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Abstract

The Kenya Government, together with companies and individuals in the private sectors, has put concerted efforts in ensuring the existence of a favorable environment for doing business in the country. Consequently, while some firms listed in the NSE have improved in performance, there are others that have experienced declining fortunes and some have even been delisted from the NSE over the last decade. Significant efforts to turn around such companies or even liquidate them have focused mainly on restructuring of firm level factors. However, managers and practitioners still lack adequate guidance for attaining optimal decision on firm level factors. The specific objectives of the study was to determine the effect of asset tangibility on financial performance of listed firms in the Nairobi securities exchange. The study employed panel research design that is non-experimental in nature. This study targeted all the 64 firms listed on the Nairobi Securities Exchange. A census of all the 64 firms listed in Nairobi Securities Exchange was used as a unit of analysis. Secondary data extracted from the financial statements was used to compute the relevant ratios and encompassed panel data. The study employed a dynamic panel data regression model while ANOVA was used to test the relationship between the variables across the sectors. Test of hypothesis was done at 95% confidence interval. The study found out that there was a positive and significant relationship between asset tangibility and financial performance of financial and non-financial firms. The study concluded that asset tangibility has a positive and significant effect on financial performance of Listed Firms in the Nairobi Securities Exchange. A firm is highly

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competitive when as its managers are able to mix tangible and intangible assets in the most effective and efficient manner. Therefore, a firm can get the same score of competitiveness by using a different combination of assets and by giving different importance coefficients to the tangible and intangible assets.

Keywords: *Asset Tangibility, Financial Performance & Nairobi Securities Exchange.*

1.1 Introduction

Financial performance plays an imperative role in the firm performance that is expressed in monetary term. Financial performance emphasizes on variables related directly to the financial report. It is prudent that before investing their funds, investors should first have a knowledge about the performance of the firm (Deitiana & Habibuw, 2015). The modest way to determine the performance of a firm is to look at the company's financial statement. Due to intense competition among the firms, a firm is expected to be able to maintain and/or improve its performance in order to compete with others. Consequently, the firm can be able to increase its market share as well reduce its operational costs. This is the direction the firm can take to edge its competitors and remain viable, conversely it can register dismal performance and be edged out of the business. Performance in a firm reflects the implementation of strategies that give competitive advantage over other firms. Whilst performance measurement is both financial and non-financial, firm's characteristics do contribute to firm's performance. Decision making process of a firm relies heavily on its financial performances that determines the direction the firm can take in the future. Decisions may therefore be based on firm factors such as asset tangibility and market power (Changing, 2011).

A firm is highly competitive as long as its managers are able to mix tangible and intangible assets in the most effective and efficient manner (Herciu & Ogrean, 2012). Therefore, a firm can get the same score of competitiveness by using a different combination of assets and by giving different importance coefficients to the tangible and intangible assets. Tangible assets are positively related to firm performance and the trade-off theory predicts a positive relation between leverage and tangibility (Koksal, (2013), This relationship exists because tangible assets are easier to collateralize and they suffer a smaller loss of value when firms go into distress. Since firms tend to match the maturity of assets with maturity of liabilities, tangibility should be positively related with leverage (Koksal, 2013).

According to Harris and Raviv (1991), the larger share of tangible assets increases the liquidation value of a company. This is because the tangible assets constitute collateral for the debt in case of bankruptcy. Morellec (2001) argues that when a firm is solvent, tangible asset increase the firm value by allocating assets to better uses. He also argues that when the firm is in distress, tangible asset sales represent the cheapest source of funds for the firm. Moreover, asset sales allow the firm to finance continued operation of its remaining assets without requiring external capital. Giambina (2011) measured overall tangibility as the ratio of total tangible assets to book value of assets. La Rocca *et al*. (2009) measured tangibility as the ratio of property, plant and equipment to total book assets. Degryse *et al*. (2010) measured tangible assets as ratio of tangible fixed assets to total assets. According to the authors mentioned in this paper, tangibility is measured as the ratio of tangible assets to total assets.

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1.2 Statement of the Problem

Two-thirds of firms that are active on the Nairobi Securities Exchange reported losses or reduced earnings in their last financial year (Otieno, 2017). Fifteen of the sixty-four listed firms that traded on the stock exchange reported losses, two less than in the 2015 financial year, while 25 of the listed firms, or 39%, recorded falling after-tax profits. Another 23 listed firms, or a third, declared increased profits (NSE Report, 2016). The analysis also finds that a third of the companies announced reduced revenues including eight firms that were profitable.

Consequently, while some firms listed in the NSE have improved in performance, there are others that have experienced declining fortunes and some have even been delisted from the NSE over the last decade. Significant efforts to turn around such companies or even liquidate them have focused mainly on restructuring of firm level factors. However, managers and practitioners still lack adequate guidance for attaining optimal decision on firm level factors (Kibet, Kibet, Tenai & Muthol, 2011). Although many problems experienced by the companies that have been put under statutory management were largely attributed to firm characteristics factors (Chebii, Kipchumba & Wasike, 2011), there was little systematic empirical evidence to support this.

Many studies have been done to investigate the effect of certain firm characteristics on financial performance, but only concentrated on a few firm characteristic and have used others as control variables even though results of their findings show that the "other firm characteristic" actually have a significant effect on financial performance (Nunes, Serrasqueiro and Sequeira, 2009; Dogan, 2013). Studies done abroad by Majumdar (1997); Nunes, Serrasqueiro and Sequeira (2008); Lee (2009) and Dogan (2013) investigating the effect of firm size and firm performance totally ignored other potential firm characteristics that have an effect of firm financial performance like asset tangibility.

A number of studies have indicated that a positive relationship exists between particular firm level factors and performance (Lu et al., 2010; Dhanaraj & Beamish, 2003; Kuivalainen, Puumalainen, Sintonen & Kylaheiko, 2010; Tseng *et al.*, 2007; Mittelstaedt, Harben & Ward, 2003; White *et al.*, 1998; Calof, 1993). Others have demonstrated that a negative relationship exists between particular firm level factors and performance (Cubbin & Leech, 1986; Kilantaridis & Levanti, 2000; Poof & Heriot, 2005). Still other studies found evidence that a relationship existed (Tseng *et al.*, 2007) and other research has proposed that no relationship exists between specific firm level factors and performance (Amato & Wilder, 1985). A review of the available literature indicates that the relationships between the components of firm level factors and their role in determining and accounting for variations in firm international performance have conflicting results. Therefore, this study was conducted to establish the effect of asset tangibility on financial performance of listed firms in the Nairobi Securities Exchange.

1.3 Objective of the Study

To determine the effect of asset tangibility on financial performance of listed firms in the Nairobi securities exchange.

1.4 Research Hypotheses

H_0: Asset tangibility has no significant effect on financial performance of listed firms in the Nairobi securities exchange.

2.0 Literature Review

2.1 Theoretical Framework

2.1.1 Trade-off Theory

The trade-off theory emphasizes on the fact that a firm will choose a financial means level by balancing the costs and benefits of both the debt and equity financing. That is as the firm increases their debt, the marginal benefit of the debt begins to decline as the marginal cost increases. Therefore the managers needs to establish an optimal mix that will ensure that the marginal cost remain minimum as the marginal benefit move to maximum (Kuang-Hua & Ching-Yu, 2000). The Static Trade-off Theory argued that although the benefit of tax shields may encourage the firms to employ more debt than other external sources available to them, this mode of finance is not free from costs. Myers (1977) observed that as much as levered firms enjoy tax deductibility as a benefit of their leverage, care needs to be taken such that the cost of financial distress associated with the inclusion of debt financing in the capital structure. He observed that the firm's capital structure is at optimal at the point where the cost of using debt and equity is at minimum as compared to the benefit that accrues as a result of using the mix, to allow the firms to trade them off. The firms therefore should seek to establish this optimal point in their capital structure irrespective of their size and earnings.

Dynamic Trade off Theory on the other hand argues that the firm's capital structures may not always be as per their target assets ratios, but firms may allow the ratio to vary considering the costs and the benefits of the use of debt and equity and also the financing margin that the firm anticipates in the next period. Fischer, Heinkel and Zechner (1989) argued that a dynamic optimal capital structure is an appropriate choice in a case where the firm requires recapitalization. Unlike the static trade off theory where the emphasis is on the targeted leverage ratio that the firm will not be willing to deviate from, the dynamic trade off theory emphasizes on the firm having an optimal leverage range within which they let their leverage ratios vary. The firm only adjusts their capital structure when leverage reaches either of the two boundaries defining the range. The levels of the boundaries vary cross-sectional with firm characteristics such as the volatility of cash flows, size, earnings of the firm, interest rates and bankruptcy costs (Kuang-Hua & Ching-Yu 2000).

This theory is deemed relevant to this study. This is because it assumes that there are benefits to asset tangibility within a capital structure up until the optimal capital structure is reached. In addition, the theory recognizes the tax benefit from interest payments

2.2 Empirical Review

Koksal et al. (2013) investigated the factors that determine the capital structure choices in Turkey. They used tangibility as a proxy for the type of assets. They found that tangibility appears to be the key determinant of long-term leverage (positive relationship), but is not important for short-term leverage (negative relationship). Their empirical findings suggested that the trade-off theory is a better description of the capital structure of Turkish firms then the pecking order theory.

Campello and Giambina (2011) examined the relation between corporate asset structure and capital structure by exploiting variation in the salability of tangible assets. They argued that tangible assets are often illiquid, so they show that redeployability of tangible assets is the main determinant of corporate leverage for firms that are more likely to face credit frictions, especially during periods of tight credit. Their evidence shows that tangible assets drive capital structure to the extent that they are redeployable. Only the component of asset tangibility that responds to

salability has explanatory power over firm leverage. They found that the relation between redeployability and leverage is important and pronounced in firms for which the collateral resource is particularly important in the borrowing process. For large firms, in contrast, redeployability is an irrelevant driver for leverage.

Sanyal and Mann (2010) examined the financial structure of start-up firms. They found that start-ups with more tangible assets as potential collateral are more likely to use external debt in the financial structure, since these assets have a high liquidation value. Psillaki and Daskalakis (2008) investigated the capital structure of Greek, French, Italian and Portuguese small and medium-sized enterprises. They argue that the costs of financial distress depend on the types of assets that a firm employs. If a firm retains large investments in land, equipment and other tangible assets, it will have smaller costs of financial distress than a firm that relies on intangible assets. Thus, firms with more tangible assets should issue more debt. On the other hand, large holdings of tangible assets may imply that a firm has already a stable source of return, which provides more internally generated funds and discourages it from turning to external financing. Therefore, the negative relationship between leverage and asset structure indicates that firms employ lots of tangible assets and seem to rely more on internal funds generated from these assets, which is predicted by the pecking order theory. They found that asset structure is significant and negatively correlated with leverage. A possible explanation is that firms with lots of tangible assets may have already found a stable source of return, which provides them more internally generated funds and discourages them from turning to external financing.

The study by Okwo *et al.* (2012) assessed the impact of a company's investment in fixed assets on its operating profit margin. The study is based on a sample four companies in the Nigerian brewery sector over an eleven year period from 1999 to 2009. The operating profit margin was taken as the dependent variable while the independent variables were Sales/Net Fixed Assets ratio, Interest Rates, Foreign Exchange Rate, and Inventory/Cost of Sale ratio. The findings of the study was that though the relationship between the level of investment in fixed assets and its impact on the operating profit was positive, the result was not statistically significant. Therefore, the result did not suggest any strong positive impact of investment in fixed assets on the operating profit of brewery firms in Nigeria.

Olatunji *et al*. (2014) examined the effect of investment in fixed assets on profitability of selected Nigerian banks. Data were obtained from annual reports and accounts of thirteen selected Nigerian commercial Banks for the period from 2000-2012. The relationship between the dependent variable (Net profit) and independent variables (Building, Land, Leasehold premises, fixtures and fitting, and investment in computers.) indicated that there was a significant relationship between them. The study concluded that investments in fixed assets had strong and positive statistical impact on the profitability of banking sector in Nigeria Further, the overall result of the study by Mawih (2014) on some listed manufacturing companies indicated that the fixed assets had impact on ROE but not on ROA.

In relation to intangible assets, Martina (2015) investigated the relationship between tangible assets and the capital structure of Croatian small and medium-sized enterprises. The study was conducted on a sample of 500 Croatian SMEs for the period between 2005 and 2010. The data used for the empirical analysis were taken from companies' annual reports. The results of the research found that tangible assets are differently correlated with short-term and long-term leverage. The relationship between tangible assets and short-term leverage was negative and statistically significant in all observed years. The relationship between tangible assets and long-term leverage

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was positive in all observed years and statistically significant. The results showed that small and medium-sized companies use their collateral to attract long-term debt, which means that small and medium-sized companies use lower costs and the interest rate of long-term debt in relation to short-term debt. These findings are consistent with the trade-off theory which predicts a positive relation between leverage and tangibility (Frank et al., 2011), and also with the pecking order theory, which is generally interpreted as predicting a negative relation between leverage and tangibility (Koralun-Bereźnicka, 2013).

2.3 Conceptual Framework

The goal of a conceptual framework is to categorize and describe concepts relevant to the study and map relationships among them. Such a framework would help researchers define the concept, map the research terrain or conceptual scope, systematize relations among concepts, and identify gaps in literature (Creswell, 2003). Below is a figurative representation of the variables to be explored by this study.

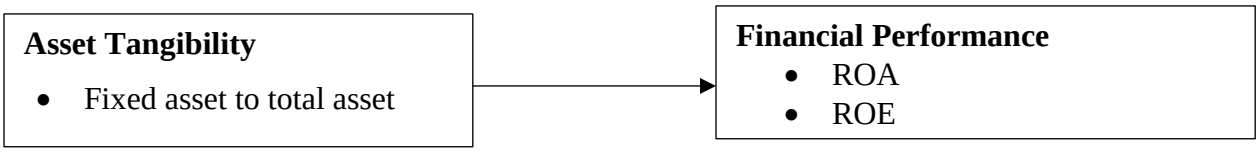

Figure 1: Conceptual Framework

3.0 Research Methodology

The study adopted a positivism philosophy. Panel research design was adopted in this study. Panel research design is best suited since panel data was used. Panel research design is a particular design of longitudinal study in which the unit of analysis is followed at specified intervals over a long period, often many years. This study population was all the 64 firms listed in Nairobi Securities Exchange. The study conducted a census of all the 64 firms listed in Nairobi Securities Exchange. The secondary data encompassed panel data. The data for all the variables in the study was extracted from the annual published financial reports of the firms listed in NSE covering the years 2012-2016. The specific financial statements from which the data was extracted from include the income statement, statement of financial position and the notes to the accounts. The study conducted diagnostic tests that included panel Unit Root Test, Test for Fixed or Random Effects, Normality Tests, Multicollinearity, Autocorrelation and Heteroscedasticity tests.

The study employed a dynamic panel data regression model as shown below;

$Y_{it} = \beta_0 + \beta_1 X_{1it} + e$

Where;

Y_{it} = Financial Performance

X_{1it} = Asset Tangibility

β_0 =Constant

β_1=Coefficient of the variables

e=Error term

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4.0 Results and Discussion

4.1 Correlation Analysis

The study conducted correlation analysis for the financial firms on asset tangibility and ROA and ROE in order to examine the nature of the statistical relationships between each pair of variables. Table 1 shows the correlation matrix of the variables under financial firms.

Table 1: Correlation Matrix for Financial Firms

VARIABLE	ROA	ROE	Asset Tangibility
ROA	1.000		
ROE	1.000	1.000	
	0.000		
Asset Tangibility	0.114	0.211	1.000
	0.027	0.013	

The results in Table 1 show that asset tangibility (0.114, 0.000) had a positive and significance relationship with Return on Asset. The financial sector results further showed that asset tangibility had a positive and significance relationship with Return on Equity.

The study further conducted correlation analysis for the non-financial firms on asset tangibility on ROA and ROE in order to examine the nature of the statistical relationships between each pair of variables. Table 2 shows the correlation matrix of the variable under financial firms.

Table 2: Correlation Matrix for Non-Financial Firms

VARIABLE	ROA	ROE	Asset Tangibility
ROA	1.000		
ROE	0.984	1.000	
	0.000		
Asset Tangibility	0.352	0.498	1.000
	0.000	0.000	

The results show that Asset Tangibility (0.352, 0.000) had a positive and significance relationship with Return on Asset. The non-financial sector results showed that asset tangibility (0.498, 0.000) had a positive and significance relationship with Return on Equity.

4.2 Diagnostic Tests

4.2.1 Test for Multicollinearity

Multicollinearity was assessed in this study using the variance inflation factors (VIF). According to Field (2009) VIF values in excess of 10 is an indication of the presence of Multicollinearity as shown in Table 3.

Table 3: Multicollinearity Results

	Financial Sector	Non-Financial Sector
Variable	**VIF**	**VIF**
Asset Tangibility	1.41	1.23

4.2.2 Panel Unit Root Tests

Unit root tests was conducted using the LLC test to establish whether the variables were stationary or non-stationary. The purpose of this was to avoid spurious regression results being obtained by using non-stationary series. Results in Table 4 indicated that the variables is stationary (i.e. absence of unit roots) at 5% level of significance.

Table 4: Unit root

	Financial Sector			Non-Financial Sector		
Variable name	**Statistic(adjusted)**	**P-value**	**Comment**	**Statistic(adjusted)**	**P-value**	**Comment**
ROA	2.232	0.006	Stationary	2.273	0.003	Stationary
ROE	2.278	0.020	Stationary	2.028	0.010	Stationary
Asset Tangibility	2.824	0.003	Stationary	2.623	0.002	Stationary

The study therefore concludes that the variables under consideration do not have unit root and are therefore used in levels. This means that the results obtained are not spurious (Gujarati, 2003).

4.2.3 Test for normality

The normality assumption ($ut \sim N(0, \sigma 2)$) was required in order to conduct single or joint hypothesis tests about the model parameters (Brooks, 2008). Table 5 shows the normality results using for skewness and Kurtosis test for the financial firms.

Table 5: Normality Test for Financial Sector

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adjchi2(2)	Prob>chi2
roa	95	0.11310	0.32000	18.07000	0.12100
roe	95	0.11310	0.21000	18.07000	0.26100
asset_tang~y	95	0.30000	0.46000	54.69000	0.47000

Table 5 shows the normality results using for skewness and Kurtosis test for the non-financial firms. The P-values were higher than the critical 0.05 and thus we conclude that the data is normally distributed.

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Table 6: Normality Test for Non-Financial Sector

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adjchi2(2)	Prob>chi2
roa	195	0.6300	0.29000	13.78000	0.1000
roe	195	0.1800	0.37000	15.12000	0.5000
asset_tang~y	195	0.20000	0.15750	13.41000	0.1200

The results in Table 6 indicate that the residuals are normally distributed. The P-values were higher than the critical 0.05 and thus we conclude that the data is normally distributed.

4.2.4 Heteroskedasticity Test

Breusch-Pagan test was used to test for heteroskedasticity. The null hypothesis in the test is that error terms have a constant variance (i.e. should be Homoskedastic). The results in the Table 7 below indicate that the error terms are heteroskedastic, given that the p-value (ROA=0.7431, ROE=0.6914) was less than the 5% (0.000) for financial firms and p-value (ROA=0.692, ROE=0.634) was less than the 5% (0.000) for non-financial firms

Table 7: Heteroskedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity
Ho: Constant variance

		Financial Sector		Non-Financial Sector	
Variable: fitted values		**ROA**	**ROE**	**ROA**	**ROE**
chi2(1)	=	0.013	0.04	0.01	0.03
Prob > chi2	=	0.7431	0.6914	0.692	0.634

4.2.5 Test for Autocorrelation

The study employed the Wooldridge test for autocorrelation to detect the existence of autocorrelation in the data, that is, whether or not the residual are serially correlated over time and the results are shown in Table 8. The null hypothesis of this test was that there is no first order serial/autocorrelation existed in the data. The test statistic reported is F-test with one and fifty seven degrees of freedom and a value of 1.528. The P-value of the F-test is 0.3610 for financial firms indicating that the F-test is not statistically significant at 5% level. The P-value of the F-test is 0.2810 for non financial firms indicating that the F-test is not statistically significant at 5% level. Hence, the null hypothesis of no autocorrelation is supported and the study concludes that residuals are not auto correlated.

Table 8: Serial Correlation Tests

Financial Firms
Wooldridge test for autocorrelation in panel data
H_0: no first-order autocorrelation
F(1, 57) = 2.394
Prob > F = 0.3610
Non- Financial Firms
Wooldridge test for autocorrelation in panel data
H_0: no first-order autocorrelation
F(1, 57) = 1.528
Prob > F = 0.2810

4.2.6 Hausman Test

When performing panel data analysis, one has to determine whether to run a random effects model or a fixed effects model (Baltagi, 2005). In order to make a decision on the most suitable model to use, both random and fixed effects estimate coefficients. The study used the Hausman's specification test (1978) to choose between fixed and random effect models. Table 9 and 10 shows the results of Hausman test.

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Table 9: Hausman Test for ROA

Financial Firms				
	(b) fixed	**(B) Random**	**(b-B) Difference**	**Sqrt (diag(V_b-V_B)) S.E.**
Asset Tangibility	0.5248	0.2302	0.2946	0.0585
chi2(4)	25.81			
Prob>chi2	0.581			
Non-Financial Firms				
	(b) fixed	**(B) Random**	**(b-B) Difference**	**Sqrt (diag(V_b-V_B)) S.E.**
Asset Tangibility	0.5248	0.2302	0.2946	0.0585
chi2(4)	21.37			
Prob>chi2	0.438			

The null hypothesis of the Hausman test is that the random effects model is preferred to the fixed effects model. For ROA model, Hausman test reveals a chi-square of 19.42 with a p-value of 0.847 indicating that at 5 percent level, the chi-square value obtained is statistically insignificant. Thus, the researcher does not reject the null hypothesis that random effects model is preferred to fixed effect model for ROA as suggested by Greene (2008). Therefore, the random effects model for ROA is therefore adopted.

Table 10: Hausman Test for ROE

Financial Firms				
	(b) fixed	**(B) Random**	**(b-B) Difference**	**Sqrt (diag(V_b-V_B)) S.E.**
Asset Tangibility	0.57142	0.22245	0.30397	0.05791
chi2(4)	17.61			
Prob>chi2	1.979			
Financial Firms				
	(b) fixed	**(B) Random**	**(b-B) Difference**	**Sqrt (diag(V_b-V_B)) S.E.**
Asset Tangibility	0.52642	0.22245	0.30397	0.05791
chi2(4)	12.42			
Prob>chi2	1.720			

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In order to select between the fixed and random effect models, where return on equity (ROE) is the dependent variable, the Hausman test is applied and the results are shown in Table 8. The null hypothesis of the Hausman test is that the random effects is preferred to the fixed effects model. Hausman test results indicates a chi-square value of 12.42 with a P–value of 1.720 meaning that the chi-square value is statistically insignificant at 5 percent level of significance. Hence, the study did not reject the null hypothesis as suggested by Greene (2008). Thus, the study adopted the random effects model.

4.3 Panel Regression Analysis

4.3.1 Effect of Asset Tangibility on ROA

Regression analysis was conducted on both financial and non-financial firms to determine whether there was a significant relationship between Asset Tangibility and ROA. Table 11 presents the regression model on Asset Tangibility versus ROA in the financial sector.

Table 11: Asset Tangibility on ROA for Financial Firms

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Asset Tangibility	0.2890	0.0666	10.3500	0.0000	0.5578	0.8201
constant	0.1476	0.0297	4.9700	0.0000	0.2061	0.0891
R-squared:	=0.3821					
F(1,94)	=37.12					
Prob	=0.000					

The fitted model from the result is

Y = 0.1476 + 0.2890

Where: Y = ROA (Return on Asset)

X = Asset Tangibility

As presented in the table, the coefficient of determination R Square is 0.3821. The model indicates that asset tangibility explains 38.21% of the variation in ROA. This means 38.21% of the variation ROA is influenced by asset tangibility. The findings further confirm that the regression model of ROA on asset tangibility index is positive and significant with a coefficient of (β= 0.2890, p=0.000) supported by F=37.12. This implies that there exist a positive significant relationship between asset tangibility and ROA since the coefficient value was positive and the p-values was 0.000 that is less than 0.05. This means that a unitary improvement in asset tangibility leads to an improvement in ROA by 0.2890 units holding other factors constant.

Koksal *et al*. (2013) investigated the factors that determine the capital structure choices in Turkey. They found that tangibility appears to be the key determinant of long-term leverage (positive relationship), but is not important for short-term leverage (negative relationship). Their empirical findings suggested that the trade-off theory is a better description of the capital structure of Turkish firms then the pecking order theory.

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The study by Okwo *et al*. (2012) assessed the impact of a company's investment in fixed assets on its operating profit margin. The findings of the study was that though the relationship between the level of investment in fixed assets and its impact on the operating profit was positive, the result was not statistically significant. Therefore, the result did not suggest any strong positive impact of investment in fixed assets on the operating profit of brewery firms in Nigeria.

Table 12 presents the regression model on asset tangibility versus ROA for financial firms.

Table 12: Asset Tangibility on ROA for Non-Financial Firms

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Asset Tangibility	0.0683	0.0666	10.3500	0.0000	0.5578	0.3200
Constant	0.1628	0.0297	2.9700	0.0000	0.1063	0.0842
R-squared:	=0.3934					
F(1,194)	=38.14					
Prob	=0.000					

The fitted model from the result is

$Y = 0.1628 + 0.6890X$

Where: Y = ROA (Return on Asset)

X = Asset Tangibility

The coefficient of determination R Square is 0.3934. The model indicates that asset tangibility explains 39.34% of the variation in ROA. This means 39.34% of the variation ROA is influenced by asset tangibility. The findings further confirm that the regression model of ROA on asset tangibility index is positive and significant with a coefficient of (β= 0.0683, p=0.000) supported by F=37.12. This implies that there exist a positive significant relationship between asset tangibility and ROA since the coefficient value was positive and the p-values was 0.000 that is less than 0.05. This means that a unitary improvement in asset tangibility leads to an improvement in ROA by 0.0683 units holding other factors constant.

This is in agreement with Harc (2015) who conducted a study on the relationship between tangible assets and capital structure of small and medium-sized companies and results showed that tangible assets have a positive impact on the long-term debt of SMEs. This was because tangible assets constitute a positive signal to the financial institutions, which can request the selling of these assets in case of bankruptcy. Small and medium-sized companies use their collateral to attract long-term debt. This means that small and medium-sized companies use lower costs and the interest rate of long-term debt in relation to short-term debt. These findings correspond with the maturity matching principle, according to which long-term assets are financed with long-term financing and short-term assets are financed with short-term funds. Morellec (2001) argues that when a firm is

solvent, tangible asset increase the firm value by allocating assets to better uses. He also argues that when the firm is in distress, tangible asset sales represent the cheapest source of funds for the firm. However, Psillaki and Daskalakis (2008) investigated the capital structure of Greek, French, Italian and Portuguese small and medium-sized enterprises and a negative relationship between leverage and asset structure indicated that firms employ lots of tangible assets and seem to rely more on internal funds generated from these assets, which is predicted by the pecking order theory.

4.3.2 Effect of Asset Tangibility on ROE

Regression analysis was conducted on both financial and non-financial firms to determine whether there was a significant relationship between Asset Tangibility and variation in ROA. Table 13 presents the regression model on Asset Tangibility versus ROE in financial firms.

Table 13: Asset Tangibility on ROE for Financial Firms

ROE	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Asset Tangibility	0.0723	0.02951	2.450	0.014	0.0140	0.1301
Constant	0.2928	0.0266	10.98	0.0000	0.2406	0.3451
R-squared:	=0.4153					
F(1,94)	=95.07					
Prob	=0.000					

The fitted model from the result is

$Y = 0.2928 + 0.0723X$

Where: Y = ROE (Return on Equity)

X = Asset Tangibility

As presented in the table, the coefficient of determination R Square is 0.4153. The model indicates that asset tangibility explains 41.53% of the variation in ROE. This means 41.53% of the variation ROE is influenced by asset tangibility. The findings further confirm that the regression model of ROE on asset tangibility index is positive and significant with a coefficient of ($\beta = 0.723$, $p=0.000$) supported by $F=61.07$. This implies that there exist a positive significant relationship between asset tangibility and ROE since the coefficient value was positive and the p-values was 0.014 that is less than 0.05. This means that a unitary improvement in asset tangibility leads to an improvement in ROE by 0.0723 units holding other factors constant.

Table 14 presents the regression model on asset tangibility versus ROE for the non-financial firms.

Table 14: Asset Tangibility on ROE for Non-financial firms

ROE	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Asset Tangibility	0.6595	0.0676	9.7500	0.0000	0.5262	0.7928
constant	0.1305	0.0302	4.3300	0.0000	0.1900	0.0711
R-squared:	=0.3556					
F(1,194)	=95.07					
Prob	=0.000					

The fitted model from the result is

$Y = 0.1305 + 0.6595X$

Where: Y = ROE (Return on Equity)

X = Asset Tangibility

As presented in the table, the coefficient of determination R Square is 0.3556. The model indicates that asset tangibility explains 35.56% of the variation in ROE. This means 35.56% of the variation ROE is influenced by asset tangibility. The findings further confirm that the regression model of ROE on asset tangibility index is positive and significant with a coefficient of ($\beta = 0.6595$, $p=0.000$) supported by $F=95.07$. This implies that there exist a positive significant relationship between asset tangibility and ROE since the coefficient value was positive and the p-values was 0.000 that is less than 0.05. This means that a unitary improvement in asset tangibility leads to an improvement in ROE by 0.6595 units holding other factors constant.

This is consistent with Sanyal and Mann (2010) who examined the financial structure of start-up firms and found that start-ups with more tangible assets as potential collateral are more likely to use external debt in the financial structure, since these assets have a high liquidation value. Herciu and Ogrean (2012) argued that a firm is highly competitive as long as its managers are able to mix tangible and intangible assets in the most effective and efficient manner. Therefore, a firm can get the same score of competitiveness by using a different combination of assets and by giving different importance coefficients to the tangible and intangible assets. Campello and Giambina (2011) examined the relation between corporate asset structure and capital structure by exploiting variation in the salability of tangible assets thereby arguing that tangible assets are often illiquid. Therefore, they show that redeployability of tangible assets is the main determinant of corporate leverage for firms that are more likely to face credit frictions, especially during periods of tight credit.

4.4 Hypotheses Testing

Hypotheses were tested using simple linear regression analysis as represented in Table 11, 12, 13 and 14.

H_0: Asset tangibility has no significant effect on financial performance of listed firms in the Nairobi securities exchange.

The hypothesis was tested by using simple linear regression and determined using p-value. The acceptance/rejection criteria was that, if the p value is less than 0.05, we reject the H_0 but if it is more than 0.05, the Ho is not rejected. The results in Table 11, 12, 13 and 14 for ROA and ROE indicate that Asset Tangibility had a positive and significant relationship on ROA for financial and non-financial firms respectively (β= 0.2890, 0.0000; β= 0.0683, 0.0000) and ROE for financial and non-financial firms respectively (β =0.0723, 0.014, β =0.6595, 0.0000). The null hypothesis was therefore rejected. The study therefore adopted the alternative hypothesis that Asset Tangibility has a significant effect on financial performance of listed firms in the Nairobi securities exchange.

5.0 Conclusions

Based on the findings, the study concluded that asset tangibility has a positive and significant effect on financial performance of Listed Firms in the Nairobi Securities Exchange. A firm is highly competitive when as its managers are able to mix tangible and intangible assets in the most effective and efficient manner. Therefore, a firm can get the same score of competitiveness by using a different combination of assets and by giving different importance coefficients to the tangible and intangible assets. Tangible assets are positively related to firm performance and the trade-off theory predicts a positive relation between leverage and tangibility. This relationship exists because tangible assets are easier to collateralize and they suffer a smaller loss of value when firms go into distress. Since firms tend to match the maturity of assets with maturity of liabilities. A larger share of tangible assets increases the liquidation value of a company. This is because the tangible assets constitute collateral for the debt in case of bankruptcy. When a firm is solvent, tangible asset increase the firm value by allocating assets to better uses. In addition, when the firm is in distress, tangible asset sales represent the cheapest source of funds for the firm. Moreover, asset sales allow the firm to finance continued operation of its remaining assets without requiring external capital.

6.0 Recommendations

The study recommends the management on firms listed at the Nairobi Securities Exchange to focus on asset tangibility since it was found to have a significant effect on the financial performance. The study found out that the asset tangibility had a significant effect on financial performance of firms listed at the Nairobi Securities Exchange. Therefore, the researcher recommends that the policy makers in the financial sector to embrace asset tangibility on their strategic decision-making. This indicator will further guide in expanding the interpretation of the financial dynamics in the listed firms at the Nairobi securities exchange and other related firms. The government policy makers will also find the findings beneficial in interpreting of performance of the listed companies based on the firm level factors. The study recommends that the Central Bank of Kenya to formulate and enact a policy which makes commercial debt cheaper hence reduce cost of operations of financial firms, management of commercial banks listed at the NSE to reduce interest rates so as to attract investors who will inject more funds into these financial firms. The Nairobi Securities Exchange and Capital markets authority supervisory framework guidelines should be adhered to foster credibility and performance of the listed companies.

7.0 References

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