

Impact of Gearing on the Performance of top 20 JSE listed Companies

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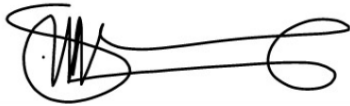
**A research article submitted to the Faculty of Commerce, Law and
Management, University of the Witwatersrand, in partial fulfilment of the
requirements for the degree of Master of Business Administration**

Johannesburg, 2023

Protocol number: WWBS/BA310826/361

DECLARATION

I, _Moyahabo Olive Makwarela_, declare that this research article is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.



Signed at ...Ferndale, Randburg.....

On the 23rd..... day of February..... 2023..

DEDICATION

ACKNOWLEDGEMENTS

I sincerely send my gratitude to the following people who made a contribution towards the success of this research project:

- Firstly, glory to the Highest, God, for making all this possible.
- My supervisor, Dr Oro Ufuo Oro for his guidance and expect supervision throughout this research project.
- ABSA bank for funding and providing the opportunity.
- My family and friends for their support and encouragement.

SUPPLEMENTARY INFORMATION

Nominated journal: Journal of Economic and Financial Sciences

Supervisor / Co-author: Dr Oro Ufuoro Oro

Word count [†]: 7587

Supplementary files:

ABSTRACT

Firm managers in South Africa are regularly confronted with the conundrum of employing optimal capital structure to enhance shareholders' returns. This problem is sparingly addressed in empirical literature using South African data. This study aims to fill this gap by studying the influence of gearing (capital structure) on company performance. This research examines (i) the influence of short-term debt-to-equity ratio, (ii) long-term debt-to-equity ratio and (iii) total debt-to-equity ratio on economic value added (EVA) as a proxy for company performance using Panel regression analysis on top 20 Johannesburg Stock Exchange (JSE) listed non-financial companies for a period between 2010 and 2019. Firm size, turnover growth, and company age were control variables. Short-term debt and total debt were found to have an insignificant influence on company performance. In contrast, long-term debt was found to have a negative and significant influence on EVA at a 10% confidence level. Consequently, we made recommendations for managers to consider.

Keywords: *Short-term, Long-term, Total debt, Company performance, Economic Value Added, Non-financial companies.*

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1. INTRODUCTION

1.1. Background

Firms and large corporations use a combination of owner's contributions (Equity) and borrowed capital (Debt) to generate profits. One of the hottest subjects in corporate finance is how managers decide on the best capital structure (percentage of equity and debt) and how this decision affects company performance. Firm managers are confronted with this conundrum on a regular basis to employ the optimal capital structure in order to invest and maximise shareholders' returns.

Many theories (e.g., Pecking Order, Trade-off, and Agency cost theories) have been proposed, however, scholars are yet to be able to utilize them to completely explain capital structure decisions in practice or to define the ideal optimum capital structure. According to Myers (2001), no single theory can adequately account for a firm's financing behaviour, no common theory of capital structures exists, and there is not a single justification for the existence of one. Al-Najjar and Taylor (2008) concur that the capital structure question still requires a theoretical solution and that empirical findings are not yet sufficiently consistent. However, Chisti *et al.*, (2013) posits that capital structure decisions are the most important of all capital decisions since they directly impact enterprise's profitability. No agreement has been reached yet regarding the ideal capital structure and how it affects corporate performance, particularly in the emerging and developing markets. Capital structure decisions, on the other hand, are critical for a company's performance and therefore their long term survival (Salim & Yadav, 2012).

Capital structure is an account of how a company's overall business activities are financed. The combination of debt with owner's equity in financing the operations of companies is known as gearing or leverage (Abor, 2005). According to Titman *et al.*, (2011), gearing is the shareholder's money, with interest bearing borrowings such as short-term bank loans. As a result, both definitions omit non-interest-bearing short-term debt. Other academics have attempted to define gearing or

leverage in other ways, but there is a common understanding that gearing is the combination of long-term debts and equity used by a certain corporation in a specific accounting period. Therefore, Capital structure and gearing are all terms that can be used interchangeably in this study.

The link between capital structure (gearing) and corporate performance in Africa has been extensively researched, mostly defining company performance using return on capital (ROC), return on assets (ROA), net profit, net profit margin and many others (Evbayiro-osagie & Enadeghe, 2022; Khémiri & Noubbigh, 2018; Mashavave & Tsauroi, 2015; Mukaddam & Sibindi, 2020; Musa, Matemilola, & Bany-Ariffin, 2021; Ramjee & Gwatidzo, 2012) . However, none of these have studied this relationship defining company performance as EVA. According to Correia and Cramer (2008), there is limited use of performance measures such as EVA among South African listed companies, hence the need to study the relationship between gearing and company performance using EVA as proxy for performance.

EVA has gained popularity as a superior measure of company performance compared to aforementioned traditional measures such as ROC, ROA and many others (Brewer, Chandra, & Hock, 1999; Chen & Dodd, 1997; Kang, Kim, & Herderson, 2002; Keys, Azamhuzjaev, & Mackey, 2001; Sabol & Sverer, 2017; Young, 1997). The superiority comes from (1) EVA's immunity from accounting changes which managers can manipulate to distort performance, (2) a performance measurement which eliminates agency problem for management performance evaluation and remuneration as their own fortune is now closely connected to the shareholders' wealth, and (3) makes it easy for capital investment appraisal. Kang et al., (2002) posits that the main limitation of EVA is that it understates performance for companies that are looking at returns in the long term, particularly when in a growth phase. The current study uses the examples of top 20 JSE list companies and therefore this limitation should be minimized as majority of the companies would be over the growth phase.

1.2. Research problem

Firms and large corporations use a combination of owner's contributions (Equity) and borrowed capital (Debt) to generate profits. Therefore, capital structure decisions are the most important of all capital decisions since they directly impact enterprise's profitability (Chisti *et al.*, 2013). Firm managers are confronted with this conundrum on a regular basis to employ the optimal capital structure in order to invest and maximise shareholders' returns. Understanding the relationship between capital structure and company performance would help companies in setting their financing policy and make it easier for managers to make capital structure decisions.

The relationship between capital structure and company performance has been extensively studied for developed economies, however, there is still a gap from the developing economies' context. Moreover, in instances where the relationship was studied from a developing economy's context, most of the studies focused on defining company performance using ROC, ROA, net profit, net profit margin and many others (Evbayiro-osagie & Enadeghe, 2022; Khémiri & Noubbigh, 2018; Mashavave & Tsaurai, 2015; Mukaddam & Sibindi, 2020; Musa *et al.*, 2021; Ramjee & Gwatidzo, 2012). EVA, which according Sabol and Sverer (2017), is a superior measure for company performance, has been rarely used. The JSE is the largest stock exchange in Africa by market capitalization and therefore it would be prudent to study this relationship on JSE listed companies to close the gap.

1.3. Research objectives

There are less empirical evidence of how capital structure (gearing) affects company performance using economic value added in South Africa and other developing economies. The current study's objective to study the relationship between firm gearing and company performance of top 20 JSE listed companies using economic value added as a performance metric.

1.4. Research question

Gearing can be viewed from different perspectives like short-term, long-term and total debt. Consequently, this study will seek answers to the following questions;

1. Does short-term debt-to-equity ratio affect company performance?
2. Does long-term debt-to-equity ratio affect company performance?
3. Does total debt-to-equity ratio affect company performance?

1.5. Research significance

This study will contribute to the body of knowledge of capital structure and firm performance from a South African context. Moreover, the findings of this study will provide the basis to help companies set financing policies.

1.6. Research delimitations, assumptions and limitations

The study will only consider the relationship between gearing and company performance of top 20 JSE listed non-financial companies irrespective of industry they are in. These companies were selected based on having the highest market capitalization as at 30th of August 2019 and have been a going concern for a period between 2010 and 2019. The financial year ending after March 2020 was excluded to avoid the impact of unusual COVID-19 pandemic on management decisions. Research data was extracted from the published financial statements of these companies. The main source for this data was IRESS, a South African financial reporting database. This was to ensure the study is based on reliable and verifiable information.

The assumption is made that gearing has significant impact on the financial performance of the listed companies and that managers make capital structure decisions that maximise returns. It is also assumed that economic value added is

an appropriate measure for company performance and brings about a balanced view of performance that removes conflict between firm managers and shareholders.

The main limitation is the use of EVA as a performance measure because performance of companies that are looking at returns in the long term could be understated, particularly when in a growth phase. Companies do go through long term investments from time to time and in such cases the results may be skewed with looking at a short-term view.

2. LITERATURE REVIEW

The literature on capital structure and company performance is reviewed in this section. The review delves into the fundamental theories of capital structure as well as actual research on the issue, both in the Africa and overseas. The review will show how this study fits into the existing body of knowledge and contributes to it.

2.1. Theoretical Framework

Capital structure optimality has been receiving attention for many years due to its importance to company performance and survival. Modigliani and Miller (1958) pioneered a foundational theory on this subject, which suggested that capital structure does not affect firm value. The theory argues that company worth will be decided by its own assets, not by the amount of debt or equity issued; in other words, any mix of debt and equity has no effect on firm value. The drawback of Modigliani and Miller (1958) theory is that it makes the assumption that capital markets are perfect, implying there is no risk of bankruptcy, zero transaction costs, no tax benefits as well as that there is no information asymmetry. The theory concludes that the value of a business is unaffected by its gearing level. However, the aforementioned assumptions do not hold true in reality, suggesting that gearing has an impact on company value.

Years later, Modigliani and Miller (1963) backtracked on their initial position and recognised tax benefits associated with using debt as a determinant of capital structure. This paved a way for debt finance to be a candidate determinant of a company profitability because of the tax deductibles (savings) from interest costs. In particular, this tax deductibles could lead to increased firm value and return on equity (ROE). Moreover, Modigliani and Miller (1963) posited that companies should maximise the use of debt to increase company profitability.

Another alternative theory in capital structure is the trade-off theory which contends firms will reach optimal capital structure by weighing between costs such as bankruptcy and financial distress and benefits like tax savings (Kraus & Litzenberger, 1973; Myers, 2001). This theory suggests that there exists an optimal gearing level (debt-to-equity ratio) for every company, that optimises both its value and overall capital costs. According to Moyo et al., (2013), there is positive relationship between gearing and company performance. However, excessive amounts of debt lead to larger repayments obligations, which impose pressure on a company's cash flow, thereby increasing the risk of bankruptcy and liquidation (Shyam-Sunder & C. Myers, 1999).

Myers and Majluf (1984) proposed the pecking order theory, which asserts that capital structure decisions in a firm follow a hierarchy. The theory is founded on the concept of information asymmetry, which states that managers have a better understanding of the company's prospects, risk, and value compared to external investors. As a result, this asymmetric knowledge may send negative signals to outside investors, such as interpreting a management decision to issue additional shares as an indication that the company is overpriced, whilst taking on new debt might be interpreted as a positive indicator of management's opinion of the company's prospects (Brigham & Erhardt, 2005). Pecking order theory argues that firm would prefer to use internal finance over external funding, and debt is preferred over equity. Furthermore, managers frequently choose to fund new initiatives with the lowest cost of capital, such as retained earnings, before exploring alternative options. Consequently, enterprises with high profitability would employ retained earnings rather than debt to finance new initiatives, resulting in a bad correlation between firm performance and gearing (Shyam-Sunder & C. Myers, 1999). The drawback of pecking order theory is that it cannot account for the influence of other factors such as taxes and financial distress. It only concludes that gearing level in a firm are driven by the need for external funding and not by the need for optimality.

Company performance can be assessed in many ways than one. EVA is one of these metrics, which evaluate the difference between a company's capital return and its cost of capital (Chen & Dodd, 1997). As a result, EVA has been hailed as

the most accurate indicator of a company's performance, surpassing all others (Sabol & Sverer, 2017; Young, 1997). In this way, EVA can be said to capture the concept of optimality as it gives the value added after deducting the cost of capital. The process of capital structure optimality seeks to reduce the overall cost of capital while EVA captures the value added after deducting the said cost of capital. EVA has been effective in addressing three limitations of other traditional performance measures, (1) It is immune to changes in accounting treatment which managers can manipulate to distort performance, (2) provides performance measurement which eliminates agency problem for management performance evaluation and remuneration as their own fortune is now closely connected to the shareholders' wealth, and (3) makes it easy for capital investment appraisal (Brewer et al., 1999; Kang et al., 2002; Keys et al., 2001).

2.2. Empirical evidence

There have been many studies across the globe investigating the relation between capital structure and firm performance. Many of the studies have been focusing on the developed economies and few on developing economies such as in Africa. Musa et al., (2021) studied the relationship between capital structure and firm performance, analysing panel data from 406 companies within eight African countries in the period from 2010 to 2018. They used a two-step System Generalized Method of Moments and found that gearing or using more debt is positively correlated with firm performance, using Tobin's Q to measure performance. This finding is contradictory to what Abor (2007) discovered when studying the same relationship on a sample of SMEs in Ghana and South Africa at an earlier time period using a panel regression model. Therefore, conducting a study on a different population or at a different time period may result in a different outcome.

Evbayiro-osagie and Enadeghe, (2022), using the panel data analysis method, investigated the same relationship on non-financial firms in Sub-Saharan Africa, tracking performance over a 9-year period between 2012 to 2020. However, the

authors used ROA metric to measure performance and found that long-term debt had a favourable effect on business performance. This is consistent with the trade-off theory, which argues that using debt will benefit the firm by tax shields. Mardones and Cuneo (2020) investigated how Latin American companies' capital structures affected their performance, using panel data method, covering a period from 2000 to 2015. The study covered more company performance metrics (ROA, ROE and Tobin's Q), finding mixed effects of long-term and short-term debt of capital structure on company performance. Salim and Yadav (2012) studied 237 Malaysian firms listed on the Bursa Malaysia Stock Exchange, using ROA, ROE, EPS, and Tobin's Q factors to assess company performance. The findings showed that ROA, ROE, EPS, long-term debt, short-term debt, and total debt all had a negative relationship. The data, however, revealed a favourable relationship between Tobin's Q and long-term debt, short-term debt. These studies imply different relationships can be found between company performance and capital structure when looking at short-term debt and long-term debt separately.

A five-year study on the link between capital structure and the profitability of companies listed on the Ghana Stock Exchange was carried out by Abor (2005). He discovered a large positive relationship between capital structure (defined as short-term debt to total capital) and ROE, indicating that high-earning companies use more short-term debt to fund their operations. In other words, short-term debt, which makes up the majority of all debt financing in Ghana, is a vital source of capital for the nation's companies. Nevertheless, the results showed a conflict between ROE and the ratio of long-term debt to total capital. The regression analysis results showed a positive correlation between total debt and ROE, which reflects the relationship between total debt and profitability. This suggests that high-earning businesses depend on debt to fund their operations.

Nguyen and Nguyen, (2020), studied the influence of capital structure on firm performance using 488 non-financial listed companies on the Vietnam stock market. The Generalized Least Squares (GLS) was used and the author also added EPS metric to measure company performance. According to the study's findings, a negative correlation between capital structure and firm performance exists, which

supports the principle of pecking order theory. Moyo et al., (2013) expanded on what was already known and studied the dynamic capital structure determinants, focusing on South African firms. Moyo et al., (2013) based their study on 49 manufacturing, 24 mining, and 23 retail companies listed on the JSE between 2005 and 2010. The study further added EVA as a metric to determine company performance and found a positive correlation between EVA and gearing thereby contradicting the pecking order theory. This supports the trade-off theory, implying that by employing more debt as a mode of financing, returns can be maximized by lowering the overall cost of capital.

To summarize, empirical research in developing economies found ambiguous and contradictory evidence about the link between capital structure and company performance. Also, only a few studies empirically evaluate this relationship covering all major performance indicators such as EVA, especially in South African context. By empirically evaluating the link between gearing levels and business performance in South Africa, the current study adds to the literature on the influence of capital structure on firm performance. It will do so by answering the following questions;

1. Does short-term debt-to-equity ratio affect company performance?
2. Does long-term debt-to-equity ratio affect company performance?
3. Does total debt-to-equity ratio affect company performance?

Answers to these questions will provide scientific basis to help companies set sound financing policies.

3. RESEARCH DESIGN

3.1. Data collection

The study considered top 20 JSE listed non-financial companies. The top 20 was selected by taking 20 companies with the highest market capitalization as at 30th of August 2019 and have been a going concern for a period between 2010 and 2019. The financial year ending after March 2020 was excluded to avoid the impact of unusual COVID-19 pandemic on management decision which may have been about company survival as opposed to following normal corporate finance practices. Research data was extracted from the published financial statements of these companies. The main source for this data was IRESS, a South African financial reporting database. Ten years financial data extracted from IRESS and Risk-free rate (R186) was used for the calculation of EVA in the financial model of IRESS Research package.

3.2. Research model and variables

Three models were proposed for this study. The first model in equation (1) defines the link between short-term debt gearing and firm performance. The second model in equation (2) defines the relationship between long-term debt gearing and firm performance. Lastly, the third model defines the relationship between total term debt gearing and firm performance. In all the three models, firm size, age and growth are included as control variables as widely used in earlier empirical studies (Abor, 2007; Mardones & Cuneo, 2020; Mouna et al., 2017; Nguyen & Nguyen, 2020).

$$EVA_{i,t} = \alpha_0 + \alpha_1 STD_{i,t} + \alpha_2 GRO_{i,t} + \alpha_3 SIZE_{i,t} + \alpha_4 AGE_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$EVA_{i,t} = \beta_0 + \beta_1 LTD_{i,t} + \beta_2 GRO_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 AGE_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$EVA_{i,t} = \gamma_0 + \gamma_1 TD_{i,t} + \gamma_2 GRO_{i,t} + \gamma_3 SIZE_{i,t} + \gamma_4 AGE_{i,t} + \varepsilon_{i,t} \quad (3)$$

The variables used in the model are defined in Table 1 below.

Table 1: Variables descriptions and measurement

Variables	Variable name	Measurements
EVA	Economic value added	Spread between return on capital and WACC (%)
STD	Short-term debt-to-equity ratio	Short-term debt / equity
LTD	Long-term debt-to-equity ratio	Long-term debt / equity
TD	Total debt-to-equity ratio	Total debt / equity
GRO	Growth	% Change in turnover
SIZE	Company size	Natural logarithm of total assets
AGE	Age of company	Age of company in years from date of incorporation

3.3. Method

The panel regression analyses were conducted in E-Views (version 12), using the fixed effects model and random effects model. These models are the two commonly used models when analysing cross-sectional data containing time-series dimension (Mardones & Cuneo, 2020). Utilizing a panel data set has the benefit of increasing degrees of freedom and decreasing collinearity across explanatory factors, which enhances the accuracy of economic estimations. Moreover, panel data can account for individual variability (Heterogeneity) owing to hidden variables, which can lead to biased conclusions if ignored in time-series or cross-section calculations (Baltagi, 1995). The validity of fixed and random effects was tested using the F-statistic and the Hausman test.

4. RESULTS

This study analysed capital structure of top 20 JSE listed non-financial companies and their performance over 10 years period from the year 2010 to 2020, excluding period which covid-19 pandemic emerged. The total sample size consisted of companies operating in 6 six difference industries/sectors namely; Mining/Basic Materials (10), Consumer Services (4), Consumer Goods (2), Telecommunications (2), Technology (1) and industrials (1).

4.1. Descriptive statistics

The descriptive statistics for all the variables included in the investigation are listed in Table 2. For the full sample, the averages, standard deviations, and the total number of observations are shown.

Table 2: Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Max	Min
<i>Dependent variable</i>					
EVA	200	5.673	15.639	72.470	-42.240
<i>Main independent variables</i>					
TD	200	0.416	0.434	3.379	0.000
LTD	200	0.308	0.386	2.942	0.000
STD	200	0.108	0.139	1.156	0.000
<i>Control variables</i>					
SIZE	200	17.880	1.238	21.704	15.166
AGE	200	46.500	33.122	117.000	4.000
GRO	200	6.345	13.754	65.000	-64.000

The economic value added is defined as the spread between return on capital and weighted average cost of capital (WACC), which is a normalised approach from one of the ways suggested by Sabol & Sverer (2017) on calculating EVA. It is a measure of how much the company is able to return in profits above the cost of capital deployed. Table 2 shows a mean value of EVA of 5.673. This indicates that JSE

listed companies under study created value for shareholders during the period of the study. This finding can be characterised as confirmation that companies were in good health and shareholders were getting value for their money.

Gearing level which can be broken down into short-term debt and long-term debt as well total debt was calculated as a ratio of debt to total equity, as supported by other scholars (Evbayiro-osagie & Enadeghe, 2022; Mukaddam & Sibindi, 2020). Companies differ in their funding mix between long and short-term debt. In this study, it was found that the average values of *TD*, *LTD* and *STD* are 0.416, 0.308 and 0.108, respectively. This finding indicates that the companies are using more equity to fund business activities than debt. Moreover, when debt is considered, long-term debt is preferred over short-term debt. Using less debt ensures that the company is safe from bankruptcy risk and has less financial debt repayments burden, which eases pressure on the daily costs of doing business.

Companies go through different stages from inception as they seek to capture the market and mature into profit making vehicles. The average age of the companies, *AGE* under study is 46.5 years, indicating that companies under consideration have matured and are possibly past their high growth phase as evident by the moderate average growth, *GRO* of 6.3% over the period. The average size of the company, *SIZE* measured by natural logarithm of total assets is 17.88 which confirms that these are large companies.

4.2. Pearson Correlations

To find out whether variables tend to move in comparable or congruent directions to one another, correlation analyses are performed. The variables are deemed to have a positive correlation, for example, if they move in the same direction, but they are considered to have a negative correlation if they move in the opposite direction. The results of this analysis also provide a cluster of points that illustrate the strength and linear correlation between the various variables.

Table 3 shows the results of the Pearson correlation matrix. Given that all estimated coefficients for the respective models proposed have values less than 0.80, the correlation test demonstrates the lack of multi-collinearity between the variables.

Table 3: Correlation coefficient Matrix

	EVA	TD	LTD	STD	SIZE	AGE	GRO
EVA	1						
TD	-0.085	1					
LTD	-0.123*	0.950**	1				
STD	0.076	0.486**	0.188**	1			
SIZE	-0.358**	0.474**	0.521**	0.032	1		
AGE	-0.075	0.247**	0.248**	0.084	0.356**	1	
GRO	0.200**	-0.145**	-0.131*	-0.091	-0.092	0.044	1

Notes: * Correlation is significant at the 10% level, ** Correlation is significant at the 5% level.

4.3. Panel Regression Analysis

The three models proposed for this study were studied by conducting a panel regression analysis using two approaches, i.e., the fixed effects model and random effects model. Hausman test was also conducted to choose the most efficient method between the two methods. The study aims to establish the relationship between gearing and company performance.

4.3.1. Estimation results on the influence of short-term debt-to-equity ratio on company performance.

The results of the panel regression analysis obtained using the fixed effects approach and the random effects method are summarized in Table 4. The Hausman test conducted suggests that the fixed effects model is more efficient than random effects model as shown by a p-value of 0.027. Moreover, the model is statistically significant as shown by the F-statistic p value of 0.000. The model has an R^2 of 0.6, indicating that 60% of the variation in EVA can be explained by the changes in *STD*, *AGE*, *SIZE* and *GRO*.

Table 4: Estimation results for EVA using short-term debt-to-equity ratio (*STD*).

Method: Panel Least Squares (Fixed effects)					Method: Panel EGLS (Random effects)			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
C	65.198*	38.863	1.678	0.095	95.489**	25.691	3.717	0.000
SIZE	-0.883	2.781	-0.318	0.751	-5.062**	1.487	-3.405	0.001
GRO	0.090	0.058	1.557	0.121	0.114**	0.057	1.993	0.048
AGE	-0.957**	0.382	-2.506	0.013	-0.005	0.074	-0.072	0.942
STD	1.989	7.054	0.282	0.778	1.992	6.760	0.295	0.769
R-squared		0.600					0.087	
Adjusted R-squared		0.547					0.068	
F-statistic		11.468					4.657	
Prob(F-statistic)		0.000					0.001	
Durbin-Watson stat		1.262					1.121	
Hausman Test		0.027					0.027	

Notes: * Variable is significant at the 10% level, ** Variable is significant at the 5% level.

Moreover, the fixed effects model results show that only the constant and the *AGE* are statistically significant (*C* at 10% confidence level and *Age* at 5% confidence level). The main independent variable *STD* as well as other control variables (*SIZE* and *GRO*) are not statistically significant in explaining the variation in EVA, with all having p-values of more than 0.10.

4.3.2. Estimation results on the influence of long-term debt-to-equity ratio on company performance.

The results of the regression analysis are presented in Table 5. The model is significant with a F-statistic p-value of 0.0 and an R^2 of 0.607 for the fixed effects model and 0.095 for the random effects. The Hausman test p-value is 0.01, suggesting that the fixed effects model is better than the random effects model.

Table 5: Estimation results for EVA using long-term debt-to-equity ratio (*LTD*).

Method: Panel Least Squares (Fixed effects)					Method: Panel EGLS (Random effects)			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
C	73.219*	38.057	1.924	0.056	91.883**	25.377	3.621	0.000
SIZE	-1.471	2.729	-0.539	0.591	-4.797**	1.476	-3.249	0.001
GRO	0.072	0.058	1.245	0.215	0.101*	0.057	1.768	0.079
AGE	-0.857**	0.379	-2.263	0.025	0.005	0.073	0.063	0.950
LTD	-5.924*	3.309	-1.790	0.075	-4.196	3.064	-1.369	0.173
R-squared		0.607					0.095	
Adjusted R-squared		0.555					0.077	
F-statistic		11.807					5.142	
Prob(F-statistic)		0.000					0.001	
Durbin-Watson stat		1.263					1.107	
Hausman Test		0.010					0.010	

Notes: * Variable is significant at the 10% level, ** Variable is significant at the 5% level

The fixed effects model results show that only the constant *C* and the main independent variable *LTD* are statistically significant at 10% confident level in explaining the variation in EVA. The control variable *AGE* is also statistically significant at 5% confidence level while other control variables (*SIZE* and *GRO*) are not statistically significant in explaining the variation in EVA.

4.3.3. Estimation results on the influence of total debt-to-equity ratio on company performance.

The results of regression analysis showing the relationship between total debt and company performance are presented in Table 6. The results show the Hausman test p-value of 0.009, suggesting that the fixed effects model is better than the random effects. Also, it can be concluded that the model is significant with a F-statistic p-value of 0.00 and an R^2 of 0.605 for the fixed effects model, suggesting that 60.5% of the variation in EVA can be explained by the model.

Table 6: Estimation results for EVA using total debt-to-equity ratio (*TD*).

Method: Panel Least Squares (Fixed effects)					Method: Panel EGLS (Random effects)			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
C	76.240**	38.486	1.981	0.049	94.086**	25.118	3.746	0.000
SIZE	-1.664	2.758	-0.603	0.547	-4.926**	1.460	-3.373	0.001
GRO	0.072	0.058	1.239	0.217	0.102*	0.057	1.776	0.077
AGE	-0.847**	0.382	-2.216	0.028	0.005	0.072	0.072	0.942
TD	-4.531	3.017	-1.502	0.135	-2.955	2.742	-1.077	0.283
R-squared		0.605			0.093			
Adjusted R-squared		0.553			0.074			
F-statistic		11.704			4.981			
Prob(F-statistic)		0.000			0.001			
Durbin-Watson stat		1.261			1.104			
Hausman Test		0.009			0.009			

Notes: * Variable is significant at the 10% level, ** Variable is significant at the 5% level

The fixed effects model results also show that only the constant and *AGE* are statistically significant at 5% confidence level. The main independent variable *TD* as well as other control variables (*SIZE* and *GRO*) are not statistically significant in explaining the variation in EVA.

5. DISCUSSION OF RESULTS

This section of the report aims to discuss the results obtained from descriptive statistics, Pearson correlation and regression analysis in relation to the gearing and how it affects company performance.

a. Effect of short-term debt-to-equity ratio on company performance

The results of the fixed effects panel regression analysis showed that short-term debt-to-equity ratio alone has a positive effect on company performance, however this effect is not significant. This finding is inconsistent with findings by other studies which who found a significant relationship between short-term debt and company performance (Nguyen & Nguyen, 2020; Prempeh, Asare, Evelyn, Sekyere, & McBright, 2016) . Also, the descriptive analysis in Table 2 showed a mean value of 0.108, implying that companies are using less short-term debt to finance their operations. This implies that firm managers should not place strong attention to the use of short-term debt when setting financing policy.

The results in Table 4 also showed that there is a negative and significant correlation between the Age of the company and EVA. This implies that every time the company grows older, the EVA reduces by 0.957 which can be explained by that as companies mature and stabilize, returns also start to stabilize and companies no longer bring excessive returns. Other control variables such as firm size (*SIZE*) and growth (*GRO*) do not play a significant role in influencing the performance outcome of the company. Therefore, managers looking to improve company performance through the use of short-term debt, should also consider the stage the company is at in terms of age and its negative relationship with the performance of the company.

b. Effect of long-term debt-to-equity ratio on company performance

The regression results of the fixed effects model presented in Table 5 showed that there is negative and significant correlation between *LTD* and EVA at a 10%

confidence level. This finding contradicts trade off theory by suggesting that taking more debt has no benefits as it reduces company's profitability and ultimately destroys value for shareholders. Similar findings were reported by Turkson, Aggrey-fynn, & Sarkey (2012) for non-financial firms and by Nguyen & Nguyen (2020) for state-owned and non-state enterprises listed on the Vietnam stock market. This finding supports pecking order theory, suggesting that companies must first utilize internal resources for funding requirements to avoid incurring high costs of debt, which ultimately impair the company's ability to create value for shareholders. Practical implication of these empirical results is that companies should consider using less long-term debt for their funding requirements as it reduces their ability to make profit. Thus, the financing policy should be based on the pecking order theory and provide directives for managers to first utilize internal sources of capital prior to considering other capital sources.

Furthermore, age of the company, which is a control variable in this study, has a negative but significant relationship with company performance. This implies that as the company matures or grows older, its ability to make excessive profits fades away as it moves past its high growth stages of the business cycle. Firm managers can overcome this by employing a culture of disruptive innovation coupled with suitable capital funding mechanisms in the company so that the company can remain competitive and exploit new profitable opportunities. Size of the company and growth were found to have no statistically significant impact on how well a company performs.

c. Effect of total debt-to-equity ratio on company performance

The regression results of the fixed effects model in Table 6 showed that there is negative relationship between *TD* and *EVA*, however the relationship is not significant ($p\text{-value} > 0.05$). The negative correlation found may not be significant, however it is not sufficient to disprove the finding from studies by Prempeh, et al., (2016) which found a significant negative relationship between total debt and company performance. Therefore, using findings from the referenced studies as

basis for policy decisions, managers should not place strong emphasis on total debt when setting financing policy of the company.

Additionally, the age of the company, *AGE*, has a strong but unfavourable connection with corporate performance. This suggests that as a business ages or matures, its capacity for generating excessive profits diminishes as it moves past its high-growth business cycle phases. Thus, as a remedy previously suggested, managers must consider disruptive innovation pursuits and establish suitable capital funding policies to support new innovation pursuits to maintain company's competitive advantage. Other control variables such as size and growth have no statistically significant influence on the company performance.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusions

This research studied the influence of gearing on company performance using economic value added as proxy for company performance. Top 20 JSE listed non-financial companies were selected for this study, using IRESS research domain as the main data source for company financials. Gearing was further broken down into three parts; (1) short-term debt-to-equity ratio, (2) long-term debt-to-equity ratio and (2) total debt-to-equity ratio. Panel regression analysis was conducted in E-Views (version 12), using the fixed effects model and random effects model to study these relationships. The following conclusions were drawn from the data:

1. Larger companies generally rely more on equity than debt as the source of funding as evidenced by lower debt-to-equity ratio. This is because these companies have been in operation for a longer period of time (average age of company is 46 years) and would generally have large amounts of retained earnings accumulated throughout the years as well as having easy access to the equity market through the stock exchange.
2. The use of short-term debt-to-equity ratio does not have a statistically significant influence on company performance as evidenced by *STD* with a p value of 0.778 (> 0.05). Therefore, a manager's decision on the level of short-term debt employed cannot be criticised using this study.
3. The use of long-term debt-to-equity ratio was found to have a statistically significant negative influence on company performance. Therefore, managers should be encouraged or directed through capital funding policies to use less long-term debt as a source of funding because the cost of these funds erode the shareholder value.

4. Total debt-to-equity ratio was found to have an insignificant influence on the outcome of the company's performance as evidenced by *TD* with a p-value of 0.135 (>0.05).
5. Size of the company and growth, which are factors generally known to have an influence on company performance were found to have no significant influence on company performance. Only age of the company was found to have a strong negative influence of the performance of the company. As the company grows older, managers need new innovative and disruptive ideas to bring higher returns to the company. The current finding suggests that older companies don't bring higher returns.

In summary, it was demonstrated that the source of funding and amounts thereof is important as it influences the performance of the company and ultimately the value for shareholders. Furthermore, out of the three measures of gearing, the negative influence of long-term debt-to-equity ratio on the company performance motivates for alignment of compensation structures for managers to ensure that their interests are aligned with those of shareholders. This will discourage managers from utilizing large amounts of long-term debt at the expense of shareholder value which would result in lower returns as was demonstrated in this study. Also, financing policy should be based on long-term debt and also direct manager to first utilize internal and cheaper capital before considering debt financing. Other forms of debt were found to have an insignificant influence.

6.2. Recommendations

Following the empirical evidence of this study, the following recommendations are made:

- Company's financing policy should follow the pecking order theory and recommend the use of internal and cheaper capital ahead of debt, particularly long-term debt.

- Manager's remuneration policy should be based on EVA to ensure alignment between managers and shareholders.

6.3. Suggestions for future work

The current study was based on the top 20 non-financial JSE-listed corporations. Company performance can be influenced by other factors that are industry specific or also being influenced by asset structure of each listed business. Therefore, generalizations cannot be applied to all industries in an adequate manner. Thus, it is advised that an industry specific study be conducted to determine the impact of capital structure on performance, taking into account these factors as well as others which may be deemed relevant.

The impact of debt financing on the capital structure and financial performance of the listed corporations can also be examined in studies that are similar to this one but include the years after the covid-19 pandemic to evaluate and understand if there are other influential factors brought about by covid-19 pandemic and whether they have impacted how financiers and managers behave with regard to capital structure decisions.

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