Effect of Capital Structure on Organizational Performance Of Selected Firms in Ghana

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Abstract:

One significant decision which impacts on the continued existence of a business firm is its capital structure decision. The finance mix of a business organisation is characterised by external influences, interest and complexities which can impact on the financial performance of the business organisation. This study investigated the impact of capital structure on the performance of selected manufacturing companies in Ghana. Data from the annual reports of the manufacturing firms listed on the Ghanaian stock market from 2011-2021 were employed and analysed using Panel regression technique. Return on Asset (ROA) was employed to represent performance of the listed companies while short-term debt, long term debt, leverage, size and liquidity ratio represented the independent variables for capital structure. Findings from the study suggest Long-term-debt-ratio has a positive and significant relationship with the financial performance of the listed firms, short-term-debt-ratio has a positive and insignificant relationship with the financial performance of the selected firms, Leverage was observed to have a negative and insignificant influence on the financial performance of the firms, firm size has a direct yet significant influence on the financial performance of the selected firms and liquidity ratio (LR) of the firms suggest a positive and significant influence on financial performance of the firms. There should be close supervision on the debt composition of the listed manufacturing firm's capital to curtail potential bankruptcy and credit risks exposures.

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1. Introduction:

Equity holders are the remaining claimants, taking on greater part of the risk and exercising more influence over choices. Any company organization must make a crucial choice about its financial structure. The decision is critical because it influences an organization's ability to respond to its competitive environment and is required for advancing the returns of various organizational constituents. Many studies in corporate finance have been directed since they were crafted by Miller and Modigliani operators (1958 and 1963) to find out the effect of a company's capital structure choice on execution. Equity holders are the last petitioners, bearing most of the risk and having more say in decision-making. Any business entity must make a critical decision regarding its financial structure. The decision is important because it has an impact on an organization's ability to adapt to its competitive environment and the need to maximize returns for various organizational constituents. Since Modigliani and Miller's (1958 and 1963) research, numerous studies in corporate finance have been conducted to determine how a firm's capital structure decision affects performance.

For businesses, predicting how a financial structure will impact performance is difficult because it has an impact on the firm's value and, consequently, its ability to survive. When selecting the capital structure, managers have a number of options. The capital structure chosen may not be intended to increase the company's value but rather to protect the interests of the management, particularly in settings where managers have significant influence over corporate strategy and stock ownership is highly valued (Dimitris and Psillaki, 2016). In situations where shares are not held closely, there are usually a large number of equity owners, and the typical shareholder only owns a small portion of the company's shares. Due to this, they are more likely to have a lower level of interest in managing managers, who, when given free rein, pursue interests other than those of equity owners.

The biggest problem facing businesses in Ghana is obtaining funding, whether through loans or equity investments. A firm's financial situation is very critical that it has been identified as the main reason why it has failed to take off or grow. Therefore, for businesses to operate in Ghana and gradually increase both their value-added production and revenue in the form of

profits, they must be able to raise the necessary funds and continue to grow over time. In light of the foregoing, it is imperative to understand how a company's financial decisions affect their success (Ogbe, Ogbe, and Alewi, 2019).

This study adds to the body of work that has already been done to substantiate the claims made by the conventional capital structure theory. There are two main perspectives on how the capital structure of a company influences how well it runs. In contrast to the other, one claims that capital structure is unimportant in determining how well businesses perform. This would aim to address the debate on capital structure and its significance on firms in the Ghanaian economy.

2. Literature Review

Theoretical review

Modigliani and Miller Theorem

According to Modigliani and Miller (1958), the optimal capital structure does not exist; hence, the capital structure of the company is irrelevant. Adjustments to theory by Modigliani and Miller (1963) include company tax and interest obligations with tax payments. Brigham and Gapenski (1996) disagreed with the MM model, arguing that it does not hold in reality. The study challenges the theory that leverage has no impact on a firm's value in an ideal market. They concluded that the use of debt will increase a company's worth and lower capital expenses because interest on debt is deductible from taxes.

Trade off Theory

According to the Theory of Trade-off, stock financing is frequently used when a company has a significant amount of intangible assets, whereas debt financing is typically used when a company has a significant amount of tangible assets. Consequently, a company should maintain an ideal debt-to-equity ratio (Al-Tally, 2014).

According to the idea of trade-offs, the optimal level of debt is established by weighing the advantages of using debt financing against the costs associated with it. A highly successful company can thus use significant leverage to finance its operations or investments.

According to the notion of trade-offs, most businesses attempt to strike a balance between the tax benefits of using leverage and the expenses related to doing so when financing investments in a business (Aliu, 2010).

The trade-off hypothesis also explains why businesses often take out small amounts of debt from financial institutions before reaching their ideal debt-to-equity ratio. By balancing the current value of anticipated debt financing expenses against the anticipated benefits, businesses may now optimize market value (Bontempi & Golinelli, 2001).

This hypothesis states that the tax-shield effect is the principal advantage of using debt since interest on debt is tax deductible (Ross et al., 2009). In order to determine whether using external money up to the point where the benefits of borrowing additional Cedis are equal to the cost due to greater profitability as a result of the financial crisis, The study was conducted to fill this gap in the theory and to also find an exact optimal capital structure.

Pecking Order Theory

According to Myers & Majluf (1984), corporations favour internal funds over external funds when financing new projects. A company may look for additional options, such as the external fund, if a situation develops when the internal finances are insufficient for a certain investment opportunity. If it does, they will choose from among the many external funds that are readily available to avoid paying more for asymmetric information.

Furthermore, Myers (1984) suggested that when the need for external funding arises, the safest securities will be given precedence. In order to do this, businesses will probably choose debt as the safest security, with debt and equity finance following. According to Myer's theory, there is a hierarchy in a company when it comes to choosing financing options, with internal funding being the preferable option and debt being favoured over stock if external financing is required. Pandey (2005) agrees with this viewpoint.

This idea is significant because it demonstrates how businesses define their capital structures by deciding to keep their profits instead of using debt to finance their operations. This hypothesis will help establish if profitable firms utilize less debt to support themselves in comparison to companies with lower profits because of their higher earnings. This theory will aid in determining if internal financing receives a clear preference over external financing when examining the impact of capital on performance from a financial standpoint.

Market Timing Theory

This hypothesis contends that a company's capital structure results from the timing of its stock offerings. According to this notion, managers do critical assessments before issuing fresh shares if they think the existing ones are overpriced. On the other side, if they are undervalued, they will purchase them back (Baker and Wurgler, 2002). An alternative interpretation of this theory suggests that capital structure dynamics are similar. The predictions of the theory are:

According to the hypothesis, corporations often issue equity promptly after receiving favourable information since there is less information asymmetry between the firm's management and investors. After the publication of favourable information, the corporations directly issue it to potential investors to lessen the asymmetry problem. Regular information sharing may result in an increase in stock prices for the firm, which opens prospects for profitable timing. According to Graham and Harvey (2001), the managers acknowledged that timing the stock market and issuing or repurchasing the company's stock was of utmost significance. Because leverage and a measure of market timing have a positive relationship.

Empirical Review

Rajput et al (2024), examined ten sampled firms based on their capitalisation in the Indian stock market for the period 2008 – 2017. Ordinary least square regression techniques were employed to determine the relationship between the dependent variable debt-equity ratio which represents capital structure and return on assets, return on equity, earning per share, return on capital employed, and assets turnover ratio representing the independent variables. Findings from the study suggest that debt-equity ratio have a positive and significant nexus with earnings per share and return on equity. While return on assets, return on capital employed, and assets turnover ratio have a negative and significant with relationship with debt-equity ratio.

Yıldırım & Karabayır (2024) in their study researched the capital structure of some selected firms listed in the Borsa Istanbul (BIST) stock market from the period 2005 – 2020 by employing the Dynamic Panel Regression analysis techniques. The findings from the study suggest that inflation, financial leverage, GDP growth, size and growth opportunities is positively related to financial leverage. Profitability, stock market development, liquidity ratio, asset structure was found to have a negative effect on financial leverage.

Banabo and Aganaba (2024) investigated the Capital Structure and Financial Performance nexus of 5 selected breweries Companies listed in the Nigerian stock market with firm size as

a control variable. Equity Financing and debt financing were employed as the dependent variables while return on asset and return on Investment were employed as the independent variables for firm performance. Findings from the study with the use of multiple regression techniques indicates that capital structure has a positive and insignificant relationship with firm performance.

Mansour et al (2023) studied the impact of capital structure decisions on the performance of firms in Jordan for the period 2010 – 2018 and the role of firm size in this nexus. The study employed book value as the dependent variable and book value of total debt ratios, and firm-specific factors such as firm size, firm age, firm growth, and market-to-book value of equity served as control variables. Random effects model was used to examine the relationship between the dependent and independent variable. Findings from the research suggest that book value of capital structure has a significantly positive relation to a firm's market share, firm size, sales growth, and market-to-book value of equity had a significantly positive association with market share.

Riaz et al (2023) examined the capital structure and firm performance nexus of 10 selected commercial banks in India. Return on equity (ROE) and Return on Asset (ROA) were employed as the dependent variables while total asset, total debt and equity were employed as the independent variables. Findings from the study indicates that return on equity and return on asset have a positive and significant relationship with total asset, total debt and equity.

Anzi (2023) in is essay on capital structure and firm performance examined the nexus of the relationship using three approaches namely Modigliani and Miller Theory and Capital Asset Pricing Model, two representative industries and differences between countries approaches. He suggests that different models will bring different conclusions on the nexus between capital structure and firm performance, and different analytical vantage points will change capital structure and ultimately have an impact on firm performance.

Imani et al (2023) Examined the nexus between capital structure and the performance of companies by using corporate governance as a moderating effect. It employed the use of panel data regression techniques to examine the link between capital structure and performance of 492 firms excluding financial firms listed in the Malaysian stock market for the period 2010 - 2019. The study findings suggest that capital structure has a significant positive impact on firm

performance. Board independence employed as the corporate governance variable has a significant and negative moderate nexus between capital structure and firm performance.

Boshnak (2022) examined the performance 70 firms listed on the Saudi Stock market based on their capital structure for the period 2016 – 2020. The study employed the generalised method of moments (GMM) estimation technique to determine the nexus between the capital structure of the sampled firms and their performance. Findings from the study indicates that short-term debt, long-term debt, total debt and debt-to-equity ratios have significant negative impact on firm operational performance (return on assets), while long-term debt, total debt and debt to equity have such an impact on firm financial performance (return on equity) and market performance (in terms of Tobin's Q).

According to a study by Bokhari and Khan (2013), both short-term debt (STD) and long-term debt (LTD) have negative effects on a company's return on assets (performance) as well as negative effects on return on equity. The study looked at the impact of capital structure on firm performance in Pakistan's non-financial sector over a 7-year period from 2005 to 2011. (Performance).

In their 2010 study, Kumar and Woo looked at the connection between long-term debt and economic expansion. The study used GMM (SGMM) dynamic panel regression as its approach. His research showed that long-term debt has a detrimental effect on a company's ability to thrive. In other words, a rise in debt led to a decline in growth. Additionally, research by Yan (2013) and Onoja & Ovayioza (2015) revealed evidence in support of a favorable correlation between short-term debt and enterprises' profitability (as measured by return on assets). On the other hand, Makanga (2015) found that there was a weak but negative correlation between short-term debt and company performance (return on assets, ROA).

Asare and Angmor (2015) used secondary data from 50 SMEs between 2004 and 2013 together with a panel study methodology and multiple regression analysis to examine the impact of loan financing on the profitability of SMEs in the Accra metropolitan area. The findings revealed a strong inverse relationship between the short-term debt ratio and the return on assets as well as the profit margin ratio. Additionally, it showed a negligible but positive association between long-term loans and profit margin, although a negligible but negative relationship was found with return on assets.

Iavorskyi (2013) explored the connection among debt and efficiency. Total factor productivity (TFP), ROA, and EBIT were the variables used in the study to evaluate performance, and leverage covers both all-out leverage and long-haul leverage. The study's approach included a dynamic model and fixed-effect regressions. The study came to the conclusion that performance suffers as a result of leverage. Gabrijelcic et al (2013) examined the connection between a firm's performance and its leverage. The study's findings indicated that performance declines as leverage increases. According to the report, companies should employ foreign finance to boost performance, but only in moderation to avoid a detrimental impact. To decide if there is a connection between capital structure and firm execution, Tifow and Sayilir (2015) looked at the data. Using panel data analysis, this research, which covered the years 2008 to 2013, looked at 130 industrial companies listed on the Board. Multiple regression analysis was the strategy employed. According to the study's findings, leverage negatively and significantly affects a firm's performance.

3. Methodology

The model is formulated following the works of Muhoro (2015) Ibrahim (2017) but modified by employing control variables such as firm's size, leverage and liquidity. were also integrated into the model. The model is specified below:

$$ROAit = a_0 + a_1\ LTDit + a_2\ STDit + a_3\ LEVit + a_4\ SIZEit + a_5\ LRit + \mu it \quad (1)$$

Where;

it = Firm i, at time (t)

a_0 = Intercept

a_1- a_5 = Parameters to be estimated

LEVt = Leverage ratio (t)

ROAt = Return on assets (t)

LRt = Liquidity ratio (t)

LTDt = Long term debt (t)

STDt = Short term debt (t)

SIZEt = Firm Size (t)

uit = Stochastic error term (t)

4. Results and Discussions

Table1: Descriptive Statistics

Variable	Observation	Mean	Std. Dev.	Min	Max

ROA	121	2.421322	2.842555	-7.3406	4.4056
STD	121	5.46845	6.316012	0	34.40152
LTD	121	11.52564	5.514112	.2210	35.55671
LEV	121	122.1587	78.07562	-163.899	372.73
SIZE	121	4.11711	.304032	4.07041	2.05725
LR	121	4.675212	29.88658	-154.75	23.51

Table 1 indicates the summary statistics of the study variables employed in the research. The average value of the dependent variable return on assets (ROA) for the selected firms is valued at 2.4, maximum ROA for the selected firms was valued at 4.4 and minimum ROA was negative with a value of -7.3. Short term debt (STD) averaged 5.5, with a maximum value of 34.4 and 0 minimum STD for the selected firms. Long term debt (LTD) averaged 11.5, with a maximum value of 35.6 and 0.2 minimum LTD for the selected firms. Leverage (LEV) averaged 122.5, with a maximum value of 372.7 and 163.9 minimum LEV for the selected firms.

Average values for Firm size and liquidity ratio for the selected firms were valued at 4.1 and 4.7 respectively. The maximum values for both independent variables were 2.0 and 23.5 and the minimum values were estimated at 4.1 and -154.8.

Table 2 Heteroskedastic Test

Heteroskedastic			
Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	221.021	55	0.0003
Pesaran scaled LM	1.854		0.004
Pesaran CD	3.7103		0

We reject H_0 because the probability value of the Breusch-Pagan LM (0.0003) is substantial (0.03%). This indicates that there is no heteroskedasticity issue with the model because the error term residuals are equal.

Table 3: Multicollinearity

VIF			
	Coefficient	**Uncentered**	**Centred**
Variable	Variance	VIF	VIF
C	3.521	110.22	NA
STD	0.001	1.0310	1.3145
LTD	0.0060	4.232	1.0233
LEV	3.01E-01	6.0203	2.53262
SIZE	0.23401	213.141	2.2244
LR	0.0002	3.1370	3.0203

We reject H_0 because the VIF values for all variables are less than or equal to 10. This suggests that the explanatory elements do not have a strong link.

Figure 4: Hausman Test

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		3.4250	8	0.868
Cross-section random effects test comparisons:				
Variable	**Fixed**	**Random**	**Var(Diff.)**	**Prob.**
STD	0.0377	0.0326	0.00012	0.627

LTD	0.0373	0.04110	0.000056	0.535
LEV	-0.0014	-0.00124	0.0001	0.806
SIZE	1.0270	1.2220	3.0278	0.5621
LR	0.01718	0.0205	0.00003	0.738

Table 4 above displays a probability value of 0.97 (97%), which is more than the 5% level of significance. So, we agree with H_0. This suggests that the RE-panel approach will be applied.

Table 5: Panel Method

Dependent Variable: ROA

PLS (Random Effect Model)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-6.753	2.470	-2.285	0.010
STD	0.022	0.042	2.274	0.243
LTD	0.031	0.013	1.020	0.032
LEV	-0.001	0.001	-0.785	0.250
SIZE	2.233	0.352	1.310	0.007
LR	0.020	0.022	1.432	0.007
R^2	0.384		F(statistic)	2.863
Adjusted (R^2)	0.405		Prob.(F-statistic)	0.002
			Durbin Watson statistic	1.43

The performance of the selected firms was directly and insignificantly impacted by the STD-ratio coefficient. The variable's coefficient result shows that a proportional rise in STD caused an insignificant increase in the businesses' improvement of 0.022 units. The LTD-ratio variable has a clear and significant influence on ROA, as demonstrated by the coefficient result of the LTD-ratio. The selected firm performance increased by 0.031 units as a result of a corresponding increase in long-term debt.

Leverage was observed to have a negative and insignificant influence on the financial performance of the firms. As a result, a unit increase in the LEV-ratio resulted in a 0.001-unit decrease in the financial performance of the firms. More specifically, firm size has a direct yet significant influence on the financial performance of the selected firms. As a result, the financial performance of the firms tends to increase by 2.2 units for every one unit increase in size.

The liquidity ratio (LR) coefficient result has a positive and significant influence on financial performance of the firms. Accordingly, the performance of the firms improved by 0.020 units for every unit rise in their liquidity ratio.

The panel regression results in Table 4 also showed that the F (statistical) value was significant. The probability value was 0.000018 and the F (statistic) value was 4.79. These values' statistical significance suggests that our model is well-suited to describe the capital structure of manufacturing enterprises in connection to their financial development. This indicates that throughout the research period, the explanatory factors were extremely important in explaining the predicted component (2011–2021.

5. Conclusion

The study examined the relationship between capital structure and financial performance of some selected companies in Ghana employing return on asset (ROA) as the measure of financial performance including establishing the nexus between the capital structure of the firms and the financial performance of the selected firms. The study employed random-effect regression method and the panel OLS regression estimator. The major finding suggests Long-term-debt-ratio has a positive and significant relationship with the financial performance of the listed firms, short-term-debt-ratio has a positive and insignificant relationship with the financial performance of the selected firms. The debt composition even though they have a direct effect on financial performance of the selected firms can lead to potential bankruptcy and credit risks exposures. Other findings suggest leverage has a negative and insignificant influence on the financial performance of the firms, firm size has a direct yet significant influence on the financial performance of the selected firms and liquidity ratio (LR) of the firms suggest a positive and significant influence on financial performance of the firms. There should be close supervision on the debt composition of the listed manufacturing firm’s capital to curtail potential bankruptcy and credit risks exposures.

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