"Asset structure, leverage, and value of listed firms: Evidence from Kenya"

| AUTHORS | Barine Nkonge Habakkuk (iD)
Kariuki Samuel Nduati (iD)
Kariuki Peter Wang'ombe (iD) |

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
45	0	11

BUSINESS PERSPECTIVES

Barine Nkonge Habakkuk (Kenya), **Kariuki Samuel Nduati** (Kenya), **Kariuki Peter Wang'ombe** (Kenya)

ASSET STRUCTURE, LEVERAGE, AND VALUE OF LISTED FIRMS: EVIDENCE FROM KENYA

Abstract

Firm value shows the performance of a firm while reflecting the present value of the firm's future cashflows, hence affecting investment decisions. Therefore, this paper explores the relationship between asset structure, leverage, and firm value of 51 listed companies between 2010 and 2019 using secondary data collected from audited financial statements. The study applies panel data regression models and the causal-comparative research design. The quantitative data are analyzed using multiple regression. The result shows that plant, equipment, property, current, and financial assets influence the firm value positively. Nonetheless, the quotient of current to total assets was reported to yield the highest beta coefficient, implying that significant firm value creation is realized for every additional current asset held, weighed against the quotient of additional equipment, property, and plant to the value of total assets. Leverage had an insignificant influence on the value of firms, implying that no maximization of value is attainable in manufacturing firms through the astute use of borrowed funds. The study recommends that finance pundits consider firms' asset structure and the use of borrowed funds when formulating financial and investment policies. The study enriches the scholarly world by developing a model for establishing the value of listed firms.

Barine Nkonge Habakkuk, MBA in Finance, School of Business and Economics, University of Embu, Kenya. (Corresponding author)

Kariuki Samuel Nduati, Doctor, School of Business and Economics, University of Embu, Kenya.

Kariuki Peter Wang'ombe, Doctor, School of Business and Economics, University of Embu, Kenya.

Keywords	corporate governance, leverage, asset structure, firm value, securities
JEL Classification	G32, G41

INTRODUCTION

Firm value is associated with reasonable security prices globally. Gichobi (2019) posits that firm value is a claim from secured and non-secured creditors from shareholders. According to Prasetyorini (2013), firm value is determined by the value of securities as measured using the Tobin's Q model. Therefore, it is essential for firm managers to continuously enhance firm value to entice more investors to invest, since a security's price determines the shareholders' interests globally (Gitagia, 2020).

Listed firms have a total value of 80 trillion US dollars (De-LaCruz et al., 2019). Despite their economic contribution, they have fallen in value due to the diminution in share prices and a global decline in market capitalization (Cheffins, 2015). The publically traded firms in the United States decreased from more than 7,500 in 1996 to fewer than 3,700 today (Doidge et al., 2017). In Uganda, the traded shares declined by 84% from Ush. 256 million to Ush. 41 million, while in Kenya, investors lost about $70 million when the stock market index dropped from 6161 points to 2474.75 points between 2007 and 2009. Again, several listed firms, among them, Fashion Retailer Deacon, Eveready East Africa, and Uchumi Supermarkets, are facing financial and corporate governance challenges (NSE, 2019).

Asset structure is defined as both fixed and non-fixed (current) assets used for financing and as collateral. Nyamasege et al. (2014) demonstrate that asset structure influences firm value at the Nairobi securities exchange, while Ayuba et al. (2019) find no correlation between capital structure and firm value in Nigeria. Leverage implies using borrowed capital to finance the firm and industrial practice globally (Khalid et al., 2014). As a result, firms are twice as likely to employ debts to expand their assets (Issah and Antwi, 2017).

No previous research has studied all firms listed on the NSE for ten years, from 2010 to 2019. Similarly, researchers have not utilized panel data analysis in their model in any validated literature reviews. Therefore, it is paramount to understand how asset structure and leverage affect firm value.

1. LITERATURE REVIEW AND HYPOTHESES

This paper is tailored to the agency theorem founded on the managerial belief that the split of ownership and control, a feature of modern organizations, can lead to managers acting in their self-interest, disregarding the shareholder's expectations of wealth creation. The agency principal means that some of the principal decision rights over how the firm should be run are transferred to the agent, implying that the principal must trust the agent (Moldoveanu & Martin, 2001). On the contrary, Omagwa and Muathe (2019) insist that since the agents are opportunistic, they are likely to misalign their objectives with the principal, resulting in conflicts and affecting a firm's value. The initial examination of agency conflicts in firms emphasizes the importance of identifying major areas of dispute and devising a strategy for resolving them. Otherwise, even when a firm has all of the required components for success, it is becoming clear that disputes can stifle the desired value, especially in the Nairobi securities exchange-listed firms.

A paradoxical interlink exists between asset structure and firm value worldwide. Using multiple regression analysis, Saad (2010) studied 126 Malaysian firms from 1998 to 2006, finding that interest coverage, turnover ratio, total assets, and debtor's turnover ratio all had a positive relationship and were statistically significant with a firm's profitability. This suggests that investing in non-current assets positively affects firms' profit margins in Malaysian firms. Furthermore, the study failed to break the total assets into proxies, for instance, property, plant and equipment, current, and financial assets, which the current

study focuses on. Correspondingly, Nyamasege et al. (2014) explored how asset structure influences firm value at the NSE using descriptive statistics and showed that asset structure affects the firm valuation. The current study departs from the above study by using a causal-comparative research design to determine the relationship between the variables under the study.

In a comparative study, Ayuba et al. (2019) investigated the effect of capital structure, firm size, financial performance, and firm value in Nigeria, covering six years utilizing an ex-post facto design and a longitudinal panel consisting of cross-sectional data and time series. The study indicated that return on the employed capital and firm age were insignificant to a firm's value. The above studies did not include essential variables of asset structure, for instance, equipment, property and plant, financial assets, and other controlling variables that may influence a firm's value on a securities exchange. These omissions paved the way for the current study.

Sanjay and Machali (2017), while researching leverage and firm value of the Indian Securities Exchange-listed firms from 2001 to 2005, observed that leverage has a negligible positive or negative association with return on equity. The studies emphasize the need to leverage debts to increase a firm's revenues. Similarly, Saini (2012), in a 7-year study of 7 Indian telecommunication organizations, posits that leverage positively affects shareholders' returns. The study utilized descriptive statistics, T-tests, and Correlation analysis. Gleason et al. (2000) posit that financial performance and leverage level are negatively correlated, which the current research wishes to unearth from the NSE. These contradictions in the find-

ings paved the way for a study on asset structure, leverage, and the value of firms from 2010 to 2019.

Reviewed literature on the nexus between asset structure, leverage, and firm value is equally mixed. In a study on firm value and asset structure in the Indonesian Securities Exchange from 2010–2014, Machali and Setiadharma (2017), while analyzing the effect of asset structure and firm value on 34 firms from 2010 to 2014, found a direct connection between the value of a firm and asset structure. Regarding the relationship between firm value and leverage, Dutta et al. (2018) looked at the New York securities exchange firms, concluding a negative association between leverage and a company's value. In their study of the Pakistani cement industry from 2008 to 2012, Farooq and Masood (2016) confirmed the practical link between leverage and company worth. The contradictions in the revised studies paved the way for the current study. In reference to the aforementioned theoretical and empirical evaluation, firm value is crucial to shareholders since a firm's worth, determined by market pricing for its securities, is a critical factor in determining whether shareholders' interests will ultimately be sustained.

While this paper focuses on asset structure, leverage, and the value of listed firms at NSE for 2010–2019, there are theories on listed firms that are documented in various literature since listed firms are essential in the economic prosperity of a country globally. Nevertheless, empirical studies on asset structure, leverage, and value of listed firms at NSE for 2010–2019 are rarely available, especially in all Kenyan publicly listed firms, as most of the previously conducted research focuses on some segments (Manufacturing) of the firms instead of covering all listed firms. This paper differs from the previous studies by studying all the listed firms at the NSE between 2010–2019 using secondary data. Further, some reviewed studies on firm value were conducted outside Kenya, thus justifying the current study. From the standpoint of reviewed literature and arguments therein, the current paper conceptualizes that asset structure and leverage influence the value of listed firms. Similarly, firm size and age are control variables affecting firm value. As a result, the following hypotheses are developed in response to the paper's aim to determine the relationship between the influence of asset structure and leverage on listed firms.

H_{01}: There is no significant effect of plant, property, and equipment on the firm value of firms listed on the NSE.

H_{02}: There is no significant effect of financial assets on the firm value of firms listed on the NSE.

H_{03}: There is no significant effect of current assets on the firm value of firms listed on the NSE.

H_{04}: There is no significant effect of leverage on the firm value of firms listed on the NSE.

H_{05}: There is no significant effect of firm size on the firm value of firms listed on the NSE.

H_{06}: There is no significant effect of firm age on the firm value of firms listed on the NSE.

2. METHOD

Causal comparison research design and the random-effect model were employed. The causal-comparative research design was preferable because it describes pre-existing problems, provides better evidence of causality, and investigates a particular issue from the data (Yilmaz, 2013). The analysis included a census survey of all listed firms. Census increases effectiveness, as suggested by Ratcliffe et al. (2016). The Tobin Q model was conceptualized to calculate the firm value by comparing market value to book value.

Financial assets, current assets, and plant, equipment, and plant, on the other hand, were measured using the logarithm of financial assets, the logarithm of current assets, and the logarithm of plant, equipment, and plant, respectively.

Leverage was indicated by the leverage ratio and measured using the total debt-to-equity ratio, whereas the control variables, firm size, and age, were measured by the differential of total sales and period in years since being listed. The paper focused on all the NSE-listed firms from 2010–2019. As of December 31, 2019, there were 64 listed firms.

Table 1. Measurement of variables

Variables	Indicators	Measurements
Firm Value	Tobin Q	The market value of a company/BK company's value
Asset Structure	Financial Assets	Log of Financial Assets
	Current Assets	Log of Current Assets
	PPE	Log of Property, Plant & Equipment
Leverage	Leverage Ratio	Debt to Equity ratio
Control Variables	Firm Size	Log of Total sales
	Firm Age	Number of years since listing

However, 12 firms were listed in the Nairobi securities exchange after 2010, while one was suspended. Therefore, fifty-one firms qualified for the study because they were listed consistently between 2010 and 2019. This listing enabled balanced panel data analysis to be effected. It also ensured the availability of all the data required. The data were thus collected for all 51 firms from the annual financial reports of all NSE and Capital Markets Authority-listed firms.

Different study variables were assessed, as indicated in Table 1.

The paper purposed to examine whether asset structure leverage affects the value of firms listed on NSE. The research applied Multiple Linear Regression to test the hypothesis in model 1.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \\ + \beta_3 X_{3it} + \beta X_{4it} + \varepsilon_{it}, \tag{1}$$

where Y_{it} is the firm value, X_1 is the plant, property, and equipment, X_2 is the financial assets, X_3 is the current assets, X_4 is the leverage, β the constant term, and ε_{it} is the error term.

Analysis of non-stationary data leads to wrong forecasting and estimation due to spurious regressions. The absence of a unit root helps achieve stationarity (Probability-Value < critical value 0.05). The present study utilized panel data; hence, Levin-Lin-Chu unit-root test was applied to test for stationarity. In non-stationary data, differencing is done until stationarity is achieved.

3. RESULTS

The paper envisaged determining the relationship between asset structure, leverage, and firm value on firms listed at NSE and indicated the following results.

Table 2 shows that data were stationary; hence it was suitable for forecasting.

Table 2. Stationarity test results

Variable	T statistic	P-value
PPE	−13.1379	0.0040
Financial assets	−4.0827	0.013
Current assets	−4.980	0.0000
Leverage	−8.4229	0.0000
Firm value	−10.2625	0.0000

Table 3 indicates a Jarque-Bera ordinal of 2.816 and a probability estimate of 0.244. Thus, given that the P-value was (0.244>0.05), which is greater than .05; therefore the study rejects the null hypothesis, confirming the normality of the data. That is, the data were distributed normally.

Table 3. Normality test results

Jarque-Bera statistic	P-Value
2.8160	0.2440

Table 4 shows a Breusch-Pagan statistic p-value of 0.00, which is less than 0.05, revealing that the data were homoscedastic, i.e., it had a constant variance.

Table 4. Heteroscedasticity test: Breusch-Pagan-Godfrey

F-statistics	42.41	Probability. F(7,2317)	0.00
Obs*R²	264.07	Probability. Chi-Square(7)	0.00
Scaled explained SS	1388.07	Probability. Chi-Square(7)	0.00

Variable	Coefficient	Std. Error	t-Statist	Probability
Constant	0.004	0.002	0.601	0.552
Property, Plant, and Equip	0.087	0.011	8.316	0.000
Leverage	−0.011	0.021	−0.541	0.589
Financial Assets	0.000	0.00	1.151	0.250
Current Assets	1.879	0.049	3.023	0.003

Table 5 reveals that the Variance Inflation Factors for the variables are below 10. The tolerance values (VIF^{-1}) are less than 1. This implies an absence of a multi-collinearity problem.

Table 5. Variance inflation factor test results

Variable	VIF	(VIF)-1
Asset structure	1.028	0.972
Firm age	1.069	0.935
Firm size	1.216	0.822
Leverage	1.137	0.879
Mean: variance inflation factor test	1.097	

The Durbin-Watson statistic was utilized to test autocorrelation. Its statistic runs from 1.5 to 2.5. The statistical results in Table 6 show Durbin-Watson statistics of 1.7, meaning there was no autocorrelation problem.

Table 6. Autocorrelation test derives

Test	Durbin-Watson statistic
Autocorrelation Test	1.7

Under the Hausman Test, the null hypothesis was that the chosen random effect model was the most preferable, as shown in Table 7, showing that the p-value is 0.137.

Table 7. Model specification test results

Test	Probability
Hausman Test	0.137

The paper aimed to determine the relationship between asset structure, leverage, and the firm value of listed firms at NSE and presents the following results. Table 8 displays data characteristics, mean and standard deviation (SD), and listed firms' maximum and minimum values. The firm value had a mean of 0.84, 0.180 SD, a minimum of 0.187, and 0.777 as the maximum. Table 8 shows the av-

erage value of property, plant, and equipment as 0.692, with a maximum value of 0.247, 0.087 as the minimum, and 0.065 as the SD. As per the study's findings, the proportion of plant equipment and property to total assets ranged from 0.088 to 0.247, with an average of 0.07. The mean for leverage value is 0.017, with a standard deviation of 0.032 and a range of 0.00 to 0.136. Current assets yielded a mean of 1.583, a SD of 0.943, a minimum of 0.442, and a maximum of 4.711. On the other hand, financial assets had a maximum of 15, a minimum of five, and a mean of 8.869. The average value for an enterprise is 6.42, with a SD of 0.369, a low of 5.52, and a high of 7.38. Firm age had a mean of 30.42, the SD was 18.20, the maximum value was 70, and the minimum value was 1.00.

Table 8. Data characteristics

Variable	Obvs	Mean	Std. Dev	Min	Max
Financial Assets	510	8.869	2.399	5	15
Current Assets	510	1.583	.943	.442	4.711
Leverage	510	.017	.032	0	.136
Property, Plant, and Equipment	510	.069	.066	.088	.247
Firm Size	510	6.42	.369	5.52	7.38
Firm Age	510	30.42	18.2	1	70
Firm Value	510	.184	.179	−.187	.777

To verify the ratio of correspondence among the variables, an evaluation was conducted.

Table 9 shows the findings of the analysis. There was a negative correlation of −0.019 between financial assets and the company's value, while leverage and firm value were pragmatic and insignificant at 0.732. There was a high pragmatic association between property, plant, equipment, and firm value of 0.211 and between current assets and firm value of 0.254. This infers that leverage, equipment, plant, property, and current assets perform a crucial function in determining the value of a firm listed on the NSE.

Table 9. Correlation matrix

	Firm Value	FA	Leverage	PPE	Current assets	Firm age	Firm size
Firm value	1						
FA	−0.019	1					
Leverage	0.732	0.331	1				
PPE	0.211	−0.088	0.405	1			
Current assets	0.254	−0.364	−0.421	−0.269	1		
Firm age	0.294	−0.001	−0.311	−0.136	−0.190	1	
Firm size	0.753	−0.171	−0.587	0.232	0.162	0.367	1

PPE is Property, Plant, and Equipment, while FA is Financial Assets.

The R-squared value of 0.426 demonstrates the statistical significance implying that the asset structure and leverage explain about 0.426% of the changes in the company's value. The positive coefficient of 0.040 units shows that financial assets affect firm value positively. This infers that a single shift in the financial assets results in a 0.040 unit change in the firm value. Gamayun (2015), who investigated the value of firms in Indonesian public firms, supported the study findings. He asserted that tangible assets directly and remarkably influence a firm's value.

Leverage had an insignificant coefficient of 0.050, indicating a unit shift in the leverage outcomes in a 0.050 unit variation in the firm's value. The findings indicated that excess debt would lead to the increased possibility of being delisted since the firm would be running on more debt than equity hence the risk of failure to take care of short-term expenses or obligations. The study findings corroborate with Anton (2016) on the influence of leverage on a company's progress in Romania, which indicates that leverage positively affects firm growth in Romania-listed firms. Kenyanya and Ombok (2018) contradict this by holding that leverage negatively affects the firms' performance.

Plant, equipment, and property positively affect a firm's worth, as shown by a positive coefficient of 0.020 units in the data analysis. This equates to a 0.020 percentage point shift in firm value for every one-percentage point shift in plant and equipment. Olatunji and Tajudeen (2014), while examining the profitability of selected Nigerian banks from 2000 to 2012, demonstrated a significant correlation between fixed assets and firms' profit. The variable current assets were estimated to be positively associated with the firm value such that a unit variation in the current assets leads to a 0.067 unit variation in the firm's value, meaning that there was statistical importance between the current assets and the value of the firm. Chowdhury and Amin (2007) established that firm performance depends on managing current assets. If a firm mismanages its assets, it will reduce its profit and may lead to financial distress.

The coefficient of firm size was 0.287, meaning that the connection between the size and company value is positive, implying that increasing the firm size improves the firm value by 0.287. The finding concurs with (Isık et al., 2017), who concluded that company size significantly positively affects the profitability of the mining sector listed on IDX. The coefficient for firm age was −0.005, implying a negative relation between the age of a business and its value. This infers that as the firm ages since listing decreases significantly, so does the value of the firm. The analysis by Pittiglio et al. (2014) noted a notable negative correlation between the age variable on the sale ratio of manufacturing firms with a sample of 58,211 firms in India.

Table 10 indicates an R^2 of 0.426, implying that the independent variables account for about 42.6

Table 10. Goodness of fit of the model

Random-effects GLS Regression Model Stat.	
R^2: Overall	0.426
Wald chi2	5.490
P-value	0.024

Table 11. Independent variables and dependent variables: Individual level of significance of the variables

Variables	Coeffnt	Std. Error	T-statistics	Prob-Value
Financial Assets	0.0406	.0732	0.51	0.252
Leverage	0.0504	.0536	1.69	0.402
Property, Plant &Equipment	0.0204	.0221	−3.05	0.000
Current Assets	0.0673	.0216	2.04	0.021
Firm Size	0.287	0.077	3.71	0.002
Firm Age	−0.005	0.001	−4.039	0.001
Constant	0.4730	.0756	6.20	0.002

percent of the company's value change. In addition, the chi-square statistic was 5.49 with a probability value of 0.245 > 0.05. The tabulated results showed that the model was significant; hence, further evaluation could not be done since the model was suitable. Again, Tables 10 and 11 show that the results were influential. All the variables maintained their coefficient signs and statistical remarkably. In addition, the model's significance was maintained. This demonstrated that the model results were good for estimation. This implied that the independent variables affect the company value of NSE-Listed firms.

Using the random effect regression model above, the regression equation becomes:

$$Y_{it} = 0.473 + 0.0406X_{1it} + 0.050X_{2it} +$$
$$+0.020X_{3it} + 0.067X_{4it} + 0.287X_{5it} +$$
$$+90.005X_{6it}.$$

The results show that the Wald statistic is 5.49, which is notable at a 5 percent confidence level. This means that asset structure and leverage are important in describing the variations in the firm value on the NSE-listed firms in the random effects specification. The findings in Table 11 indicate that the constant term is 0.473, implying that holding the variables under consideration to zero could increase the firm value by 0.473. The plant, property, and equipment coefficient is (.020, p < 0.05). The model indicated that holding other variables to zero increases the property, plant, and equipment variables by 0.020 units. Therefore, plant, property, and equipment have a remarkable ascendancy in business value. The present research findings are congruous with Xu and Xu (2013) on optimal asset allocation. The hypothesis that equipment, plant, and property have no influence on the value of the listed companies at NSE is thus rejected. The coefficient for financial assets is (0.040, p > 0.05), indicating that financial assets do not significantly affect the firm value. The findings agree with Yahaya et al. (2015), who suggested a positive impact on financial assets: cash, loans, and advances. Therefore, financial assets are easily utilized to offset bills during financial distress and can be used to finance tangible assets implying that financial assets enhance firm value. Hence, the hypothesis that financial assets do not affect the value of a firm listed at NSE is rejected.

The coefficient of current assets is (0.067, p < 0.05), indicating that maintaining other variables constant, a unit rise in the quotient of current assets to total assets yields a 0.0673 unit increase in the value of a firm, therefore, rejecting the hypothesis that current assets do not affect the firm value of listed firms. The findings resonate with Yahaya et al. (2015), who propose a positive influence of current assets on cash, loans, and advances. The coefficient for leverage is (0.050, p > 0.05), indicating that leverage insignificantly affects the firm value. This indicates that holding all other variables to zero, an increment in leverage variable by a single unit increases the value of a firm by 0.050 units. Raza (2013), who recorded an inverse connection between the value of a business and leverage, supports the findings. This indicates that leverage plays a minimal role in enhancing firms' value. Therefore, the findings fail to reject the hypothesis that leverage has no influence on a company's value. The coefficient of firm size is (0.28, p <. 05). This demonstrates that holding other variables to zero, an increase in firm size variable by 1 unit results in an increase of firm value by 0.28 units. Sudiyatno et al. (2020) support this in their study on profitability and value in Indonesian firms. The hypothesis that size has no effect on the value of NSE-listed firms is rejected. The coefficient of firm age is (–0.005, p <. 05). This relation between the age and the firm value is negative but not remarkable. This shows that by maintaining other variables to zero, an increase in the firm age variable by one unit decreases the value of a firm by -0.005 units. Stierwald (2010) supports this. Therefore, the hypothesis that firm age does not influence the value of firms listed on the NSE is rejected.

4. DISCUSSION

In general, the paper sought to establish the relationship between asset structure and leverage and the firm value of Kenyan firms listed on the NSE. Property, Plants and Equipment, Current Assets, and Financial Assets were used as asset structure proxies in the study.

The findings indicate that property, plant, and equipment positively impact firm value. This is supported by Mwaniki and Omagwa (2017), who investigated asset structure and financial perfor-

mance: A study of firms listed on Kenya's Nairobi Securities Exchange in the commercial and services sectors discovered a positive relationship between long-term investment and financial performance. However, the findings contradict Okwo et al. (2012), who found no significant positive impact of fixed asset investment on the operating profit of Nigerian brewery firms.

Current assets are estimated to be positively associated with the firm value. The findings agree with Akinleye and Dadepo (2019), who found that the current assets ratio positively and predominantly affects the ROA of chosen manufacturing companies in Nigeria. The results show that Financial assets do not significantly affect the firm value. The findings agree with Yahaya et al. (2015), who suggested a positive impact on financial assets: cash, loans, and advances. However, Li and Wang (2014) showed that some financial assets, such as employee benefits expenses, do not affect the firm value in Hong Kong Listed Information Technology Companies.

The study results show that leverage has a positive but insignificant effect on the firm value. Wanyonyi (2021) studied financial leverage and the value of firms at NSE and found a mixture of results with total debts reporting a significant negative relationship between leverage to earnings per share. Kenyanya and Ombok (2018) contradict this in their study on the effect of Financial Leverage on the Value-Added Financial Performance of Kenyan Listed Firms, holding

that leverage negatively affects the firms' performance. The findings indicate that the relationship between firm size and company value is positive, implying that increasing the firm size improves the firm value by 0.287. The finding concurs with Isık et al. (2017), who concluded that company size significantly and positively affects the profitability of the mining sector listed on IDX. However, Setiadharma and Machali (2017) indicate that the firm size has no direct effect on the firm value on the Indonesian securities exchange. The study indicates a negative relation between the age of a business and its value. The analysis by Pittiglio et al. (2014) noted a notable negative correlation between the age variable on the sale ratio of manufacturing firms with a sample of 58,211 firms in India. However, Ghafoorifard (2014) contradicts this in the study on firm age, size, and age in the Tehran stock exchange.

Even though the paper has laid down the foundation for the relationship between asset structure, leverage, and firm value in Kenya using secondary data, some data may be prone to errors even if the financial statements were audited. Therefore, further comparative research on the influence of asset structure, leverage, and value of listed enterprises could be done in other countries since the present research has been confined to Kenya. Furthermore, the study covered the last ten years, therefore, future studies could be conducted due to changing dynamics in global economies due to the COVID-19 pandemic.

CONCLUSION

This paper explored the relationship asset structure and leverage have on the value of firms listed on the NSE. According to the findings, asset structure influences the firm value positively, specifically equipment, plant, and property. Equally, current assets and firm value are positively and robustly related. Since a correlation exists between firm value and financial assets, there is certainty on the applicability of the efficient-market hypothesis, which gives investors space to have all the relevant information in the decision-making process on where to invest. Leverage had an insignificant influence on the value of firms, implying that no maximization of value is attainable in manufacturing firms through the astute use of borrowed funds. Firm size and the value of a company were found to be significant while holding all other variables constant. Firm age was the only predictor of firm value decline, indicating a statistically impressive and negative correspondence between company age and firm value when controlling for other factors

The study recommends that finance pundits consider firms' asset structure and level of leverage when formulating financial and investment policies to enhance their value and entice shareholders to continue investing. Significant firm value creation is realized for every additional current asset held, weighed

against the quotient of additional equipment, property, and plant to the value of total assets. However, finance managers are advised not to over-invest in current assets for fear of denying other areas the much-needed funds. Financial managers are advised to be judicious as they opt for debts bearing in mind the cost of capital and the weight it has on the firm since leverage has an insignificant effect on the firm value. Due to the insignificance between firm size and value, managers of firms are advised to be more innovative as they widen their product line by introducing new assets. The results enrich the scholarly world by coming up with a framework to define the value of listed firms with regard to the composition of their asset structure. The outcomes of this study suggest that fixed and financial assets contribute to a higher valuation for a business. Therefore, publicly traded companies must invest adequately in current assets, even as it is vital for them to increase their operational capacity through investments in property, plant, and equipment. There is indeed an optimal mix of noncurrent and current assets for value maximization. The current results point to the relationship between asset structure, leverage and firm value, showing the importance of assets and leverage in enhancing firm value.

AUTHOR CONTRIBUTIONS

Conceptualization: Barine Nkonge Habakkuk.
Data curation: Barine Nkonge Habakkuk.
Formal analysis: Barine Nkonge Habakkuk.
Funding acquisition: Barine Nkonge Habakkuk.
Investigation: Barine Nkonge Habakkuk.
Methodology: Barine Nkonge Habakkuk.
Project administration: Barine Nkonge Habakkuk.
Resources: Barine Nkonge Habakkuk.
Software: Barine Nkonge Habakkuk, Kariuki Samuel Nduati, Kariuki Peter Wang'ombe.
Supervision: Kariuki Samuel Nduati, Kariuki Peter Wang'ombe.
Validation: Barine Nkonge Habakkuk, Kariuki Samuel Nduati, Kariuki Peter Wang'ombe.
Visualization: Barine Nkonge Habakkuk, Kariuki Samuel Nduati, Kariuki Peter Wang'ombe.
Writing – original draft: Barine Nkonge Habakkuk.
Writing – review & editing: Barine Nkonge Habakkuk.

REFERENCES

1. Akinleye, G. T., & Dadepo, A. O. (2019). Assets utilization and performance of manufacturing firms in Nigeria. *International Journal of Business and Management, 14*(4), 107-115. https://doi.org/10.5539/ijbm.v14n4p107

2. Anton, S. G. (2016). The impact of leverage on firm growth. Empirical evidence from Romanian listed firms. *Review of economic and Business Studies, 9*(2), 147-158. Retrieved from https://ideas.repec.org/a/aic/revebs/y2016j18antons.html

3. Ayuba, H., Bambale, A., Ibrahim, M., & Sulaiman, S. (2019). Effects of Financial Performance, Capital Structure and Firm Size on Firms' Value of Insurance Companies in Nigeria. *Journal of Finance, Accounting, and Management, 10*(1), 57-74.

4. Cheffins, B. R. (2015). Corporate governance since the managerial capitalism era. *Business History Review, 89*(4), 717-744. https://doi.org/10.1017/S0007680515000690

5. Chowdhury, A., & Amin, M. (2007). *Working capital management practised in Pharmaceutical companies in Dhaka stock.*

6. De-LaCruz, A., Medina, A., & Tang, Y. (2019). *Owners of the World have Listed Companies.* Paris: OECD Capital Market Series.

7. Doidge, C., Karolyi, G. A., & Stulz, R. M. (2017). The US listing gap. *Journal of Financial Economics, 123*(3), 464-487. https://doi.org/10.1016/j.jfineco.2016.12.002

8. Dutta, S., Mukherjee, T., & Sen, S. (2018). Impact of Leverage on Firm Value: Evidence from Some Nairobi Securities Exchange Listed Companies. *The BESC Journal of Commerce and Management, 4,* 42-52.

9. Farooq, M., & Masood, A. (2016). Impact of Leverage on Value of Firms: Evidence from Cement Sector of Pakistan. *Research Journal of Finance and Accounting, 7*(9), 73-77. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2910682

10. Gamayuni, R. R. (2015). The effect of the intangible asset, financial performance, and financial policies on the firm value. *International Journal of Scientific and Technology Research, 4*(1), 202-212. http://dx.doi.org/10.5296/ajfa.v12i1.16655

11. Ghafoorifard, M., Sheykh, B., Shakibaee, M., & Joshaghan, N. S. (2014). Assessing the relationship between firm size, age, and financial performance in listed companies on Tehran Stock Exchange. *International Journal of Scientific Management and Development, 2*(11), 631-635.

12. Gharaibeh, A. M. O., & Qader, A. A. A. A. (2017). Factors influencing firm value as measured by Tobin's Q: Empirical evidence from the Saudi Stock Exchange. *International Journal of Applied Business and Economic Research, 15*(6), 333-358.

13. Gichobi, J. N. (2019). *Effect of Financial Soundness on Firm Value of Listed Commercial Banks in Kenya* (Doctoral dissertation). KCA University.

14. Gitagia, F. K. (2020). *Financial management decisions and firm value of selected firms listed at Nairobi Securities Exchange, Kenya* (Doctoral dissertation, Ph.D. Thesis). Kenyatta University, Nairobi, Kenya.

15. Gleason, K. C., Mathur, L. K., & Mathur, I. (2000). The interrelationship between culture, capital structure, and performance: evidence from European retailers. *Journal of Business Research, 50*(2), 185-191. https://doi.org/10.1016/S0148-2963(99)00031-4

16. Isık, O., Aydın Unal, E., & Unal, Y. (2017). The effect of firm size on profitability: Evidence from Turkish Manufacturing Sector. *Pressacademia, 6*(4), 301-308. https://doi.org/10.17261/pressaca-demia.2017.762

17. Issah, M., & Antwi, S. (2017). Role of macroeconomic variables on firms' performance: *Evidence from the U.K. Cogent Economics & Finance, 5*(1), 1405581. https://doi.org/10.1080/23322039.2017.1405581

18. Kenyanya, P. N., & Ombok, B. O. (2018). Effect of Financial Leverage on Value-Added Financial Performance of Kenyan Listed Firms. *IOSR Journal of Business and Management, 20*(6), 51-57. Retrieved from https://seahipaj.org/journals-ci/mar-2019/IJIFER/full/IJIFER-M-2-2019.pdf

19. Khalid, S., Ali, A., Baloch, M. Q., & Ali, N. (2014). Analysis of the impact of leverage on various measures of corporate performance using the Arellano and Bond dynamic panel data estimation technique. *Abasyn Journal of Social Sciences, 7*(1), 1-10.

20. Lestari, S. A., & Armayah, M. (2016). Profitability and company value: an empirical study of manufacturing companies in Indonesia from 2009 to 2014. *Information Management and Business Review, 8*(3), 6-10. https://doi.org/10.22610/imbr.v8i3.1326

21. Li, H., & Wang, W. (2014) *Impact of Intangible Assets on Profitability of Hong Kong Listed Information Technology Companies.* Hong Kong: Macrothink Institute.

22. Lonkani, R. (2018). Firm value. In P. S. Hoffmann (Ed.), *Firm value: Theory and empirical evidence.* London: Intech Open.

23. Machali, M., & Setiadharma, S. (2017). The effect of assets structure and firm size on firm value with capital structure as intervening variables. *Journal of Business and Financial Affairs, 6*(4), 2-5. http://dx.doi.org/10.4172/2167-0234.1000298

24. Mahmoudi, S. (2014). The Effect of Leverage on Cement Industry Profitability. *Reef Resources Assessment and Management Technical Paper, 40*(1), 673-676. https://www.scirp.org/(S(351jmbntvnsjt1aadkozje))/reference/referencespapers.aspx?referenceid=3164245

25. Moldoveanu, M., & Martin, R. (2001). Agency theory and the design of efficient governance mechanisms. *Joint Committee on Corporate Governance, 3*(5), 430.

26. Murni, S., Sabijono, H., & Tulung, J. (2019, February). The role

of financial performance in determining the firm value. In *5th Annual International Conference on Accounting Research (AICAR 2018)* (pp. 66-70). Atlantis Press.

27. Mwaniki, G., & Omagwa, J. (2017). Asset Structure and Financial Performance: A Case of Firms Quoted Under Commercial and Services Sector at the Nairobi Securities Exchange, Kenya. *Research Journal of Finance and Accounting, 8*(4), 687, 699. Retrieved from http://business.ku.ac.ke/images/stories/research/Asset%20Structure%20and%20Financial%20Perfoarmance-%20Gladys%20Mwaniki%20and%20%20Job%20Omagwa%20PhD.pdf

28. Nyamasege, D., Okibo, W. B., Nyang'au, A. S., Obasi Sang'ania, P., Omosa, H., & Momanyi, C. (2014). *Effect of Asset Structure on Value of a Firm: a case of companies listed in the Nairobi Securities Exchange.*

29. Okwo, I. M., Okelue, U. D., & Nweze, A. U. (2012). Investment in fixed assets and firm profitability: Evidence from the Nigerian brewery industry. *European Journal of Business and Management, 4*(20), 10-17. Retrieved from https://www.iiste.org/Journals/index.php/EJBM/article/viewFile/3595/3644

30. Olatunji, T. E., & Tajudeen, A. A. (2014). Investment in Fixed Assets and Firm Profitability: Empirical Evidence from the Nigerian Banking Sector. *Asian Journal of Social Sciences and Management Studies, 1.* Retrieved from https://ideas.repec.org/a/aoj/ajssms/v1y2014i3p78-82id442.html

31. Omagwa, J., & Muathe, S. (2019). Corporate Governance, Financial Performance and Firm Value: Empirical Evidence from Commercial Banks in Kenya. *International Journal of Finance & Banking Studies, 8*(4), 41-48.

32. Pittiglio, R., Bruni, S., & Reganati, F. (2014). Heterogeneity in firm performance during an economic crisis. *Business, Management and Economics Engineering, 12*(1), 1-14.

33. Prasetyorini, B. F. (2013). Pengaruh ukuran perusahaan, leverage, price earning ratio dan profitabilitas terhadap

nilai perusahaan. *Jurnal Ilmu Manajemen, 1*(1), 183-196. Retrieved from https://jurnalma-hasiswa.unesa.ac.id/index.php/jim/article/viewFile/1505/1136

34. Ratcliffe, M., Burd, C., Holder, K., & Fields, A. (2016). Defining rural at the US Census Bureau. *American Community Survey and Geography Brief, 1*(8).

35. Raza, M. W. (2013). *Effect of leverage on firm performance. Empirical evidence from Karachi Stock*. Retrieved from https://www.researchgate.net/publication/326693350

36. Reyhani, A. G. (2012). Investigating the effect of asset structure on the performance of accepted companies of the Tehran Stock Exchange (TSE). *Journal of Basic and Applied Scientific Research, 2*(2), 1086-1090

37. Saad, N. M. (2010). Corporate governance compliance and the effects on capital structure in Malaysia. *International Journal of Economics and Finance, 2*(1), 105-114. Retrieved from https://pdfs.semanticscholar.org/4261/f9915aaedb3e4d00cadd-b030a4c56baaf371.pdf

38. Saini, R. (2012). Impact of leverage on shareholders returns and market capitalization: empirical evidence of telecommunication sector companies, India. *International Journal of Research in I.T., Management, and Engineering, 2*(12). https://doi.org/10.26710/jafee.v4i1.356

39. Setiadharma, S., & Machali, M. (2017). The effect of asset structure and firm size on firm value with capital structure as intervening variable. *Journal of Business & Financial Affairs, 6*(4), 1-5. https://doi.org/10.4172/2167-0234.1000298

40. Stierwald, A. (2010). Determinants of firm profitability-the effect of productivity and its persistence. *Melbourne Institute for Applied Economic and Social Research*. Retrieved from https://journals.sagepub.com/doi/full/10.1177/09721509211046336

41. Sudiyatno, B., Puspitasari, E., Suwarti, T., & Asyif, M. M. (2020). Determinants of firm value and profitability: Evidence from Indonesia. *The Journal of Asian Finance, Economics and Business,*

7(11), 769-778. http://dx.doi.org/10.13106/jafeb.2020.vol7.no11.769

42. Wanyoyi, B. C. B. (2021). *Financial leverage and firm value at Nairobi securities exchange* (Unpublished paper). School of Business, University of Nairobi.

43. Xu, Z. S., & Xu, N. Z. (2013). The research of the optimal allocation of assets structure and business performance. *Research Journal of Economics, Business, and ICT, 8*(1).

44. Yahaya, K. A., Fagbemi, T. O., & Oyeniyi, K. K. (2015). Effect of International Financial Reporting Standards on the Financial Statements of Nigerian Banks. *Journal of Agricultural Economics, Environment, and Social Sciences, 1*(1), 18-29.

45. Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education, 48*(2), 311-325. https://doi.org/10.1111/ejed.12014