

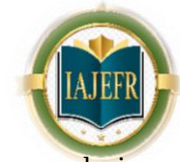


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LIQUIDITY RISK AND STOCK PRICES OF LISTED AGRICULTURAL FIRMS AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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Liquidity Risk and Stock Prices of Listed Agricultural Firms at The Nairobi Securities Exchange, Kenya

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Abstract:

Purpose of the Study: This study examined the effect of liquidity risk on the stock prices of agricultural firms listed at the Nairobi Securities Exchange (NSE), Kenya. It further investigated the mediating effect of profitability and the moderating role of firm size in explaining how liquidity risk influences stock price movements and firm market valuation.

Methodology: The study adopted a positivist philosophy and a longitudinal explanatory research design using panel data from seven agricultural firms listed at the NSE between 2015 and 2024. Secondary data were analyzed using descriptive statistics, correlation analysis,

panel regression, mediation analysis, and hierarchical regression to test the study hypotheses.

Findings: The findings revealed that liquidity risk has a negative and statistically significant effect on stock prices of listed agricultural firms. An increase in liquidity risk significantly reduced stock prices, indicating that investors respond negatively to firms experiencing liquidity constraints. Profitability was found to partially mediate the relationship between liquidity risk and stock prices, implying that effective liquidity management enhances profitability, which subsequently improves market valuation. Firm size positively moderated the relationship between liquidity risk and stock prices, demonstrating that larger firms are better positioned to withstand liquidity shocks due to stronger financial capacity, diversified operations, and improved access to capital markets, thereby enhancing investor confidence, financial stability, and long-term shareholder value significantly.

Conclusion: The study concludes that liquidity risk is a significant determinant of stock prices among agricultural firms listed at the NSE. Profitability partially explains this relationship, while firm size strengthens firms' resilience to liquidity challenges. Strengthening liquidity management and improving profitability can enhance investor confidence, firm value, and long-term stock price performance.

Keywords: *Liquidity Risk; Stock Prices; Profitability; Firm Size; Agricultural Firms; Nairobi Securities Exchange (NSE); Panel Regression; Kenya.*

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1. INTRODUCTION

The agricultural sector plays a critical role in Kenya's economy by contributing significantly to gross domestic product, employment creation, foreign exchange earnings and food security. Agricultural firms listed on the Nairobi Securities Exchange (NSE) are expected to create value for shareholders while maintaining sustainable financial performance in an environment characterized by fluctuating commodity prices, climate-related risks, changing market conditions and evolving investor expectations. These firms are continuously evaluated by investors based on their financial and market performance, with stock prices serving as a key indicator of investor confidence and firm value (Ronoh et al., 2025).

Liquidity risk has emerged as one of the most important financial risks affecting the stability and market valuation of listed firms. Liquidity risk refers to the inability of a firm to meet its short-term financial obligations as they fall due without incurring significant financial losses (Kinyua & Fredrick, 2022). Firms experiencing high liquidity risk may face operational disruptions, increased borrowing costs, reduced investment opportunities and declining investor confidence, all of which may adversely affect their stock prices. Firms with sound liquidity management are generally perceived as financially stable, attracting investors and supporting higher market valuations.

Effective liquidity management enhances operational efficiency, reduces financing costs and supports profitable business operations, which in turn improve investor confidence and positively influence stock prices (Amimakmur et al., 2026). Firms with higher profitability are better positioned to absorb liquidity shocks, finance growth opportunities and sustain dividend payments, making them more attractive to investors. Larger firms generally possess greater financial resources, diversified operations, stronger corporate reputations and easier access to capital markets than smaller firms (Shibia, 2022). These advantages enable larger firms to manage liquidity challenges more effectively and reduce the adverse effects of liquidity risk on investor perceptions and stock prices. However, smaller agricultural firms may experience greater stock price volatility when faced with liquidity constraints due to limited financial flexibility and higher perceived risk (Zhang et al., 2025). Therefore, determining the mediating role of profitability and the moderating role of firm size would provide a better understanding of how liquidity risk influences stock prices among agricultural firms listed at NSE.

1.2 Statement of the Problem

Stock prices are widely recognized as indicators of the financial health of firms and future growth prospects. However, agricultural firms listed at the Nairobi Securities Exchange have experienced considerable fluctuations in their stock prices over the past decade despite operating within the same capital market (Kieti & Jagongo, 2026). These fluctuations have been attributed to changing macroeconomic conditions, liquidity constraints, commodity price volatility, climate-related risks, and variations in firm financial performance. Liquidity risk, in particular, has become increasingly important because firms that struggle to meet short-term financial obligations may experience declining investor confidence and reduced market value.

Although numerous studies have investigated the determinants of stock prices, most have concentrated on profitability, dividend policy, leverage, firm size, and macroeconomic



variables. Very few studies have specifically examined how liquidity risk influences stock prices within the agricultural sector. Furthermore, existing studies often ignore other firm-specific financial characteristics such as profitability and leverage that may simultaneously affect stock prices, leading to omitted variable bias. Furthermore, there exists an empirical gap regarding the relationship between liquidity risk and stock prices among agricultural firms listed at the Nairobi Securities Exchange. This study seeks to fill this gap by employing a longitudinal panel research design to establish the effect of liquidity risk on stock prices while controlling for profitability and firm leverage.

1.3 Research Objectives

- i. To determine the effect of liquidity risk on stock prices of listed agricultural firms at the NSE.
- ii. To determine the mediating effect of profitability on the relationship between liquidity risk and stock prices of listed agricultural firms at the NSE.
- iii. To determine the moderating effect of firm size on the relationship between liquidity risk and stock prices of listed agricultural firms at the NSE.

2. LITERATURE REVIEW

The study was guided Trade-Off Theory of capital structure, developed primarily by Kraus and Litzenberger (1973). The theory posits that firms determine their optimal level of debt by balancing the benefits of borrowing against its associated costs. The principal advantage of debt financing is the tax shield arising from the tax deductibility of interest payments, which can enhance firm value. However, excessive debt increases the likelihood of financial distress, bankruptcy costs, and agency conflicts between shareholders and creditors. According to the theory, firms seek an optimal capital structure where the marginal benefit of additional debt equals the marginal cost of financial distress, thereby maximizing firm value. The theory is widely applied in corporate finance to explain financing decisions and variations in leverage across firms (Gomes & Schmid, 2020).

The existing empirical literature demonstrates that liquidity-related and other financial factors have important implications for firm performance and stock-market outcomes, but the evidence remains fragmented across contexts and variables. In Nigeria Ofulue et al. (2025) established that net working capital and cash levels significantly and positively influence the earnings of listed agricultural firms, suggesting that effective liquidity management enhances financial performance. Similarly, Shimenga and Miroga (2019) found that liquidity risk-related financial factors significantly influence the financial performance of manufacturing firms listed at the Nairobi Securities Exchange, although financial leverage had the greatest effect, followed by capital adequacy, inflation, and asset tangibility. In the agricultural sector in Kenya, Kilonzo and Nkuru (2023) further demonstrated that liquidity, leverage, profitability and firm size have a significant positive relationship with share returns. These findings suggest that liquidity risk may affect stock prices directly through investors' assessment of a firm's financial strength and indirectly through its influence on profitability and other measures of financial performance. However, the studies largely examine either liquidity and firm performance or financial indicators and share returns as direct relationships, without establishing whether financial performance mediates the relationship between liquidity risk and stock prices.

The literature also provides evidence that firm characteristics and market-related factors may alter the relationship between financial variables and market outcomes. Edokpa et al. (2024), for example, found that share price had a positive but insignificant moderating effect on the relationship between debt-equity ratio and dividend payout, while its moderating effect on the relationship between debt-assets ratio and dividend payout was negative and significant. In Kenya, Rosana (2024) established that stock liquidity positively moderates the relationship between financial structure volatility and security returns, while Dalci et al. (2019) found that firm size moderates the relationship between working capital management practices and stock liquidity. These findings support the argument that the effect of financial risk and liquidity-related decisions on market outcomes may not be uniform across firms of different sizes. Nevertheless, the existing studies have not adequately examined whether firm size moderates the relationship between liquidity risk and stock prices among listed agricultural firms. Moreover, the available evidence focuses on different moderating variables, such as share price, stock liquidity and investor sentiment, rather than specifically investigating firm size as a boundary condition in the liquidity risk–stock price relationship.

A further gap is evident in the treatment of financial performance as a potential transmission mechanism. Mugenda et al. (2021) examined asset pricing risk premia, investor sentiment and stock returns among listed firms in Kenya and found that market and size factors significantly influenced stock returns, while investor sentiment moderated some of these relationships. However, the study did not focus on liquidity risk or financial performance as an intervening mechanism. Similarly, Onsongo et al. (2020) found that liquidity risk had a significant negative effect on return on equity among commercial and services firms listed at the NSE, although firm size did not moderate the relationship between financial risks and firm performance. While this finding is relevant to the present study, the study was conducted in a different sector and examined firm performance as the dependent variable rather than as a mediator between liquidity risk and stock prices. Therefore, it remains unclear whether liquidity risk affects stock prices primarily through its direct influence on investor valuation or indirectly by affecting the financial performance of listed agricultural firms.

As such, the reviewed studies establish that liquidity, liquidity risk, financial performance, firm size and stock returns are individually important determinants of corporate and market outcomes, but the empirical relationships among these variables remain insufficiently integrated. Existing studies have largely focused on direct effects, sectoral contexts outside listed agricultural firms, or separate moderation relationships, with limited attention to a combined mediation–moderation framework. In particular, there is inadequate empirical evidence on whether financial performance mediates the relationship between liquidity risk and stock prices and whether firm size strengthens or weakens this relationship among agricultural firms listed at the Nairobi Securities Exchange. The present study therefore sought to address this knowledge gap by developing an integrated framework that examines the direct effect of liquidity risk on stock prices, the mediating role of financial performance, and the moderating role of firm size. This approach extends the existing literature by moving beyond isolated direct-effect analyses and providing a more comprehensive explanation of how liquidity risk translates into stock-market valuation among listed agricultural firms.

2.1 Literature Gap

Most empirical studies investigating stock price determinants have focused on profitability, dividend policy, firm size, leverage, earnings per share, and macroeconomic variables. Studies

specifically examining liquidity risk remain relatively scarce, particularly within agricultural firms operating in emerging markets. Moreover, existing studies rarely incorporate firm liquidity and profitability simultaneously as control variables when estimating the relationship between liquidity risk and stock prices. This study intends to bridge this gap using longitudinal panel data from agricultural firms listed on the Nairobi Securities Exchange. Based on this, the postulated conceptual framework is shown in Figure 1.

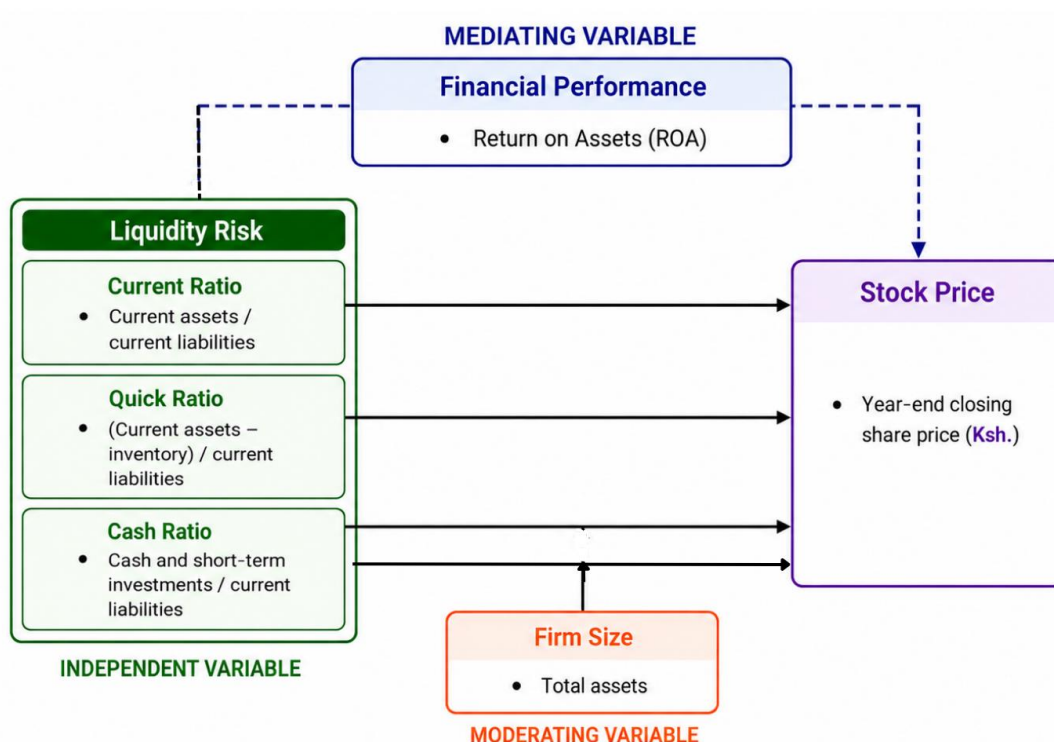


Figure 1: Conceptual Framework

3. METHODOLOGY

Positivist philosophy was adopted. The research design was longitudinal explanatory research design using panel data. The design is appropriate because it allows analysis of changes in liquidity risk and stock prices over time while accounting for firm-specific heterogeneity. The study targeted 7 agricultural companies listed at the Nairobi Securities Exchange (Kilonzo & Jagongo, 2026). Since the number of listed agricultural firms is relatively small, a census approach was adopted. Thus, the unit of analysis were Listed agricultural firms while the Unit of Observation were annual financial statements and annual stock market data over the period 2015–2024. The period is suitable because it captures varying economic cycles, post-pandemic recovery, and commodity price fluctuations.

Table 1: Measurement of Variables

Variable	Variable type	Measurement
Stock Price	Dependent variable	Annual closing share price (KES)
Liquidity Risk	Independent variable	Operating Cash Flow/Current Liabilities, Current Liabilities/Total Assets
Firm Size	Moderator variable	Log of total assets

Profitability	Mediating variable	ROA = Net Income/Total Assets
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3.1 Panel Regression Model

The longitudinal econometric model was

$$SP_{it} = \beta_0 + \beta_1 LR_{it} + \beta_2 LEV_{it} + \mu_i + \lambda_i + \varepsilon_{it}$$

Where

SP_{it} Stock price of firm i at time t

LR_{it} Liquidity risk of firm i at time t

LEV_{it} Firm leverage of firm i at time t

μ_i is firm-specific effect

λ_i is time effect

ε_{it} is error term

To determine the mediating effect of profitability on the relationship between liquidity risk and stock prices of listed agricultural firms at the NSE, four steps were used.

Step 1;

$$SP_{it} = \beta_0 + \beta_1 LR_{it} + \varepsilon_{it}$$

Step 2;

$$M_{it} = \beta_0 + \beta_1 LR_{it} + \varepsilon_{it}$$

Step 3;

$$SP_{it} = \beta_0 + \beta_1 M_{it} + \varepsilon_{it}$$

Step 4;

$$SP_{it} = \beta_0 + \beta_1 LR_{it} + \beta_2 M_{it} + \lambda_i + \varepsilon_{it}$$

The purpose of steps 1-3 is establish that zero-order relationships among the variables exist. If one or more of these relationships are no significant, then mediation is not possible or likely. However, if their significant relationships in steps 1-3, the study proceeds to step 4. In step 4, some form of mediation is supported if the effect of M (profitability) remains significant after controlling for X (Liquidity risk). If X is no longer significant after M is controlled, the findings support full mediation. If both X and M significantly predict Y (stock prices), the findings support partial mediation. To determine the moderating effect of profitability on the relationship between liquidity risk and stock prices of listed agricultural firms at the NSE, the hierarchical regression was used.

$$SP_{it} = \beta_0 + \beta_1 LR_{it} + \beta_2 PROF_{it} + \beta_3 LR_{it} * PROF_{it} + \mu_i + \lambda_i + \varepsilon_{it}$$

Where

SP_{it} Stock price of firm i at time t

LR_{it} Liquidity risk of firm i at time t

$PROF_{it}$ Firm profitability of firm i at time t

$LR_{it} * PROF_{it}$ is interaction term.

μ_i is firm-specific effect

λ_i is time effect

3.2 Estimation Procedure

The appropriate estimator was selected using:

Hausman Specification Test

Hausman test (1978) was applied to determine whether a fixed effects or random effects model is most suitable for the study. The decision rule is based on the null hypothesis that the random effects estimator is appropriate. If the null hypothesis is not rejected ($p\text{-value} < 0.05$), the fixed effects model will be preferred for analysis. However, if the null hypothesis is rejected ($p\text{-value} > 0.05$), the fixed effects model is considered inappropriate and the random effects model will instead be adopted.

Breusch–Pagan Lagrange Multiplier Test

Breusch–Pagan Lagrange Multiplier (LM) test was applied to determine whether the pooled Ordinary Least Squares (OLS) model or the random effects model is more suitable for the analysis. The decision is guided by the p -value obtained from the test results. A p -value greater than 0.05 indicates that the pooled OLS model is appropriate, whereas a p -value less than 0.05 suggests that the random effects model should be used instead.

3.3 Diagnostic Tests

Multicollinearity

The study utilized Variance Inflation Factors (VIFs) to assess the extent of correlation among the independent variables and determine whether multicollinearity poses a concern. VIF values provide an indication of how much the variance of a regression coefficient is inflated due to relationships among the explanatory variables. A VIF value below 5 will be interpreted as evidence of acceptable multicollinearity, whereas a value exceeding 5 will indicate a high degree of multicollinearity that may affect the reliability of the regression estimates (Kim, 2019).

Heteroskedasticity

Wooldridge test was employed in checking for serial correlation in data. The null hypothesis is that data has no serial correlation. In the event serial correlation is found, the FGLS model was estimated. A calculated p value of > 0.05 signifies the absence of serial correlation (Cesana, 2018).

Normality Test

To carry out any hypothesis tests, the normality assumption ($u_t \sim N(0, \sigma^2)$) is required (Zygmunt, 2023). Normality test was conducted using Skewness and Kurtosis test for study. For the results, if the P value is > 0.05 , we reject the null hypothesis that data is not normally distributed and fail to reject the alternative hypothesis that the data is normally distributed.

4. RESULTS

4.1 Descriptive Results

The descriptive statistics in the study includes measures such as the means, standard deviation, minimum and maximum values. Secondary data was used in the study and was collected from financial statements of Agricultural listed firms at NSE for the period 2015 to 2024. The descriptive results are presented in Table 2.

Table 2: Descriptive Results

Variable	Obs	Mean	Std. Dev.	Min	Max
Stock Price	70	174.86	146.515	11	493
Liquidity Risk	70	3.938	1.6385	1.76	7.08
Profitability	70	0.03627	0.02839	-0.0115	0.1052
Firm size	70	3.70782	0.77528	2.1959	4.83008

Stock price recorded a mean of 174.86 and standard deviation of 146.515 while its minimum and maximum values were 11 and 493. Liquidity risk recorded a mean of 3.938 and a standard deviation of 1.6385. Its minimum and maximum values were 1.76 and 7.08 respectively. Profitability recorded a mean of 0.03627 and a standard deviation of 0.02839. Its minimum and maximum values were -0.0115 and 0.1052 respectively. Firm size recorded a mean of 3.70782 and a standard deviation of 0.77528. Its minimum and maximum values were 2.1959 and 4.83008 respectively.

4.2 Diagnostic Tests

Diagnostic tests were conducted to determine the suitability of data collected in the study for model estimation. The tests included multicollinearity tests, heteroscedasticity test, normality and hausman specification tests.

Multicollinearity Test

The test was conducted to determine the degree of correlation among the independent variables under study.

Table 3: Multicollinearity Test Results

Variable	VIF	1/VIF	
Profitability	2.24	0.44554	
Liquidity risk	1.21	0.82582	
Firm size	1.14	0.88059	
Mean VIF	1.68		

From the results, all the VIF values for the independent variables in the study were <10 implying that the independent variables under study are not highly correlated and hence all were retained in the study.

Normality Test

Normality test was conducted to determine whether the data used in the study follows normal distribution.

Table 4: Normality Test Results

	Kolmogorov-Smirnova		
	Statistic	df	Sig.
Stock Prices	0.082	70	0.064
Profitability	0.095	70	0.329
Liquidity Risk	0.079	70	0.118
Firm Size	0.099	70	0.307

As can be noted, all the significance values for all the variables under study were >0.05 implying that the data used in the study follows normal distribution and can be used for further analysis.

Heteroscedasticity Test

It is assumed that the residuals are homoscedastic, involving a situation where the residuals would have a constant variance at each level of independent variables, which can be evaluated by using the residual plots.

Table 5: Heteroscedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of Stock Price

$$\chi^2(1) = 0.56$$

$$\text{Prob} > \chi^2 = 0.6328$$

From the outcomes, the estimated p value for the test was $0.6328 > 0.05$ an implication that heteroscedasticity is not present in the data set and hence the data is fit for further analysis and inferences.

Hausman Model Specification Test

Hausman model specification test was conducted to determine the suitable model to be used in the study. The model could be fixed effects model or random effects model. As a rule of thumb, a significance value >0.05 would imply that random effects model is appropriate but if the significance value is <0.05 , then fixed effects model is appropriate for the study.

Table 6: Hausman Model Specification Test Results

	(b)	(B)	(b-B)	$\sqrt{\text{diag}(V_b - V_B)}$
	fe	re	Difference	S.E.
liquidityr~k	78.6067	77.5316	1.07515	2.502
$\chi^2(1) = (b-B)'[(V_b - V_B)^{-1}](b-B)$	0.18			
Prob> χ^2	0.6674			

From the results, the significance value for the study was 0.6674 implying that random effects model is appropriate for the study.

4.3 Correlation Results

The correlation results are presented in Table 7.

Table 7: Correlation Results

	Stock Price	Liquidity Risk	Firm Leverage	Profitability
Stock Price	1			
Liquidity Risk	0.567	1		
	0.000			
Profitability	0.4312	0.3176	0.7178	1
	0.0042	0.0074	0.000	
Firm size	-0.2009	-0.3106	0.0137	-0.1335
	0.0054	0.0089	0.9102	0.2707

The correlation between stock price and liquidity risk was positive (0.567) and statistically significant (0.000). The correlation between stock price and profitability was positive (0.4312) and statistically significant (0.0042). Firm size recorded a negative (-0.2009) and statistically significant correlation (0.0054<0.05) correlation.

4.4 Regression Analysis

A simple regression analysis was conducted to determine the linear relationship between stock price, liquidity risk and firm leverage. The regression results are presented in Table 8.

Table 8: Regression Results

Stock price	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Liquidity risk	-77.53156	5.402693	-14.35	0.000	-66.94248	-88.12065
_cons	-130.459	23.01963	-5.67	0.000	-175.577	-85.3412
R-Sq:	Within	0.7471				
	Between	0.9634				
	Overall	0.7518				
Wald chi2 (2)		205.94				
prob > chi2		0.000				

From the results the overall R Squared for the model was 0.7518. This implies that liquidity risk explains 75.18% of the total variations in stock prices of the agricultural listed firms under study. The estimated model was also statistically significant as provided for by the significance value of 0.000<0.05 and a relatively larger Wald chi2 (2) of 205.94. The coefficient of liquidity risk was negative (-77.53156) and statistically significant (0.000<0.05). This means that a unit increase in liquidity risk by the agricultural listed firms under study results in 77.53156 units' decline in the stock prices of the agricultural listed firms under study. Thus, liquidity risk is a significant determinant of stock prices. The findings concur with the findings of Kiptoo et al. (2021) which indicated that credit risk and operational risks had a positive insignificant effect on Return on Equity with liquidity risk having a negative significant effect on Return on Equity. On the other hand, credit risk had a positive significant effect on Return on Assets. On the other hand, liquidity risk had a negative insignificant effect on Return on Assets and operational risk had a positive insignificant effect on Return on Assets. Firm size did not have moderating effect

on the relationship between financial risks and firm performance but was rather found to be an explanatory variable.

4.4.1 Testing for Mediation

The study sought to determine the mediating effect of profitability on the relationship between liquidity risk and stock prices of agricultural listed firms in NSE. Four steps were used. The first step was conducting a linear relationship between liquidity risk and stock prices and the results are presented in Table 9.

Table 9: Regression Results

Stock price	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Liquidity risk	-77.53156	5.402693	-14.35	0.000	-66.94248	-88.12065
_cons	-130.459	23.01963	-5.67	0.000	-175.577	-85.3412
R-Sq:	Within	0.7471				
	Between	0.9634				
	Overall	0.7518				
Wald chi2 (2)		205.94				
prob > chi2		0.000				

From the results the overall R Squared for the model was 0.7518. This implies that liquidity risk explains 75.18% of the total variations in stock prices of the agricultural listed firms under study. The estimated model was also statistically significant as provided for by the significance value of $0.000 < 0.05$ and a relatively larger Wald chi2 (2) of 205.94. The coefficient of liquidity risk was negative (-77.53156) and statistically significant ($0.000 < 0.05$). This means that a unit increase in liquidity risk by the agricultural listed firms under study results in 77.53156 units' decline in the stock prices of the agricultural listed firms under study. Thus, liquidity risk is a significant determinant of stock prices. Kiptoo et al. (2021) indicated that credit risk and operational risks had a positive insignificant effect on Return on Equity with liquidity risk having a negative significant effect on Return on Equity. On the other hand, credit risk had a positive significant effect on Return on Assets. On the other hand, liquidity risk had a negative insignificant effect on Return on Assets and operational risk had a positive insignificant effect on Return on Assets. Firm size did not have moderating effect on the relationship between financial risks and firm performance but was rather found to be an explanatory variable.

The second step was conducting a linear relationship between liquidity risk and profitability (mediator) and the results are presented in Table 10.

Table 10: Regression Results

profitability	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Liquidity risk	-0.0055	0.00199	-2.76	0.006	-0.0016	0.00941
_cons	0.0146	0.00849	1.72	0.085	-0.002	0.03124
R-Sq:	Within	0.063				
	Between	0.9426				
	Overall	0.1008				
Wald chi2 (2)		7.63				

prob > chi2	0.006				
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From the results the overall R Squared for the model was 0.1008. This implies that liquidity risk explains 10.08% of the total variations in profitability of the agricultural listed firms under study. The estimated model was also statistically significant as provided for by the significance value of $0.006 < 0.05$ and a Wald chi2 (2) of 7.63.

The coefficient of liquidity risk was negative (-0.0055) and statistically significant ($0.006 < 0.05$). This means that a unit increase in liquidity risk by the agricultural listed firms under study results in 0.0055 units' decline in the profitability of the agricultural listed firms under study. Thus, liquidity risk is a significant determinant of profitability. Kerubo (2020) indicated that credit risk and operational risks had a positive insignificant effect on Return on Equity with liquidity risk having a negative significant effect on Return on Equity. On the other hand, credit risk had a positive significant effect on Return on Assets. On the other hand, liquidity risk had a negative insignificant effect on Return on Assets and operational risk had a positive insignificant effect on Return on Assets. Firm size did not have moderating effect on the relationship between financial risks and firm performance but was rather found to be an explanatory variable.

The third step was conducting a linear relationship between profitability and profitability and the results are presented in Table 11.

Table 11: Regression Results

Stock price	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
profitability	1193.02	587.869	2.03	0.042	-0.3375 2386.38
_cons	131.586	27.9698	4.7	0.000	76.7662 186.406
R-Sq:	Within	0.0329			
	Between	0.9641			
	Overall	0.0534			
Wald chi2 (2)		3.84			
prob > chi2		0.043			

From the results the overall R Squared for the model was 0.0534. This implies that profitability explains 5.34% of the total variations in stock prices of the agricultural listed firms under study. The estimated model was also statistically significant as provided for by the significance value of $0.043 < 0.05$ and a Wald chi2 (2) of 3.84. The coefficient of profitability was positive (1193.02) and statistically significant ($0.042 < 0.05$). This means that a unit increase in profitability by the agricultural listed firms under study results in 1193.02 units increase in the stock prices of the agricultural listed firms under study. Thus, profitability is a significant determinant of stock prices. The findings of Moranga et al. (2024) concluded that financial leverage had the greatest effect on the financial performance of manufacturing firms listed at NSE, followed by capital adequacy, then inflation rate while asset tangibility/quality had the least effect on the financial performance of manufacturing firms listed at NSE. The last step was conducting a linear relationship between liquidity risk, profitability and stock prices and the results are presented in Table 12.

Table 12: Regression Results

Stock price	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
Liquidity risk	-78.926	5.71485	-13.81	0.000	-67.726 90.1273
Profitability	253.493	109.817	2.31	0.032	899.922 392.936
_cons	-126.76	23.5863	-5.37	0.000	-172.99 -80.529
R-Sq:	Within	0.7484			
	Between	0.9577			
	Overall	0.7539			
Wald chi2 (2)		205.29			
prob > chi2		0.000			

From the results the overall R Squared for the random effects model was 0.7539. This implies that the variables liquidity risk and profitability explain 75.39% of the total variations in stock prices of the agricultural listed firms under study. The estimated model was also statistically significant as provided for by the significance value of $0.000 < 0.05$ and a relatively larger Wald chi2 (2) of 205.29.

The coefficient of liquidity risk was negative (-78.926) and statistically significant ($0.000 < 0.05$). This means that a unit increase in liquidity risk by the agricultural listed firms under study results in 78.926 units' decline in the stock prices of the agricultural listed firms under study. Thus, liquidity risk is a significant determinant of stock prices. Kerubo (2020) indicated that credit risk and operational risks had a positive insignificant effect on Return on Equity with liquidity risk having a negative significant effect on Return on Equity. On the other hand, credit risk had a positive significant effect on Return on Assets. On the other hand, liquidity risk had a negative insignificant effect on Return on Assets and operational risk had a positive insignificant effect on Return on Assets. Firm size did not have moderating effect on the relationship between financial risks and firm performance but was rather found to be an explanatory variable.

The coefficient of firm profitability was positive (253.493) and statistically significant ($0.032 < 0.05$). This means that a unit increase in profitability by the agricultural listed firms under study results in 253.493 units increase in the stock prices of the agricultural listed firms under study. Thus, profitability is a significant determinant of stock prices.

The purpose of steps 1-3 is establish that zero-order relationships among the variables exist. If one or more of these relationships are nonsignificant, then mediation is not possible or likely. However, if their significant relationships in steps 1-3, the study proceeds to step 4. In step 4, some form of mediation is supported if the effect of M (profitability) remains significant after controlling for X (Liquidity risk). If X is no longer significant after M is controlled, the findings support full mediation. If both X and M significantly predict Y (stock prices), the findings support partial mediation. The study thus concludes that profitability as a partial mediation effect on the relationship between liquidity risk and stock prices of agricultural listed firms at NSE. The findings of Ofulue et al. (2025) net working capital has a significant positive effect on the earnings of listed agricultural firms in Nigeria, and cash level has a significant positive effect on the earnings of listed agricultural firms in Nigeria. Mugenda (2023) indicated that market and size had positive significant coefficients while profitability was negative and

significant. The coefficients on value and asset growth were not significant. The study further established that investor sentiment moderates the individual effect of market, value and asset growth. The study did not however find evidence for moderating effect of sentiment on APR premia and stock returns relationship.

4.4.2 Testing for Moderation

To determine the moderating effect of firm size on the relationship between liquidity risk and stock prices of listed agricultural firms at the NSE, the hierarchical regression was used.

Table 13: Moderation Test Results

Stock price	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Liquidity risk	-167.586	28.6907	-5.84	0.000	-111.353	-223.819
Firm size	141.338	42.2437	3.35	0.001	58.5421	224.134
LR*FS	22.927	7.34908	3.12	0.002	37.331	8.5232
_cons	-683.3	166.172	-4.11	0.000	-1009	-357.61
R-Sq:	Within	0.7872				
	Between	0.963				
	Overall	0.7882				
Wald chi2 (2)		245.6				
prob > chi2		0.000				

The overall R Squared for the random effects model before the moderator (firm size) was introduced was 0.7518. After introducing the moderator, the overall R Square for the model improved to 0.7882 implying that firm size as a moderator has a positive moderating effect on the relationship between liquidity risk and stock prices of listed agricultural firms at the NSE. The estimated model was also statistically significant as provided for by the significance value of $0.000 < 0.05$ and a relatively larger Wald chi2 (2) of 230.42.

The coefficient of liquidity risk was negative (-167.586) and statistically significant ($0.000 < 0.05$). This means that a unit increase in liquidity risk by the agricultural listed firms under study results in 167.586 units' decline in the stock prices of the agricultural listed firms under study. Thus, liquidity risk is a significant determinant of stock prices. Kerubo (2020) indicated that credit risk and operational risks had a positive insignificant effect on Return on Equity with liquidity risk having a negative significant effect on Return on Equity. On the other hand, credit risk had a positive significant effect on Return on Assets. On the other hand, liquidity risk had a negative insignificant effect on Return on Assets and operational risk had a positive insignificant effect on Return on Assets. Firm size did not have moderating effect on the relationship between financial risks and firm performance but was rather found to be an explanatory variable.

The coefficient of firm size was positive (141.338) and statistically significant ($0.001 < 0.05$). This means that a unit increase in firm size of the agricultural listed firms under study results in 141.338 units increase in the stock prices of the agricultural listed firms under study. Thus, firm size is a significant determinant of stock prices.

The coefficient of the interaction term of liquidity risk and firm size was positive (22.927) and statistically significant ($0.002 < 0.05$). This means that firm size as a moderator has a positive moderating effect on the relationship between liquidity risk and stock prices of listed agricultural firms at the NSE. The findings of Kilonzo and Nkuru (2023) established a statistically significant positive relationship between liquidity, leverage, profitability and firm size on share returns of agricultural firms listed at NSE, Kenya. A study by Kadima (2024) indicated that inventory conversion period and firm size had an effect on stock liquidity of securities of firms at NSE, Accounts payables conversion period and firm size had an effect on stock liquidity of securities of firms at NSE, accounts receivables conversion period and firm size had an effect on stock liquidity of securities of firms at NSE, cash conversion period and firm size had an effect on stock liquidity of securities of firms at NSE.

Lastly firm size had an effect on the relationship between working capital management practices and stock liquidity of securities of firms at NSE. Edokpa et al. (2024) showed that debt-equity ratio and debt-assets ratio each has an insignificant effect on the dividend payout ratio of quoted agriculture firms in Nigeria. Furthermore, market price has a positive and insignificant moderating effect on the relationship between debt-equity ratio and dividend payout ratio, while it has a negative and significant moderating effect on the relationship between debt-assets ratio and dividend payout ratio of quoted agriculture firms in Nigeria.

5. CONCLUSION

Liquidity risk has a negative and statistically significant relationship with the agricultural listed firms at NSE. Liquidity risk influences the stock prices of listed agricultural firms by affecting their ability to meet short-term financial obligations, sustain operations and maintain investor confidence. Firms with strong liquidity positions are generally perceived as financially stable, making them more attractive to investors and supporting higher stock valuations, whereas elevated liquidity risk may increase uncertainty, reduce market confidence, and exert downward pressure on stock prices.

The study further concluded that profitability partially mediates the relationship between liquidity risk and stock prices. Effective liquidity management contributes to improved profitability by reducing financing costs, enhancing operational efficiency and supporting sustainable business growth. Increased profitability subsequently strengthens investor confidence and positively influences stock prices. Thus, profitability serves as an important transmission mechanism through which liquidity risk affects firm market value.

Firm size positively moderates the relationship between liquidity risk and stock prices. Larger agricultural firms are better able to absorb liquidity shocks because of their stronger financial resources, diversified operations and easier access to capital markets, thereby reducing the adverse effects of liquidity risk on stock prices. However, smaller firms remain more vulnerable to liquidity constraints and experience greater stock price sensitivity during periods of financial stress.

6. RECOMMENDATIONS

The management of agricultural firms listed at NSE should strengthen liquidity risk management by maintaining adequate working capital, improving cash flow forecasting,

optimizing inventory and receivables management and diversifying short-term financing sources. Firms should regularly monitor key liquidity indicators and establish robust internal controls to ensure that short-term obligations are met without compromising operational efficiency.

The study further recommends that firms prioritize strategies aimed at improving profitability. Management should focus on enhancing operational efficiency, controlling costs, investing in productivity-enhancing technologies and adopting value-creating investment opportunities. These initiatives would enable firms to generate sustainable earnings, strengthen their capacity to withstand liquidity challenges, and improve market valuation.

Finally, policymakers, regulators and corporate boards should encourage growth strategies that enhance firm size and financial resilience while promoting sound corporate governance and prudent financial management. Larger firms are better able to mitigate the adverse effects of liquidity risk. Therefore, creating an enabling environment that supports business expansion, investment, and access to affordable financing would help agricultural firms strengthen their financial position, reduce vulnerability to liquidity shocks and achieve sustainable stock price growth and long-term shareholder value.

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