

Market Risks, Firms' Size and Financial Performance: Reality or Illusion in Microfinance Institutions in Kenya

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Abstract

The purpose of the study was to investigate on Market risk, Firms' size and financial performance, Reality or illusion in microfinance institution. The study employed positivism philosophy and used explanatory non-experimental research designs. The targeted population was all the thirteen registered Deposit Taking microfinance institutions in Kenya and census approach was used. The study used secondary data which was collected from MFIs annual audited financial reports for the period between 2014 and 2018 using data collection instruments. The study was anchored on two theories namely Dynamic Capabilities theory and Modern Portfolio Theory. Diagnostic tests were applied to test on multicollinearity, autocorrelation, heteroscedasticity, normality test, and stationarity. Panel data multiple regression analysis was used to analyze the collected data and the results presented using figures and tables. The results indicated that firm's size has a significant moderating effect on the relationship between market risk and financial performance of microfinance institutions. The study recommended that the CEOs of microfinance Institution should employ mechanism of identifying the optimal firm size that organization needs to operate in to achieve better financial performance.

Keywords: financial performance, firms' size, Kenya, market risk, microfinance institutions

1. Introduction

Financial performance refers to the degree at which the financial objectives of an organization have been achieved. It is a process of measuring the outcomes achieved from how well the firm's policies and operations have been undertaken expressed in monetary terms (Verma, 2018). Financial performance is an indicator of the business achievements and shows its overall financial health over a specified period of time. It indicates how an entity has carried out maximum utilization of its resources to maximize the shareholder's wealth (Naz et al., 2016).

Sunday, Turyahebwa, Byamukama, and Novembrieta (2013) observed that some Uganda MFIs recorded better financial performance than others MFIs in the region. Those MFIs showed a high degree of financial performance improvement within a period of time. The study compared the financial performance of Uganda's MFIs within several years using ROA. The high performance has enabled those MFIs to be self-sufficiency and financially stable which facilitate growth of Uganda MFIs in general. Kipkoech and Muturi (2014) observed that various determinants of financial performance affect MFIs in Kenya. They noted that the number of borrowers, capital adequacy and the number of branches network largely affects the financial performance of Kenya MFIs. King'ori, Kioko, and Shikumo (2017) noted that financial performance of Kenyan MFIs is affected by different determinants. They study found that operating efficiency, capital adequacy and Firm Size has a positive influence on the financial performance whereas financial risk variables has a negative influences on financial performances.

Market risk is the potential loss of value of assets and liabilities arising from movement in market prices (Ghosh, 2012). Market risk are of financial nature which occurs due to fluctuations in the financial market and are caused by a mismatch between the assets and liabilities of a business. The mismatch on compositions of assets and liabilities of any organization will determine the kind of exposure it has to various kinds of market volatilities

(Abhay, 2019). Market risk can also be described as the risk of losses in liquid portfolio arising from the movements in market prices. Fluctuations of the market cause losses of income generated from the assets held for investment and lead to the poor financial performance of the organization (Aykut, 2016).

Vladimir, Boban, and Boris (2013) noted that market risk variables comprising of equity risk, interest rate risk, foreign exchange risk and commodity risk cause losses on firms' balance and off-balance sheet items in banks in Serbia. During the time of extremes economic crisis, the effect of market risk causes investors to lose both money and assets invested in the firm. The study used Value at Risk to measure market risk. Ondiek and Muathe (2017) noted that organization must keep previous records about risks to enable them to forecast future risks. Financial distress affects financial performance of organization therefore keeping informed of various risks reduces the risk of poor performance. Firm must employ contingent measures to reduce financial risks and improves the organizational performance. Ahmet (2016) found that market risk affects the financial performance of conventional financial firms more than Islamic financial firms in Turkey. The lower effects in the Islamic financial firms is explained by lower Financial Leverage in the Islamic market due to Sharia screening criteria which put on a cap the upper limit of the bearing the interest-based debts.

Firm Size in an organization can be expressed as a measure of the firms or organization annual revenue turnover and growth, the financial profitability, the market share in the industry, number of firm's outlets in the country, number of employees and revenue per employee (Fazil, 2018). A study on Firm Size, debt financing and financial performance found that firm's size influences the relationship between firms' leverage and financial performance. Large firms can access the debt market easily than small firms and thus they have improved profitability. The large firms are able to generate high and less volatile returns and they document high liquidity compared to small firms. Therefore small firms are riskier due to low liquidity and volatile profits. Firm Size was measured using logarithm of total sales (Qamar et al., 2016).

Several factors among them firm size affects firm's financial performance. Firm's size was found to have a significant impact on financial performance. Large firms have more resources at their disposal, more staff and sophisticated information system that when well-utilized results in higher financial performance. The huge asset base enables large firms to access additional capital as they offer them as collateral. Those large firms produce in large volumes and thus large sales turnover which gave them high competitive power in the market (Almajali et al., 2012).

Mesut (2013) concluded that Firm Size determines on financial performance of the companies. Firm Size was measured by the total asset held, total sales turnover and the number of employees of the firm. Amelie (2013) concurred with Mesut (2013) that firm size plays a major role in determining its financial performance. They concluded that firm's performance tends to increase initially due to the firm's size but then declines across different measures of the Firm Sizes depending on the growth stage of the firm lifecycle. When small firms are in their growth stage they tend to be more profitable since they usually take more risks in order to compete in the market. Accounting for market risk between small and a large firm tend to reduce the gaps in profitability (ROA) but does not eliminate it.

Maja and Josipa (2012) noted that firm size influence the business success. The study contended that in Croatia, firm Size has an influence on the overall financial performance of a firm. The bigger firms have a market power to charge high prices and thus increase their profits. The bigger firm also enjoys economies of scale, organizational benefits such as division of labor and specialization and technical benefits like various divisions sharing the fixed cost. The firms have more negotiating power that provides them with favorable financing conditions. Olawale, Ilo, and Lawal (2017) noted that Firm Size determines the overall financial performance of firms. When the firm improves on its sales turnover, it is an indicator of improvement in its financial performance. Thus, firms should focus on increasing their sale turnover by concentrating on areas that boost turnover like finding new markets for their products and innovating new products. Similarly, Akinyomi and Olagunju (2013) in a similar study in Nigeria using the manufacturing industries concurred that Firm Size when measured using sales turnover have a positive effects on firm's financial performances.

Microfinance institutions are crucial organization in the financial sector worldwide as they have facilitated the access of financial services to a wider range of customers who could not access those services through the banks (Anand & Shakeel, 2012a; Musau, Muathe, & Mwangi, 2018). Kenya Vision 2030 blueprint recognises that for the country economy to raise Gross Domestic Price (GDP) growth rate to at least 10%, it requires a vibrant and competitive financial services. The country must embrace and encourage high levels of savings by increased financial access through formalisation of the microfinance institutions (Government of Kenya, 2008). To support the 10% growth rate as envisaged in vision 2030, microfinance industry in Kenya have developed various reforms

initiated by the government over several years in line with their rapid growth to enhance their supervisions and to ensure they adhere to statutory requirements. Microfinance Act (2006) was established in order to give the legal, regulatory and supervisory framework for the microfinance industry in Kenya. In Year 2008, Microfinance Institutions Regulation (2008) law was enacted, Proceeds of crime and Anti Money Laundering (Amendment Act) 2012 law among others.

Despite the growth of the microfinance institutions in Kenya, they have reported poor financial performance (Central Bank of Kenya, 2019). In the Year 2014, the microfinance institutions reported a combined profit of Kshs. 1 billion, then the profits declined to Kshs. 592 million in 2015 which was 169% decline. The Year 2016, they reported losses amounting to Kshs. 331 million, Year 2017 they reported combined total losses of Kshs 622 million and Year 2018 a combined loss of Kshs 1.4 billion which amounted to a decline of 131 % from 2017 (Central Bank of Kenya, 2017). Choice MFB, Century MFB, Daraja MFB and Maisha MFB have been faced with severe financial issues which led them to breach the CBK minimum statutory requirements on the core capital signaling financial instability in the Year 2018. Furthermore, the same year Choice MFB failed to meet the required minimum liquidity rate of 20% (Central Bank of Kenya, 2018).

With CBK enhancing their supervision roles, three commercial banks, Imperial, Dubai and Chase banks were put under receivership between 2015 and 2016. Rafiki MFB being a subsidiary of Chase bank suffered immense reputational damage with low deposits contributions which shrunk to 29% and loan portfolio to 17% in 2016 (Muriithi & Kiarie, 2017). This study investigated the moderating effect of MFI size on the relationship between market risk and financial performance of the microfinance institution.

2. Review of Literature

This Section contains reviews of the theoretical and empirical literature on firm size, market risk and financial performance and a detailed empirical literature review regarding main scope of the study

2.1 Theoretical Review

The study is anchored on two theories namely Dynamic Capability Theory and Modern Portfolio Theory as discussed below

2.1.1 Dynamic Capability Theory

Dynamic Capability Theory (DC) was developed by Teece, Pisano and Shuen's in 1997 to solve gaps that arose from the RBV theory in interpreting the development and redevelopment of resources and capabilities to address rapidly changing environment. The theory is a process that enables the organization to reconfigure its strategy and resources to achieve sustainable competitive advantage and to achieve a superior performance in rapidly changing environment (Bleady et al., 2018). DC theory provides a way in which management will utilize useful ideas through which they examine the development of new organizational capabilities, competence and dynamic capability. The study observed that Dynamic capability based approach is usually championed by the organization's Chief executive officer in terms of aspirations in corporate strategy. The organization changes their valuable resources over time and provides means to measure the dynamic capability corporate financial performance effect over long term (Oliver, 2014).

Teece (2018) supported the theory and noted that strong dynamic capabilities enable creation and implementation of effective business model. The strengths of firm's capabilities are implicated when business model changes are translated into organizational transformation. The study found connections among the elements of the economic system that are mapped out to pathways to profit and better financial performance. Arndt (2011) observed that DC theory is a central source of firm's competitive advantages. The study identified three key aspects of dynamic capabilities which include the process, cognitive and decision based micro-foundation, and human agency. Processual element of dynamic capability reflects the fact that capabilities are socially constructed base on decision concerning selection and transformation of capability.

Some of the opponent of the theory include Gorgol (2017) observed that DC theory approach has a lot of polarization, inconsistencies and confusion in meaning. The concept of capabilities, abilities and capacity in the theory is widely misinterpreted. The study introduced the concepts of capability activation and organization dynamic to resolve the DC theory confusion. Peteraf et al. (2013) revealed that DC approach has a major problem of polarization in terms of perspective of dynamic capabilities view in understanding of construct. The study findings were that the field is socially constructed on basis of two domains of knowledge and their underlying structural impediments have been impeded on dialog across the domains. The study introduced the contingency based approach to unify the field.

Pisano (2015) noted that an underlying problem with DC theory is on how to identify and select capabilities that

lead competitive advantages. The study drew a distinction between investment designed to deepen the firms existing base of capability and those designed to broaden new areas of capabilities. The study observed three areas to sort the above problem of DC theory which include competitive circumstances, stable product and market competition. MFIs must identify their competitive advantages for them to compete in financial markets. They must introduce new and unique products and services that will attract customers to pay them a visit over their competitors and to still maintain better financial performance. The identification of proper human resources will influence their output. The Chief executive officer is a key person who carries aspirations of the organization and thus the firm must choose the right person.

2.1.2 Modern Portfolio Theory

Modern Portfolio Theory (MPT) was introduced by Harry Markowitz in 1952. It is an investment model where the investor is geared to earn maximum level returns under a minimal level of market risk for a given portfolio (Omisore et al., 2012). It is a theory that recognizes and emphasizes that risk is an inherent part of the high reward and thus even for the risk-averse investors they need to construct a portfolio to optimize or maximize expected returns based on a given level of market risk. Therefore investors can be able to analyze their investment portfolio and construct an efficient frontier of optimal portfolios which gives a maximum possible return for a certain expected level of market risk (Holton, 2013).

Diogo (2018) noted that MPT revolutionized the investment field by allowing managers to be able to quantify their investment risk and expected returns of the portfolio. The theory helps managers to be able to assemble a portfolio with risky assets whose expected returns are better. The theory quantifies risk as to the variance about an asset expected returns. Jacobs and Levy (2014) argued that investors usually use portfolio optimization with leverage constraints to mitigate the risk of leverage and thus leverage aversion should be incorporated into MPT. The investors should be allowed to estimate the level of their optimal leverage since they have preferential trade-off for their expected returns Vis a Vis market risk comprising of volatility risk and Financial Leverage risk. Including Financial Leverage aversion to taking care portfolio optimization leads to a portfolio that reflects investor's expectations and preferences. Some studies critics the theory of MPT.

Funda (2010) illustrated how stock with low P/E can outperform stocks with high P/E. The study argued that the P/E ratio is performance indicators of future returns from an investment. Prices of security are sometimes biased and returns on the stocks with low P/E ratios tend to be higher than warranted underlying risk. William and Khim (2017) concur with the study arguing that small enterprise stocks tend to outperform large enterprise stocks. The firms provide information only necessary for public relations concerning their P/E ratio and Firm Size which disallows investor's opportunity to earn excess returns.

Shiller (2014) observed that fluctuations encountered in the stock market were because of noise rather than changes in key economic changes. Since MPT holds that investment prices already includes all necessary information, volatility is caused by noise market which is a result of an emotional crowd. Thus instead of risk-return optimization, it's an emotion return optimization. MPT is very important to this study because organizations strive to achieve higher financial performance with minimum risk. The theory has identified those different investors and their preferred returns with minimum risk.

2.2 Empirical Literature Review

The firm's size is determined by the number of workers, largeness of operations, market share and outreach. In reference to the study on MFIs, we referred Firm Size as the scale of operation in terms of annual turnover, asset base and number of customers (Ololube, 2016). Ksenija (2013) investigated how large and medium-sized firms manage their profitability during periods of recession in Serbia. The study found that firm's size plays a critical role in determining profitability. The bigger and more liquid the firm, the easier it has access to resources and the faster the flexibility to the changes in the dynamic market. Company profitability is influenced by the company's size, liquidity, sales growth, and asset management efficiency. The study may contradict the Resource Based Model theory which indicates that heterogeneity in profitability is a result of persistent differences in characteristics across companies. The heterogeneity is purely because of differences in resources endowment. The application of unique, rare and costly assets that other companies are difficult to get or imitate results to difference in profitability and not the size of the firm. The study was done during time of recession and may not be applicable during other periods when there are favorable economic conditions.

Podobnik, Horvatic, Petersen, and Stanley (2009) analyzed quantitative relations between return, risk and Firm Size. The study noted that both risk and return measured using the growth rate decreases with an increase in organization size. The average growth rate decreases faster than the risk with market capitalization which represents the size of the company. The organization must understand the optimal size in maintaining a balanced

risk-return tradeoff for improved profitability. The study contradicts the Growth of firm theory which highlighted that the growths of firms are attributable to inherited resources the firms had when it was acquired and not the Firm Size.

Babalola and Volodymyr (2013) observed the effect of Firm Size on the profitability of manufacturing firms in Nigeria. The study noted that Firm Size is a major determinant of profitability. The larger the firm the more it is profitable since it enjoys the benefits from economies of scale. The study conceptualized Firm Size as a predictor variable and found that it has a positive influence on financial profitability. When firm size is treated as a control variable on the relationship between leverage and financial performance, the leverage has a negative influence on financial performance. The study may cause a knowledge gap since it contradicts a previous finding by Hussan (2016) which found that Financial Leverage has a positive impact on sales revenue and financial performance. The study contradicts the Hypothesis of efficiency theory which indicates that profitability is caused purely by management and asset management efficiency. The conceptual gap arises when the size is treated as either control variable or predictor variable.

King'ori, Kioko, and Shikumo (2017) concurred with the above results from Babalola and Volodymyr (2013). The study examined various determinants of the financial performance of MFIs. The study found that Firm Size has a positive influence on financial performance of Kenyans MFIs. Firm Size was treated as an independent variable in the study. Abdellahi et al. (2017) observed that there is a relationship between financial leverage, liquidity and Firm Size on the financial performance of non-financial firms in Kenya. The study found that an increase in growth of Firm Size by 0.57% caused a 1% growth to financial performance measured by ROA. This shows Firm Size influences financial performance.

Mutunga and Owino (2017) in their study observed that size as a moderating factor, causes a positive influence on the relationship between the micro factors and financial performance. The results also showed Firm Size as an independent variable has a positive influences on financial performance. The results are similar to those of previous studies (Hussan, 2016; Abdellahi et al., 2017). Atif and Qaisar (2015) studied the moderating effect of Firm Size on the relationship between firm growth and the firm's profitability in Pakistan. The study found that Firm Size has moderating inspirations on the relationship between the two variables. The results also showed that Firm Size as a predictor variable also influences financial performance. From the empirical literature reviewed the following hypothesis was developed:

H_{01} : Firm Size has no moderating effect on the relationship between Market risk and financial performance of Microfinance Institutions in Kenya.

3. Research Methodology

3.1 Research Design and Data Collection

The study adopted an explanatory non-experimental research design. The design was adopted since according to Dudovskiy (2018), explanatory research design establishes causal and effect relationships between study variables. Target population was all thirteen registered Deposit Taking microfinance institutions in Kenya which are registered under the Microfinance Act (2006) and are registered members of the Association of Microfinance Institution of Kenya by December 2018. The study adopted a census approach and used secondary data collected from annual financial statements published by the microfinance institutions on their website and from the CBK annual supervision reports. The data considered were the financial reports for the Year 2014 to 2018 where most MFIs were in existence.

3.2 Data Analysis

Data collected was analyzed using descriptive statistics. According to Mugenda and Mugenda (2003) and Muathe (2010) descriptive statistics usually summarize the data using the mean and standard deviation. To ensure the study have the suitable data for the panel multiple regression model, the study carried out several diagnostic tests. The tests were important to ensure the model do not violate the assumptions of Classical Linear regression model (CLRM).

3.3 Empirical Model

The study used Baron and Kenny (1986) model on testing the moderating effect of Firm Size on the relationship between the Market risk and financial performance of microfinance institution in Kenya. The procedure entailed the perceived moderating variable is tested as an independent variable and then as a moderator variable or interaction term. MFI size was introduced to the model as an explanatory variable assuming a multiplicative Cobb Douglas functional form between the predictor and predictable variables then the model. To test for the moderating effect was analyzed using two models, 3.1 and 3.2 below as proposed by Baron and Kenny (1986).

The first model 3.1, tested the effect of the independent variables (MR and Firm Size) on the dependent variable (Financial performance). The second model 3.2 tested whether the coefficient of interaction term (MR* Firm Size) was statistically different from zero as adopted from previous studies done (Sarma & Pias, 2011; Musau et al., 2018). The coefficient for interaction term strengthens and directs the moderator.

To determine the moderation effect of firm size on the relationship between the market risk (MR) and financial performance, the following model was used:

$$ROE_{it} = B_0 + B_1MR_{it} + B_2MV_{it} + \varepsilon_{it} \quad (1)$$

$$ROE_{it} = B_0 + B_1MR_{it} + B_2MV_{it} + B_3MR_{it}*MV_{it} + \varepsilon_{it} \quad (2)$$

Where: ROE_{it} denotes Measure of the financial performance of MFI_i at time t; MR_{it} : Represents Market risk.

With the aid of geometric mean, the independent variable of Market risk (MR) was represented with composite index of the variable items comprising of Interest rate risk, Foreign exchange risk, Inflation rate risk, Financial Leverage.

Weighted averages of the four independent variables were computed using the following equation:

$$MR_{it} = \sum(W_1IRR_{it} + W_2FER_{it} + W_3INF_{it} + W_4FLR_{it}) / 4 \quad (3)$$

Where: W_1, W_2, W_3, W_4 denotes Relative weight given to each component in a particular variable; MV_{it} : Firm Size; $MR_{it}*MV_{it}$: Interaction of Market Risk and Firm Size; β_0 : Constant term; β_s : Coefficients of the explanatory; ε_i : Error term

4. Findings and Discussion

In order to establish the statistical significance of the hypothesized relationships, multiple linear regression was conducted at 95 percent confidence level ($\alpha=0.05$). The hypothesis aimed at establishing the moderating effect of firm size on the relationship between market risk and financial performance of MFIs in Kenya. To test this hypothesis, the model proposed by Baron and Kenny (1986) was used.

H₀₁: Firm size has no significant influence on the financial performance of Microfinance Institutions in Kenya.

Step One: Firm Size as an Independent Variable.

This step involved firm size being introduced as an independent variable as indicated on the following equation:

$$ROE_{it} = B_0 + B_1MR_{it} + B_2MV_{it} + \varepsilon_{it}$$

The results are presented in table 1 below.

Table 1. Firm size as an independent variable

Random-effects GLS regression		Number of obs	=	65		
Group variable: No		Number of groups	=	5		
R-sq:		Obs per group:				
within	= 0.4512	min	=	13		
between	= 0.9793	avg	=	13.0		
overall	= 0.4242	max	=	13		
		Wald chi2(5)	=	45.67		
corr(u_i, X) = 0 (assumed)		Prob > chi2	=	0.0000		
ROE	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Market Risk	.1996271	.0439599	4.54	0.000	.1134673	.285787
Firm Size	-.4298334	.2227914	-1.93	0.054	-.8664964	.0068297
_cons	-1.454975	.3343665	-4.35	0.000	-2.110321	-.7996285

Source: Study data (2020).

The results in Table 1 indicate that the coefficients for market risk ($\beta=0.1996, p=0.000<0.05$) shows a positive statistically significant relationship between market risk and financial performance (Return on Equity) of MFIs in Kenya. The regression coefficient of 0.1996 obtained in this case implies that a unit increase of the market risk would lead to 0.1996 increases in financial performance. The coefficient of firm size of $\beta=-0.4298$ and a $p=0.054>0.05$ shows a statistically insignificant relationship between firm size and financial performance (Return on Equity) of MFIs in Kenya. This indicates that firm size has no influence on financial performance.

A study by King'ori et al. (2017) contradicts the above results. The study found that firm size is a major determinant of the financial performance of Kenya MFIs. The study noted that Firm Size plays a significant influence on financial performance. Larger MFIs showed high degree of operational efficiency which leads to better financial performance. The study used the log of asset as performance indicator of Firm Size. Maina, Kiragu, and Riro (2019) observed that there is relationship between Firm Size and financial performance of financial institutions. The study found that firms' size has a positive relationship with firm's performance.

Olawale, Ilo, and Lawal (2017) noted that Firm Size determines the overall financial performance of firms. When the firm improves on its sales turnover, it is an indicator of improvement in its financial performance. Koncova et al. (2016) observed that firm size influences on financial performance of firms. The study found that large firms reach high economic performance compared with small firms. This is attributable to large firms enjoying economic of scales. Babalola and Volodymyr (2013) observed that Firm size has a positive influence on financial performance.

Step Two: Firm Size as a Moderator Variable.

In this step the Firm Size was introduced as moderator variable as shown in the following equation:

$$ROE_{it} = B_0 + B_1MR_{it} + B_2MV_{it} + B_3MR_{it}*MV_{it} + \varepsilon_{it}$$

The results are presented in table 2.

Table 2. Firm size as a moderator variable

Random-effects GLS regression		Number of obs	=	65	
Group variable: No		Number of groups	=	5	
R-sq:		Obs per group:			
within	= 0.5150	min	=	13	
between	= 0.3952	avg	=	13.0	
overall	= 0.5012	max	=	13	
corr(u_i, X) = 0 (assumed)		Wald chi2(5)	=	61.29	
		Prob > chi2	=	0.0000	
ROE	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]
Market Risk	.1782786	.0418314	4.26	0.000	.0962906 .2602667
Firm Size	-.6771512	.2240481	-3.02	0.003	-1.116278 -.2380249
Firm Size * Market Risk	.0489216	.0159416	3.07	0.002	.0176766 .0801667
_cons	-1.519479	.3144493	-4.83	0.000	-2.135788 -.9031699

Source: Study data (2020).

The results in Table 2 indicate that Market risk had a coefficient of $\beta = 0.1783$ and $p = 0.000 < 0.05$. Since the P-value is less than 0.05, market risk has a significant influence on the financial performance (Return on Equity) of MFIs in Kenya. The regression coefficient of positive 17.83% obtained in this case indicates that market risk has a positive significant influence on financial performance. Firm size had a coefficient of $\beta = -0.6772$ and $p = 0.003 < 0.05$. Since the P-value is less than 0.05, firm size has a significant influence on the financial performance (Return on Equity) of MFIs in Kenya. The regression coefficient of positive 67.72% obtained in this case indicates that firm size has a negative but significant influence on financial performance.

The interaction of market risk and firm size had a coefficient of $\beta = 0.0489$ and $p = 0.002 < 0.05$. Since the PV is less than 0.05, the interaction i.e. Market risk * Firm size, has a significant influence on the financial performance (Return on Equity) of MFIs in Kenya. The regression coefficient of positive 4.89% obtained in this case indicates that market risk has a positive and significant influence on financial performance. The results further indicate an R squared of 0.5012. This implies that market risk, firm size and their interaction had high explanatory power on financial performance as they accounted for 50.12 percent of financial performance (Return on Equity) of MFIs in Kenya.

The Chi-squared value was 61.29 with a p value of 0.000, which is less than 0.05. This indicates that market risk and moderator variable firm size were jointly significant in explaining variations in financial performance and concluded that Firm size has a significant moderation effect on the relationship between market risk and financial performance of Microfinance Institutions in Kenya. This is in line with Atif and Qaisar (2015) who studied the moderating effect of Firm Size on the relationship between firm growth and the firm's financial

performance found that Firm Size has moderating inspirations on the relationship between the two variables. Babalola and Volodymyr (2013) noted that when firm size influences the relationship between leverage and financial performance.

Onsongo et al. (2019) found that firm size has a moderating effect on relationship between risk and performance. The study found that large firm with higher total asset than their counterparts in the same industry played a better role in the risk management of the company. For companies to record improved financial performance, they need to manage their risks well by implementing risk management initiatives and increasing their total assets base. Kipeshu (2013) observed that there is an impact of firm's size and age on financial performance of MFIs. Different results were found which depended on the performance indicator used. When Firm Size is measured using total assets and number of borrowers, the results showed that Firm Size influences financial performance positively. On the other hand, when Firm Size is measured using the number of employees in the MFIs it showed it has a negative impact on efficiency sustainability and profitability. Kenyan MFIs have shown that sizes also influence their financial performance.

Podobnik et al. (2009) found that Firm Size does not influence the interaction between market risk and financial performance in the long run. The study noted that both risk and return measured using the growth rate decreases with an increase in organization size. The average growth rate decreases faster than the risk with market capitalization which represents the size of the company. The organization must understand the optimal size in maintaining a balanced risk-return tradeoff for improved profitability. Ali et al. (2016) also found that firm size does not moderates the relationship between management participation and financial performance of an organization.

5. Conclusion and Policy Recommendation

5.1 Conclusion

The study established that firm size moderates the relationship between market risk and financial performance of microfinance institutions in Kenya. However firm size as an independent variable has no influence on financial performance of microfinance in Kenya. Firm size plays a key role in moderation of determinants factors influencing financial performance of organization. Large firms have a tendency of leveraging which improves on their financial performances while smaller ones are inclined to employ equity. The firm size has a moderating effect on the financial performance of the firm no matter the industry and other micro-economic variables.

Large firms benefits from the economics of scale which enables them to minimize their operation costs and increased production of their goods and service. The large firms have access to funds since they are categorized as less risky than the small firms therefore they can venture into new markets and production of new products which increases their financial performances. The large firm invests on risk management and therefore they are able to employ measures to minimize the risks and results to improved financial performances.

5.2 Policy Implications

The study recommends the management should determine the optimal size the firm to operate within so that it achieves good financial performance. The optimal size is important depending on the firm capabilities. The investors should consider this crucial variable of firm size in determining where to invest their funds since it is found to moderates other determinants of financial performance. Government and other regulatory bodies should play their regulatory and supervision roles to ensure firms are operating within the stipulated laws within their industry.

5.3 Limitation and Future Research

This study helped to analyze the moderating effect of firms' size on the relationship between market and financial performance. The study was carried out in microfinance industry therefore other study should be carried out in other industry. This study captured only available secondary data for the period 2013 to 2018 which are in CBK records and a further study is recommended to include longer period for the time series data. This would help in capturing the potential effects across the economic cycles. Future research should focus on validating the findings and conclusion of this study by undertaking replicative researches in other organizations and sectors in Kenya or in the region

References

- Abdellahi, S., Mashkani, A., & Hosseini, S. (2017). The effect of credit risk, market risk, and liquidity risk on financial performance of the listed banks on Tehran Stock Exchange. *American Journal of Finance and Accounting*, 5(1), 20-30. <https://doi.org/10.1504/AJFA.2017.10007014>

- Abhay, N. (2019, December). Types of Risks faced by Microfinance Institutions. *India Microfinance*. Retrieved from <https://indiamicrofinance.com/y/market-risk/>
- Ahmet, S. (2016). Systematic Risk in Conventional and Islamic Equity Markets. *International Review of Finance*, 16(3), 457-466. <https://doi.org/10.1111/irfi.12077>
- Akinyomi, J., & Olagunju, A. (2013). Effect of firm size on profitability: Evidence from Nigerian manufacturing sector. *Prime Journal of Business Administration and Management*, 3(9), 1171-1175. Retrieved from <https://www.researchgate.net/publication/259971084>
- Ali, M., Mukulu, E., Kihoro, J., & Nzulwa, J. (2016). Moderating Effect of Firm Size on the Relationship between Management Participation and Firm Performance. *The Strategic Journal of Business and Change Management*, 3(3), 223-238. Retrieved from <http://www.strategicjournals.com>
- Almajali, Y., Alamro, S., & Al-Soub, Z. (2012). Factors Affecting the Financial Performance of Jordanian Insurance Companies Listed at Amman Stock Exchange. *Journal of Management Research*, 4(2), 266-290. <https://doi.org/10.5296/jmr.v4i2.1482>
- Amelie, L. (2013). Firm Size and the Risk/Return Trade-off. *Economic Analysis (EA) Research Paper Series*, 11(1), 87-112. <https://www150.statcan.gc.ca/n1/en/catalogue/11F0027M2013087>
- Anand, K., & Shakeel, M. (2012a). *A Comparative Analysis of the financial performance of Microfinance Institutions of India and Bagladesh*. Jaypee Institute of Information Technology University. Retrieved from <http://hdl.handle.net/10603/5407>
- Arndt, F. (2011). Assessing dynamic capabilities: Mintzberg's schools of thought. *South African Journal of Business Management*, 42(1), 1-8. <https://doi.org/10.4102/sajbm.v42i1.484>
- Atif, A., & Qaisar, M. (2015). Firms' Size Moderating Financial Performance in Growing Firms: An Empirical Evidence from Pakistan. *International Journal of Economics and Financial Issues*, 5(2), 334-339. Retrieved from <https://www.econjournals.com/index.php/ijefi/article/view/1074>
- Aykut, E. (2016). The Effect of Credit and Market Risk on Bank Performance: Evidence from Turkey. *International Journal of Economics and Financial Issues*, 6(2), 427-434. Retrieved from <https://www.econjournals.com/index.php/ijefi/article/view/1815>
- Babalola, A., & Volodymyr, D. (2013). The Effect of Firm Size on Firms Profitability in Nigeria. *Journal of Economics and Sustainable Development*, 4(5), 90-94. Retrieved from <https://iiste.org/Journals/index.php/JEDS/article/viewFile/4857/4935>
- Baltagi, B. (2011). *Econometrics* (1st ed.). Berlin, Germany: Springer Nature. <https://doi.org/10.1007/978-3-642-20059-5>
- Bleady, A., Hafiez, A., & Balal, S. (2018). Dynamic Capabilities Theory: Pinning Down a Shifting Concept. *Academy of Accounting and Financial Studies Journal*, 22(2), 1-16. Retrieved from <https://www.abacademies.org/articles/dynamic-capabilities-theory-pinning-down-a-shifting-concept-7230.html>
- Brooks, C. (2008). *Introductory Econometrics for Finance* (1st ed.). Cambridge, US: Cambridge University Press. <https://doi.org/10.1017/CBO9780511841644>
- Bryman, A., & Emma, B. (2003). *Business Research Methods* (2nd ed.). USA: Oxford University Press.
- Central Bank of Kenya. (2017). *Bank Supervision Annual Report 2016*. Central Bank of Kenya.
- Central Bank of Kenya. (2018). *Bank Supervision Annual Reports 2017*. Central Bank of Kenya. Retrieved from <https://www.centralbank.go.ke/reports/bank-supervision-and-banking-sector-reports>
- Central Bank of Kenya. (2019). *Bank Supervisory Annual Reports 2018*. Central Bank of Kenya. Retrieved from <https://www.centralbank.go.ke/reports/bank-supervision-and-banking-sector-reports>
- Choi, I. (2001). Unit root tests for panel data. *Journal of International Money and Finance*, 20(2), 249-272. [https://doi.org/10.1016/S0261-5606\(00\)00048-6](https://doi.org/10.1016/S0261-5606(00)00048-6)
- Dickey, D., & Fuller, W. (1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association*, 74(366), 427-431. <https://doi.org/10.2307/2286348>
- Diogo, R. (2018). *Beyond Modern Portfolio Theory*. Colorado, USA: HackerNoon Press. Retrieved from <https://hackernoon.com/beyond-modern-portfolio-theory-f34d35197d2>

- Dudovskiy, J. (2018). *The Ultimate Guide to Writing a Dissertation in Business Studies: A Step-by-Step Assistance* (1st ed.). USA: Research - Methodology Net. Retrieved from <https://research-methodology.net/about-us/ebook/>
- Fazil, H. (2018). How to measure firm size? *Research Gate - Firm Size*. Retrieved from https://www.researchgate.net/post/How_to_measure_firm_size
- Funda, S. (2010). An empirical investigation of the relationship among P/E ratio, stock return and dividend yields for Istanbul Stock Exchange. *International Journal of Economics and Finance Studies*, 2(1), 15-23. Retrieved from http://www.sobiad.org/ejournals/journal_IJEF/archieves/2010_1/03funda_h_sezgin
- Ghosh, A. (2012). *Managing Risks in Retail and Commercial Banking* (1st ed.). Singapore: John Wiley and Sons. <https://doi.org/10.1002/9781119199250>
- Gorgol, J. (2017). Dynamic Capabilities Approach Review: The Emperor's New Clothes or the Problems with Royalty. *Management Science Review*, 1(30), 4-15. <https://doi.org/10.15611/noz.2017.1.01>
- Government of Kenya. (2008). *Kenya Vision 2030*. Nairobi, Kenya: Government Printers.
- Holton, G. (2013). *Portfolio Theory*. Retrieved from https://www.glynholton.com/notes/portfolio_theory/
- Hussan, J. (2016). Impact of Leverage on Risk of the Companies. *Journal of Civil and Legal Sciences*, 5(4), 1-3. <https://doi.org/10.4172/2169-0170.1000200>
- Jacobs, B., & Levy, K. (2014). The unique risks of portfolio leverage: Why modern portfolio theory fails and how to fix it. *The Journal of Financial Perspectives*, 2(3), 113-126. Retrieved from <https://econpapers.repec.org/RePEc:ris:jofipe:0056>
- Khan, J. (2017). *Research philosophy*. New Delhi, India: APH Publishing. Retrieved from <https://www.coursehero.com/file/47706944/researchphilosophy-slides-170924143731pdf/>
- King'ori, S., Kioko, W., & Shikumo, H. (2017). Determinants of Financial Performance of Microfinance Banks in Kenya. *Research Journal of Finance and Accounting*, 8(16), 1-8. Retrieved from <https://iiste.org/Journals/index.php/RJFA/article/view/38477>
- Kinyua, G., Muathe, S., & Kilika, J. (2015). *Relationship between knowledge management and performance of commercial banks in Kenya*. PhD Thesis, Nairobi: Kenyatta University. Retrieved from <https://ir-library.ku.ac.ke/handle/123456789/17807>
- Kipasha, E. (2013). Impact of Size and Age on Firm Performance: Evidence from Microfinance Institutions in Tanzania. *Research Journal of Finance and Accounting*, 4(5), 105-128. Retrieved from <https://www.iiste.org/Journals/index.php/RJFA/article/view/5091>
- Kipkoech, B., & Muturi, W. (2014). Determinants of financial performance of microfinance institutions in Kenya: A case of microfinance institutions in Nakuru Town. *International Journal of Accounting and Financial Management Research*, 4(6), 1-16.
- Koncova, M., Hedija, V., & Fiala, R. (2016). Firm Size as a Determinant of Firm Performance: The Case of Swine Raising. *Agris On-Line Papers in Economics and Informatics*, 8(3), 77-89. <https://doi.org/10.7160/aol.2016.080308>.
- Ksenija, D. (2013). Profitability during the financial crisis: Evidence from Regulated Capital Market in Serbia. *South Eastern Europe Journal of Economics*, 12(1), 7-33. Retrieved from <https://econpapers.repec.org/RePEc:seb:journl:v:12:y:2014:i:1:p:7-33>
- Maina, G., Kiragu, D., & Riro, K. (2019). Relationship between firm size and profitability of commercial banks in Kenya. *International Journal of Economics, Commerce and Management*, 7(5), 249-262. Retrieved from <http://ijecm.co.uk/wp-content/uploads/2019/05/7514>
- Maja, P., & Josipa, V. (2012). Influence of Firm size on its Business Success. *Croatian Operational Research Review*, 3(1), 213-224. <http://orcid.org/0000-0002-2536-8317>
- Mesut, D. (2013). Does Firm Size Affect The Firm Profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, 4(4), 53-60. Retrieved from <https://www.iiste.org/Journals/index.php/RJFA/article/view/4977>
- Muathe, SMA. (2010). *The determinants of Adoption of Information and Communication Technology by Small and Medium Enterprises within the Health Sector in Nairobi, Kenya*. Kenyatta University. Retrieved from <http://ir-library.ku.ac.ke/handle/123456789/184972010>

- Mugenda, O., & Mugenda, A. (2003). *Readings in Research Methods: Quantitative and Qualitative Approaches* (1st ed.). Nairobi : African Centre for Technology Studies.
- Muriithi, J., & Kiarie, W. (2017). Have the Portfolio Diversification Strategies of Kenyan Microfinance Banks Failed. *Kenyan Microfinance Banks*. Retrieved from <https://www.microsave.net/2017/09/17/>
- Musau, S., Muathe, S., & Mwangi, L. (2018). Financial Inclusion, Bank Competitiveness and Credit Risk of Commercial Banks in Kenya. *International Journal of Financial Research*, 9(1), 203-218. <https://doi.org/10.5430/ijfr.v9n1p203>
- Mutende, E., Mwangi, M., & Ochieng, D. (2017). The moderating role of firm characteristics on the relationship between free cash flows and financial performance of firms listed at the Nairobi securities exchange. *Journal of Finance and Investment Analysis*, 6(4), 55-74. Retrieved from https://ideas.repec.org/a/spt/fininv/v6y2017i4f6_4_3.html
- Mutunga, D., & Owino, E. (2017). Moderating Role of Firm size on the relationship between Micro Factors and Financial Performance of Manufacturing Firms in Kenya. *Journal of Finance and Accounting*, 1(2), 14-27. Retrieved from <http://41.89.49.13:8080/xmlui/handle/123456789/1248>
- Naz, F., Ijaz, F., & Naqvi, F. (2016). Financial performance of firms: Evidence from Pakistan cements industry. *Journal of Teaching and Education*, 5(1), 81-94. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2788357
- Olawale, L., Ilo, B., & Lawal, F. (2017). The effect of firm size on performance of firms in Nigeria. *The IEB International Journal of Finance*, 15(4), 2-21. <https://doi.org/10.5605/IEB.15.4>
- Oliver, J. (2014). Dynamic Capabilities and Superior Firm Performance in the UK Media Industry. *Journal of Media Business Studies*, 11(2), 57-77. <https://doi.org/10.1080/16522354.2014.11073580>
- Ololube, N. (2016). *Organizational Justice and Culture in Higher Education Institutions* (1st ed.). Chicago, USA: IGI Global Publisher. <https://doi.org/10.4018/978-1-4666-9850-5>
- Omisore, I., Munirat, Y., & Nwifo, C. (2012). The Modern Portfolio Theory as an investment decision tool. *Journal of Accounting and Taxation*, 4(2), 19-28. <https://doi.org/10.5897/JAT11.036>
- Ondiek, S., & Muathe, S. (2017). Risk Management Strategies and Performance of Small Scale Agribusiness Firms in Kiambu County. *Journal of Strategic Management*, 1(2), 85-104. <https://doi.org/10.47672/jsm.150>
- Onsongo, S., Mwangi, L., & Muathe, S. (2019). Firm Size, Operational Risk and Financial Performance: Evidence from Commercial and Services companies listed in Nairobi Securities Exchange. *International Journal of Current Aspects*, 3(6), 372-379. <https://doi.org/10.35942/ijcab.v3iVI.93>
- Pawlicz, A., & Napierala, T. (2017). The determinants of hotel room rates: An analysis of the hotel industry in Warsaw, Poland. *International Journal of Contemporary Hospitality Management*, 29(1), 80-93. <https://doi.org/10.1108/IJCHM-12-2015-0694>
- Peteraf, M., Stefano, G., & Verona, G. (2013). The elephant in the room of dynamic capabilities: Bringing two diverging conversations together. *Strategic Management Journal*, 34(12), 1389-1410. <https://doi.org/10.1002/smj.2078>
- Pisano, G. (2015). A Normative Theory of Dynamic Capabilities: Connecting Strategy, Know-How, and Competition. *SSRN Electronic Journal*, 06-36(2015), 1-42. <https://doi.org/10.2139/ssrn.2667018>
- Podobnik, B., Horvatic, D., Petersen, A., & Stanley, H. (2009). Quantitative relations between risk, return and firm size. *Letters Journal Exploring the Frontiers of Physics*, 85(2009), 1-5. <https://doi.org/10.1209/0295-5075/85/50003>
- Qamar, M., Farooq, U., & Akhtar, W. (2016). Firm Size as Moderator to Leverage-Performance Relation: An Emerging Market Review. *Journal of Poverty, Investment and Development*, 23(2016), 55-63. <https://doi.org/10.21512/bbr.v8i2.1711>
- Shiller, R. (2014). Speculative Asset Prices. *American Economic Review*, 104(6), 1486-1517. <https://doi.org/10.1257/aer.104.6.1486>
- Sunday, A., Turyahebwa, A., Byamukama, E., & Novembrieta, S. (2013). Financial Performance in the Selected Microfinance Institutions in Uganda. *International Journal of Engineering Research and Technology*, 2(2), 2-11. Retrieved from <https://www.ijert.org/research/financial-performance-in-the-selected-microfinance-institutions-in-uganda-IJ>

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Teece, D. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40-49. <https://doi.org/10.1016/j.lrp.2017.06.007>

Verma, E. (2018). *Financial Performance—Understanding its Concepts and Importance*. San Francisco, USA: Simplilearn Solutions Online Press. <https://www.simplilearn.com/financial-performance-rar21-article>

Vladimir, M., Boban, D., & Boris, S. (2013). *Market risk management in Banks in Serbia*. Serbia: Research Gate Publications. Retrieved from <https://www.scribd.com/document/435251551/Market-Risk-Mgmt>

William, C., & Khim, J. (2017). *Efficient Market Hypothesis*. Retrieved from <https://brilliant.org/wiki/efficient-market-hypothesis/>

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