSE should make financial stability an integral driver of its policy framework.

Kariuki (2013) examined the impact of financial distress on commercial banks performance in Kenya. From a population of forty-four banks, a sample of twenty-two banks was selected. The sample included eleven listed banks at the NSE and eleven non listed banks. Data was obtained from the financial statements of the banks and the Central bank of Kenya. Altman's Z score model was used to measure financial distress while return on assets ratio was used to measure financial performance. The study found out that most of the banks under study suffered financial distress where the non-listed banks suffered more from financial distress as compared to the listed banks. The study also established that financial distress had a significant effect on financial performance of banks where performance was negatively affected.

Figure 1. Conceptual Framework
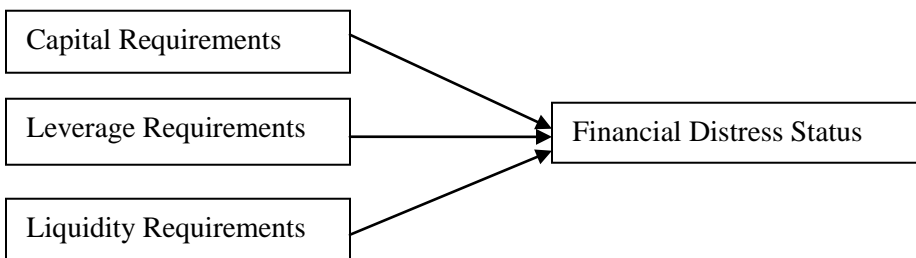
RESEARCH METHODOLOGY

This study adopted a descriptive research design. Descriptive research design is used when scholars and researcher want to determine the characteristics of an element or variable (Mugenda&Mugenda, 2003). In addition, a descriptive design was suitable because it provided the basis of collecting data in order to determine and describe the effect of the adherence of Basel III accord and financial distress status of banks listed at the NSE. The population for this study consisted of all the 43 commercial banks in Kenya (CBK, 2014). Census method was adopted resulting to 43 commercial banks in Kenya. The study used secondary data, which was obtained from banks financial statements from 2013-2014. This is because the Basel III accord

became operational in 2013. Data was analyzed using descriptive and inferential statistics. The dependent variable in the model was represented by Y. The independent variables for the study included Capital Requirements, Leverage Requirements and Liquidity Requirements. Below is the representation of the model:

$FD = \alpha + \beta_1 CR + \beta_2 LIR + \beta_3 LER + \varepsilon$

Where;

Y – Financial Distress measured using the Altman Z score Model (Altman, 1968).

CR – Capital requirement

LIR –Liquidity requirements

LER – Leverage requirements

The Z-score formula: $Z' = 0.717T1 + 0.847T2 + 3.107T3 + 0.420T4 + 0.998T5$

T1 = (Current Assets-Current Liabilities) / Total Assets

T2 = Retained Earnings / Total Assets

T3 = Earnings before Interest and Taxes / Total Assets

T4 = Book Value of Equity / Total Liabilities

T5 = Sales/ Total Assets

Zones of Discrimination:

Z' > 2.9 -"Safe" Zone

1.23 < Z' < 2. 9 -"Grey" Zone

Z' < 1.23 -"Distress" Zone

CR – Capital Requirements measured using Total Capital ratio

$$Total\ capital\ ratio = \frac{Tier\ 1\ capital + Tier\ 2\ capital}{Risk\ Weighted\ Assets}$$

LER – Leverage Requirements measured using Leverage Ratio

$$Leverage\ ratio = \frac{Tier\ 1\ Capital}{Total\ Exposure}$$

LIR – Liquidity Requirements measured using Net stable funding ratio

$$Net\ stable\ funding\ ratio = \frac{Available\ stable\ funding}{Required\ Stable\ funding}$$

α – Constant

$\beta_1, \beta_2, \beta_3$ – Beta Coefficients

ε – Error Term

The measurement for each independent variable was computed and rated as below:

Tier 1 capital = Shareholder Equity + Disclosed reserves

Tier 2 Capital = Revaluation reserves + General provisions + Hybrid instruments and subordinated term debt

Total Exposure = On-balance sheet assets + Derivative Exposures + Securities finance transactions + Off-Balance sheet Exposures.

Available stable funding = Capital + preferred stock with maturity of equal to or greater than one year + liabilities with effective maturities of one year or greater.

Required stable funding = carrying value of an institution's capital and liabilities * Required Stable Funding factor

To test statistical significance of the regression model F test and ANOVA was used while correlation (r) was used to test the relationship between the variables. In addition, the coefficient of determination (R^2) was used to test the explained variation.

ANALYSIS AND RESULTS

Response Rate

A census of the 43 commercial banks in Kenya was undertaken however complete data was only obtained from 30 commercial banks in Kenya hence a response rate of 70% which was considered adequate for the study.

Descriptive Statistics

Table 1 shows the descriptive summary statistics. The table presents the number of observations, minimum and maximum values, and the mean and the standard deviation.

Table 1 Summary Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Z score	57	.22	1.84	.6029	.32347
Total Capital Ratio	57	.07	2.29	.2349	.28672
Leverage ratio	57	.02	2.47	.2471	.39149
Net Stable funding ratio	57	-.44	.58	.7300	2.75621

Table 1 shows that the Z-score had a mean of 0.60 and standard deviation of 0.323 whereas total capital ratio had a mean of 0.23 and standard deviation of 0.287. Additionally, leverage ratio had a mean of 0.24 and a standard deviation while net stable funding ratio had a mean of 0.73 and standard deviation of 2.75 respectively.

Regression Analysis

Table 2 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.590[a]	.348	.312	.26838

As per the study findings on table 2, the independent variables explain 31.2% of the variation in the dependent variable (Financial distress) while 68.8% of the variation is explained by other variables. Additionally, the model shows there is a strong positive relationship between the Basel III accord and financial distress status of commercial banks in Kenya as indicated by r (59%).

Table 3. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.042	3	.681	9.450	.000[a]
	Residual	18.72	26	.072		
	Total	20.762	29			

According to the results on table 3, the F statistics value of 9.450 (9.450 > 2.32) is significant at 5% level of significance since the p value of 0.000 < 0.005. This indicates that the regression model is fit and reliable to examine the relationship between adherence to Basel III accord and financial distress status of commercial banks in Kenya.

Table 4. Regression Coefficients

	β	Std. Error	Sig
(Constant)	.540	.049	.000
Capital Requirements	.037	.143	.797
Leverage requirements	.015	.105	.888
Liquidity requirement	.070	.013	.000

The researcher conducted a multiple linear regression analysis so as to explain the implications of Basel III adherence on financial distress of commercial banks. The two variables as per the SPSS generated, the equation: FD= 0.037CR + 0.015LER + O.070LIR + 0.540.To assess the significance of each independent variable on the dependent variable, the researcher established

that liquidity requirements had more influence towards financial distress status of commercial banks. The model revealed that there exist no significant relationships between capital requirements since its p-value was less than 5%. This concurs with the study findings by Kcharem (2014) who concluded that Basel III capital requirements are still not enough robust to keep abreast of continuous banking and financial developments. This is in disagreement with Slovik and Cournede (2011) who established that the capital requirements effective as of 2019 could increase bank lending spreads by about 50 basis points. Additionally the model revealed that there exist no significant relationships between leverage requirements since its p-value was less than 5%. This is contrasts with the study by Tan (2015) who established that firms with low financial leverage tend to perform better than firms with high financial leverage. Additionally, the study established that the Asian Financial Crisis of 1997-1998 magnified the negative relationship between financial distress and firm performance. High-leverage firms were found to experience worse performance during a crisis. The model also revealed that there exist a significant relationship between liquidity requirement and financial distress status of commercial banks in Kenya as its p-value was greater than 5%. This concurs with the findings of Yan *et al.* (2012) who suggested UK banks need to increase their reliance on common equity in their capital base beyond the level required by Basel III as well as boosting customer deposits as a funding source. This would have a positive long-term effect and significant marginal benefit.

Summary of the Findings

The study findings established that capital requirements measured using total capital ratio has a positive but insignificant relationship with financial distress status of commercial banks in Kenya. The results also established that leverage requirements measured using leverage ratio has a positive and insignificant relationship with financial distress status of commercial banks in Kenya. The results also show that liquidity requirements measured using net stable funding ratio has a positive significant relationship with the financial distress status of commercial banks in Kenya. Hence the Basel III accord requirements positively influence the financial distress of commercial banks in Kenya.

CONCLUSIONS

The study findings revealed that capital requirements, leverage requirements and liquidity requirements have a positive relationship with financial distress status of commercial banks in Kenya. Thus, based on the study finding the study concludes that the adoption of Basel III influences the financial distress status of commercial banks in Kenya. As such, the Basel III accord requirements positively influence the financial distress status of commercial banks in

Kenya. Based on the findings it is also clear that the liquidity pillar is more critical in the market of study. The regulator has focused a lot of effort on capital requirements for banks. However it is clear that in Kenya the main focus pillar for Basel III should be on liquidity.

RECOMMENDATIONS FOR POLICY AND PRACTICE

As per the study findings the study recommends that commercial banks should develop effective policies to ensure that they implement the Basel III Accord since its implementation would help the banks reduces the probability of financial distress.

The study also recommends that regulatory authorities like the central bank of Kenya develop local standards and policies based on Basel III accord since the accord aims at stricter regulations for regulating commercial banks against financial shocks.

Additionally, the study also recommends that in addition to the Basel II accord and other local regulations imposed on the banking sector in Kenya, Commercial banks in Kenya should set their own standards in accordance to the Basel Accords to cushion themselves against financial shocks which may affect their operation.

LIMITATIONS FOR THE STUDY

The study aimed at examining the implications of Basel III accord adherence on financial distress status of commercial banks in Kenya. Thus the study findings can only be generalized to commercial banks in Kenya since the operations of banking industry around the world are not standardized.

The secondary data obtained from commercial banks annual reports covered a period of two years Basel III accord has been operational. However, the study may not have covered the adoption of Basel III accord and its implications on financial distress effectively.

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