EFFECT OF LIQUIDITY RISK ON UNIT TRUST PRICE VOLATILITY AMONG CAPITAL MARKET AUTHORITY LISTED FIRMS IN KENYA

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ABSTRACT

The purpose of the study was to evaluate the effect of liquidity risk on unit trust price volatility among CMA listed firms in Kenya. The objective that guided the research was to evaluate the effect of liquidity risk on unit trust price volatility. A record survey sheet was used to collect secondary data using longitudinal research design. The statistical population of the study consisted of 19 Unit trusts registered by CMA 2016 and offering money market. Census was taken to collect annual data for a period of 9 years from 2009 to 2017. Data presentation was done using panel plots, trend lines and distribution tables. The statistical techniques used are descriptive statistics such as Mean, median and Standard deviation. Diagnostics test was done. Correlation tests, analysis of variance and regression analysis were also done for Inferential statistics. The model was tested using the F-test at 5% level of significance which resulted to the value of $F_{(0.05, 1, 84)} = 3.96 \leq F_{(1, 83)} = 18.210$, p-value $= 0.000 \leq 0.05$ indicating that the model fits well. The results of the study analysis revealed that the independent variable had a statistical significant effect on unit trust price volatility among CMA listed firms in Kenya for the money market fund. The results (r= O.4242, p- value= $0.029 \leq 0.05$) of the study indicated that the effect of Investment risk on unit trust price volatility was positive and statistically significant relationship at 5% levels The coefficient of determination (R^2) = 0.1800 and standard error of estimate of 0.3502 for the regression model. The model PV = 0.248 + 0.225 LR can be used for unit trust price volatility prediction though weak. The study made the following recommendations; CMA regulate and inspect the financial stability policies governing unit trusts, unit trust firms to pay the investors in time and improve on financial stability in terms of liquidity. On policy implication, the government should review the CMA act to give the authority the inspection mandate on the unit trust to make them efficient and conform to financial international standards to be in line with the economic pillar of vision 2030. The unit trust should employ qualified personnel in financial matters.

Key Words: *liquidity risk, unit trust price volatility*

INTRODUCTION

The unit trust industry originated from a European Dutch merchant Adrian Van Ketwich in 1774 after the financial crisis from 1772 to 1773. He created the first closed-end fund of 2,000 shares. These provided diversification for small investors. The main principles for investment decision making are highest returns according to the lowest risk and variation in prices of assets. In finance theory, market participants usually inquire about the level of risk on assets making the concept of risk important in investment decisions (Bond & Chang, 2013). The investors do not always pay adequate attention to the liquidity risk concept alongside the return concept (Jamaldeen, 2014).

Acute increase in price volatility has been witnessed in most western countries in the past but in nineteen nineties low price volatility was evidenced in the same countries in the Security Market (Liang & Wei, 2012). Kariuki and Kamau (2014) revealed that price volatility

resumed a decreasing trend in 2001 after a large increase between the years 1997 to 1999. The mean estimate of annual historical price volatility over the 15 years was below levels of 15 to 20 percentage point experienced between 1997 and 1999 (Hussain, Farooz, & Khan, 2012). The sequence of price volatility in developed markets is similar showing a gradual increase in their correlation for the last 15 years (Hussain, Farooz, & Khan, 2012). However, the sequence of price volatility in Japan Market was different.

The unit trusts return trails below the returns of bonds and equities traded in NSE though a positive growth is projected by CMA to be higher in future (CMA, 2015). Unit trusts are faced with liquidity problem when it is not able to sell the products, cannot receive cash for sale and extensively increase or decrease in costs. In recent years, the liquidity crisis has occurred in many international and local companies such as chase bank, imperial bank among others. Therefore, this risk of liquidity should be identified correctly because it is a common risk and some strategies should be applied to manage the crisis more properly (Raei & Saeidi, 2010). The inability of unit trust either to fulfill its financial obligations or invest fund increase in assets without incurring unacceptable costs or losses in acceptable liquidity is a potential loss that is predictable. The excess of unused funds in a firm is also unacceptable liquidity or inability to meet the financial obligation and hence this complicates the liquidity risk as a subject (Hendersholl & Seasholes, 2014). The inability of financial institutions to commit adequate resources to manage liquidity risk due to unavailability of clear standards in defining problems related to liquidity risk and its measurement is an issue that needs to be addressed with urgency. The liquidity risk measures in the study was current and quick ratios The problems of liquidity risk can be brought about by a decrease in the value of firms' equity position which leads to a loss of potential return on its investment (Chang, 2013). The realization of liquidity risk is very often not detected until a financial crisis occurs which may lead to disastrous repercussions to the firm.

The unit trust industry has developed in most of the countries in the world except few countries in Asia (Glosten & Milgrom, 1985). The members' countries of European Union experienced an increase in unit trust assets from $0ne trillion to $2.6 trillion for a period of six years between 1992 to 1998. Total net assets increased by nearly $830 billion from the level at year-end 2014, boosted primarily by growth in equity fund assets.

In Africa, there were 1000-unit trust across approximately 48 management companies as at 30 June 2015. The most recent Alexander Forbes survey of unit trust investment funds managers shows total assets under management in South Africa of R 3.6 trillion as at 30 June 2016, compared to R3.1 trillion as at 30 June 2010, representing growth of under 6%. According to the World Bank global economic prospects June 2015 report, "on aggregate the region's asset managers grew at 4.4% in 2015." The report continues that the region is expected to record 4.9% growth in 2016, 5.2% in 2017 and 5.4% in 2018 (KPMG, 2015). Unit trust has evolved over the years and this is well documented in several literatures, (Sharpe,1996); and Jim & Gregory, 2008). In 1980s the unit trust fund tremendously and consistently developed it importance globally.

The growth of unit trust has been attributed to the presence of multinational financial institutions, increase in global financing in developed countries and significant increase in performance of equity and bond (Bond & Chang, 2013). The significant increase in demographic aging population seeking for safe heaven investment in unit trust developing countries has also contributed to the development of unit trust industry globally. Unit trust fund safely hold liquid financial assets that earn long term returns.

In Kenya, the idea of unit trust did not begin until the enactment of The Capital Markets Authority (CMA) that is empowered under Section 30 of the Capital Markets Act to approve institutions to promote Collective Investment schemes under Capital Markets (Collective Investment Schemes) Regulation, 2001). A copy of prospectus is deposited and approved by CMA identifies the unit trust functions and funds.

Unit trust provide individual investors who do not want to actively buy or sell securities on their own, the opportunity to still pursue their desire of investing in financial securities by acting as a form of financial intermediary (Gachiri, 2013). Unit trust has been termed as safe haven for less complicated and less capitalized conservative investors in the market that is proving complicated. There was a sharp decline in the unit trust industry at the beginning of 2007, accounting for over 32%-unit trust price drop. As a result of this decline, the industry suffered and was only able to experience an upswing in price at the start of 2009 (CMA, 2010). In an effort to further deepen the capital market, the CMA has been facilitating the growth of areas such as Islamic Capital Markets products. Consequently, this saw the licensing of the first ethical fund an Islamic unit trust, first ethical opportunities fund, sponsored by First Community Bank in April 2012, (Business Today, 2012). In addition, Gachiri (2013) highlights the approval by CMA in March 2013 of Genghis Capital to start selling Islamic unit trust, which was known as Iman fund.

The unit trusts return trails below the bonds and equities traded in NSE though its growth is projected by CMA to be higher in future. Lack of popularity and poor performance of unit trusts has been evidenced in Kenya despite the increased intellectual assets investments. The effect of macroeconomic variables in solving the issues facing unit trust price variation is questionable which is among the financial concern for investor in the long run. According to the Capital Markets Authority (CMA, 2015) report, unit trusts have grown in acceptance and popularity in Kenya from virtually zero in 2001 to twenty-three as per those licensed by May 2015.

Considering the important role of liquidity risk in investment, this study attempted to investigate the effect of liquidity risk on unit trust price volatility. Little documentation is available on the relationship between financial risk and unit trust price volatility. Several literatures documented that the total asset of the unit trust that were operating 10 years ago has grown to Ksh 21.6 billion by the end of 2015 (CMA, 2015). However, there was a sharp decline in the industry at the beginning of 2007, accounting for over 32 percent unit trust price drop. As a result of this decline, the industry suffered and was only able to experience an upswing in price at the start of 2011 (CMA, 2012). The industry over the years has proved

very popular among investors who see it as a safe haven and this has resulted in the ever increasing number of unit trusts in the country. To buttress this fact, the number of listed funds in the country now has increased significantly in the last 8 years. As at 2012, there were 16 listed unit trusts, but today the figure stands at 23 unit trusts in Kenya.

STATEMENT OF PROBLEM

Poor Market condition with unpredictability and uncertainty investment has brought a ripple effect on the performance of unit trust firms leading to a decline on net retail sales by 55% in comparison to the year 2012 in South Africa (Pretorius & Wolmarans, 2014). There was a sharp decline in the unit trust industry at the beginning of 2007, accounting for over 32%-unit trust price drop. As a result of this decline, the industry suffered and was only able to experience an upswing in price at the start of 2011 (CMA, 2012). The unit trusts return trails below the returns of bonds and equities traded in NSE though a positive growth is projected by CMA to be higher in future (CMA, 2010). The trend of the unit trust price is uncertain and unpredictable with annual volatility ranging between 0.52 % to 38% for the last seven years (Economic Survey, 2014). Due to the unit trust price volatility, investors are shifting to real estate and other investments with low price volatility (Economic Survey, 2014). By the nature of its operations, unit trust industry faces a myriad of challenges which lead to unit trust price volatility (Pretorius & Wolmarans. 2014). However, the variables responsible for the unit trust price volatility have not been adequately documented in Kenya. Also the collapse of some banking institutions such as Chase bank, Dubai and Imperial bank has a significant impact on the operation of the unit trusts. Genghis, Dry associates, chase assurance and Apollo which had 80% of its deposits in these banks that are under receivership (CBK, 2016). Most of the studies carried out are on political, environmental, interest rate and credit risks on firms' performance. In every business decision and entrepreneurial act is connected with financial risk (Stroeder, 2008). Little attention has been paid by scholars in evaluating the effect of liquidity risk on the price volatility of unit trusts. In view of this gap in knowledge, the study aims to evaluate the effect of liquidity risk on unit trust price volatility among CMA listed unit trusts in Kenya.

OBJECTIVE OF THE STUDY

The purpose of this study was to evaluate the effect of liquidity risk on Unit trust price volatility among CMA listed unit trusts in Kenya. The null hypothesis: H01: Liquidity risk has no statistical significant effect on unit trust price volatility among CMA listed unit trusts in Kenya.

THEORETICAL REVIEW (MODERN PORTFOLIO THEORY)

Markowitz, (1952) proposed the idea of considering a portfolio from a risk-reward point of view. Portfolio construction by investors depends on the risks and rewards of individual securities (Markowitz, 1952). Since the 1980s, companies have successfully applied modern portfolio theory to liquidity risk. Modern portfolio theory was pioneered by H. Markowitz.

The theory states that risk – a verse investor can construct portfolios to optimize or maximize expected returns based on a given level of market risk. The theory emphasizes that risk is an inherent part of higher reward. According to the theory, it's possible to construct an efficient frontier of the optimal portfolios offering the maximum possible expected returns of a given level of risk. Dispersion from the expected return is the measure of price volatility. The reward is described by the expected return of the portfolio and the risk is the standard deviation of the return. The assumption is that a rational investor would prefer the portfolio with a lower standard deviation compared to a portfolio with the same expected return but a higher standard deviation. To manage the risk of a portfolio an upper bound for the standard deviation of the portfolio is set. The weights of an investment in the assets to compose to the desired portfolio are calculated. In whole, these deficiencies will make portfolio valuation inappropriate. The definition of a portfolio and development of a portfolio value model to accommodate liquidity risk is required.

Markowitz (1952, 1959) developed the basic portfolio model which derived the expected rate of return for a portfolio of assets and an expected liquidity risk measures. He showed that the variance of the rate of return has a meaningful measure of liquidity risk under a reasonable set of assumptions. The study presented a new framework for determining the value of a unit trust proposed by Acerbi and Scandolo, (2008) which gives a consideration of liquidity risk by introducing a so called liquidity policy on a firm. The standard deviation of portfolio is a function not only of the standard deviations for the individual investment but also of the covariance between the rates of return for all the pair of assets.

The behavioral economics has criticized the modern portfolio theory assumption on investor rational action as misplaced and the idea of investor expectation on potential returns as biased in specific investment (Kalunda, Nduku & Kabiru, 2012). This is a theory which uses a simplified version of reality such as the statement that investors attempt to maximize their economic returns. The assumption of efficient market economy leads to the optimal return relate to the unit trust price which the financial theory assumes to be a function of expected returns (Malkiel,2003).   Hughes (2002) contents that MPT still justifiably provides the cornerstone of liquidity risk.

EMPIRICAL REVIEW

Foran and O'Sullivan (2014) analyzed Liquidity risk and the Performance of UK Mutual Funds. The study sought to examine the role of liquidity risk, both as a stock characteristic as well as systematic liquidity risk in UK mutual fund performance. The study established that on average UK mutual funds are tilted towards liquid stocks but that, counter-intuitively, liquidity rather than illiquidity, as a stock characteristic is positively priced in the cross-section of fund performance. Further, the study revealed a strong role for stock liquidity level and systematic liquidity risk in fund performance evaluation models.

Pastor and Stambaugh (2003) researched on liquidity risk and expected security returns in U.S between the period 1966 and 1999. The study investigated whether market wide liquidity

is a state variable important in asset pricing. The study established that expected security returns are related cross-sectionally to the sensitivities of returns to fluctuations in aggregate liquidity. According to the study, liquidity is abroad and elusive concept that generally denotes the ability to trade large quantities quickly, at low cost, and without moving the price.

Ferreira (2012) analyzed the determinants of unit trust performance in twenty-seven countries over 1997–2007 periods. The study established that the adverse scale effects in the USA are related to liquidity constraints faced by unit trust that, by virtue of their style, have to invest in small and domestic securities. Countries with liquid security markets and strong legal institutions display better performance of mutual funds. Indeed, US funds that invest in small and illiquid securities are the most negatively affected by scale, while this is not the case with non-US funds.

Sebastian (2010) studied the liquidity premium and unit trust performance in Thailand. The study looked at the relationship between liquidity and unit trust performance using a return-based stale price measure to quantify the liquidity of the assets contained in the portfolio. The study established that the liquidity of assets contained in the unit trust plays an important part in unit trust returns. Further, the study concluded that the highest liquidity unit trust significantly underperforms the market in contrast to the lowest liquidity, which significantly outperforms the market hence evidence of an illiquidity premium in Thai mutual unit trust.

In the middle of 2007, turmoil in financial markets strongly indicated that liquidity is an important concept to be considered by financial institutions. Funding was reliably attainable for financial institutions at an affordable cost, security and mortgage markets were bullish before the crisis (World Trade Organization, 2007). The selling of Assets without losses became difficult due to harsh economic conditions thus affecting the liquidity of the assets which was in good shape in the year 2005 and 2006. High asset prices volatility was evidenced as a result of tighter liquidity condition when financial market crisis occurred. Asian financial market crisis also occurred in 1998, reflecting a similar result. These events emphasize on the important of liquidity in financial markets.

Generally, companies are faced with liquidity problems due to a number of reasons when they are not able to sell their products, they cannot receive cash for sale, the costs of production increase extensively and finally the companies' efficiency decrease. In recent years, the liquidity crisis has occurred in many international and local companies such as chase bank, imperial bank among others. Therefore, this risk of liquidity should be identified correctly because it is the most common risk in Kenya, and some strategies should be applied to manage the crisis more properly (Raei & Saeidi, 2010).

There is potential loss arising from the unit trust inability either to meet its obligations or to invest fund increases in assets as they fall due without incurring unacceptable costs or losses in acceptable liquidity. Liquidity risk does not mean just the shortage in financial resources but also the excess of these unused funds. Management of liquidity risk which is a large and confusing subject requires commitment of significant resources from financial institutions.

The standard definition of the problem the financial institutions are meant to solve on liquidity risk measure is not clear and thus it's a complex subject. The liquidity risk measures in the study will be Total equity to total assets, current and quick ratios.

Current ratio is not generally the best measure since it's so dependent on other factors (Eljelly, 2004). Cornett (2009) asserts that current ratio measures the available value of current assets to pay each value of current liabilities. It measures the ability of a company to meet its current liabilities as they fall due. The liquidity position of a firm is reflected by the current ration. The most acceptable current ratio is 2:1. If a company has insufficient current assets in relation to its current liabilities, it might be unable to meet its commitments and be forced into liquidation (Saleem & Rehman, 2011).

Quick ratio measures the shillings of more liquid assets that is Cash and marketable securities and accounts receivable that are available to pay each shilling of current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value (Pandey, 2008). Quick ratio is found out by dividing quick assets by current liabilities. Inventories are considered to be less liquid. Inventories normally require some time for realizing into cash; their value has a tendency to fluctuate (Pandey, 2008).

Quick assets ratio measures firm's ability to pay off short term obligations without relying on inventory sales (Cornett, 2009). Quick ratio is computed by getting the sum of accounts receivable, cash and marketable securities and dividing the results by current liabilities. The most ideal ratio is 1:1. Scholars have different opinion on the relationship between liquidity ratios and profitability. (Radhika and Azhagaiah, 2012; and Singh and Pandey, 2008) revealed that current ratio has a high significant positive correlation co-efficient with profitability in a study carried out on effect of current ration on profitability in manufacturing industry. Eljelly (2004) found that the relationship between current ratio and profitability is negative also in a similar study. Maiyo (20070found insignificant association between current ratio and profitability. Finally, Radhika and Azhagaiah (2012) found a negative association between quick ratio and profitability.

The major issues in liquidity risk are executing trades efficiently, securing access to funding, and protecting against extreme events. Liquidity risk is a small part of total risk and can also be approximately measured by statistics (Cheng & Nasir, 2010). During financial stress, liquidity risk is a larger portion of total risk which is precisely a misleading standard liquidity risk measure at that time. Liquidity risk monitoring should be considered as part of preparing for financial stress focusing on stress testing and warning signals. If an asset is quite illiquid, the market price omits a consideration of liquidity issues since it's difficult to find a buyer of the asset and an increase in the market risk. Therefore, liquidity risk is compounded to market and cannot be isolated. In the study, liquidity risk was measured using the average of current asset ratio and quick ratio test.

RESEARCH METHODOLOGY

Research Philosophy

The philosophy is classified into three major components namely ontology, epistemology and axiology which are significant in research. The philosophical approaches are the best enablers in decision making on the research methodology to adopt based on the objectives (Saunders, Lewis and Thornhill, 2009). The data collection and hypothesis formulation was adopted, tested and confirmed to be used for further research.

Research Design

This study used longitudinal research design because this research design attempts to explore effect to make predictions on the longitudinal data. The method is also appropriate because only a set of subject with variable was used. Therefore, this research design was used to identify, describe, show relationships and analyze variables of liquidity risk that affect unit trust price volatility in Kenya. The main objective of a longitudinal research design is the discovery of effects of the association among different variables (Cooper & Schindler, 2011). The quantitative data was analyzed by use of inferential and descriptive statistics. The study used a record survey sheet to obtain secondary data respectively. Data for the dependent variable was collected from financial statements and fact sheets of unit trusts using a record survey sheet. Using record survey sheet, important figures from financial statements of comprehensive income and financial position was recorded for subsequent analysis. Data was obtained from CMA, NSE and web sites of different unit trusts for the target population. The data was collected for a span period of nine years covering 2009 to 2017. The target population for the study was 19 unit trusts as per the CMA listing in May 2016 that offer money market fund.

Sampling Frame

For the purpose of this study sampling frame constituted of unit trust firm that were contained in the CMA 's 2016 directory. Cooper and Schindler (2011) define a sample frame as a list of subjects where a sample is actually drawn. It is a list containing items from which the sample is drawn (Kothari, 2004).

Data Collection Procedure

The researcher got permission from the Board of post graduate school of Jomo Kenyatta University of Science and Technology, then obtained a research permission from the National Commission for Science, Technology and Innovation (NACOSTI) and other relevant government agencies in Kenya. A list of unit trusts was obtained from Capital market authority official website of which 19 unit trusts were identified to participate in data collection. The secondary data was collected through the use of record survey sheet from financial statements and factsheets that was obtained from CMA, unit Trusts offices, kestrel

survey on unit trust returns, performance and fund management, and the websites. The results of the data was to be treated with maximum confidentiality.

Data Analysis

The data was organized and financial ratio computed using Excel software in order to obtain the research variables. The mean, median and standard deviation of the average financial ratios were computed as descriptive statistics. Jason and Niall (2014) used average in the study liquidity risk and the performance of UK mutual funds. The research variables were analyzed quantitatively by use of panel regression using STATA version 13.0 and Gretel analysis tool. The objective of the study guided data analysis. Panel data can be analyzed through fixed effect and/or random effect models depending on individual effect, time effect or both (Gujarati, 2004). In the study, time- invariant factor in longitudinal research design is a component that need to be considered and hence trend line of each variable against time was plotted. Hausman test was used to decide whether to use Fixed Effect Model or Random Effect Model analysis. The fixed effect model and random effect model estimators are not significantly different forms the null hypothesis. This test has the characteristics of chi-square distribution. The rejection of null hypothesis implies that random effect model is not appropriate for that particular panel data; hence the inference statistics depends on the particular sample. The stationary structure of the longitudinal data was tested using the Hausman and Durbin-Wu-Hausman test for the results obtained from the regression analysis to reflect the actual relationship since non stationary structure series yields to spurious regression problems (Granger & Newbold, 1974 and Gujarati, 2004).

Correlation and Regression Analysis

The violation of assumptions of OLS method that the variables are not strongly collinear impairs the estimation of its parameters. Parametric statistics is a branch of statistics which assumes that sample data comes from a population that follows a probability distribution based on a fixed set of parameters. These parameters are tested for sufficiency, consistency and biasness (Hair, Anderson, Tatham & Black, 2013). The diagnostic test for the parametric data conducted are multicollinearity, autocorrelation, serial correlation, Hausman, Durbin-Wu-Hausman, heterosckedasticity, normality for residue and Breusch-Pagan test statistic. The relation between the explanatory variables was established through correlation analysis. Regression analysis and ANOVA were used to test the effect of liquidity risk variable on the unit trust price volatility. The dependent variable was unit trust price volatility (Y) and the independent variable was liquidity risk (LR), The effect of liquidity risk on unit trust price volatility was determined as: $Y = \beta_o + \beta_1 LR + \varepsilon$

To test the significance effect of investment risk on unit trust price volatility: $\beta_1 = 0$ and the alternative prediction that $\beta_j \neq 0$; j = 1. The hypothesis to test is here below stated;

$H_0: \beta_1 = 0$; $H_1: (\beta_1 \neq 0)$

The regression model was given by the following equation:

$$Y = \beta_o + \beta_1 X_{1} + \varepsilon$$

RESEARCH RESULTS

Unit Trust Price Volatility among CMA Listed Unit Trusts in Kenya

The study revealed that CMA listed unit trust recorded Net Asset Value with a mean of 8.4 and standard deviation was 0.76. The minimum value of NAV was found to be 7.51 in 2016 and a maximum of 9.71 in 2010. The trend for NAV had a negative gradient for the money market fund. The study revealed that CMA listed unit trust recorded unit trust Price Volatility with a mean of 13.73. The standard deviation was 3.77% is not stable. The maximum UTPV was 20.96 in 2015 and a minimum of 9.33 in 2009. The trend for UTPV had a positive gradient for the money market fund.

Effect of Liquidity Risk on unit trust price Volatility among CMA Listed Unit Trusts in Kenya

The study revealed that the mean for liquidity risk for the CMA listed unit trust was 2.90, The standard deviation was 0.77 and maximum liquidity risk was 4.05 recorded in 2011 while the minimum was 1.84 recorded in the same year 2010. The trend for liquidity risk had a positive gradient that was steep. The panel regression analysis on the effect of liquidity risk on unit trust price volatility indicated a positive effect which statistically significant at 5% levels of significant at p- value< 0.05. This led to the rejection of the null hypothesis that Liquidity risk has no statistical significant effect on unit trust price volatility among CMA listed unit trusts in Kenya at 5% level of significance. The firm must continue serving its obligation through liquidity risk management.

As a confirmatory test using Karl Pearson correlation analysis on the relationship between Liquidity Risk and unit trust Price Volatility, a correlation coefficient r = 0.4242, p-value = 0.029 < 0.05 implying a moderate positive relationship between Liquidity Risk and unit trust price volatility that is significant at 5% levels of significant. The R-Square value = 0.1800 implying that liquidity risk contributed to an extent of 18.00% of the unit trust price volatility for money market fund with the rest proportion (82.0%) being explained by extraneous variables as well as the error term.

The resultant regression model tests the effect of liquidity risk on unit trust price volatility among CMA listed firms in Kenya: PV = 0.248 + 0.225 LR. The study yielded a coefficient of regression B_1=0.225, p-value = 0.005 < 0.05 implying a positive effect that is significant at 5% levels of significance. This facilitates the rejection of the null hypothesis, stating that Liquidity risk has no statistical significant effect on unit trust price volatility among CMA listed unit trusts in Kenya. This informs the acceptance of the alternative hypothesis stating that Liquidity risk has a statistical significant effect on unit trust price volatility among CMA

listed unit trusts in Kenya. This enables the conclusion that liquidity risk has a significant effect on unit trust price volatility that is statistically significant at 5% levels of significance.

REGRESSION ANALYSIS

The study sought to establish the effect of liquidity risk on unit trust price volatility for the money market fund by conducting regression analysis at 5% level of significance. The researcher conducted Karl Pearson correlation analysis to test the relationship between liquidity Risk and unit trust price volatility among CMA listed unit trusts in Kenya which was found to be (r) = 0.4242 and p= 0.029 ≤ 0.05, hence the correlation is positive and significant at 5% level. The study performed regression analysis to establish the effect of liquidity risks on unit trust price volatility for money market fund among CMA listed unit trusts Kenya. First the suitability of regression as a type of analysis for the study was tested and results indicated by regression Analysis of Variance (ANOVA) presented in Table 1. The effect of liquidity risk on unit trust price volatility was presented in the regression model summary presented in Table 2. The individual effect of liquidity risk was presented in the table of coefficients.

Table 1: Panel Regression ANOVA

	Sum of Squares	df	Mean Square	F	p-value
Regression	2.208	1	2.208	18.210	0.000
Residual	10.064	83	0.1213		
Total	12.272	84			

a Dependent Variable: PR
b Predictors: (Constant), liquidity risk

The p-value = 0.000 < 0.05 as displayed in the Regression ANOVA, implies that regression analysis at 5% levels of significance is applicable for the study. This confirmed that the model fits well and researcher could proceed conducting the multiple regression analysis to test the effect of liquidity risk on unit trust price volatility among CMA listed firms in Kenya for Money Market Fund. Also the study established the fitness of the model by comparing the F- calculated 18.210 with F- critical F0.05,1,83 = 3.96. Since F – calculated was greater than F- critical, the study concluded that the model fits well.

Table 2: Regression Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.4242a	0.1800	0.1700	0.3503

a. Dependent Variable: PR
b. Predictors: (Constant), Liquidity Risk

The correlation coefficient (R) value of 0.4242 revealed a moderate positive relationship between liquidity risk and unit trust price volatility. The standard error of the estimate was 0.3503 which is quite low and represents a well-organized data results. According to R-

Square value = 0.1800 as presented in table 3, the effect of the liquidity risks contributed to an extent of 18.00% of the unit trust price volatility for money market fund with the rest proportion (82.0%) being explained by extraneous variables as well as the error term. Hair, Anderson, Tatham and Black (2013) suggested in a scholarly research that focuses on marketing issues, R2 value of 0.25 for endogenous latent variables can be described as weak contribution. According to Moore, Notz & Flinger (2013), a model with F (0.05, 1, 120) = 2.03, p= 0.041, R2 = 0.03 is a weak predictor of association of variables. Bchini (2013) researched on the effect of financial risk on securities return among 13 countries for the period 2007 – 2012 and revealed that financial risk factors negatively and significantly affected securities returns. In a research on the effect of financial risk premiums on security price volatility in Hong Kong security market, Bekaert and Harvey (2005) found a positive correlation between the variables in the period 1997 – 2003. Bouchet, Clark and Kassimatis (2004) examined financial risk premiums in six Latin American countries and revealed that financial risk premium in five countries was significantly affecting security markets performance but a decrease in financial risk premiums had a positive effect on the security prices.

Table 3: Regression Coefficients

	B	Standard Error	Beta	t	p-value
(Constant)	0.248	0.028		8.857	0.000
Liquidity risk	0.225	0.081	0.263	2.778	0.005

Using 85 observations Included 14 cross-sectional units Time-series length: minimum 1, maximum 9

Dependent Variable: Unit Trust Price Volatility.

The regression coefficients as presented in Table 3 above were used to construct the regression model below. From the model, the constant value was found to be β_0 = 0.248. As for the effect of liquidity risk on unit trust price volatility, the study yielded a coefficient of regression β_1= 0. 225, p-value=0.005<0.05. The model was determined as: **PV = 0.248 + 0.225 LR.** This implies that liquidity risk has a positive effect on unit trust price volatility that is statistically significant at 5% levels of significance for money market fund. UTPV increased by 22.5% as a result of one-unit increase in liquidity risk. The creation of liquidity assist firms remain liquid when other sources of finances are limited (Purnamasari, Herdjiono & Setiawan, 2012). The firm must continue serving its obligation through liquidity risk management.

This confirms the findings of Ferreira (2012) who studied the determinants of unit trust performance in 27 countries over 1997–2007 periods. The study revealed that countries with liquid security markets and strong legal institutions recorded better performance of mutual funds. The results concur with those of Foran and O'Sullivan (2014) who in an analysis of Liquidity risk and the Performance of UK Mutual Funds found out that liquidity level and systematic liquidity risk have a strong effect on the fund performance. Chang (2013) examined the effect of liquidity on returns of securities and found that liquidity significantly affected returns on securities. Bekaert (2007) found that liquidity measures could

significantly predict future returns. The effect of growth and three financial risks (that is liquidity, credit, and solvency risks) on this relationship was assessed and it was found that growth and solvency risk had negative effect on the security returns, but liquidity and credit risks had no significant effect on security return.

RECOMMENDATIONS

As a result of liquidity risk having statistical significant effect on unit trust price volatility, the study made the following recommendations; The fund managers should regularly review the liquidity risk   by establishing optimal cash targets, lower and upper cash limits in the unit trust firms. It will ensure that the unit trust firms hold neither too low nor too high cash levels. The excess cash should be invested in productive assets and avoid low cash limits that may signal the financial position crisis.

POLICY IMPLICATION

The Government of Kenya through the ministry of national treasury has created CMA to oversee the development and success of unit trust. The act should however be reviewed to give the authority the inspection mandate on the unit trust to make them efficient and conform to financial international standards to be in line with the economic pillar of vision 2030. The board of directors of unit trust firms should engage qualified and experienced fund managers and chief financial officer. There should be expertise in financial and investment matters as a control system mechanism to stabilize unit trust prices.

REFERENCES

Acerbi, C., & Scandolo, G. (2008). Liquidity risk theory and Coherent Measures of Risk. *Quantitative Finance*, *8(7),* 681 – 692,

Bchini, B. (2013). ''The relationship between country risk management and perennially of Tunisian exporting companies'', *Journal of business studies quarterly, 5*(2), 41-55.

Bekaert, G., & Harvey, C. (2005). ''Emerging equity market volatility,'' *Journal of financial economies, 43*(1), 29-77.

Bekaert, G., & Harvey, C.R. (2007). Liquidity and expected returns: Lessons from emerging markets. *Review of financial studies 20* (6),1783 - 1831

Bond, S. A., & Chang, Q. (2013,). *Liquidity risk and Stock returns: A return decomposition approach.* Paper presented at Annual meeting of Midwest finance Association, Chicago.

Bouchet, M. H., Clark, H., & Groslambert B. (2004). A Guide to global investment strategy, Wiley. The effect of country risk on stock prices: An application in Borsa Istanbul 237.

BusinessToday. (2013). CMA Licenses first ethical fund.

Cameron, S. (2005). *Econometrics*. New York: McGraw, Hill Education.

Cao, C., & Petrasek, L. (2014). Liquidity risk and institutional ownership. *Journal of financial markets, 17,* 1–52.

Capital Market Regulatory. (2001). Kenya gazette Nairobi

CBK. (2016). *Governors report.* Nairobi: Kenya Gazette.

Chang, M. (2013). Financial crisis and corporate liquidity: Implications for emerging markets Asia- Pacific, *Financial markets 20(*1), 1 - 30

Cheng A., & Nasir, A. (2010). Earning response coefficients and the financial risks of China commercial banks. *International review of business research papers, 6*(3), 178–188.

Child, D. (1990). The essentials of factor analysis, 2nd edition. London: cassel education Limited

CMA. (2015). *Annual report and account.* Nairobi: Kenya Gazette.

Collective Investment scheme regulations, (2001). Full compliance report with capital market. Kenya Gazette.

Cooper, R. D., & Schindler P. S. (2011). *Business research methods.* New Delhi: Tata McGraw.

Cronbach, L. J. (1951). Co-efficient alpha and internal structure of tests. *Psychometrical.*

Economic Survey (2015). *Kenya Gazette*

Economic Survey. (2014). *Kenya Gazette*.

Eljelly, A.M.(2004). Liquidity profitability trade off: An empirical investigation in an emerging market. *International journal of commerce and economics, 27* (2), 282 -301

Ferreira, M., Minuel, A. F., & Ramos, S. B. (2012). The determinants of mutual fund performance: A cross-country study, Working paper, Social science research network

Foran, J., & O'sullivan, N. (2013). Liquidity risk and the performance of UK mutual

Gachiri, J. (2013). Genghis Capital now starts selling Shariah . *unit trusts. Business daily* .

Garson, D.G. (2012). Testing statistical assumptions. Ashebora: Statistical associate publishing blue Books series.

Glosten, F., & Milgrom, G. (1985). Bid , Ask and transaction prices in specialist market with heterogeneously. *Journal of financial Economics* , 71 - 100.

Granger, C. W. J., & Newbold, P. (1973). ''Spurious regressions in econometrics'' *Journal of econometrics, 2*: 111-120.

Gujarati, D. N. (2004). Basic Econometrics, Tata McGraw Hill, India.

Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (2013). Multivariate Data analysis (6th ed.). New York: Macmillan.

Hendershott, T., & Seasholes, M. S. (2014). Liquidity provision and stock return predictability. *Journal of banking and finance, 45*(1), 140–151.

Hughes, K., A. (2002). A test of evolutionary theories of aging, University of Illinois

Hussain, A., Farooz, S. U., & Khan, K.U. (2012). "Financial risk and profitability: A Case of Pakistan Manufacturing Sector". *European journal of scientific research*,2, 171-182.

Jamaldeen, F. (2014). "Risks unique to islamic finance". I*slamic finance* .

Jason, F. J., & Niall, O. N. (2014). *Liquidity risk and the performance of UK mutual funds*, U.K.

Jim, A., & Gregory, C. (2008). Liquidity risk at banks: Trends and lessons learned from recent Turmoil, policy and infrastructure developments, Bank of Canada. Financial system review.

Jones, C. P. (2012). *Investments: Analysis and management.* Hoboken

Jun, S. G., Marathe, A., & Shawky, H. A. (2003). Liquidity and stock returns in emerging equity markets. *Emerging Markets Review, 4*(1)*,* 1–24.

Kalunda, E., Nduku, B., & Kabiru, J. (2012). Pharmaceutical manufacturing companies in Kenya and their credit risk management practices. *Research journal of finance and accounting 3, (5),* 159-167.

Kamau J., & Kariuki, P. (2014). Effect of financial risk on equity shares price volatility in kenya. *Orso journal*, *13* (3), 1123 - 1154.

Kennedy, L. D. (2015). Time seris models to predict the net asset value of an asset in allocation mutual fund, Publisher Springer.

Liang, S.X., & Wei, J. K. C. (2012). Liquidity risk and stock returns around the world. *Journal of banking and finance 36*(12), 3247–3288.

Loukil, N., Zayani, M. B., & Omri, A. (2010). Impact of liquidity on stock returns: An empirical investigation of the Tunisian stock market. *Macroeconomics &finance in emerging market economies, 3*(2), 261–283.

Maiyo, J. (2007). Effect of liquidity risk on financial performance of pension funds in Kenya. *UON   Journal 2* (1); 43-65.

Malkiel, B. (1996), 'Reflections on the efficient market hypothesis: 30Years Later': *The financial review, 40(*2005*),* 1- 9.

Malkiel, B. (1996), '*The efficient market hypothesis and its critics'*: Working Paper Princeton University, Princeton, USA.

Malkiel, B.G. (2003). *The efficient market hypothesis and its critics*. Princeton University. management at large Us bank holding companies. *Journal of corporate finance 15*(4), 412- 430

Markowitz, H. (1952). *Portfolio selection: Efficiency diversification of investments*, New York: John Wiley & Sons

Markowitz, H. (1959). *Portfolio Selection: Efficiency diversification of investments*,New York.

Moore, D. S., Notz, W. I., & Flinger, M. A. (2013). The best practice of statistics (6th ed). New York: Freeman and company.

Mugenda, M. O., & Mugenda A. G. (2004). *Research methods: Quantitative and qualitative approaches*. Nairobi: ACTS Press

Nethra, N., & Kushalappa, S. (2015). Impact of financial solvency on stock returns. *International journal of trade & global business perspectives, 4*(1), 1610–1614.

Omonyo, M. (2003) A comparison of performance between unit trusts and a market portfolio of shares at Nairobi stock exchange. J*ournal of finance, 70(1),* 450-472

Pandey, I. M. (2008). "*Financial management*", 10th edition. New Delhi: Vikas Publishing House Pvt. Limited.

Pandey, R. C., & Singh, N. (2008). Impact of working capital management in the profitability of hindalco industries limited. *ICFA journal of financial economics 34* (3), 134 -147.

Park, H. M. (2008). *Univariate analysis and normality test using SAS, STATA and SPSS.* Indiana: The University information technology services (UNITS)

Pastor, L., & Stambaugh, R. F. (2003). Are stocks really less volatile in the long run, *NBER Working Papers* 14757, *National bureau of economic research, Inc.* Paton,

Pretorius, M., & Wolmarans, H. (2014). 'The unit trust industry in South Africa from 1965 to June 2005: Are investors better Off?' *Meditari* accountancy research, 14(1), 49-67.

Purnamasari, C., Herdjiono, H., & Setiawan, J. (2012). Financial risk, growth, earnings and stock returns relationship in Indonesia. *International review of business research, 8*(7), 79 - 93.

Radhika, G. & Azhagaiah, R. (2012). Impact of working capital management on profitability: Evidence from sugar industry in India. international journal of research in computer application and management, 2 (1), 107-113.

Raei, R., & Saeidi, A. (2010). *The Principle of financial engineering and risk management.*Tehran- Iran: SAMT.

Saleem, Q., & Rehman, R. U. (2011). Impact of liquidity ratios on profitability: Case of Oil and Gas Companies in Pakistan. *Interdisciplinary journal of research in business*, *1*(7), 95-98.

Salehi, M. (2011). Different perceptions in financial reporting. empirical evidence of Iran, *African journal of business management 5*(8),3330-3336

Sebastian, G. (2010). A Theory of corporate financial decisions with liquidity and solvency concerns. *Journal of financial economics, 99*, 365-384

Sharpe, W. (1996). Mutual fund performance. *Journal of business, 39* (1), 119- 138.

Soh, W. N., Cheng, A., & Nassir, A. (2009). The effect of financial risk on the earnings response in Thailand bank stock. *International research journal of finance and economics, 31,* 55–65.

Spiegel, S. (2008). *Non parametric statistics for behavioral sciences*. New York: McGraw-Hill   Publishing Company Inc.

Spierdijk, L., Bikker, J.A., & Vander Hoek, P. (2010). Mean reversion in international stock markets: an   empirical analysis of the 20th century, DNB Working Paper 247, De Nederlandsche Bank,   Amsterdam.

Stroeder, R. M. (2008). Effect of financial risk on profitability of commercial banks in Kenya. *Economics   and finance* , 202 - 216.

Wooldridge, J. M. (2002). Econometrics analysis of cross- section and panel data, MIT press

WTO. (2015). *Economic survey.* New York: United nation .