

“Evaluating the influence of leverage and liquidity on the financial performance of general insurance companies in Sub-Saharan Africa”

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EVALUATING THE INFLUENCE OF LEVERAGE AND LIQUIDITY ON THE FINANCIAL PERFORMANCE OF GENERAL INSURANCE COMPANIES IN SUB-SAHARAN AFRICA

Abstract

The factors of the insurance industry's business performance are of concern to a variety of participants in any economy, such as the government, politicians, policyholders, and speculators. There has been very little research on this issue in Sub-Saharan Africa, with the majority focusing on specific factors that influence the performance of insurance businesses. The purpose of this paper was to evaluate the influence of leverage and liquidity on financial performance of general insurance companies in Sub-Saharan Africa. The study used descriptive correlational techniques to obtain panel data across 113 general insurers operating in Sub-Saharan Africa as of December 31, 2019, for 11 years (2008–2019). The pooled OLS, fixed effects and random effects models were estimated with the financial performance measures (proxied by ROA) as the dependent variables where the Hausman test was employed to test the hypothesis. The study found that there is a negative negligible link between leverage and financial performance, whereas there is a positive association between liquidity and financial performance. The study suggested that proper liquidity management is critical for insurance businesses to enhance a company's value as well as financial success. The focus should be on establishing a proper asset-liability mix, in which a company's total liabilities do not exceed its total assets. Furthermore, organizations require cash flow policy recommendations to optimize profit potential while limiting liquidity risk in the financial statement.

Keywords firm characteristics, financial performance, insurance companies, Sub-Saharan Africa

JEL Classification C23, G3, L25

INTRODUCTION

Financial institutions have earned a reputation for being critical to the development of several economies. As illustrated by the 2007–2008 financial crisis and its aftermath, financial institutions' positive contributions to economic growth have brought academic attention to many aspects of the sector's performance and risk-related concerns (Patel, 2019). The important contributor of insurance to a nation's overall economic advancement and income creation is at the heart of this increased interest in the insurance sector's financial performance (Morara & Sibindi, 2021). Insurance is a way of obtaining protection against unforeseen events through specialized activities such as resource mobilization for investments as well as risk underwriting (Terdpaopong & Rickards, 2021). As a result, it is critical to ensure that insurance businesses in Sub-Saharan Africa work admirably and efficiently. Every company is obsessed with its performance, and strong performance not just increases its market value but also helps the industry expand in the long run, resulting in overall economic success (Morara & Sibindi, 2021). Equity investors (shareholders) who have

invested in a company, whether it is an insurance firm or another sort of organization, expect a decent return on their investment (Burkhanov, 2020). There are various performance indicators, but profitability appears to be the most often employed.

In latest years, there has been an increase in the number of studies attempting to determine firm-specific aspects as they pertain to the insurance performance of a company (Mazviona et al., 2017; Egbunike & Okerekeoti, 2018; Ayuba et al., 2019; Morara & Sibindi, 2021; Msomi & Nyide, 2021). Sound financial performance represents management effectiveness and productivity in using a firm's resources, which helps to improve the economic conditions (Msomi & Nyide, 2021). General insurance companies benefit both companies and individuals by providing economic and social benefits to communities, such as greater employment and decreased prone to anxiety. Nevertheless, it has received relatively little attention in the insurance sector.

In Sub-Saharan Africa, financial systems remain fragile and undeveloped. The weak performance of general insurance companies lies at the heart of the financial system's unstable and slow development (Egbunike & Okerekeoti, 2018). The insurance market in Sub-Saharan Africa confronts several challenges, including low penetration, poor pay, income levels being highly restricted, and there is a lack of industry collaboration. There isn't much financial motivation to extend coverage; Financial exclusion to a greater extent. Despite these obstacles, insurance is important and therefore should be enhanced, since it promotes the growth of every economy's capital markets. According to Amiri et al. (2015), one approach to increase performance is to guarantee that leverage and liquidity are effectively managed, since the difference in company performance is a consequence of the profitable ones having well-controlled leverage and liquidity. This sector's efficacy and efficiency will undoubtedly boost economic prosperity by improving financial stability. It has long been established that the development and stability of insurance are significantly tied to growth in the economy. This necessitates a thorough examination of a company's qualities (leverage and liquidity) and its financial performance. To the best of the authors' knowledge, only limited empirical research in sub-Saharan Africa has addressed the question of whether there is a relationship between leverage, liquidity and financial performance.

1. LITERATURE REVIEW

Sub-Saharan Africa has a combined population of 780 million people, making it the world's tenth-largest in 2011. With such a vast population, one could anticipate Sub-Saharan Africa to be among the greatest insurance markets, however, insurance accounts for only 0.2 percent of total world premiums (Akinlo & Apanisile, 2014). In comparison to other parts of the globe, Sub-Saharan Africa has an extremely low insurance penetration rate (premium as a % of GDP). In 2017, the insurance penetration rate in South Africa was 16.99 percent, the highest in Sub-Saharan Africa. South Africa was trailed by Namibia, Lesotho, Mauritius, and Zimbabwe, all of which had insurance penetration rates varying from 4% to 7%. Ghana's non-life insurance industry is experiencing a change and is one of the fastest-growing in Sub-Saharan Africa (Akinlo & Apanisile, 2014). Over half of the nations in the area have an un-

employment rate of less than 1%. When contrasted to other regions of the world, most nations in Sub-Saharan Africa had lower average insurance penetration rates. In Sub-Saharan Africa, premium growth was strongest in oil-producing nations and middle-income countries. The limited information supplied indicates that the SSA insurance markets are at a normal early stage of growth, with the primary focus on commercial lines of the corporation in non-life and group business in life. SSA has a much lower insurance penetration rate than the rest of the globe (Olawajuwaju & Msomi, 2022). However, given the current level of wealth in Sub-Saharan Africa, only life insurance falls short of expectations. Poor levels of income; SSA income levels are gravely constricted; Poor industry coordination; Regulators are not maintaining abreast of technological developments; Reform efforts boost burdensome regulations; Restricted incentive to broaden coverage; Greater levels of financial marginalization; Dearth of facilities as

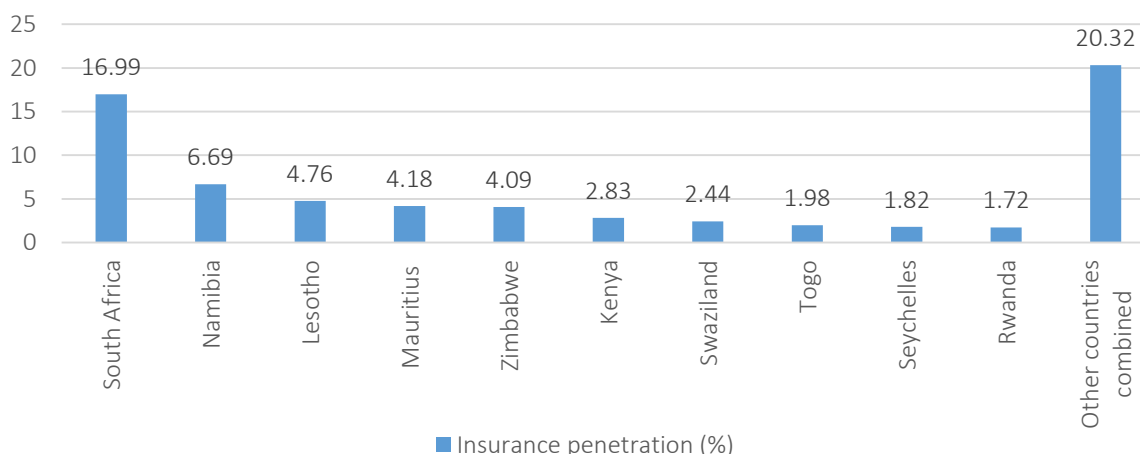
Source: Statistics (2017)¹.

Figure 1. Sub-Saharan African countries insurance penetration in 2017

well as distribution streams are among the difficulties confronting the insurance sector.

In Sub-Saharan African countries, people's ability to earn a living is severely restricted: Assuming a person's daily wage is USD 5, it becomes clear that the majority of the market is uninsurable under existing models (Olairewaju & Msomi, 2021). Insight and confidence: Risk-coping methods such as informal insurance and an inability to understand what insurance is are prevalent. Extremely low insurance penetration does not automatically lead to greater financial inclusion. Bank account take-up in SSA is at an all-time low of 30 percent, however this varies greatly by area. Insurance companies' capacity to engage with customers and collect payments is hampered by a lack of adequate infrastructure of distribution channels. Agent networks are in low supply, and there is a skills gap as well. Product design is hindered by a lack of data and a lack of home skills. Product design and roll-out are hindered by a lack of expertise and experience in the sector.

Insurance companies often make money in the early stages of a market's growth, so there are not many reasons for them to push growth to the next stage. They work with big businesses, group plans, and a small number of wealthy people. To get to the next level, you have to solve major infrastructure and business model problems and come up with new ways to distribute products that

can reach a larger, more geographically dispersed population on an individual or small-group basis. Reforms make it harder to do business because there are more rules to follow. Large-scale regulatory changes in the region have led to higher entry barriers that are not well matched to the realities of the local market and its stage of development. A lot of regulators are in the process of making exemptions for microinsurance, but this is not tied in with changes to regulations as a whole. Regulators are not keeping up with changes in technology. When this happens, they risk leaving out or limiting new models that are important for market growth. Poor coordination in the industry: Most of the time, there is not enough coordination within the industry or even between the industry and the government. Where there are platforms for coordination between business and government, market growth has been helped².

Since the African insurance business is still in its development, cash premiums are out of reach for many people, and financial knowledge is minimal, there is a low penetration rate. African insurers, on the other hand, feel that increased education levels and money management, as well as the rise of the middle class and the working-age population, would have a significant influence on the region's insurance market.

Financial leverage refers to a company's indebtedness as a result of lending, debentures, and oth-

1 <https://www.statista.com/statistics/727403/insurance-penetration-in-sub-saharan-africa-by-country/>.

2 <https://www.brookings.edu/blog/africa-in-focus/2021/07/02/capturing-africas-insurance-potential-for-shared-prosperity/>

er types of borrowing. The company borrows to earn and generate higher returns on its investment than the borrowing costs. Firms that succeed in this area boost their shareholders' returns while improving their financial performance. Kamau et al. (2021) examined a company's qualities that influenced the financial performance of Kenyan insurance companies. The research was based on the trade-off theory. The positivist research theory was used, and the associated research design was used. Secondary data was gathered from the Insurance Regulatory Authority (IRA), the Association of Kenya Insurers (AKI), plus individual business websites utilizing a data collecting form. The researcher's targeted audience was 52 insurance companies that have worked in Kenya over the previous ten years (2010–2018). The random and fixed effect models were employed to evaluate the imbalanced panel data, and the Hausman test was utilized to test the hypothesis. Leverage and liquidity have a severely detrimental impact on the financial performance of Kenyan insurance businesses, according to the study.

Almajali and Shamsuddin (2019) looked at the relationship between performance and Jordanian insurance businesses' equity capital structure. The study focused on 19 Amman Stock Exchange-listed insurance companies. From 2008 to 2017, the factors of concern spanned ten years. Short-term and long-term debt had a positive link with ROE and an inverse relationship with Tobin's Q, according to the empirical findings. Furthermore, financial leverage has a beneficial and considerable impact on Jordanian insurance businesses' performance. According to the data, a rise in financial leverage is related to a rise in financial performance. Nevertheless, the research does not say whether the mix of financial leverage has a major impact on business financial performance. The present study investigated if this is the case across Sub-Saharan African insurance companies.

Hongli et al. (2019) assessed the effect of liquidity and financial leverage on company performance of manufacturing industries that were listed on the Ghana Stock Exchange from six numerous industries between the years 2007 and 2015. Their research covered the period from 2007 to 2015. This study decided to use ROA and ROE as proxy variables to measure the performance of a firm.

When modeling, both fixed effect models and random effect models were made, and then the model that best fits the data was chosen. The empirical findings of the study suggested that the ratio of current assets to current liabilities is a good indicator of liquidity, and that this ratio has a strong positive influence on return on equity (ROE), which is used to gauge performance. According to the findings of the study, the effect of financial leverage has a significant positive impact on company performance (ROA & ROE). Financial leverage occurs when debt is utilized to fund business assets, which, to a certain degree, has a significant impact on firm performance.

Egbunike and Okerekeoti (2018) investigated the interaction between macroeconomic conditions, company attributes, and the financial performance of publicly traded manufacturing companies in Nigeria. Specifically, they focused on manufacturing companies listed on the stock market. The research design known as *ex post facto* was used for this study. All of the manufacturing companies that were listed on the Nigerian Stock Exchange were included in the demographic. The non-probability sampling approach was used to pick the sample, and the firms chosen were limited to those operating in the consumer products industry. Validation of the hypotheses was accomplished via the application of multiple linear regression in the study. A company's characteristics revealed that ROA was significantly associated with business size, leverage, and liquidity.

In Ethiopia, Mehari and Aemiro (2013) looked at firm-specific characteristics that influence performance. For the years 2005–2010, nine insurance firms were included in the sample. Among a firm's attributes were leverage and liquidity. The return on total assets was used as a proxy for performance (ROA). Size, tangibility, and leverage were all favorable and statistically significant in regression analysis, while loss ratio (risk) was negative and statistically significant. Liquidity was statistically insignificant.

In Malaysia and Indonesia between the years 1990 and 2010, Ramli et al. (2019) examined the influence of capital structure variables on business financial performance, as well as the mediation influence of firm leverage. The approach known as

partial least squares-structural equation modeling (PLS-SEM) is the one that is chosen. The findings indicate that the success of a company's finances is directly influenced by specific factors of its capital structure. There is a positive and substantial link between the use of leverage by firms and the financial performance of those firms in the Malaysian sample.

Batool and Sahi (2019) explore putative factors of financial performance during the global financial crisis, compare two insurance sectors, gather quarterly data from 24 insurance businesses spanning the years 2007 to 2016, and use panel data methodologies. Internal and external factors are considered while determining the variables used in explanation. Dependent variable: ROA and ROE (profitability indicators). The findings of this study indicate that the size of a company, liquidity, leverage, asset turnover, GDP, and WTI all have large positive benefits in the United States, but CPI and interest rate show strong negative effects. In the United Kingdom, factors such as the size of a company, liquidity, GDP, and CPI all have a considerable positive influence, whereas factors such as leverage, asset turnover, and the interest rate all have a negative notable effect. US insurance is more effective than UK insurance. These results will be beneficial for insurance businesses, the government, policymakers, and investors in making the choice and enhancing the performance.

Indian listed company liquidity was examined experimentally by Al-Homaidi et al. (2020). The study used a (pooled, fixed, and random) impact model on a panel of Indian publicly traded companies from 2010 to 2016 to account for profit persistence. A total of 2154 Indian businesses are included in this research. It is used as an indicator of a company's liquidity (LQD) to compare the amount of liquid assets (LQA) to the total assets of a company. Also taken into account are the economy's activity and the inflation rate, the currency rate, and the interest rate of other countries. Leverage, ROA, and age of a company are shown to be the most important internal predictors of the liquidity of Indian listed companies. Business age and leverage ratio have a negative link with a firm's LQD among the internal variables, however return on assets and firm size have a strong positive correlation with a company's LQD.

Trade-off Theory and Liquidity Preference Theory were used to base the research. Kraus and Litzenberger proposed this hypothesis in 1976. It was further refined by Myers in 1977. The static trade-off theorists argue that there is an ideal debt-to-equity ratio that rational enterprises strive to obtain and function at. When deciding how to arrange their financing, corporations make a trade-off between the danger of bankruptcy and the associated financial hardship costs vs the advantage of tax shelter, according to the idea. They want to get the best debt-to-equity ratio possible to lower the weighted average cost of capital. This ideal debt-to-equity ratio is difficult to obtain, and companies progressively restructure their capital structures as they try to reach it. Friedman is a well-known economist (1985). By demonstrating how leverage impacts the profitability of insurance firms in Sub-Saharan Africa, the theory provides an essential viewpoint to this subject. According to the notion, increasing a company's leverage leads to a commensurate improvement in productivity. The General Theory of Employment, Interest, and Money, authored by John Maynard Keynes in 1936, served as a foundation for Liquidity Preference Theory. The book delves at how money supply and demand affect interest rates. The demand for money as an asset was thought to be based on the interest lost due to the inability to retain bonds (Bibow, 1998). Emphasizing the necessity to maintain cash for transactional, preventive, and speculative objectives, the theory assumes that an investor favors short-term investments such as treasury bills and other money market items over long-term investments such as bonds and other capital market products. Given the numerous advantages that occur when organizations are liquid, they choose to keep money (being liquid) or liquid assets over illiquid assets. Firms that are liquid, for example, may be able to acquire bonds at cheap prices and sell them at high prices. As a result, interest income will benefit businesses and help them operate better. Firms are also willing to pay a premium for liquid assets. Firms, on the other hand, are willing to pay just under market value for illiquid assets. Liquid businesses are more effective in their activities because they can satisfy their financial commitments on time, reducing avoidable expenditures associated with delays and inefficiency, and improving the financial performance of the firm.

According to literature reviewed, the study of liquidity and financial leverage on company performance has primarily been done in the banking industry and small and medium businesses, with nothing to say about general insurance companies in Sub-Saharan Africa. Hence, the purpose of this study is to evaluate the influence of leverage and liquidity on financial performance of general insurance companies in Sub-Saharan Africa. The following hypotheses should be tested for this study, formulated as:

H01: There is a negative link between leverage and financial performance of general insurance companies in Sub-Saharan Africa.

H02: There is a positive association between liquidity and financial performance of general insurance companies in Sub-Saharan Africa.

2. METHODOLOGY

This study's research technique was centered on positivist social science as a way of conducting quantitative data gathering and analysis in yearly reports. As a result, this study used descriptive correlational techniques to obtain panel data across 113 general insurers operating in Sub-Saharan Africa as of December 31, 2019, for 11 years (2008–2019). Sub-Saharan Africa is a 46-member community, and the emphasis of this research is on the general insurance market in these nations. Secondary data was obtained from S&P CapitalIQ and Refinitiv Eikon. Observations of 1,283 unbalanced panels from 43 Sub-Saharan African nations were included in the study. The remaining three countries have a scarcity of data and none is accessible. The fixed effects plus random-effects models were used to evaluate the panel data. The investigator selects between both the FE and RE models depending on the type of data to be evaluated. The Hausman test is the process that is suggested. The null hypothesis of the Hausman test is there is no significant association between the unobserved individual impacts and the independent factors. If the null hypothesis is rejected, the alternative hypothesis is adopted that the error term is associated with the independent factors, and it is inferred that the random-effects model is appropriate.

2.1. Model specification

The relationship between the leverage and liquidity on financial performance of general insurance companies in Sub-Saharan Africa was depicted using the expression below. The linear relationship between dependent and independent variables is shown as:

$$Y_{it} = \alpha + \beta' X_{it}' + \mu_{it}. \quad (1)$$

Since there are categories of determinants (firm characteristics), the model will lead to:

$$Y_{it} = \alpha_0 + \beta_i X_{Ait} + \beta_i X_{Bit} + \mu_{it}, \quad (2)$$

where X_{Bit} denotes the firm-specific variables.

$$Y_{it} = \alpha_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it}, \quad (3)$$

where X_{Bit} is represented as $X_1 - X_3$.

The dynamic panel model of the determinant of financial performance of the Sub-Saharan Africa insurance sector is stated below:

$$Y_{it} = \beta_1 X_{1it-1} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it}, \quad (4)$$

where Y_{it} is the depended variable; X_{1it-1} denotes the lagged performance measure that signifies the dynamic dimension of the model. The study used the return on assets (ROA) as the dependent variable (Y) to measure financial performance. $X_2 - X_3$ are the independent variables (firm-specific). The independent variables were chosen based on the previous studies (Mazviona et al., 2017; Egbunike & Okerekeoti, 2018; Ayuba et al., 2019; Morara & Sibindi, 2021; Msomi & Nyide, 2021; Msomi, 2022). α_0 is the intercept, β_1 to β_3 are the coefficients, and μ_{it} is the error term; it denotes it is a panel study. The variables used in this study are explicitly defined as shown in Table 1, where ROA_{it} = Returns on assets of insurance i at time t . LV_{it} = Leverage of insurance i at time t . LQ_{it} = Liquidity of insurance i at time t . \ln = the natural log. α_0 = Constant return. μ_{it} = Composite error term.

3. ANALYSIS

3.1. Interpretation of results

Table 1 shows the panel result from the fixed and random effect techniques of the objective of the

Table 1. Panel results for the main objective

Independent variables	Random effect test significance	t-statistics	Standard coefficient	Fixed effect test significance	t-statistics	Standard coefficient
LOGLEV	0.0000	-10.79720	-0.041666	0.0000	-9.6766	-0.041544
LOGLIQ	0.5074	0.663018	0.001271	0.0634	1.8583	0.003827
Constant	0.0000	-11.74498	0.039466	0.0000	18.9524	0.041484
F-statistics P-value	0.0000	F-statistics = 57.22	-	0.0000	F-statistics = 9.21	-
R-Squared	8.2%	Durbin-Watson stat = 1.0254	-	0.473465	Durbin-Watson stat = 1.7293	-
Adjusted R-squared	8.06%	-	-	0.422073	-	-
Hausman Test (P-value) = 0.0021	Hausman Test (Prob. > Chi Sq Statistic) = 12.329					

Note: * and ** – significant at 5% and 1%, respectively.

study, which is to evaluate the influence of leverage and liquidity on the financial performance of general insurance companies in Sub-Saharan Africa.

The Hausman test probability value is 0.0021, which is less than 5%; therefore, the fixed effect result is the most appropriate result for the objective. Also, the Durbin-Watson statistics value of (1.7293) is greater than the R-squared value of (0.47346), indicating that the regression is not spurious.

3.1.1. Leverage (LOGLEV)

As indicated in Table 1, logarithm of leverage is negative and has a significant relationship with ROA. The result shows that LOGLEV is a vital firm factor that affects the ROA of insurance firms. The result also indicates that a 1% increase in leverage ratio will lead to a 0.0416% decrease in the return of assets of the insurance firms provided all other factors that could contribute to the increase in return of assets are well controlled. These results are in line with those of Minnema and Andersson (2018) that demonstrate that leverage has a considerable detrimental impact on financial performance. This is consistent with the pecking-order hypothesis, which states that corporations prefer internal finance to external borrowing in an attempt to maximize profits. According to the findings of Rahman et al. (2020) in Bangladesh, there is a considerable negative association between leverage and the financial performance of a company. Musah and Kong (2019) stated that leverage had a significantly negative association with firms’ financial performance as measured by ROA. However, in Ghana, Gatsi et al. (2013) revealed that financial leverage is adversely connected to company performance,

but operating leverage is constructively associated. Batool and Sahi (2019), in the USA, stated leverage had a positive significant impact on the financial performance of an insurance company.

3.1.2. Liquidity (LOGLIQ)

Table 1 also indicates that the logarithm liquidity ratio is positive but statistically insignificant to influence the return of an asset. It also indicates that a 1% increase in liquidity ratio will lead to a 0.00127% increase in return on assets of the insurance firms provided other factors that could contribute to the increase in return of assets are well controlled.

In Indonesia, Husain and Sunardi (2020) have observed the same results of a positive but statistically insignificant influence of return on assets. Gatsi et al. (2013) in Ghana observed that liquidity is inversely related to profitability. In the USA, Batool and Sahi (2019) stated that liquidity has a positive significant effect.

3.2. Unit root test

Table 2. Unit root test

Method	ROA	LOGLEV	LOGLIQ
Unit Root at Level	0.000	0.0002	0.0078
ADF-Choi Z-statistics	-11.7154	-2.64911	-1.6475
ADF-Fisher Chi-square	603.711	322.253	271.733

3.2.1. Explanation of the unit root test

The augmented Dickey-Fuller test is employed in this study to test for the presence of unit root. The null hypothesis states that each variable has a unit root and the alternative hypothesis states no unit

Table 3. Pearson's correlation between variables

Variables	ROA	LOGLEV	LOGLIQ
ROA	1	-0.3405	-0.1522
LOGLEV	-0.3405	1	0.2376
LOGLIQ	-0.1522	0.2376	1

Table 4. Descriptive statistics

Variables	ROA	LOGLEV	LOGLIQ
Mean	0.022979	0.426870	-0.201668
Median	0.024389	0.410009	-0.076352
Maximum	0.446103	1.473117	2.639706
Minimum	-0.317531	-1.051644	-3.695715
Std. dev.	0.052131	0.421506	0.778276
Skewness	-0.015858	0.078651	-0.345460
Kurtosis	18.41059	2.692307	3.607645
Jarque-Bera	12695.67	6.383941	45.25795
Probability	0.000000	0.041091	0.000000
Sum	29.48152	547.6740	-258.7405
Sum Sq. Dev.	3.483995	227.7699	776.5244
Observations	1283	1283	1283

root. If the ADF test probability value is less than 5%, the null hypothesis would be rejected, and the alternative hypothesis would be accepted. For all the variables involved in the probability, the value is less than 5%, the null hypothesis will be rejected then, which means the variables have no unit root and they are stationary.

The ADF test was carried out on the return on assets, the logarithm of leverage, and the logarithm of liquidity, and the variables were stationary at 1% respectively as shown in Table 2; in addition, the three variables were stationary at level, hence they have no unit root.

3.3. Pearson's correlation

Pearson's correlation shows that the return on assets of the insurance firms is negatively correlated with the logarithm of leverage and logarithm of liquidity at 0.3405 and 0.1522, respectively. Also, the logarithm of leverage is positively correlated with the logarithm of liquidity at 0.2376. A similar factor to these results is that all variables show a low correlation with each other.

3.4. Summary statistics

3.4.1. Interpretation of summary statistics

The result shows that the logarithm of leverage has the highest means of all variables. It also indicates that the median value is less than the mean, indicating that the skewness will turn more positive to the right. The standard deviation is almost the same as the mean, as the maximum and minimum values are 1.473117 and -1.051644, respectively.

Return on the asset has a mean of 0.022979 and standard deviation of 0.052131, respectively, with maximum and minimum values of 0.446103 and -0.3175, respectively. The median and the mean are almost of the same value with 0.024389 and 0.022979, respectively.

Logarithm of liquidity has a mean value of -0.201668 and a median of -0.076352, hence a negative skewness is -0.34546. The maximum and minimum value are 2.6397 and -3.6957, respectively, with a standard deviation of 0.7782.

CONCLUSION

The purpose of this paper was to evaluate the influence of leverage and liquidity on financial performance of general insurance companies in Sub-Saharan Africa. According to the study's findings, there is a negative negligible link between leverage and risk, whereas there is a positive association. The leverage level

decreases as the degree of liquidity rises. To safeguard their human capital and decrease the risk of a financial crisis, businesses maintain strong liquidity levels. They utilize best market techniques, such as effective working capital management and quick cash conversion cycles, to implement best market practices. This was demonstrated by the data gathered, examined, and conclusions reached. Firms' credit ratings and financial capacity increase as a result of implementing superior liquidity procedures. The lending financial organizations impose exorbitant interest rates, provide short-term loans, and operate outstanding margins. This indicates that the cost of debt is high for businesses, resulting in poor leverage levels.

The insurance industries expanded over the study period, although to some degree, they partially funded their expansion by issuing bonds, resulting in a positive link between advancement and leverage. By diversity into other areas of the economy, growth boosts the size of the companies in terms of total assets base. The negative link between profitability leverage and profitability is due to the reality that businesses make a lot of money and want to reinvest it to fund their operations. Debt utilization is costly, since the expense of debt outweighs the tax benefit. They also avoid debt to lower their risks of becoming bankrupt. Firms employ the Trade-off Theory and Liquidity Preference Theory based on these findings.

Most businesses have avoided investing extensively in non-current assets by implementing solid working capital strategies and maintaining strong liquidity levels. Companies keep cash on hand for expansions and take full advantage of business opportunities to increase company profits. This explains why tangibility is lower and leverage has a negative connection with it. Generally, there is a negative relationship between liquidity and leverage. If left uncontrolled, liquidity issues can harm a specific insurance sector's profitability and capital, and in extreme cases, they can lead to the demise of otherwise solvent insurance industries in the Sub-Saharan countries. Furthermore, insurance businesses with liquidity issues may have difficulty satisfying client expectations, putting them at a competitive disadvantage; nevertheless, this liquidity risk can be minimized by keeping enough cash reserves and closing the liquidity deficit. The insurance industry's reliance on the repo market will be reduced if sufficient cash reserves are maintained.

RECOMMENDATION

The research advised that companies use practical financial leverage tactics to increase profitability.

- Financial managers of an insurance company employ reasonable financial leveraging measures to increase company performance.
- To reduce bankruptcy risks, the liquidity situation of insurance firms must be effectively and regularly monitored.
- To allow insurance companies to attain improved financial performance, the emphasis should be on decreasing the degree of debt in the Equity Capital structure. Aside from that, insurance businesses must have adequate debt management methods in place to boost their financial performance.

Finally, the study has shown an unfavorable association between insurance company liquidity and financial performance. As a result, proper liquidity management is critical for insurance businesses to enhance a company's value and financial success. The focus should be on establishing a proper asset-liability mix, in which a company's total liabilities do not exceed its total assets. Furthermore, organizations require cash flow policy recommendations to optimize profit potential while limiting liquidity risk in the financial statement. The study employed two independent variables: liquidity and leverage. A comparable analysis may be conducted on industry-specific issues in the insurance industry, taking into account macroeconomic variables such as inflation, state fiscal and monetary policies, unemployment, and the currency rate.

AUTHOR CONTRIBUTIONS

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REFERENCES

- Akinlo, T., & Apanisile, O. T. (2014). Relationship between insurance and economic growth in Sub-Saharan African: A panel data analysis. *Modern Economy*, 5(2), 120-127. <http://dx.doi.org/10.4236/me.2014.52014>
- Al-Homaidi, E. A., Tabash, M. I., Al-Ahdal, W. M., Farhan, N. H., & Khan, S. H. (2020). The liquidity of Indian firms: empirical evidence of 2154 firms. *The Journal of Asian Finance, Economics, and Business*, 7(1), 19-27. <https://doi.org/10.13106/jafeb.2020.vol7.no1.19>
- Asongu, S., & Odhiambo, N. M. (2020). Financial access, governance and insurance sector development in Sub-Saharan Africa. *Journal of Economic Studies*, 47(4), 849-875. <https://doi.org/10.1108/JES-01-2019-0025>
- Ayuba, H., Bambale, A. J. A., Ibrahim, M. A., & Sulaiman, S. A. (2019). Effects of Financial Performance, Capital Structure and Firm Size on Firms' Value of Insurance Companies in Nigeria. *Journal of Finance, Accounting & Management*, 10(1), 57-74. Retrieved from <https://www.proquest.com/openview/a4d-7c11f948f604f541ffa1f589e0e73/1>
- Batool, A., & Sahi, A. (2019). Determinants of financial performance of insurance companies of USA and UK during global financial crisis (2007–2016). *International Journal of Accounting Research*, 7(1), 1-9. <http://dx.doi.org/10.35248/2472-114X.19.7.194>
- Bibow, J. (1998). On Keynesian theories of liquidity preference. *The Manchester School*, 66(2), 238-273. <https://doi.org/10.1111/1467-9957.00099>
- Burkhanov, A. (2020). Econometric Analysis of World Investment Funds Net Assets. *Asian Journal of Technology & Management Research*, 9(1), 29-33. Retrieved from http://www.ajtmr.com/papers/Vol9Issue1/Vol9Iss1_P3.pdf
- Egbunike, C. F., & Okerekeoti, C. U. (2018). Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria. *Asian Journal of Accounting Research*, 3(2), 142-168. <https://doi.org/10.1108/AJAR-09-2018-0029>
- Gatsi, J. G., Gadzo, S. G., & Akoto, R. K. (2013). Degree of financial and operating leverage and profitability of insurance firms in Ghana. *International Business and Management*, 7(2), 57-65. <http://dx.doi.org/10.3968/j.ibm.1923842820130702.1060>
- Hongli, J., Ajorsu, E. S., & Bakpa, E. K. (2019). The Effect of Liquidity and Financial Leverage on Firm Performance: Evidence from Listed Manufacturing Firms on The Ghana Stock Exchange. *Research Journal of Finance and Accounting*, 10(8), 91-100. <http://dx.doi.org/10.7176/RJFA/10-8-08>
- Husain, T., & Sunardi, N. (2020). Firm's Value Prediction Based on Profitability Ratios and Dividend Policy. *Finance & Economics Review*, 2(2), 13-26. <https://doi.org/10.38157/finance-economics-review.v2i2.102>
- Kamau, A. M., Olweny, T., & Muturi, W. M. (2021). Financial Performance of Insurance Firms. Does Leverage and Liquidity Matter? Evidence from Kenya. *Eastern Journal of Economics and Finance*, 6(1), 1-14. <https://doi.org/10.20448/809.6.1.1.14>
- Kass-Hanna, J., Lyons, A. C., & Liu, F. (2021). Building financial resilience through financial and digital literacy in South Asia and Sub-Saharan Africa. *Emerging Markets Review*, 51, 100846. <https://doi.org/10.1016/j.ememar.2021.100846>
- Mazviona, B. W., Dube, M., & Sakahuhwa, T. (2017). An analysis of factors affecting the performance of insurance

- companies in Zimbabwe. *Journal of Finance and Investment Analysis*, 6(1), 1-21. <https://doi.org/10.5281/zenodo.2583455>
15. Mehari, D., & Aemiro, T. (2013). Firm-Specific Factors That Determine Insurance Companies Performance in Ethiopia. *European Scientific Journal*, 9(10). Retrieved from <https://typeset.io/papers/firm-specific-factors-that-determine-insurance-companies-3nlelzpiaq>
 16. Minnema, J., & Andersson, A. (2018). *The relationship between leverage and profitability: A quantitative study of consulting firms in Sweden*. Retrieved from <http://umu.diva-portal.org/smash/get/diva2:1234028/FULLTEXT01.pdf>
 17. Morara, K., & Sibindi, A. B. (2021). Determinants of Financial Performance of Insurance Companies: Empirical Evidence Using Kenyan Data. *Journal of Risk and Financial Management*, 14(12), 566. <https://doi.org/10.3390/jrfm14120566>
 18. Msomi, T. S. (2022). Factors affecting non-performing loans in commercial banks of selected West African countries. *Banks and Bank Systems*, 17(1), 1-12. [http://dx.doi.org/10.21511/bbs.17\(1\).2022.01](http://dx.doi.org/10.21511/bbs.17(1).2022.01)
 19. Msomi, T. S., & Nyide, C. J. (2021). Nexus of firm characteristics and financial performance of non-life insurance companies in the Southern African Development Community. *Investment Management and Financial Innovations*, 18(4), 95-110. [http://dx.doi.org/10.21511/imfi.18\(4\).2021.09](http://dx.doi.org/10.21511/imfi.18(4).2021.09)
 20. Musah, M., & Kong, Y. (2019). Leverage and financial performance: The correlational approach. *International Journal for Innovative Research in Multidisciplinary Field*, 5(4), 1-8. Retrieved from <https://www.ijirmf.com/wp-content/uploads/IJIRMF201904001.pdf>
 21. Olarewaju, O. M., & Msomi, T. S. (2022). Factors affecting the profitability of reinsurance companies in sub-Saharan Africa: Evidence from dynamic panel analysis. *Cogent Business & Management*, 9(1), 2093485. <https://doi.org/10.1080/23311975.2022.2093485>
 22. Olarewaju, O., & Msomi, T. (2021). Determinants of Insurance Penetration in West African Countries: A Panel Auto Regressive Distributed Lag Approach. *Journal of Risk and Financial Management*, 14(8), 350. <https://doi.org/10.3390/jrfm14080350>
 23. Patel, R. J. (2019). BRICS emerging markets linkages: Evidence from the 2008 Global Financial Crisis. *The Journal of Private Equity*, 22(4), 42-59. Retrieved from <https://www.jstor.org/stable/26864435>
 24. Rahman, M. M., Saima, F. N., & Jahan, K. (2020). The Impact of Financial Leverage on Firm's Profitability: An Empirical Evidence from Listed Textile Firms of Bangladesh. *The Journal of Business Economics and Environmental Studies*, 10(2), 23-31. <http://dx.doi.org/10.13106/jbees.2020.vol10.no2.23>
 25. Ramli, N. A., Latan, H., & Solovida, G. T. (2019). Determinants of capital structure and firm financial performance – A PLS-SEM approach: Evidence from Malaysia and Indonesia. *The Quarterly Review of Economics and Finance*, 71, 148-160. <https://doi.org/10.1016/j.qref.2018.07.001>
 26. Terdpaopong, K., & Rickards, R. (2021). Thai Non-Life Insurance Companies' Finances and the Historic 2011 Floods. *Asia Proceedings of Social Sciences*, 8(1), 6-10. <http://dx.doi.org/10.31580/apss.v8i1.1901>
 27. World Bank. (2017). *Insurance penetration in Sub-Saharan Africa in 2017, by country*. Retrieved from <https://www.statista.com/statistics/727403/insurance-penetration-in-sub-saharan-africa-by-country/>