Original Research Article

Stock Market Liquidity and Financial Distress Likelihood Among Listed Firms in Nairobi Securities Exchange, Kenya

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ARTICLE INFO	ABSTRACT
	Our study examines whether there's a relationship between stock market liquidity and the likelihood of financial distress among listed firms in Kenya. This study was grounded on feedback theory. The study employed panel analysis for a period covering ten years from 2006-2015. The target population comprised all 64 listed firms in Nairobi Securities Exchange. Secondary firm-level panel data was gathered from year-end financial reports for the period 2006-2015. Standard multiple regression analysis was used to analyze and test the hypotheses. The study found a negative and significant effect of stock market liquidity (β=-1.842; $p<0.05$) on likelihood of financial distress. This finding revealed that stock market liquidity plays an important role in enabling firms to be financially stable and reduces chances of becoming financially distressed. This study recommends that the firms should take keen scrutiny of their financial structures. Further research should focus on other possible market structures that can be used to lower and avoid likelihood of financial distress.

1. Introduction

Financial distress is a significant issue investigated by researchers, credit institutions and banks (Mselmi *et al.,* 2017). Corporate sound financial health is important and good performance is needed to ensure corporate sustainability and growth (Liang & Pathak, 2016). However, the number of companies that suffer from financial distress have increased over the years. Numerous companies have faced consecutive years of loss, business damage, defaulted interest payments, assets shrinking and suspension of listing every year due to financial distress (Geng *et al*., 2015). Jabeur and Fahmi (2017) points out that the current conditions of economy have led to an increasing number of companies that are facing economic and financial difficulties. There is increased interest in assessment of likelihood of financial distress following the financial crisis of 2008 caused by the global credit crunch and great profile failures for instance Enron and Worldcom (Al-khatib & Al-Horani, 2012; Tinoco & Wilson, 2013). In Kenya, listed firms continue to experience financial distress witnessed by the increase in delisting of companies and the placement of some firms under statutory management. Several firms have been delisted from the stock market which include; Mumias sugar, Eveready, Lonrho East Africa, Pearl dry cleaners, East African Packaging, Uchumi supermarkets, Kenya Corporative Creameries and CMC Kenya Ltd., among others (Gathecha, 2016). In 2008, the financial crisis showed the weaknesses of practices in risk management in the credit setting and assessment of risk at the company level (Tinoco & Wilson, 2013).

Many past researchers have explained financial distress in many ways. For instance, Mselmi *et al.,* (2017) define financial distress as the situation where a firm's cash flows are not enough to meet contractually required payment. The most discernible impact of financial distress is the suspension of debt premium installments, cutting capital costs, exchanging settled resources and scaling back (Sanz & Ayca, 2006) temporary insolvency and low liquidity (Jabeur & Fahmi, 2017).

Moreover, financial distress is shown by a company's powerlessness to raise funding to back its projects (Bandyopadhyay, 2006).

The elevated socio-economic costs as a result of bankruptcy have attracted scholars in enhanced acknowledgement of the determinants of financial distress as well as its forecast (Liao & Mehdian, 2016). Zhou *et al*. (2016) in their study in China's stock market argued that estimating financial distress of firms are signals for different risk levels and it is vital for investors and other stakeholders to assess financial distress of firms. Various studies have shown that the evaluation of likelihood of financial distress will avail critical data on the risk of default of firms to their creditors as well as other corporate players and regulators in the industry (Wruck, 1990; Pindado *et al*., 2008; Tinoco & Wilson, 2013). Research focusing on likelihood of financial distress is critical in aiding managers to mitigate the manifestation of failure, aid the stakeholders in examining and choosing companies to partner with or to invest in (Mousavi *et al.*, 2015).

Brogaard *et al.,* (2017) demonstrates that default happens when a company's money streams are deficient to take care of its debt service expenses. According to Amihud & Mendelson (2012) the liquidity of the company's own securities is another important factor affecting a company's value. Therefore, the liquidity of a company's stocks and bonds can reduce its cost of capital and increase its market value (Cheung *et al.,* 2015; Loukil, 2015). This study adds to the existing body of knowledge in financial distress research by providing some empirically tested insights on the effects of stock market liquidity on likelihood of financial distress. Specifically, this study concludes that stock market liquidity has a negative and significant influence on likelihood of financial distress. These studies show that secondary markets have feedback effect and implications for firms. In particular, that stock market liquidity can impact default risk (Brogaard *et al.,* 2017), that stock market liquidity improves firm value as measured by Tobin's q (Fang *et al.,* 2009). Wu and Liu (2011) show that liquidity distinctly impacts firm performance and that associations with high stock market liquidity have better firm performance. These are noted as a reflection for further research and points to the need for investigation on the possibility that stock market liquidity can have an effect on likelihood of financial distress. Therefore, this paper examined the effect of stock market liquidity on the likelihood of likelihood of financial distress among listed firms in Nairobi, Securities Exchange, Kenya.

2. Kenyan Context

Shares trading in Kenya started growing in 1954 when the Nairobi Stock Exchange was constituted as a voluntary organization of stockbrokers to facilitate trading of securities (Bodicha, 2016). The company is the sole securities exchange in Kenya, licensed by the Capital Markets Authority to promote, develop, support and carry on the business of a securities exchange and to discharge all the functions of a securities exchange. The market operates through a Central Depository and Settlement Corporation (CDSC) to provide central clearing, settlement and depository services for securities listed on the NSE. The Nairobi Stock Exchange changed its name in 2010 to the Nairobi Securities Exchange reflecting its growing role as a platform for issuance and trading of multiple securities (NSE 2014).

Nairobi Securities Exchange is playing a vital role in the growth of Kenya's economy by encouraging savings and investment, as well as helping local and international companies access cost-effective capital. Nairobi Securities Exchange operates under the jurisdiction of the Capital Markets Authority of Kenya. Nairobi Securities Exchange has been operating currently with 64 listed firms which are expected meet the set criteria set by Nairobi Securities Exchange (NSE, 2015). However, despite meeting the set listing requirements, firms are exposed to market dynamics which affect them either positively or negatively. These dynamics may be caused by the government policies, risk perceptions, management decisions and investment decisions (NSE, 2014). The quick change of the capital market and the blend of the overall economy have extended the amount of firms that experience the negative impacts of financial distress consistently (Geng *et al.,* 2015).

In the past few years, many firms have been delisted due to financial difficulties with others being placed under receivership and therefore the need for this study. This has been witnessed by defaulted financial obligations such as defaulted principal and interest payments on loans, defaulted payment to suppliers and delayed/nonpayment of staff salaries which is evidence that listed firms could be facing financial distress. Several firms have been delisted from the stock market including Mumias sugar, Eveready, Lonrho East Africa, East African Packaging, Uchumi supermarkets while other firms have been placed under statutory management due to financial difficulties (Gathecha, 2016). This study therefore sought to determine the effect of stock market liquidity on the likelihood of Financial Distress among listed firms in Nairobi securities Exchange.

3. Theoretical Framework and Hypothesis Development

The study was underpinned by feedback theory. The feedback theory was first formulated by Subrahmanyam & Titman (2001) in their seminal paper examining the feedback from the stock prices to cash flows. In Subrahmanyam and Titman (2001), the criticism from stock costs to firm cash streams happens in light of the fact that partners like workers, providers and clients condition on value levels when choosing whether to remain with the firm or leave. The feedback theory speculates that, an association's stock value influences how the firm is seen by its partners. Thus, these discernments at last influence the firm's income as they impact the partner's venture choices (Subrahmanyam & Titman, 2001). Attari *et al*., (2006) explore the role of feedback by assessing trading by institutional investors around corporate control changes and point to the possibility of manipulation when a value enhancing action is taken by a block shareholder conditional on stock price movements. They argue that a price drop triggers shareholder activism consequently leading to increased firm value.

Feedback theories suggest that the impact of liquidity is corresponding to the affectability of firm operations due to the data substance of stock costs. Stock market liquidity increases firm performance because of the feedback effect (Fang *et al*., 2009). Their findings are attributed to the effect of liquidity in increasing the information content of market prices. Informed traders trade more firmly hence making prices more informative to managers and other stakeholders (Khanna & Sonti, 2004). These signs enhanced prospects to firm managers which possibly influence their speculation choices and firm value. In addition, higher stock prices increase the value of a firm's stock currency thereby relaxing its budget constraint. Along these lines, it is seen that stock market liquidity enhances firm performance through an input impact where liquidity makes prices more informative. Therefore, managers gain from information price efficiency and settle on value upgrading corporate choices. Additionally, a higher stock price may enable firms to draw in clients and in this way may provide funds for financing investment activities. This makes it important to review the potential relationship between stock market liquidity and likelihood of financial distress.

Stock market liquidity is described as the level to which a security or an asset can be purchased or sold in financial markets, without significantly affecting its price (Switzer & Picard, 2016). A liquid market gives financial specialists the capacity to exchange stocks rapidly and at negligible cost (Brogaard *et al.,* 2017). The liquidity of the company's own securities as well as its equity affects a company's value. This relationship between liquidity and expected return implies that corporate managers can increase the market value of their companies by adopting liquidity-increasing corporate financial policies, including lower leverage ratios, more operational disclosure, and increases in the investor base (Amihud & Mendelson, 2012). In secondary financial markets, prices are thought to play an allocational role because they convey information that improves the efficiency of real investment decisions (Goldstein & Guembel, 2008).

Stock market liquidity is an important phenomenon since stock price and trading volume influences how the firm is seen by its partners. Loukil (2015) additionally shows that stock market liquidity influences corporate budgetary choices by lessening expense of capital and increasing access to more funds on the capital markets. Therefore, management can institute efficiency enhancing actions that can reverse an increasing trend in financial distress, such as having liquid stocks. Fang *et al.* (2009) observed that the tradability of stock shares plays a central role in the governance, valuation, and performance of firms. Since stock shares represent investor's guidelines for a company's cash flow and right of control, the liquidity of stock shares assumes an important task in the effectiveness of governance, operating performance and the company's valuation (Wu & Liu, 2011). Consistent with this perspective Subrahmanyam & Titman (2001) argue that how the firm is perceived by its stakeholders can be influenced by a firm's stock price and trading volume. These perceptions will influence investment decisions of stakeholders, which ultimately affect the firm's cash flow (Subrahmanyam & Titman, 2001; Khanna & Sonti, 2004; Hirshleifer *et al*., 2006; Amihud & Mendelson, 2012). Thus, stock market liquidity can act as a catalyst to reduce likelihood of financial distress.

Edmans *et al.,* (2013) and Maug (1998) utilize the setting of activists multifaceted investments to show that stock market liquidity improves block holder governance through the components of exit and in addition voice termed as shareholder activism. These investigations content that liquidity licenses investors to procure a lot of stocks, move toward becoming block holders and capitalize on monitoring activities to boost firm performance. Brogaard *et al.* (2017) find two mechanisms through which stock market liquidity reduces firm default risk; improving stock price informational efficiency and facilitating corporate governance by block holders. The act of selling one's shares can be a governance mechanism in itself as block holders cause the stock price to more closely reflect the firm's fundamental value by gathering and trading on private information. If the manager is compensated according to the stock price, the threat of exit induces him to maximize fundamental value by exerting effort and investing efficiently (Admati & Pfleiderer, 2009; Edmans, 2009).

There exists great evidence that companies raise more external finances when the stock prices are high. As a result, great stock prices tend to relax a company's budget barrier and also influence the value of the company if they signal information to company managers as well as other stakeholders permitting the latter to make better choices. A market that is liquid encourages trading of knowledgeable investors, this makes prices increasingly informative and allows decision making in the company thereby improving company performance (Subrahmanyam & Titman, 2001; Khanna & Sonti, 2004). Greater liquidity allows informed investors to make more profit from their personal information, as a result, giving incentives to investors to acquire more information and trade on it resulting in more informed stock prices (Holmström & Tirole, 1993; Subrahmanyam & Titman, 2001). As a result, managers acquire knowledge from the prices of stocks and utilize it to inform corporate investments (Kato *et al.,* 2005; Chen *et al.,* 2007; Bakke & Whited, 2010). As such, Brogaard *et al.* (2017) indicates that managers make sound investment choices, generate greater cash flows and decrease cash flow instability, resulting in reduced risk of default.

A pricing-based mechanism explains the relationship for higher liquidity–higher firm value result. If investors value liquidity, liquid stocks should be traded at higher prices, which lead to higher market value for the firms (Nguyen *et al*., 2016). Moreover, liquidity has a positive relationship with investment, because liquidity facilitates the financing of investments. Thus, those firms that have greater financial constraints should be more sensitive to liquidity, because liquidity enables external financing (Munoz, 2013). Bharath *et al.,* (2013) assessed the role of liquidity in block holder's threat of exit and summed up that stock market liquidity highlights the influence of block ownership on the value of the company. Greater stock market liquidity results in governance changing from block holder's voice to the threat of exit (Edmans *et al.,* 2013). In light of the aforementioned studies, there exists evidence of a mix between stock market liquidity and companies' financial resources in many ways such that stock market liquidity could impact on likelihood of financial distress. Thus, the study hypothesized that:

$H_{01:}$ *Stock Market Liquidity has no significant effect on Financial Distress Likelihood of listed firms in Nairobi Securities Exchange.*

4. Methodology and Data
This study was based on positivism research philosophy it aims at working with observable social reality (strategic conformity, stock market liquidity and likelihood of financial distress of listed firms in Nairobi securities exchange) and that the end product of this research is on causality and law-like generalizations. The researcher collected data independently and neither did the subject of the research influence the researcher nor did the researcher influence the subject of the research.

This study focused on listed firms in Nairobi Securities Exchange over the period 2006-2015. The total number of listed firms in Nairobi Securities Exchange at the end of 2015 is 64. However, listed firms to be included in the study were those that were trading on the NSE during the period. Therefore, firms that were listed after 2006 and those that were suspended or delisted during the period were excluded from this study. This means that 40 firms were studied as the other firms commenced operations during the period of study or were delisted at one point during the period of study. This translated to ten firm years and a total of 400 firm-year observations.

This study utilized secondary data which was extracted from a number of secondary sources which include the companies' year-end financial reports in Compustat-Capital IQ, Nairobi Securities Exchange (NSE), and annual reports lodged in the Capital Markets Authority (CMA) library. The hypotheses in this study were examined by utilizing panel data analysis. Panel designs can be used to assess the same set of firms at different times, and is a demonstration of events over a period of time (Saunders *et al*., 2009; Bhattacherjee, 2012).

Measurement of Variables
A. Independent Variable
Stock market liquidity was measured using trading volume i.e. the amount of shares traded in the whole year divided by the amount of shares outstanding at the end of the year (Amihud & Mendelson, 2012; Wu & Liu, 2011; Munoz, 2013) for firm *i* in year *t*. Stock market liquidity is defined as the firm's fundamental value reflected by stock prices and trading volume (Subrahmanyam & Titman, 2001; Edmans *et al*., 2013).

B. Dependent Variable

Likelihood of financial distress was measured using the Z-score for firm *i* in year *t*, developed and validated by Altman (1968) and reviewed by Altman & Hotchkiss (2006). The original model has been enhanced to make it applicable for private companies, non-manufacturers and emerging markets (Altman & Hotchkiss, 2006). The Z-score is examined in time period *t* in order to make predictions about firms' likelihood of financial distress in the following period *(t+1)* as this should reflect normalized operating performance (Altman, 2004; Altman & Hotchkiss, 2006)*.* The Z-score model is of the form:

$Z = 6.56 (X_1) + 3.26 (X_2) + 6.72 (X_3) + 1.05 (X_4)$

Zones of discriminations:

Z > 2.6 – Non-distressed (Safe) zone
1.1 < Z < 2.6 - Gray zone (Potential distress)
Z < 1.1 – Distress zone
Where: Z is the overall index measuring likelihood of financial distress.

Control Variables

Possible confounding factors that may have an effect on likelihood of financial distress were controlled. *Firm size* is defined and measured as natural log of total value of firm assets (Boyd *et al*., 2005; Agarwal & Taffler, 2008; Brad *et al*., 2015; Doumpos *et al.*, 2015) for firm *i* in year *t*. This was controlled because previous studies found that the size of the firms greatly influences the financial performance that the firms have (Charitou *et al*., 2004; Doumpos *et al*., 2015; Hovakimian *et al*., 2011; Tinoco & Wilson, 2013). Larger firms can have more resources to sell and regain liquidity even if temporarily distressed (Moulton & Thomas 1993; Brad *et al*., 2015). Smaller firms that have fewer tangible assets may have higher transaction and information costs, find it increasingly not possible to raise equity or dispose assets when not performing well. Such financially challenged companies have the likelihood of having a greater risk of likelihood of financial distress (Charitou *et al*., 2004; Hovakimian *et al*., 2011; Tinoco & Wilson, 2013).

Agency cost was measured by selling, general and administrative costs divided by sales revenue for firm *i* in year *t*. This measure is more relevant since it captures not only compensation to the senior managers, but also compensation to their staff (Capozza & Seguin, 1998). Agency cost overhead has been viewed in strategy and finance literature as the proportion of the costs of business operations represented by selling, general and administrative costs which captures compensation to the senior managers and their staff (Capozza & Seguin, 1998; Chen *et al*., 2012). Other studies have also used a similar approach to measure agency cost (Anderson *et al*., 2007; Li *et al*., 2008; Chen *et al*., 2012; Siregar *et al*., 2015). Agency cost was controlled for because it can be regarded as a close proxy for perquisite consumption and managerial discretion in allocating corporate resources (Wang & Deng, 2006). Agency cost has implications because, first, job perks cause shrinkage in company resources; second, higher management discretion, to a large extent, suggests greater agency conflicts (Singh & Davidson 2003). It is argued that one additional dollar of these expenses results in one-dollar reduction in corporate level net cash flows available to shareholders (Capozza & Seguin, 1998).

Consistent with previous studies, *financial leverage* was controlled for because of strong indications of its effect on likelihood of financial distress. Leverage shows the degree to which a firm is utilizing borrowed money and the firm may be at risk if the firm is unable to make payments on their debts (Liargovas & Skandalis, 2010). Firms with higher leverage level will require a greater cash flow to pay interest and principal of their debt contracts, thereby likely to impose greater constraints on the firm's financial resources (Agrawal, 2015; Ang *et al*., 2000; Munoz, 2013). Furthermore, Di Patti *et al*., (2015) found that, ceteris paribus, a 10 % point increase in leverage is associated with almost a 1 % point higher probability of default.

Table 1: Operationalization of the research variables

Variable Type	Variable	Measurement	References
Dependent variable	Likelihood of financial distress	Altman's Z-score model; $Z = 6.56 (X_1) + 3.26 (X_2) + 6.72 (X_3) + 1.05 (X_4)$	Altman & Hotchkiss (2006).
Independent variable	Stock market liquidity	Number of shares traded in the whole year divided by number of shares outstanding at the end of the year for firm *i* in year *t*.	Amihud & Mendelson (2012), Wu & Liu, (2011), Munoz (2013).

Source; Researcher, 2016.

Model Specification
Given that the study used panel data, we first determined whether a fixed effects or a random effects model was appropriate using Hausman test. The results indicated that a random effects model should be used. Therefore, the general specification model is as follows:

The investigated models are as follows:
$FD_{it} = \beta_{0it} + \beta_{1it}x_{1it} + \beta_{2it}x_{2it} + \beta_{3it}x_{3it} + \varepsilon_{it}$...Model 1
$FD_{it} = \beta_{0it} + + \beta_{1it}x_{1it} + \beta_{2it}x_{2it} + \beta_{3it}x_{3it} + \beta_{4}x_{4it} + \varepsilon_{it}$....................................Model 2
Where FD_{it} is likelihood of financial distress, $x_1$is firm size, x_2 is agency cost, x_3 is financial leverage, x_4 is stock market liquidity, β_0 is a Constant, $\beta_1 - \beta_4$ is the Coefficients of Regression, ε_{it} is the error terms, *i* is the firm and t is time.

5. Results
Descriptive and Correlation Statistics
The econometrics techniques require transforming the values of real variables into their logarithmic values (Harlow, 2005). Consequently, the variables were transformed into logarithm form as transformation may reduce the problem of heteroscedasticity. This is because transformation compresses the scale in which the variables are measured, therefore reducing a tenfold difference between two values to a two-fold difference (Harlow, 2005). Thus, all real variables except the dummy variable for industry differences were transformed into logarithmic form for the purpose of this study. The mean and standard deviations of the variables of this study are presented in Table 2 below. The descriptive results indicate that Kenya listed firms have average likelihood of financial distress of 2.158 and average stock market liquidity of 0.097 while average firm size is 1.762.

Table 2: Distribution of the Mean and Standard Deviation of the Variables

	N	Mean	Std. Deviation	Min	Max
Likelihood of financial distress	400	2.158	1.534	-1.955	2.560
Stock market liquidity	400	0.097	0.064	0.002	0.371
Firm Size	400	1.767	0.762	0.960	1.580
Agency Cost	400	1.947	0.831	0.713	2.052
Financial Leverage	400	5.103	0.848	3.524	5.760

Source: Research Data, (2016)

Correlation Analysis
A bivariate correlation is a measure of strength or degree of linear association between variables. The correlation between the independent variables and the dependent variable is a precursor for regression analysis. Correlation coefficients are used to determine the magnitude and direction of associations. In order to assess the effect of strategic conformity and stock market liquidity on likelihood of financial distress, Pearson's correlation analysis was performed. The correlation among the variables in this study was done and presented in Table 3 below. Stock market liquidity was found to be negatively and significantly correlated with likelihood of financial distress ($p<0.01$). This implies that when stock market liquidity is high it reduces the chances of the firm facing likelihood of financial distress. The results for Pearson correlations on agency cost indicated a positive and significant correlation with likelihood of financial distress ($p<0.05$). This shows that as agency cost increases, the chances of a firm facing likelihood of financial distress also rises. The reason could be that when the agency cost increases it eats up a large portion of profits of the firm which could otherwise be used for investment purposes. Thus, as financial resources get utilized fewer resources are left up for investing hence the firm gets distressed.

The Pearson correlations results on financial leverage was found to have a positive and significant correlation with likelihood of financial distress ($p<0.01$). This indicates that as financial leverage increases it raises the chances that the firm will face likelihood of financial distress. The possible reasoning is that an increase in financial leverage is likely to inflict more constraints on the firm's financial resources hence it will be financially distressed. Firm size was found to be negatively and significantly correlated with likelihood of financial distress ($P<0.01$). This implies that small firms are likely to be in likelihood

of financial distress than large firms. The results also indicate that agency cost has a significant and positive relationship with stock market liquidity. Agency cost has a negative and significant relationship with firm size.

Table 3: Pearson correlation Coefficient Results

	1	2	3	4	5	6	7	8	9
1.Financial Distress Likelihood	1								
2.Stock Market Liquidity	-.467**	1							
3.Financial Leverage	.363**	.059	1						
4.Firm Size	-.187**	-.222**	-.446**	1					
5. Agency Cost	.228**	.089**	.107**	-.245**	1				

 ** Correlation is significant at 0.01 level * Correlation is significant at 0.05 level
 Source: Research Data, (2016)

C. Robustness tests

Several tests were performed before the regression analysis. To test for normality of error terms Jarque-Bera test was used. According to Brys *et al*., (2004) the JB tests the hypothesis that the distribution of error terms is not significantly different from normal (H0: E (ε) ~N (μ=0, Var. =σ2). The results show that the significance levels for the Jarque-Bera statistics were greater than the critical p-value of 0.05 implying that the errors were not different from normal distribution (Tanweeer, 2011). The White's test statistic for equality of variances was used to test for the assumption of homoscedasticity. The results of White test were above 0.05 indicating absence of heteroscedasticity. The Durbin-Watson test of serial correlations was used to test for independence of error terms. Hair *et al.* (2006) indicated that if values of D are found to be within 1.5-2.5, one may assume that there is no autocorrelation. The results in Table 4.5 were found to be within the acceptable threshold of values between 1.5-2.5, indicating that the error terms were independent for the regression models of Z-score.

To check for multicollinearity, this study followed the procedure set out by (Gujrati, 2004) that included the use of TOL and VIF. From the results, the tolerance statistics were all above 0.10 and VIF values were all below 10 implying that there was no problem of multicollinearity among the predictor variables. The results of the study showed that all variables, including the control variables had VIF values ranging from 1.158 to 6.735 indicating that there was no problem of multicollinearity. Before empirical estimations are conducted, the data series were subjected to unit root tests to establish their stationarity conditions that are their orders of integration. Data series must be primarily tested for stationarity in all econometric studies (Gujrati, 2003). This study conducted unit root test for the variables using the Levin-Lin unit root test. The results indicated that the p-values for the Levin-Lin -Fisher Chi-square statistic were less than theoretical values of 0.05 for stock market liquidity, agency cost, firm size and likelihood of financial distress. The null hypothesis was rejected implying that the variables do not contain a unit root therefore suitable for modelling and forecasting (Levin *et al.,* 2002). To correct for non-stationarity in financial leverage the first difference of the variables [D (var)] were used in the regression models.

6. Empirical Results

The results of the analysis were reported using random effects regression model. A Hausman test suggested that random effects regression model would be preferable to a fixed effects model. The hypothesis was tested using hierarchical regression analysis. The control variables were entered in the first hierarchical step (model 1) which included the firm size, agency cost and financial leverage. Thereafter, the independent variable stock market liquidity was entered in model 2 to examine the relative contribution of stock market liquidity on likelihood of financial distress.

Model 1in Table 4 presents the results for control variables firm size, agency cost and financial leverage which explained 29.5 percent change in likelihood of financial distress. The results showed that firm size had a negative and significant effect on likelihood of financial distress ($β$=-0.064 p<0.001). The results found a positive and significant effect of agency cost on likelihood of financial distress ($β$=0.914; p<0.05) and a positive and significant effect of financial leverage on likelihood of financial distress of listed firms in Nairobi Securities exchange ($β$=0.824; p<0.05). Stock market liquidity which is the moderator was entered in model 3 and the results indicate that stock market liquidity had a negative significant effect on likelihood of financial distress ($β$=-1.842; p<.05). Stock market liquidity explained an additional 14.3% above the strategic conformity variables, indicating that the addition of an independent variable did improve the prediction of likelihood of financial distress.

Table 4: Regression Analysis Results

Variables	Model 1	Model 2	
Controls			
Constant	0.422 (0.699) **	0.687 (0.810)**	
Firm Size	-0.064 (-0.906) **	-0.066 (-0.084)**	
Agency Cost	0.914 (0.869) *	0.874 (0.910) *	
Financial Leverage	0.824 (2.650) *	-0.181 (-0.251) *	
Predictors			
Stock market liquidity		-1.842 (-1.741) *	
Model summary statistics			
R Square	0.295	0.438	
Adjusted R^2	0.015	0.457	
R^2 Change	0.295	0.143	
F- Statistic	3.582	3.622	
Sig. F-Stat.	0.048	0.045	
** Significant at 0.01 level * Significant at 0.05 level			
Figures in parenthesis are t-statistics			

Source: Research Data, (2016)

7. Discussion and Conclusion

In this study, the relationship between stock market liquidity and likelihood of financial distress was investigated. The study was conducted across 40 firms that were listed in NSE for the period 2006 to 2015 with complete data. The theories that supported this study was feedback theory. The results of the study advanced knowledge on the role of stock market liquidity in enhancing firm's financial health. The discussions highlight key findings of the study.

The results in this study showed a negative and significant effect of the effect of stock market liquidity on likelihood of financial distress (β=-1.842; $p<0.05$). This finding revealed that stock market liquidity plays an important role in enabling firms to be financially stable and reduces chances of becoming financial distressed. This supports the notion by feedback theory that stock market liquidity influences corporate financial decisions by enhancing the informativeness of stock prices and consequently, managers learn from informative stock prices and make value-enhancing corporate decisions (Cheung *et al.,* 2015). Informed traders trade more aggressively and thus makes prices more informative to firm managers and other stakeholders. This signals improved prospects to firm managers which affect their investment decisions which consequently affect firm value (Khanna & Sonti, 2004). Cheung *et al.* (2015) extended this argument and stated that an increase in stock market liquidity may help managers to attract new funding for investment projects and may support value-enhancing activities such as corporate governance and market monitoring. When the firms' stock is liquid it is perceived positively by the stakeholders hence influencing their decisions regarding the firm. Loukil (2015) observed that stock market liquidity influences corporate financial decisions by reducing cost of capital and facilitating access to more funds on the capital markets. In addition, Fang *et al.,* (2009) also argue that liquidity improves firm performance by increasing the efficiency of performance-sensitive managerial compensation. These arguments are in support of feedback theory that through feedback effect liquidity stimulates the entry of informed investors who make prices more informative to stakeholders thus improving firm performance (Fang *et al.,* 2009).

The impact of stock market liquidity on likelihood of financial distress cannot be overemphasized given the negative and significant effects of stock market liquidity on likelihood of financial distress. The finding of this study thus qualified stock market liquidity to be a factor that can lower likelihood of financial distress and reduce its associated costs. This result showed that with liquid stocks there is less chances of financial distress among firms. Fang *et al.* (2009) observed that the tradability of stock shares plays a central role in the governance, valuation, and performance of firms. Because stock shares

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represent investors commands for a firm's cash flow and control rights, the liquidity of stock shares plays an important role in the governance effectiveness, operating performance, and valuation of the firms This finding is in support of the notion that stock market liquidity influences the decision of the investors. The study therefore concludes that the firms should aim to have liquid stock as it raises certainty among the investors, acts as a source of capital and public trading of a firm's stock can influence managerial incentives. Public trading allows managerial incentives to be provided according to the continuing performance of the firm's share price thus increase firm value and thereby reduce likelihood of financial distress.

In conclusion, the findings of this study have significant implications for both academic, finance and corporate governance. As scholarly inquiries into the notion of, stock market liquidity and likelihood of financial distress have remained conceptual to date, this study is one of the first to attempt to test the concept in empirical setting. The policy makers will find useful implications that are relevant and can be used to endorse the findings of this research in corporate governance policies.

8. Recommendations

The research study supported the feedback theory (Subrahmanyam & Titman, 2001). Feedback theory is a theory for understanding the feedback effect of stock/shares to future cash flows (Hirschleifer *et al.,* 2006). Stock trading activity affects market prices and consequently provides feedback to cash flows by providing a cheap source of finance for making investments and may help attract customers and employees (Hirschleifer *et al.,* 2006), stimulating trading of investors (Fang *et al.,* 2009) and triggers shareholder activism in case of a price drop (Attari *et al.,* 2006) consequently leading to increased firm value. By incorporating stock market liquidity as an independent variable having an influence on likelihood of financial distress, this study has widened the theoretical prism of stock market liquidity effects. Consequently, the study upheld the prescriptions of feedback theory that stock market liquidity plays a significant role in minimizing likelihood of financial distress.

Thus, firms should ensure that they have significant amounts of tradeable shares since stock market liquidity affects corporate financial decisions by reducing cost of capital and facilitating access to more funds on the capital markets. Stock market liquidity can also enhance informativeness of stock prices and consequently, managers learn from the informative stock prices and make value-enhancing corporate decisions. Hence, firms with more liquid stocks have less financial constraints and may pursue investments even if their projects are risky. The study therefore has boosted the existing literature on likelihood of financial distress, stock market liquidity and strategic conformity which provide a reference point for academic discourse and future reference. Further research should also focus on other possible market designs that can be used to lower likelihood of financial distress and avoid its associated costs.

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