Effect of Liquidity Risk on Financial Performance of Insurance Companies Listed at the Nairobi Securities Exchange

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Abstract: *Many people think the possibility of an insurance company running into difficulties over liquidity issues is a remote prospect. After all, there is no leveraging of loans as with the banks, and the reserves are backed by good solid assets. However, this is not the case, and liquidity risk (sometimes associated with fraud) has been a source of some historic insolvencies. This study was aimed at establishing the liquidity risk and its effect of financial performance of Listed Insurance Companies in Kenya. The risks to be studied included operational risk, market risk and credit risk. The six listed insurance companies comprised of the target population for the period 2012-2015. The study was descriptive in nature. The financial statements of these companies were studied and comparisons made on the return on equity and net premiums earned for those years. It was found out that operational, market and credit risks has negative effect on the financial performance if these companies. The researcher recommended that measures should be put into place to hedge these risks and hence maintain a healthy financial performance.*

Keywords: Liquidity risk, financial performance

1. Introduction

One of the most severe liquidity stress scenarios faced by an insurer is a mass surrender of policies owing to a loss of confidence in its financial strength. This happened to Equitable Life following the House of Lords ruling on its guaranteed annuity liabilities in 2000. Risk is a natural element of business and community life. It is a condition that raises the chance of losses/gains and the uncertain potential events which could manipulate the success of financial institutions (Crowe, 2009). As a result, well establish risk management practices (RMPs) can assist insurance to reduce their exposure to risks. Effective risk management is accepted as a major cornerstone of insurance firm's management by academics, practitioners and regulators and acknowledging this reality and the need for a comprehensive approach to deal with insurance risk management (Sensarma&Jayadev, 2009). Moreover, risk management is found to be one of the determinants of returns of insurance s' stocks. Indeed as Holland (2010) observed, risk management failure is considered one of the main causes of the crisis. The inability of insurance firms to raise liquidity can be attributed to a funding liquidity risk that is caused either by the maturity mismatch between inflows and outflows and/or the sudden and unexpected liquidity needs arising from contingency conditions (Duttweiler, 2009). Insurers will typically hold cash in the form of bank deposits, Treasury Bills, commercial paper, and other money market instruments to meet outflows. Liquidity losses on realizing listed securities depend not only on the amount sold, but also on quoted maximum deal sizes and spreads, which are in turn affected by market conditions (Kumar, 2015). Liquidity Risk is a risk of insufficient liquid assets to meet payouts from policies (surrender, expenses, maturities, etc.), forcing the sale of assets at lower prices, leading to losses, despite company being solvent. Loss from meeting liquidity comes either from fire sale or by paying interest on borrowing to meet payouts. Liquidity risk arises due to two reasons, one on the liability side and other on the asset side (Sonjai, 2008).

1.1 Problem Statement

Liquidity risk in an insurance company is considered as less threatening than in bank because of higher frequency of money exchange takes place in banking industry compared to insurance industry. However, liquidity risk management is equally important in insurance as in banking sector because of interconnection of financial system leading to cash crisis and secondly liquidity risk may prove very expensive to insurer due to meeting the cost of liquidity and also impacting the Assets and Liability mismatch. Based on earlier researches, the studies did not center on the liquidity risk especially in the insurance industry. Therefore, there was a yawning gap in existence since there was no comprehensive study on the effect of liquidity risk on financial performance of insurance companies listed at the Nairobi Securities Exchange. Earlier studies broadly concentrated on effect of liquidity and relationship of liquidity and profitability of commercial banks in Kenya. This study therefore concentrated on what effect liquidity risk has on financial performance of insurance companies.

1.2 Research Objectives

The general objective of this study was to establish the effect of liquidity risk on the financial performance of insurance companies listed at the Nairobi Securities Exchange.

Specific objectives of the study
1) To determine the effect of operational risk on the financial performance of insurance companies listed in the Nairobi Securities Exchange.

2) To determine the effect of market risk on the financial performance of insurance companies listed in the Nairobi Securities Exchange.
3) To determine the effect of credit risk on the financial performance of insurance companies listed in the Nairobi Securities Exchange.

2. Literature Review

This research presents some of the previous studies about the effect of liquidity risk on financial performance.

2.1 Theoretical Review

This part represents some theoretical aspects related to the liquidity risk concept.

2.1.1 Extreme value theory

This theory was pioneered by Leonard Tippet in the 1950's. Extreme value theory is a practical and useful tool for modeling and quantifying risk. Extreme value theory is the theory of modeling and measuring events which occur with very small probability. This implies its usefulness in risk modeling as risky events per definition happen with low probability. This theory shows that the probability on very large losses is eventually governed by a simple function, regardless the specific distribution that underlies the return process. Extreme Value Theory provides guidance on the kind of distribution we should select so that extreme risks are handled conservatively. It is most naturally developed as a theory of large losses, rather than a theory of small profits. It can be used to estimate and measure the frequency of the large losses.

2.1.2 Credit Risk Theory

Merton 1974 introduced the credit risk theory which is said the default event derives from a firm's asset evolution modeled by a diffusion process with constant parameters. Merton proposed a model for assessing the credit risk of a company by characterizing the company's equity as a call option on its assets. Such models are commonly defined "structural model "and based on variables related a specific issuer. An evolution of this category is represented by asset of models where the loss conditional on default is exogenously specific. In these models, the default can happen throughout all the life of a corporate bond and not only in maturity.

2.1.3 Capital Structure Theory

This theory was devised in the 1950's by Modigliani and Miller. It states that a company can finance its operations by either debt or equity or different combinations of these two sources.

The theory assumed a perfect capital market where there is no problem of asymmetric information: there are no transaction costs; no bankruptcy cost and the securities are infinitely divisible. Managers act in the interest of shareholders and the firms can be grouped into equivalent risk classes on the basis of their business risk; and they assumed that there is no tax

Modigliani and Miller (1958) created a fictional world without taxes, transaction costs, bankruptcy costs, growth opportunities, asymmetric information between insider and outsider investors and differences in risk between different firms and individuals. They proved that under these perfect conditions financing is irrelevant for shareholder's wealth and there is no optimal debt to equity ratio. In order to make it more realistic, Modigliani and Miller (1963) later modified their model by lifting one restriction.

2.2 Empirical Review

The effect of liquidity on financial performance has been studied by a number of researchers; here is some review of them.

According to Maaka (2013), profitability of commercial banks is negatively affected due to liquidity gap and leverage. The borrowing in the repo market helps the banks to keep the negative impact of the liquidity gap within an acceptable range set by the Central Bank. The harmful effects of liquidity to commercial banks be avoided by maintaining sufficient cash reserves.

A study by Sanghani (2014) on non-financial companies listed at the Nairobi Securities Exchange revealed that there was a positive relationship between current ratio, operating cash flow ratio, capital structure and financial performance of non-financial companies listed at the NSE. Thus the study concluded that liquidity positively affects the financial performance of non-financial companies listed on the NSE.

Mwangi (2014) investigated the effect of liquidity on financial performance of deposit taking microfinance institutions in Kenya. The study found out that all the studied factors have a positive correlation with the financial performance of the MFIs. Therefore, liquidity of MFIs has a positive association with their financial performance. The financial performance of the MFIs in Kenya is highly dependent on the level of the institutions' liquidity. There is also a positive association between liquidity and financial performance of MFIs.

According to Ouma (2015) in a study to find out the effect of liquidity risk on the profitability of commercial banks in Kenya, the study found that the liquidity affected profitability of commercial banks positively. There was a significant relationship between liquidity and profitability of commercial bank in Kenya. Liquidity problems if unchecked may adversely affect a given bank's profitability, capital and under extreme circumstances, it may cause the collapse of an otherwise solvent bank. In addition, a bank having liquidity problems may experience difficulties in meeting the demands of depositors, however, this liquidity risk may be mitigated by maintaining sufficient cash reserves, raising deposit base, decreasing the liquidity gap and profitability of commercial banks.
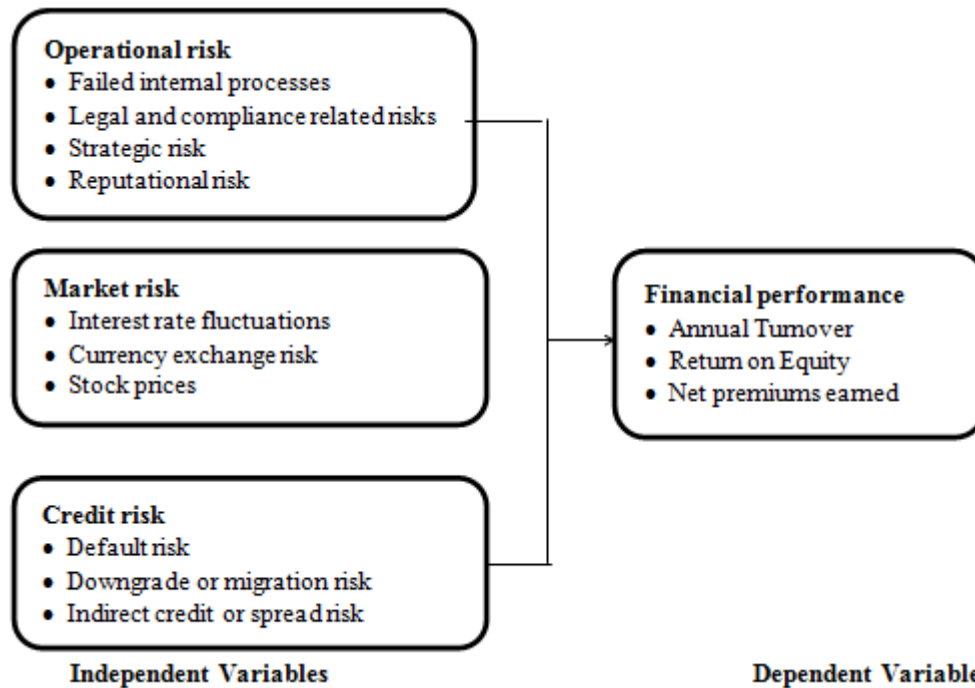
2.3 Conceptual Framework

Figure 2.1: Conceptual framework

Operational risk

Operational risk losses are high profile, uncertain, and headline-grabbing. Despite the best endeavors of companies, material operational risk losses keep occurring. In the insurance sector, operational risk losses tend to be less dramatic than in banking, measured in the hundreds of millions rather than billions, and with losses crystallizing over a longer period. It is therefore appropriate from an economic perspective, and mandatory from a regulatory perspective, to hold capital against this risk. Research and surveys indicate that globally insurers have not historically directed as much time and effort to analyzing, modeling, and quantifying operational risk as they have for other categories of risk, such as insurance risk and asset-related risks. There is, however, a trend towards greater regulatory attention directed at the potential effect of operational risk for financial institutions; and as a result, insurers have recently begun to focus on how operational failures can affect their business. Consequently, methods for modeling operational risk capital are being developed, and the literature supporting such methods is being published at a greater rate than in the past (Valle &Giudici, 2008).

Market Risk

The risk to an insurer's financial condition arising from movements in the level or volatility of market prices of assets, liabilities and financial instruments, whether on all investments as a whole (general market risk) or on an individual investment (specific market risk). Market risk relates to the volatility of the market price of assets. It involves exposure to movements in the level of financial variables, such as stock prices, interest rates, exchange rates or commodity prices. It also includes the exposure of options to movements in the underlying asset price. Market risk also involves exposure to other unanticipated movements in financial variables or to movements in the actual or implied volatility of asset prices and options. It is obvious that this volatility affects the actual market value of the company's assets, including those needed to cover the liabilities, and therefore also affects the company's actual surplus. However, the volatility of the market price of assets will also affect the liabilities. This will always happen in at least one and possibly two ways. Firstly, a change in asset yields will affect the market value of the liabilities through their effect on the discount rate(s) of the liability cash flows. These effects on the liability value should always be taken into account. In particular, market risks should always be considered from the perspective that both assets and liabilities are valued at their market values. Secondly, a change in asset returns/yields will affect future liability cash flows, if the policyholders are entitled to some form of profit sharing which is related, for instance, to actual and/or historical returns on assets (Mourik, 2003).

Credit Risk

The risk of financial loss resulting from default or movements in the credit rating assignment of issuers of securities (in the insurer's investment portfolio), debtors (e.g. mortgagors), or counterparties (e.g. on reinsurance contracts, derivative contracts or deposits) and intermediaries, to whom the company has an exposure. Credit risk includes default risk, downgrade or migration risk, indirect credit or spread risk, concentration risk and correlation risk. Sources of credit risk include investment counterparties, policyholders (through outstanding premiums), reinsurers, intermediaries and derivative counterparties. Credit risk can also be described as the risk of loss a firm is exposed to if a counterparty fails to perform its contractual obligations (including failure to perform them in a timely manner) including losses from downgrades and other adverse changes to the likelihood of counterparty failure (Kelliher& Wilmot, 2011).

3. Research Methodology

Descriptive research design was appropriate for this study as it was helpful in understanding the effects of liquidity risk on financial performance of listed insurance companies in Kenya and therefore answers the "what" question of the study. The target population of the study included all the six listed insurance firms in Kenya namely: Jubilee holding, Pan African insurance holding, Kenya Re insurance, Liberty Kenya holding limited, Britam and CIC holding. Risk managers, operations managers, marketing managers and finance managers were interviewed in all the six listed insurance firms. Census survey was conducted in the entire six listed insurance firms in Kenya. The sampling frame of this study was a total of 36 managers from the six listed insurance companies. This consisted of 18 risk managers, 6 operation managers, 6 finance managers and 6 marketing managers. This was justified on the basis that they are best informed and aware of the factors exposing the companies to liquidity risk.

Due to the size of the population of all the listed insurance companies in Kenya, Census Method of Data Collection was used. There are only six listed insurance companies. The study respondents included managers in operations, risk, finance and marketing departments.

Primary information was gathered by use of questionnaires coupled with informal interviews that were guided by the questionnaires. Secondary data was gathered from annual reports of the listed insurance companies.

In this study, six percent of the sample questionnaire's designed as the main data collection instrument was used to pretest effectiveness and relevance of the instrument. The reliability of the questionnaires was tested with the aid of SPSS software. In this case, three questionnaires were used in the pilot test. The questionnaire pre-testing was done using randomly selected managers of listed insurance who were not included in the final data collection.

Information was sorted, coded and input into the statistical package for social sciences (SPSS) version 23.0 for production of graphs, tables, descriptive statistics and inferential statistics. Descriptive statistics was used to determine the effects of liquidity risk on financial performance of listed insurance companies in Kenya. A regression model was used for establishing the relationship between the liquidity risk and financial performance. The model adopted consisted of three variables. The independent variables were the liquidity risks facing listed insurance companies while the dependent variable was the financial performance.

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \text{€}$$
Y=Financial performance
X_1=credit risk
X_2=operational risk
X_3= marketrisk
β_0 = Constant (Y-intercept)
€= Error term.

The study used a linear regression model to show the relationship between liquidity risk and financial performance and how these risks have affected financial performance.

4. Research findings

Pilot test result
The reliability of the questionnaire was tested using the Cronbach's Alpha correlation coefficient with the aid of SPSS software. According to George and Mallery (2003) Cronbach Alpha value greater than 0.7 is regarded as satisfactory for reliability assessment.

Table 4.1: Cronbach Alpha for Reliability Assessments

Variables	Number of items	Cronbach Alpha Values
Operational risk	5	0.710
Market risk	5	0.833
Credit risk	4	0. 783

4.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-0.691a	.477	.32	.01362

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in the above table the value of adjusted R squared was 0.32 an indication that there was variation of 32% on financial performance of insurance companies listed at Nairobi Securities Exchange due to changes in market risk, credit risk and operational risk.

The table above indicates that the predictor variables (operational risk, market risk and credit risk) are jointly negatively correlated to financial performance as indicated by an R of -0.691. Furthermore, the three predictor variables explain up to 32% of the changes in the financial performance of the listed insurance firms as indicated by an R-square of 0.32. This implies that the remaining 68% of the changes in the frequency of financial performance changes are explained by other factors not considered in this study. The model summary has been used to determine the correlation between liquidity risk and financial performance of listed insurance firms.

4.2 Model Coefficients

Model	B	Std Error	B	t	Sig
(Constant)	1.147	0.2235	-	5.132	0.000
Operational Risk	-0.668	0.1102	0.1032	7.287	0.021
Market risk	-0.348	0.1828	0.0937	4.685	0.007
Credit risk	-0.454	0.2156	0.1178	4.626	0.001

Multiple regression analysis was conducted to determine the relationship between financial performance of insurance companies in Kenya and the three independent variables, that is, operation risk, market risk and credit risk. As per the SPSS generated table above, regression equation;

(Y= 1.147- 0.668X1- 0.348X2- 0.454X3 + ε)

According to the regression equation established, taking all factors into account (operation risk, market risk and credit

risk.) constant at zero, financial performance of insurance companies in Kenya will be 1.147. The data findings analyzed also show that taking all other independent variables at zero, a unit increase in operation risk will lead to a 0.668 decrease in financial performance, a unit increase in market risk will lead to a 0.348 decrease in financial performance, a unit increase in credit risk will lead to a 0.454 decrease in financial performance.

The researcher found out that the ROE of the companies declined every year. However, there was no direct relationship between the net premiums earned by the insurance companies.

5. Summary, Conclusion and Recommendation

Based on the findings of the research, the researcher concluded that there is a negative relationship between liquidity risk and financial performance for the insurance companies measured by the ROE. From 2012 to 2015, the ROE for all the companies has been declining.

The researcher therefore recommends that there is need to invest on measures to curb liquidity risk in these companies in order to have a sound financial performance and avoid future insolvencies. These risks can be avoided by ensuring correct and effective measures are in place.

The study recommends that the opinions of downgrade rating agencies should not be ignored. This is because there might be factors that might get to the public who are the clients and create panic. This could lead to withdrawals by the clients and hence, affect financial performance.

The study recommends that the managers involved should take precautions to ensure stability of their stock prices as this will highly influence foreign investments which in a way will pull down their financial performance.

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