THE IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY OF NON-FINANCIAL INSTITUTIONS LISTEDON THE MALAWI STOCK EXCHANGE

MA. (ECONOMICS) THESIS

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UNIVERSITY OF MALAWI

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MASTERS OF ARTS (ECONOMICS) THESIS

By

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University of Malawi

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DECLARATION

I the undersigned hereby declare that this thesis is my own work and has not been submitted to any other institution for similar purposes. Where other people's work has been used, acknowledgements have been made.

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22ND MARCH 2022

Date

CERTIFICATE OF APPROVAL

The undersigned certify that this thesis represents the student's own work and effort and has been submitted with our approval.

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Second Supervisor

DEDICATION

To my family

Dad, Mother, Sister and Chikondi Kantchentche

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Praise be to the Lord God Almighty, who is the source of all good things. Chikondi Kantchentche, thank you for your unwavering support during my studies; you were a continual source of inspiration. Thank you to my parents for believing in me when I didn't believe in myself and for providing financial support during my studies. Thank you particularly to the Economics Department for being patient with me regarding my fees payments and allowing me to finish my studies on schedule. Thank you for your prayers, my church family.Finally, I'd want to thank my classmates and supervisors for their academic assistance.

God bless you all

ABSTRACT

The argument over the impact of financing decisions on profitability remains unresolved, owing mostly to the country and industry specificnature of the impact in the literature. i.e., the impact of capital structure on profitability differs from one economy to the next, depending on country level characteristics of each country (Velnampy & Niresh, 2012). The research adds to the literature by examining how capital structure (i.e., financing decisions) affects the profitability of non-financial firms listed on the Malawi stock exchange. The model is based on Abor (2005), who divides capital structure into total debt, short-term debt, and long-term debt. The static and dynamic panels for non-financial firms listed on the MSE were evaluated using data from 2008 to 2019. Capital structure has no effect on profitability as measured by ROE, however total debt and short-term debt have a negative relationship with profitability as measured by ROA. The negative relationship can be explained by relatively high interest rates, which increase borrowing costs. The expense of bankruptcy rises with the rise in interest rates. Managers will need to explore alternate sources of finance; given the high profit return of non-financial firms listed on the MSE, the report has suggested using reserves.

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BCFE	Bootstrap corrected fixed effects
CAPM	Capital Asset Pricing Model
GMM	General Method of Moments
HAC	Heteroscedasticity Autocorrelation-Consistent
LSDVC	Bias corrected Least Square Dummy Variable
LTD	Long-term debt ratio
MM	Modigliani and Miller
MSE	Malawi Stock Exchange
ROA	Return on Assets
ROE	Return on Equity
RBM	Reserve Bank of Malawi
STD	Short-term debt ratio
TD	Total debt Ratio
WACC	Weighted average cost of capital

CHAPTER ONE

INTRODUCTION

1.1 Background

Capital markets offer opportunities for wealth creation for both investors and investees and are catalysts for economic growth (Kampanje, 2019). In principle, managers seek to maximize their firm's value to the benefit of shareholders of their firms. Capital is the essential element for firms to undertake projects or investments that have the potential to increase a firm's value. Capital can be financed through internal and external sources. Retained earnings make up much of the internal sources while external sources include issuance of shares, issuance of loan stock, trade credit and other loan products from financial institutions. Therefore, capital structure decisions can influence the governance structure of the firm and consequently its ability to make strategic choices which may affect the firm's performance (Mwangi et al., 2014). Velnampy and Niresh (2012) define capital structure as the way in which the firm finances itself through debts, equity and securities.

Capital structure is linked with the firm's ability to meet stakeholder interests. Financial statement of the firm specifically the statement of financial position, which shows the overall position of the firm and lists all the assets, liabilities and capital. Capital is a vital part of that statement (Velnampy & Niresh, 2012). Usman (2019) points out that financial decisions of the capital structure must be of significant importance as they have the potential of affecting; ***Value Maximization:*** Capital structure maximizes a firm's market value, i.e., under a correctly constructed capital

structure, the aggregate value of the shareholders' claims and ownership interests are maximized.***Cost Minimization:*** The capital structure of a company reduces its cost of capital or cost of financing. A company's overall cost of capital can be kept to a minimum by identifying the right mix of funding sources. ***Increase in Share Price:*** The capital structure of a firm maximizes its market price per share by boosting earnings per share of ordinary shareholders. It also raises dividend payments to stockholders. ***Investment Opportunity:*** The capital structure of a firm improves its potential to discover new wealth-creating investment opportunities. It also improves the trust of debt suppliers with adequate capital gearing. ***Growth of the Country:*** Capital structures will enhance projected returns on investment, attracting both domestic and foreign investors and, as a result, contributing to a country's economic progress.

The significance of capital structure on firm value, which is the ultimate goal of a firm according to Miller and Modigliani (1958) has been a matter of strong debate in finance literature. Their capital structure irrelevance theory states that financial leverage does not affect the firm's market value supported by unrealistic assumptions of homogenous expectations, perfect capital markets, no taxes and no transaction costs(Modigliani & Miller, 1958).The seminar work laid a substantial foundation in the development of theoretical framework within which various theories have been evolved. The presence of financial distress with its associated bankruptcy costs and tax shield benefits from interest payments arising from debt leading to the notion of an "optimal" capital structure, which maximizes the value of the firm or respectively minimizes its total cost of capital(Abor, 2005).

The modern firm must operate in a very complex and competitive commercial environment. The financing option between debt and equity is one of the most critical financial decisions that managers must make (Glen & Pinto, 1994). Firms seek to

maximize wealth (firm value), hence the impact of financial decisions on firm value can be used to analyze the financial decision performance. Managers must be aware of how capital structure may affect the firm's profitability in order for this decision to be effective and efficient. This would enable managers to learn how profitable companies make finance decisions in specific situations in order to stay competitive.

In the financial literature, there is no consensus on the impact of capital structure on firm performance. Different findings have been made based on different countries, stock markets within the same countries, industries within the same stock market, and even the financial and non-financial sectors (Booth et al., 2001).This has led to the increase of studies to inform decision makers on specific industries of the impact of their financing decisions on profitability.

Over a five-year period, Abor (2005) discovered a positive relationship between capital structure as measured by short-term debt ratio and total debt ratio and profitability (ROE), but a negative relationship between long-term debt ratio and ROE on the Ghana stock exchange. Addae et al. (2013) discovered a significantly negative relationship between total debt ratio and profitability in a recent study, suggesting maybe a shift in the impact of financing decisions on profitability on the Ghana stock exchange.

The only published study on Malawi found by this paper is Saddick et al. (2020) study on the impact of capital structure on bank profitability in Malawi. The findings indicate that the debt equity ratio has no significant impact on profitability as measured by ROE but has a positive impact on profitability as measured by ROA. The contribution of Saddick et al. still leaves unsolved questions about Malawi's listed non-financial sector.

1.1.1Brief History of The Malawi Stock Exchange

The Malawi Stock Exchange is among the smallest and young stock markets on the globe (Majanga, 2015)and was inaugurated in March 1995 and opened for business for the first time on 11 November 1996, under the guidance of the Reserve Bank of Malawi with 2,300 Malawian citizens buying shares in the first company to be listed – Malawi's largest insurance firm, the National Insurance Company (NICO). The main function of the Malawi Stock Exchange was to offer a solution to the critical need in the economy of an alternative source of financing capital which plays an essential role in the growth of a firm and provides a link between capital raisers and investors seeking profitable investments. The Stock Exchange was also established as a vessel through which Government would successfully privatize companies into the hands of many local Malawians investors. Unlike developed economies that have more than one stock exchange, only one stock market exists in Malawi, the MSE.

The exchange operates in terms of the Capital Markets Development Act of 1990 and the Capital Market Development Regulations of 1992. It must be noted that besides these two legal instruments that guide the operation of the Malawi Stock exchange and the listed companies, generally, companies or firms are regulated according to the Malawi Companies act of 2013, whose custodian is the registrar general.

Malawi Stock exchange has a supervisory committee which comprises representatives of the central bank, the government and the private sector. It is a member of the African Stock Exchanges Association. The MSE has a modest market listing. More stringent listing rules are currently being prepared. Membership of the Exchange is corporate or individual.

Table 1:Current Listed Companies on Malawi stock exchange as of 15th May, 2021.

N0.	MSE Code	Company Name	Listing Price	Date Listed
1	AIRTEL	Airtel Malawi Plc	12.69	24 February, 2020
2	BHL	Blantyre Hotels plc	0.84	25 March, 1997
3	FDHB	FDH Bank Plc	10.00	03 August, 2020
4	FMBCH	FMB Capital Holdings plc	45.01	18 September, 2017
5	ICON	Icon Properties plc	8.75	21 January, 2019
6	ILLOVO	ILLOVO Sugar Malawi plc	2.25	10 November, 1997
7	MPICO	MPICO plc	2.25	12 November, 2007
8	NBM	National Bank of Malawi plc	4.00	21 August, 2000
9	NBS	NBS Bank plc	2.60	25 June, 2007
10	NICO	NICO Holdings plc	2.00	11 November, 1996
11	NITL	National Investment Trust plc	2.65	21 March, 2005
12	OMU	Old Mutual Limited	2, 513.25	26 June, 2018
13	PCL	Press Corporation plc	14.89	09 September, 1998
14	STANDARD	Standard Bank Malawi plc	3.25	29 June, 1998
15	SUNBIRD	Sunbird Tourism plc	1.85	21 August, 2002
16	TNM	Telekom Networks Malawi plc	2.00	03 November, 2008

Source: Malawi stock Exchange

1.1.2 Trends of non-financial firms listed on the MSE

Average debt-ratio(short-term, long-term, and total debt ratio) data for six non-financial listed firms over a 12-year period (2008-2019) shows that short-term debt accounts for a considerable portion of non-financial firms' debt on the MSE as shown in figure 1.As Abor (2005) points out, it is crucial to investigate short-term, long-term, and overall debt ratios to see whether they contribute differently to firm profitability.

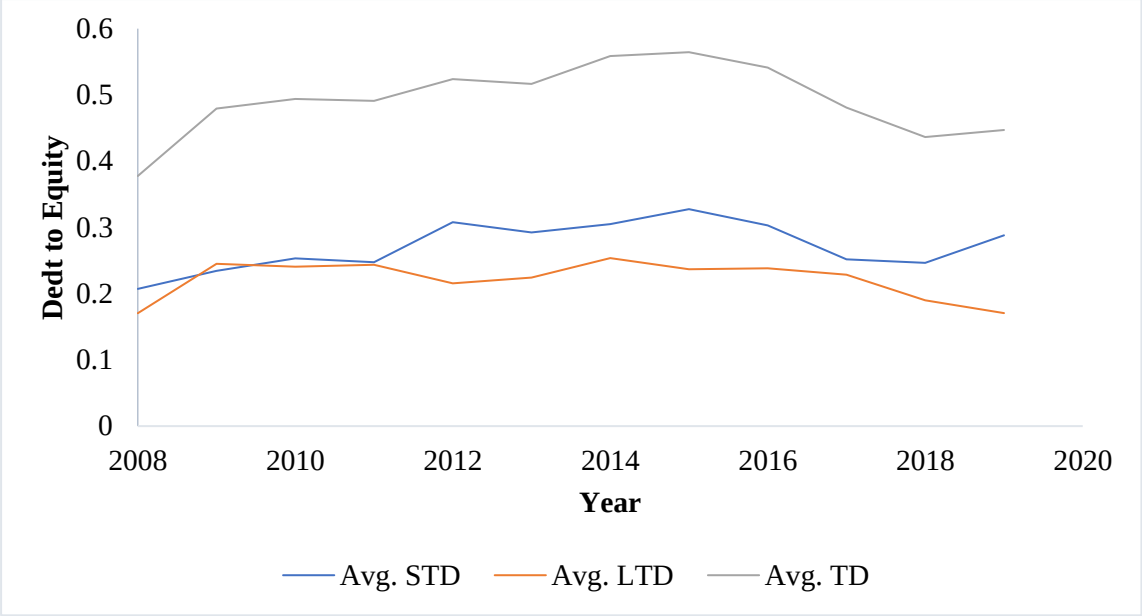


Figure 1: Capital Structure of the Non-Financial Sector Listed on the MSE

The introduction of the two profitability measures (in figure 2) used by the study to provide preliminary data analysis reveals no conclusive association between all three ratios and the two profitability measures. In the years 2014 to 2019, the ROA and the short-term debt ratio have a negative connection (as one increases, the other decreases), but this is not consistent with previous years. Both profitability ratios and overall debt ratios appear to have a more consistent inverse pattern.

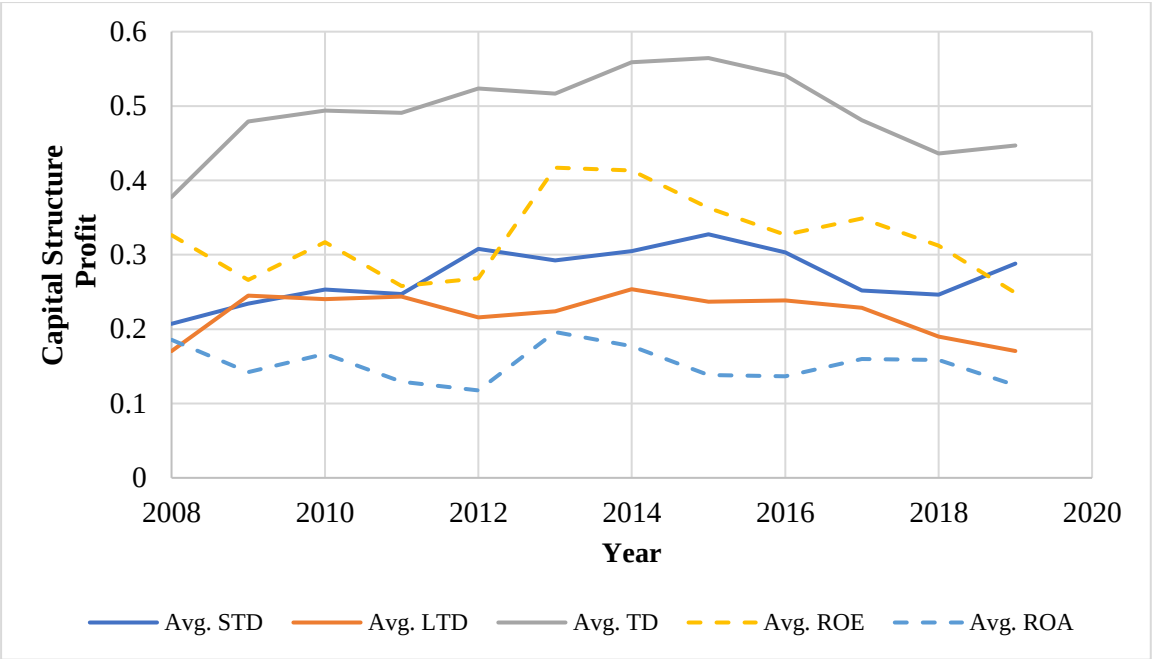


Figure 2: Capital Structure and Profitability of the Non-Financial Sector Listed on the MSE

1.2 Problem Statement

There is a gap in the financial literature available to managers on the Malawi stock exchange, specifically on how their financing decisions affect the performance of non-financial firms. This is in contrast to other emerging stock markets, which are conducting extensive research to help managers understand the consequences of their decisions.

Given the preceding context, it is critical to investigate the effects of firm capital structure on firm value (Profitability).Malawi, has a few studies on capital structure, and those that do exist are on other facets of the banking sector(Chimkono et al., 2016; Kaluwa & Chirwa, 2017; Lipunga, 2014), and not specifically on capital structure(Saddick et al., 2020), leaving a gap for the listed non-financial sector in Malawi, thus the study of the impact of capital structure on profitabilityof listed Non-Financial Institutionson the Malawi Stock Exchange. The studywill contribute to the

knowledge base of both managers and investors on financing decisions and its implication on profitability and consequently firm value maximization in Malawi.

1.3 Objectives of the Study

1.3.1 Main Objective

The main objective of this study is to examine the impact of capital structure on profitability of non-financial firms listed on the Malawi Stock Exchange.

1.3.2 Specific Objectives

Specifically, to find out the relationship between capital structure and profitability;

i. To determine the relationship between short-term debt to total assets and profitability.
ii. To establish the relationship between long-term debt to total assets and profitability.
iii. Toascertain out the relationship between total debt to total assets and profitability.

1.4 Testable Hypotheses

H_{01}: There is no positive between short-term debt to total assets and profitability.

H_{02}: There is no positive between long-term debt to total assets and profitability.

H_{03}: There is no positive between total debt to total assets and profitability

1.5 Significance of the Study

This research fills a gap in the literature by examining the impact of capital structure decisions on the profitability of listed non-financial institutions in Malawi. Unlike prior research, this paper investigated the use of contemporary panel data analytic approaches that strengthened the robustness of the results by accounting for small sample size. The findings will serve as a reference for managers, providing them with essential knowledge for patterning their financing decisions and their impact on profitability, as

well as determining their optimal level of capital structure to achieve the optimum level of firm profitability in order to meet the wealth maximization goal of firms. Furthermore, it will educate potential investors on how to analyze a company's capital structure and make informed investment decisions.

1.6 Organization of the Study

The following is how the paper is structured: The first chapter serves as an overview. That is the study's background, the problem statement and objectives, the hypotheses to be evaluated, and the study's significance. The second chapter is a literature review that includes both a theoretical and empirical review. The methodology is addressed in Chapter Three, which includes an econometric model of the relationship between capital structure and profitability of listed non-financial enterprises. Chapter Four addresses the empirical results; it interprets and discusses the econometric model and statistical tests. Finally, Chapter Five presents a review of the findings, policy implications, suggestions, study limitations, and future research directions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Review

Theories of capital structure can be thought of in two ways: first, as theories explaining capital structure has no effect (i.e., does not matter), second, as theories explaining capital structurehas an effect (i.e. positive or negative), and third, as theories explaining the existence of an optimal capital structure. The alternative strategy is to respond to unreasonable assumptions such as no taxes, uniform expectations, and no agency costs.

2.1.1 M and M Theory of "Capital Structure"

Proposition I

The Modigliani and Miller(1958)argumentwas that, no matter the mix of debt and equity in the firm's capital structure, there is no effect on the firm's market value, profitability and cost of capital. Hence, the capital structure decision is irrelevant in making shareholders richer or poorer (Myers & Majluf, 1984).This was illustrated by showing how shareholders are capable of lending or borrowing on the same terms as the firm, and can easily replicate the capital structure of the firm. In other words, what managers can do with financing decisions, shareholders can also achieve themselves. For instance, if a shareholder invests in a levered firm, he receives a certain pay-off from the levered firm. Alternatively, the shareholder could borrow from the bank and invest in an unlevered firm and the pay-off would be the same as from the levered

firm. MM argued that if these two alternative investment strategies will leave the shareholder with the same pay-off, managers will neither be creating nor destroying shareholders wealth by borrowing on their behalf because shareholders could do so themselves. This led MM to conclude that, the value of the unlevered firm is the same as the value of the levered firm.

Proposition II

Criticisms on the unrealistic assumptions lead to some adjustments. In 1963,the tax assumption of the MM theory was relaxed andthisresulted to a revised conclusion that debt financing is a relevant factor in determining firm's profitability and value. Company tax becomes a relevant variable to debt policy as interest payment on debt is tax deductible in many jurisdictions of the world. This reduces company tax or obligations to the government thus saving up more cash for the shareholders, hence increasing returns on equity (ROE) and value as a result of the tax advantage of debt leads (Addae et al., 2013). Assuming corporate tax is 25%, then every Kwacha of debt would add at least 25 tambala to the value of the firm. Therefore, debt is relevant to value once the tax benefit is recognized.

Financial Distress

A firmfacing financial difficulties,is said to be in financial distress. Bankruptcy, in principle occurs when assets equal the value of debt(Ross et al., 2008) or equivalently, equity has no value. Probability of financial distress and bankruptcy increases with increase in the level of debt. Excessive use of debt financing leads to a debt crisis, and the absence of timely corrective measures might see the firm go into bankruptcy. Contrary to interest payments tax savings, the present value of financial distress costs is a reduction in firm's value.

Bankruptcy costs can either be direct or indirect cost. Direct costs associated with bankruptcy may include legal fees, accountancy fees and administrative fees (Brealey et al., 2006). There are several knock-on effects of financial distress including; disposal of shares at low prices, increase in cost of debt (contrary to the debt is cheaper) as creditors demand high interest, suppliers tighten credit standards, and consistent with the Capital Asset Pricing Model (CAPM), the increased risk of bankruptcy increases the expected result of shareholders increasing the cost of equity consequently increasing WACC (weighted average cost of capital) (Ehrhardt & Brigham, 2016). The increase in risk is as a result of the transfer of ownership of the firm from shareholders to bond holder, who are only entitled to a residual after the debt holders have been paid (Ehrhardt & Brigham, 2016).

2.1.2 Trade off Theory

The theory emphases on the tax advantage of financial leverage, relaxing the assumption of no taxes. The tradeoff theory states that managers will take advantage of tax shield of additional debt until the marginal value of the interest tax benefits is equal to the marginal present value of possible costs of financial distress (Myers, 2001). It justifies moderate debt financing (Capital structure theories) while advancing a positive relationship between profitability and leverage. High debt-ratio (or more debt) implies more profit through the tax advantage until an optimal point is reached, further from which the costs outweigh the benefits, i.e. until the optimal choice is reached profitability can be increased through financing decisions (increasing debt) of managers and anything contrary is not wealth maximizing behavior. He further argues that firm managers that don't take advantage of tax shield resulting from debt don't pay attention to tax (Myers, 2001).

The tradeoff theory fails to account for the correlation between high profitability and low debt ratios although empirical studies on determinants of debt-ratio (Graham, 2000; Wald, 1999) show using the leverage regression that profits are negatively related to leverage. The literature (e.g., Myers, 1993; Fama and French, 2002) considers this to be a key rejection of the static trade-off theory.

2.1.3 Pecking order theory

Brealey, Myers, and Marcus (2009), pecking order theory, assumes value-maximizing mangers who seek shareholders best interest and prefers internally generated funds to external financing. If external debt is ever required, debt finance is preferred to equity finance. As per the name, there is an order of preference to sources of finances internally generated finance, and then externally generated finance with debt ranking before equity. Managers use this order or ranking in an attempt to preserve the value of the firm and more importantly to counter the wrong signals of issuing equity in the first place. Issuance of new shares is seen to be a disadvantage to old shareholders due to information asymmetry i.e., may send the wrong signals that can lead to a fall in firm value.

Potential new shareholders suspect the share overpricing and refuse to buy, when new shares are issued, thus bringing down the value of the shares(Brealey et al., 2006). Managers and investors have different understanding of profitability and future prospects of the firm. Investors interpret the issuing of new shares as a signal of overpricing by manager as compared to market prices(Ehrhardt & Brigham, 2016).This assumes that rational managers will not issue shares at a price less that value. Consequently, managers refuse to issue undervalued shares and use internal sources unless the value transfer from “old” to new shareholders is more than offset by the net present value of the growth opportunity. Managers are led to prioritize their source of

funds because of this signaling theory, to maximize profitability and value. Myers and Majluf (1984) maintain that firms would prefer internal sources to costly external finance. Thus, according to the pecking order hypothesis, firms that are profitable and generate high retained earnings are expected to use less debt capital than those that do not generate high earnings.

2.1.4 Agency cost (Principal-Agent theory)

This theory relaxes the assumption of homogenous interest of managers and shareholders and states that an optimal capital structure will be determined by minimizing the costs arising from conflicts between managers, employees, creditors and shareholders (Iqbal, 2012).Jensen and Meckling (1976)authors of the theory argue that agency costs results from the divergence of interest between shareholders and managers who do not have full ownership of the firm. Jensen (1986) proposes the adjustments in the capital structure to help mitigate agency costs. For instance, increase in debt reduces agency costs through the threat of liquidation (Grossman & Hart, 1986). Managers have to meet debt obligations or face financial distress, i.e. less cashflow to make wasteful decisions. Therefore, through a decline in agency costs, debt increases firm performance. However, leverage still poses a threat of financial distress and caution on excess debt remains(agency costs) which has a negative impact on performance(Berger & Di Patti, 2006).

2.2 Empirical Review

In Africa, like in the rest of the globe, regional and industry-specific studies on the impact of financing decisions on firm performance are inconclusive. Abor (2005) investigates the relationship between capital structure and profitability of Ghana Stock Exchange-listed firms, discovering a significantly positive relationship between the ratio of short-term debt to total assets and ROE and a significantly negative relationship

between the ratio of long-term debt to total assets and ROE. This study is a reference point in capital structure literature, as evidenced by the model's extensive use in literature, including this work, due to its simple but robust character, i.e. reflecting the various types of debt that enterprises utilize. Regression analysis was used to analyze the data of listed firms on the Ghana stock exchange from 1998-2002. The paper ignores concepts of profit persistence which is prevalent and hence estimates a static panel.

Despite the fact that it is the same stock exchange, Addae et al. (2013) discovered conflicting results in their analysis of the Ghana stock exchange from 2005 to 2009.The paper using regression analysis found out that capital structure, as measured by short-term debt, has a positive relationship with profitability but total debt and long-term debt ratios have an inverse relationship with profitability. The findings also found that Ghanaian listed enterprises rely on short-term debt rather than long-term debt i.e. the average short-term debt-to-total-capital ratio was 52%, while the long-term debt-to-total-capital ratio was 11%.

The results of studies on the western economies are likewise inconclusive. The outcomes of the two publications discussed here are fundamentally opposed. To begin, Fama and French (1998) use cross-sectional regressions to look at the relationship between a firm's worth, dividends, and debt. With a solid control for profitability, the regressions can evaluate how dividend and debt taxation influences business value. It was concluded that dividends and debt provide information about profitability (anticipated net cash flows) that other control variables do not. This profitability information obscures any tax consequences of financing decisions. In other words, excessive leverage creates agency issues among owners and creditors, predicting unfavorable correlations between leverage and profitability. As a result, negative

information about debt and profitability obscures the loan's tax advantage. The study does not exploit the analytical advantages of panel data analysis.

Gill et al. (2011) expanded on Abor's (2005) findings on the influence of capital structure on profitability by studying the effect of capital structure on profitability of American service and manufacturing firms, but finds contradictory conclusions to those of Fama and French (1998). For the three years 2005–2007, a sample of 272 American enterprises listed on the New York Stock Exchange was chosen. Correlation and regression studies were utilized to determine the functions linking to profitability (as defined by return on equity) and capital structure measurements. In the service industry, empirical findings reveal a positive association between short-term debt to total assets and profitability, as well as overall debt to total assets and profitability. The findings of this article also reveal that in the manufacturing industry, there is a positive association between short-term debt to total assets and profitability, long-term debt to total assets and profitability, and total debt to total assets and profitability.

Despite the fact that a number of articles have been published in other economies to better understand the nature of the relationship between capital structure and profitability in various sectors, Malawi literature exclusively addresses the banking sector. Saddick et al (2020) explored the impact of capital structure on bank profitability in Malawi using data from six banks from 2005 to 2016. They examined the impact of the debt equity ratio on bank profitability in Malawi. An estimation of a dynamic panel model of the relationship between capital structure and bank profitability using the Arellano and Bover General Method of Moments estimator was used. The debt equity ratio has a positive impact on ROE but has no effect on profitability as measured by ROA. The study uses a dynamic modeling not ideal for an unbalanced panel under consideration. Arellano requires that N be large; six banks over a period of 12 years is

in violation of this assumption. This paper will deal with the data problem by using more appropriate estimation models, i.e. the Bias corrected LSDV and Bias Corrected Fixed effects.

According to the corporate finance literature, the impact of financing decisions varies from one economy to the next i.e. depending on each country level characteristics (Velnampy & Niresh, 2012). As a result, this study adds to the pool of literature for Malawi by analyzing non-financial firms listed on the MSE, taking into account the dynamic nature of profitability while controlling for the nature of the data using appropriate estimation models given the small cross-section data.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter discusses the methods that will be used to achieve the objective of the study. It presents the conceptual framework, model specification and estimation. The chapter also describes the data and its source. Further, defines the variables and their expected impacts on profitability of listed non-financial institutions in Malawi. It finally presents the estimation technique and diagnostic tests that will be carried out.

3.2 Data Description

The study used panel data which consists of time series and cross-sections. The data for all the variables in the study were extracted from published financial statements of the listed non- financial firms in the Malawi covering the years 2009 to 2018.Data was sourced from financial reports issued annually to the public and is available on https://africanfinancials.com. Six listed non-financial institutions will be included in the study, Blantyre Hotels plc, Illovo Sugar Malawi plc, MPICO plc, Press Corporation plc, Sunbird Tourism plc and Telekom Networks Malawi plc.

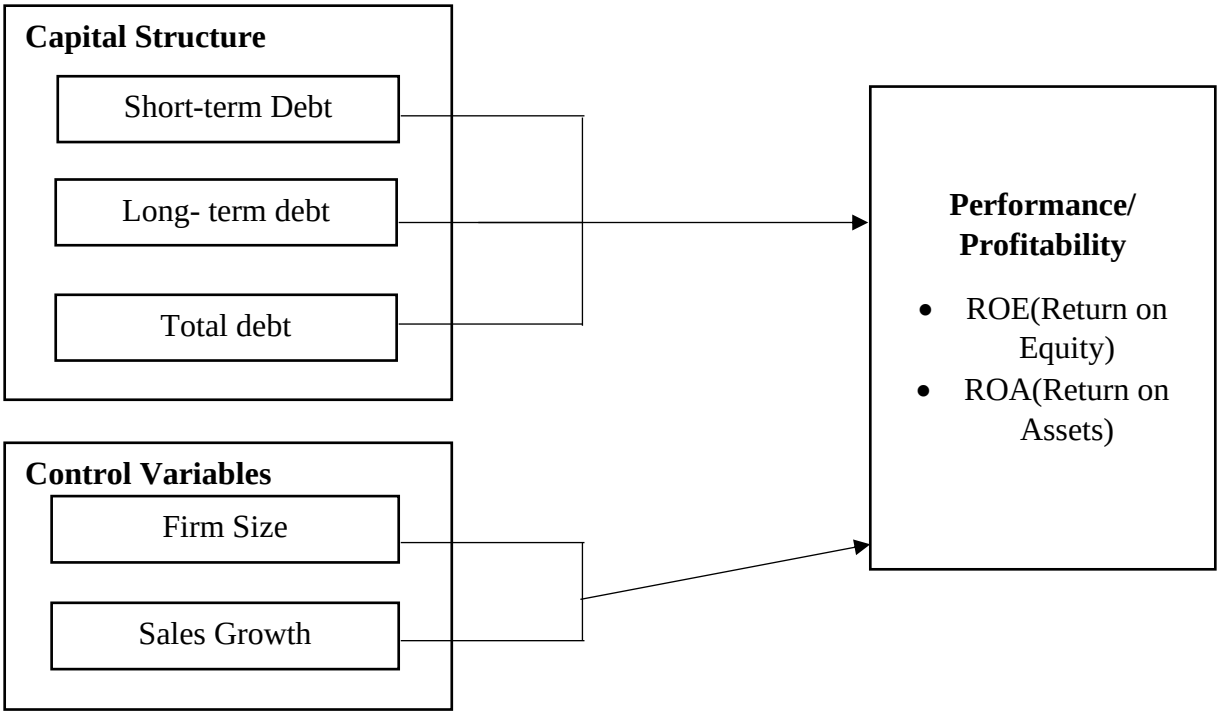
The financial sector was excluded from the study to remove anomalies associated with the highly regulated sector by the central bank prudential on issues of liquidity, asset and capital holding, and provision for bad debts among other factors (Santos,

2001).The financial leverage of financial companies is not comparable to those non-financial companies which is generally expected to have high debt-ratio(Mwangi et al., 2014).

3.3 Conceptual Framework

Figure 3further illustrates the conceptual framework that will be used to inform the study of the impact of capital structure on profitability of non-financial firms listed on the Malawi Stock Exchange. The trade-off theory explains how debt financing improves profitability through interest payment deductions from taxable income. There are various sorts of debt, but they can be divided into two categories: long-term debt and short-term debt. As a result, the variables indicating capital structure (finance decision) have been divided into three types of debt: short-term debt, long-term debt, and total debt.

Figure 3: Conceptual Framework



3.4 Model Specification

To remain consistent with previous studies (Gill et al. (2011)and Addae et al. (2013))this paper adopted Abor's(2005)proposed model. The general model is given as follows:

$$\pi_{it} = \alpha + \sum_{i=1}^{K} \beta_k X_{it}^k + \varepsilon_{it}$$

π_{it} is the profitability of firm i at time t, with $i = 1, \dots, N; t = 1, \dots, T$, α is a constant term, X_{it}^k are k explanatory variables and where$\varepsilon_{it} \sim \text{IIN}(0, \sigma_\varepsilon^2)$.

From the general model, the study will estimate the following equations:

$$ROE_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 SIZE_{it-1} + \beta_3 SG_{it} + \ddot{\varepsilon}_{it} \quad \text{(i)}$$

$$ROE_{it} = \beta_0 + \beta_1 LTD_{it} + \beta_2 SIZE_{it-1} + \beta_3 SG_{it} + \ddot{\varepsilon}_{it} \quad \text{(ii)}$$

$$ROE_{it} = \beta_0 + \beta_1 TD_{it} + \beta_2 SIZE_{it-1} + \beta_3 SG_{it} + \ddot{\varepsilon}_{it} \quad \text{(iii)}$$

$$ROA_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 SIZE_{it-1} + \beta_3 SG_{it} + \ddot{\varepsilon}_{it} \quad \text{(iv)}$$

$$ROA_{it} = \beta_0 + \beta_1 LTD_{it} + \beta_2 SIZE_{it-1} + \beta_3 SG_{it} + \ddot{\varepsilon}_{it} \quad \text{(v)}$$

$$ROA_{it} = \beta_0 + \beta_1 TD_{it} + \beta_2 SIZE_{it-1} + \beta_3 SG_{it} + \ddot{\varepsilon}_{it} \quad \text{(vi)}$$

$\boldsymbol{ROE_{it}}$ is EBIT (Earnings Before Interest and Tax divided) by equity for firm i in time t,

$\boldsymbol{ROA_{it}}$ is EBIT (Earnings Before Interest and Tax divided) by Total Assets for firm i in time t,

$\boldsymbol{STD_{it}}$ is short-term debt divided by total assets for firm i in time t

$\boldsymbol{LTD_{it}}$ is Long-term debt divided by total assets for firm i in time t

$\boldsymbol{TD_{it}}$ is total debt divided by total assets for firm i in time t

$\boldsymbol{SIZE_{it}}$is log of sales for firm i in time t

SG_{it} is Sales growth for firm i in time t

$\ddot{\varepsilon}_{it}$is the error term

$\beta_0$is the intercept

β_1, β_1 *and* $\beta_1$are the slope coefficients

Regressions (i) and (iv)will be used to predict the relationship between profitability and short-term debt,Regression (ii) and (v)will be used to predict the relationship between profitability and long-term debt andRegression (iii) and (vi) will be used to predict the relationship between profitability and total debt.

3.5Variable Definition, Measurement and Expected impact

This section will discuss the variables that will be used to carry out the experiment, how the will be measured and their expected impact.

3.5.1 Variable Definition and Measurement

Welch(2007)has brought into question the variables that are used to measure capital structure (leverage) in the Financial Economics literature. Though not rendering the previous work all useless, he questions their accuracy as the underlining goals of those measures are misrepresented. To avoid the same mistakes, a review of the variables that will be adopted in the paper will be discussed in this section,

Profitability Measures

Firms aim at wealth (firm value) maximization and, hence performance of financial decisions can be measured by looking at their impact on firm value. Two accounting-based measurements will be used to proxy the market values because of lack of availability of the market estimates and to avoid ambiguity resulting from uncertainty of the time period represented by market values. Two of the most commonly used

ratios, Return on Equity and Return on Assets, will be used as proxies for performance Abor (2005), Demstz and Lehn(1985), and Gorton and Rosen(1995).

Return on Equity (ROE)

ROE ratio measures the return on shareholder's investment (Brigham & Houston, 2009), it calculates manager effectiveness to generate extra earnings for shareholders (Tezel & McManus, 2003).ROE measures profit made from shareholders' investment, i.e. returns on money shareholders have invested. Traders use ROE to detect firms that have faster growth of total shareholder equity, resulting in growth of stock prices with shareholder wealth maximization (Rothschild, 2006). REO is equity capital profitability, measured as net income available to shareholders divided by equity(Bistrova et al., 2011).

Three component ratios make up the Return on equity(Önel & Gansuwan, 2012):

1. Profit Margin = Net income/ Sales; to reflect the operating success of a company
2. Asset Turnover = Sales/ Assets; to reflect the investing success of a company
3. Financial leverage = Assets/ Equity; to reflect the financing activities of a firm

ROE is given as a product of all three ratios:

$$ROE = \frac{Net\ Income}{Sales} * \frac{Sales}{Total\ Assets} * \frac{Total\ Assets}{Total\ Equity}$$

Therefore,

$$ROE = \frac{Net\ Income\ (EBIT)}{Total\ Equity}$$

Return on Asset (ROA)

It is an internal management ratio that evaluates a division's profitability, performance, and effectiveness by calculating profit against all assets needed to generate those earnings(Önel & Gansuwan, 2012).In other words, it measures the effectiveness of management in employing the resources available to it. It is an indicator of a firm's financial performance with respect to profitability and managerial efficiency, and therefore the higher the ratio, the higher is the profitability performance of a firm (Gibson 2013, and Bodie et al2009). Hence, it is also called a profitability or productivity ratio. Its relevance to the study stems from the fact that division managers are involved in financing decision i.e. mix of debt and equity (Kristy, 1984). ROA is given as a ratio of net income and total assets:

$$ROA = \frac{Net\ Income\ (EBIT)}{Total\ Assets}$$

Capital Structure Ratios

The most common debt ratio in literature is calculated as financial debt (i.e. summation oflong-term debt and current liabilities debt) divided by total assets. The financial debt-to-asset ratio isused as a leverage measure and the converse as the equity-to-assets ratio, with the increase in the ratio implying an increase in leverage. Some of the classic papers that have used this debt ratio include Graham (2003),Baker and Wurgler (2002), Shyam-Sunder and Myers (1999), and Rajan and Zingales (1995).

A simple analysis of the accounting equation reveals contrary interpretation of the financial debt-to-asset ratio.

$$Assets = Financial\ Debt + Non\_Financial\ Debt + Equity$$

$$\frac{Financial\ Debt}{Assets} = 1 - \frac{Non\_Financial\ Debt + Equity}{Assets}$$

To address this issue, Welch (2007) advocates merging both financial debt and non-financial debt, as these both constitute the firm's assets, just as financial debt and equity do. Ignoring non-financial debt in the debt measurement is misleading and only true if the non-financial debt is insignificant, which is usually not the case because non-financial debt accounts for a major portion of debt financing.

Three capital structure ratios will be used in this study to ensure that the different capital structure of all listed firms in Malawi are reflected properly in the study. Previous research including (Abor, 2005) shows that some firms can rely more on short term debt than long term debt. Some firms also do not use long term debt at all. So, in order to ensure that at least one leverage ratio could be calculated for each listed firm, the leverage ratios have been split in this way. It also means that for each firm that did not use long-term debt, total debt includes only short-term debt.

Short-term debt

Short-term debt to the total asset ratio- is taken as all items included in the current liability section of the listed company's financial statement

Long-term debt

Long-term debt to total asset ratio includes items listed as non-current liabilities

Total debt ratio

Total debt to total asset ratio is the addition of short-term and long-term debt. This measures the funds provided by sources other than equity

4.5.1.3 Control Variables

Control variables will be included to improve the accuracy of the results of the regression model. They are not the subject of this study but will only be included to

ensure that the results of the regression reflect the reality as much as possible and not biased, i.e. to reflect the fact that the level of EBIT of listed firms do not only depend on capital structure but also on size and level of sales. These control variables may not be explicitly considered in the analysis of results.

Log of sales

For the purpose of this study, size has been taken as that of the book value of total assets of the firm. The use of logarithm results in the real total assets because ofits ability to standardize values thus bringing them on the same platform for a more efficient analysis.

Sales Growth

Sales growth will be calculated as follows;

$$Sales\ Growth = \frac{Current\ year\ sales - Previous\ year\ sales}{Previous\ year\ sales}$$

3.5.1 Expected Impact

There is no consistent expectation in literature on the relationship between the capital structure and profitability, i.e. theory and empirical research all propose different relationships. But below is the prior expectation of the paper.

Table 2: Proxy variables and predicted relationship

Proxy Variables	Predicted Sign
Short- Term Debt ($\boldsymbol{STD_{it}}$)	+
Long- Term Debt ($\boldsymbol{LTD_{it}}$)	+
Total Debt ($\boldsymbol{TD_{it}}$)	+
Firm Size ($\boldsymbol{SIZE_{it}}$)	+
Sales Growth ($\boldsymbol{SG_{it}}$)	+

According to trade theory, debt financing is predicted to increase profitability due to the tax advantages of interest payments, hence this research anticipates that all capital structure ratios will be positive.

3.6 Estimation Technique

The study will adopt an explanatory non-experimental research design to analyse the effect of capital structure on profitability of non-financial companies listed on the MSE. The data will be analysed using descriptive statistics, and panel regression analysis. The use of the panel data methodology has certain benefits such as assuming that the firms are heterogeneous, more variability, less collinearity between variables, more informative data, more degrees of freedom and more efficient.

There are several ways for estimating any basic panel model. However, the most appropriate technique for estimating the basic model is determined by the structure of the error term's components as well as the correlation between the error term and the observed explanatory factors. When there are no firm specific or time effects, the basic pooling OLS is the best choice since it ignores the panel character of the data set and

regards observations as serially uncorrelated for a given firm with homoscedastic errors across individuals and time periods. (Johnston and DiNardo, 1997).

The Static Panel

Assuming profitability is not affected by its lagged values, a choice between random effects or fixed effects has to be made. It is recommended to justify considering individual fixed effects as derived from some distribution in order to limit the number of parameters to be calculated. The estimation of this distribution's parameters assumes that unobservable effects are included in the error term. The variance-covariance matrix of the non-spherical errors is thus adjusted to give consistent standard error estimates. In such cases, the random effects estimator is the most appropriate (Hsiao, 1989). Otherwise, inserting a dummy variable for each firm is appropriate, fixed effect, albeit it is less efficient.

However, due to the small sample size, the fixed effects model will be estimated instead of the random effects model because it uses OLS, which has known small sample properties.

The Dynamic Panel

In order to consider the possibility of previous year profit affecting current year profit, lagged variables of the dependent variables were introduced to allow for dynamic panel analysis. The standard GMM used for dynamic panel analysis cannot be used given the nature of the data. The features of IV and GMM estimators hold when N is large, they can be significantly biased and imprecise in panel data with a small number of cross-sectional units(Bruno, 2005).

Recent work has allowed for analysis of such nature of data in dynamic panel to be carried out. Two of these models were adopted in the paper for a robust conclusion of the analysis.

Bias Corrected LSDV Estimators

Bruno's (2005) model, which is based on the bias-correction of LSDV in dynamic panel-data models with strictly exogenous regressors, is gaining popularity in the econometric literature. It deals with the shortcomings of traditional dynamic panel estimation techniques, which demand a large N, resulting in biased and imprecise results in small samples (i.e. small N).

Nickell (1981) develops a formula for the inconsistency for $N \rightarrow +\infty$, which is O (T 1). Kiviet (1995) obtains a bias approximation with terms of greater order than T^{-1}. Kiviet (1999) develops a more accurate bias approximation. Bun and Kiviet (2003) rewrite Kiviet's (1999) approximation with simpler equations for each term. Bruno (2005) extends Bun and Kiviet's (2003) formulas to unbalanced panels with a purely exogenous selection rule. A broader version allows for missing data.

Bootstrap Corrected Fixed Effects (BCFE)

In dynamic panel data models, Everaert and Pozzi (2007) presented Bootstrap Corrected Fixed Effects (BCFE) estimation and inference, which estimates the specified model with the fixed effects estimator and corrects its small T bias (Nickell, 1981).It can also be used in higher-order (dependent variable with more than one lag) models with a non-standard error structure. Modifications to the model allow for the consideration of different heteroscedasticity and cross-sectional dependence patterns that would render typical correction approaches invalid.

The bootstrap-correction, like analytical corrections, aims to minimize the LSDV estimator's bias while keeping its higher efficiency than GMM estimators.

Everaert and Pozzi (2007)propose utilizing an iterative bootstrap technique to obtain a bias correction for the LSDV estimator. The aim is to start with the biased LSDV estimates and work your way through the parameter space until unbiased estimates of the true population parameters are found. If repeatedly producing data from these estimates yields average LSDV estimates that equal the original biased LSDV estimates, then these estimates are considered unbiased. An iterative bootstrap approach is used to perform a computational search over the parameter space.

3.7 Diagnostic Tests

The fixed effects model assumes cross sectional dependence, homoscedastic errors and no auto serial correction. The tests presented here were performed to assess the dependability of the results.

3.7.1 Pesaran Test

Pesaran test for cross-sectional dependence using the procedures demonstrated in Pesaran (2004). Pesaran's statistic is based on a standard normal distribution and can handle both balanced and unbalanced panels.

The assumption that the error components are independent across cross-sections is common in panel data models. This assumption is used more for identification than for descriptive accuracy. The LM test statistic established by Breusch and Pagan (1980) can be used to test for cross-sectional dependence in the case of large T and small N. Cross-sectional time-series data sets, on the other hand, are usually in the form of small T and large N. The Breusch-Pagan test is invalid in this circumstance.

$$H_0 : Cross - sectional\ Independence$$

$$H_1 : Cross - sectional\ dependence$$

3.7.2 Modified Wald test

Greene (2000, p. 598) recommends using a modified Wald statistic to detect groupwise heteroskedasticity in residuals from a fixed effect regression model. The fixed effects model is estimated under the assumption of homoskedasticity. In the case of pooled cross-section time-series data (or panel data), the most frequent deviation from homoscedastic errors is error variances particular to the cross-sectional unit.

$$H_0 : \sigma_i^2 = \sigma^2\ for\ all\ i = 1, N_g$$

$$H_1 : \sigma_i^2 \neq \sigma^2$$

where N_g is the number of cross-sectional units. The resulting test statistic is distributed Chi-squared(N_g) under the null hypothesis of homoskedasticity.

Greene's explanation of the Lagrange multiplier, likelihood ratio, and conventional Wald test statistics highlights the fact that these statistics are sensitive to the assumption of normality of the errors. When the condition of normality is violated, the modified Wald statistic derived here is still usable, at least in asymptotic terms. In terms of small sample qualities, simulations of the test statistic have revealed that its power in the context of fixed effects with "big N, small T" panels is quite low. In this case N<T.

3.7.3 Serial Autocorrelation Test

Wooldridge (2002) developed a serial correlation test for idiosyncratic errors in a linear panel-data model. Drukker (2003) provides simulation evidence that this test has appropriate size and power features when sample sizes are reasonable.

$$H_0: No\ auto\ serial\ correlation$$

The residuals from the regression of the first-differenced variables should have an autocorrelation of $-.5$ under the null of no serial. This indicates that the coefficient on the lagged residuals should be$-.5$ in a regression of the lagged residuals on the current residuals.

CHAPTER FOUR

EMPIRICAL RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the empirical estimation findings. The descriptive data are presented in the first section of this chapter, followed by the diagnostic tests performed in this study. The third section presents the empirical results of the fixed effects model, Least Square Dummy Variable bias correction and bootstrap fixed effects corrected estimate technique, and the fourth portion provides a summary of the chapter.

4.2 Descriptive Statistics

Table 3 shows that over the years, the mean of ROA and ROE are 15.5% and 32.7% respectively. This means that on average, listed firms on the MSE have earned profitability of 15.5% in terms of ROA and 32.7% in terms of ROE. The highest ROA over the period is 50.8% and ROE is 98.7% while the lowest ROA is 3% and 6.7% for ROE. ROE is above the average ROE in Africa of 22.07% as of 2017, measure by theglobaleconomy.com, an average of 47 countries. This means performance of investments on MSE are above average and should therefore be more attractive to investors, with no loss in investment experienced in the listed non-financial sector for the period under study.

In terms of capital structure, on average approximately 50% the total assets are financed by debt in the listed non-financial sector, with a larger percentage of 27.6% financed by short-term debt and 22.5% long-term debt. This is consistent with many non-financial firms whose debt to equity ratios are less dependent on debt as compared to the financial sector that heavily rely on debt(DeAngelo & Stulz, 2015).

Table 3: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
ROE	71	.327	.239	.067	.987
ROA	71	.155	.109	.03	.508
TD	71	.499	.137	.192	.716
LTD	71	.225	.118	.028	.493
STD	71	.276	.206	.017	.668
SG 1	70	.184	.34	-.969	1.192
Size	71	9.667	1.589	6.627	12.302

4.3 Diagnostic Tests

The results of the diagnostic tests are presented in this section for the Static panel data models. The model column shows the profitability and capital structure being used in the model being tested. The decisions are based on the 5% critical level.

4.3.1 Pesaran test results

The Pesaran test of cross-sectional independence results are shown in Table 4. Except for the model ROA employing total debt as a measure of capital structure, the results indicate a lack of cross-sectional dependence at the 5% significance level. This is not a cause for concern because, as previously stated, this assumption is used more for identification than for descriptive accuracy.

$$H_0 : Cross - sectional\ Independence$$

Table 4: Pesaran test results for ROE and ROA models

Model		Probability	Decision
ROE: TD	-1.739	0.0821	Fail to the Null Hypothesis
ROE: LTD	-1.689	0.0912	Fail to the Null Hypothesis
ROE: STD	-1.529	0.1262	Fail to the Null Hypothesis
ROA: TD	-2.061	0.0393	Reject the Null Hypothesis
ROA: LTD	-1.713	0.0867	Fail to the Null Hypothesis
ROA: STD	-1.548	0.1216	Fail to the Null Hypothesis

4.3.2 Modified Wald test results

The results in table 5 show the presence of heteroscedastic errors at the 5% level of significance. Because of the limited number of cross-sections that the calculation of robust standard errors strongly dependent on, the study will not use robust standard error to generate HAC consistent standard error.

$$H_0 : Homoscedasticity$$

Table 5: Modified Wald test results for ROE and ROA models

Model		Probability	Decision
ROE: TD	36.79	0.0000	Reject the Null Hypothesis
ROE: LTD	40.02	0.0000	Reject the Null Hypothesis
ROE: STD	49.10	0.0000	Reject the Null Hypothesis
ROA: TD	19.85	0.0029	Reject the Null Hypothesis
ROA: LTD	57.54	0.0000	Reject the Null Hypothesis
ROA: STD	38.70	0.0000	Reject the Null Hypothesis

4.3.3 Serial Autocorrelation test results

At 5%, serial autocorrelation appears in all of the models, as seen in table 6. As a result, the fixed effects model findings will not exhibit HAC consistent standard errors, as evidenced by the test for homoscedasticity.

$$H_0 : No\ First - order\ autocorrelation$$

Table 6: Serial Autocorrelation test results for ROE and ROA models

Model		Probability	Decision
ROE: TD	211.246	0.0000	Reject the Null Hypothesis
ROE: LTD	554.862	0.0000	Reject the Null Hypothesis
ROE: STD	414.986	0.0000	Reject the Null Hypothesis
ROA: TD	19.984	0.0066	Reject the Null Hypothesis
ROA: LTD	9.806	0.0259	Reject the Null Hypothesis
ROA: STD	27.905	0.0032	Reject the Null Hypothesis

4.4 Static Panel Estimation Results

Despite the failure in the diagnostic tests, the results will be interpreted with caution. The use of robust standard errors,which heavily depend on clusters, was not adopted given the sample number of firms (i.e. 6). Table 6 presents the findings of the static panel both for the ROE and ROA models.

The results imply no significant effect of capital structure herein captured by long-term debt, short-debt and total debt ratios on ROE as a measure of profitability. The control variables are significant and have positive signs as expected. A unit increase in sales growth and size will result in a 0.279 and 0.368 average increase in profitability as measure by ROE, respectively.

Table 7: Fixed Effect Model Results for both ROE and ROA

Variables	(1) ROE	(2) ROE	(3) ROE	(4) ROA	(5) ROA	(6) ROA
TD	-0.214			-0.372***		
	(0.215)			(0.104)		
LTD		-0.133			-0.179	
		(0.226)			(0.119)	
STD			-0.123			-0.346**
			(0.290)			(0.148)
SG_1	0.280***	0.283***	0.275***	0.157***	0.159***	0.144***
	(0.0697)	(0.0705)	(0.0707)	(0.0335)	(0.0373)	(0.0361)
L.Size	0.362***	0.368***	0.374***	0.185***	0.199***	0.204***

	(0.0880)	(0.0884)	(0.0877)	(0.0424)	(0.0467)	(0.0448)
Constant	-3.467***	-3.610***	-3.658***	-1.655***	-1.946***	-1.922***
	(0.950)	(0.940)	(0.935)	(0.458)	(0.497)	(0.477)
Observations	65	65	65	65	65	65
R-squared	0.494	0.487	0.485	0.561	0.464	0.497
Number of idfirm	6	6	6	6	6	6

Note: Standard errors in parentheses **Levels of significance**: *** p<0.01, ** p<0.05, * p<0.1

The case changes when we consider ROA as a measure of profitability, as the total debt and short-term debt ratio both have a negative significant influence on profitability. A unit increase in the total-debt ratio leading to a 0.372 decrease in profitability and 0.346 decrease as a result of a unit increase in the short-term debt ratio.Short-term debt is significant at 5%.The control variables are also significant for the ROA model, resulting in an average increase in profitability of 0.153 and 0.196 from a unit increase in sales growth and size, respectively.

4.5 Dynamic Panel Estimation Results

The paper now presents the findings of the dynamic panel analysis, beginning with the ROE model and ending with the ROA model. For robustness, the models were estimated using both the bias corrected LSDV and BCFE.

ROE

The results from table 8indicate that the coefficient on the one year lagged values of ROE is positive and significant at 1% significance level. The coefficient is 0.841 and 0.772 on average for LSDVC and BCFE respectively which are both between 0 and 1. This implies that profitability in terms of ROE in the listed non-financial sector in Malawi is persistent, contrary to the banking sector as found by Saddick et al (2020). A value between 0 and 1 indicates that profits are persistent but will eventually return to normal (average) levels. The previous year's return on equity has a positive influence on the current year's ROE.

Table 8: LSDVC and BCFE results for ROE models

Variables	**LSDVC**			**BCFE**		
	(1)	(2)	(3)	(4)	(5)	(6)
L.ROE	0.842***	0.832***	0.850***	0.776***	0.762***	0.777***
	(0.115)	(0.116)	(0.122)	(0.0978)	(0.0856)	(0.0812)
TD	-0.238			-0.151		
	(0.163)			(0.248)		
LTD		-0.163			-0.105	
		(0.190)			(0.222)	
STD			-0.155			-0.122
			(0.234)			(0.195)
SG_1	0.141***	0.145***	0.133**	0.165**	0.165**	0.158**
	(0.0528)	(0.0530)	(0.0529)	(0.0678)	(0.0619)	(0.0677)
LSize	-0.0298	-0.0172	-0.0170	0.0434	0.0445	0.0485
	(0.0771)	(0.0799)	(0.0793)	(0.0531)	(0.0500)	(0.0448)
Observations	65	65	65	65	65	65
Number of idfirm	6	6	6	6	6	6

Note: Standard errors in parentheses **Levels of significance**: *** p<0.01, ** p<0.05, * p<0.1

The results for both estimations show no significant influence of capital structure on profitability as measure by ROE. This is consistent with Modigliani and Miller's proposition I, which states that capital structure has no impact on firm's performance. With the dynamic panel, only sale growth has significantly positive impact on profitability. In models (1) and (2) sales growth is significant at 1% and at 5% for the

other model. A unit increase will result into an average increase of 0.14 and 0.163 in profitability as estimated by bias corrected LSDV and BCFE estimations respectively.

This is different to the results found by Saddick et al (2020) for the banking sector in Malawi where the results found a positive relationship between capital structure and ROE. Abor (2005) also found significant relationships between the debt ratios and profitability.

ROA

The results from table 9 indicate that the coefficient on the one year lagged values of ROA is positive and significant at 1% significance level. The coefficient is 0.718 and 0.625 on average for LSDVC and BCFE respectively which are both between 0 and 1. Therefore, profitability (i.e. measured by both ROA and ROE) of listed non-financial firms on the Malawi Stock Exchange is persistent.

Table 9: LSDVC and BCFE results for ROA results

Variables	LSDVC			BCFE		
	(1)	(2)	(3)	(4)	(5)	(6)
L.ROA	0.657***	0.748***	0.750***	0.573***	0.653***	0.648***
	(0.125)	(0.124)	(0.135)	(0.0843)	(0.0783)	(0.0709)
TD	-0.249***			-0.241**		
	(0.0907)			(0.114)		
LTD		-0.0935			-0.0839	
	(0.110)			(0.0805)		
STD			-0.267**			-0.265**
SG_1	0.114***	0.108***	0.0984***	0.108***	0.108***	0.0989**
		(0.134)			(0.107)	0.0989**
	(0.0300)	(0.0321)	(0.0315)	(0.0402)	(0.0394)	(0.0407)
LSize	0.0456	0.0405	0.0400	0.0606**	0.0610*	0.0633*
	(0.0406)	(0.0441)	(0.0427)	(0.0232)	(0.0319)	(0.0315)
Observations	65	65	65	65	65	65
Number of idfirm	6	6	6	6	6	6

Note: Standard errors in parentheses **Levels of significance**: *** p<0.01, ** p<0.05, * p<0.1

ROA models give different results from ROE just as in the static panel. Total debt and short-debt are again significant in both dynamic panel data estimations. The negative impact of both total debt and short-term debt is consistent with the expected signs highlighted earlier. Capital structure, measured by total debt ratio, is significant at 1%

and 5% for bias corrected LSDV and BCFE respectively. A unit increase in the total-debt ratio will result in a 0.245 decrease in profitability on average. Short-term debt ratio is significant at 5% and its unit increase will result in a 0.266 decrease in profitability. This might be as a result of relatively more expensive cost of debt, and therefore employing high proportions of them could lead to low profitability. The results support earlier findings by Fama and French (1998), Graham (2000) and Mesquita and Lara (2003).

According to Abor (2005), the segmentation of capital structure into long-term, short-term, and total debt provides more information about business financing decisions. The impact of short-term debt on profitability is significant. This is due to Africa's high reliance on short-term debt. Long-term debt may be insignificant due to its lower usage as a result of its relatively higher cost as compared to short-term debt.

Sales growth is significant in both estimations at 1% except for model 6 at 5%. Its unit increase will result in a 0.107 and 0.105 increase in profitability on average as estimated by bias corrected LSDVC and BCFE respectively. Size is insignificant in the bias corrected LSDV but significant in the BCFE at 5% for model 4 and 10% for models 5 and 6. A unit increase in size will result in a 0.062 increase on average in profitability.

CHAPTER FIVE

CONCLUSIONS AND POLICY IMPLICATIONS

5.1 Introduction

This chapter summarizes the research findings and draws conclusions .It also discusses the findings' policy implications and ideas for future investigation.

5.2 Discussion of Results

The main objective of this study was to examine the impact of capital structure on profitability of non-financial firms listed on the Malawi Stock Exchange. Specifically, to find out the relationship between capital structure and profitability. Using data from six listed non-financial institutions from 2008 to 2019, the study estimated a dynamic panel model of the relationship between capital structure and profitability using biased corrected LSDV and bootstrap corrected fixed effects. The study used Abor's model, which is widely used in the literature for decomposing capital structure into total debt, long-term debt, and short-term debt. These variables measuring capital structure were employed, as well as two secondary control variables: size and sales growth.

After investigating the effects of debt equity ratios on the profitability of listed non-financial institutions in Malawi, the study discovered that total debt and short-term ratios have a negative impact on profitability as measured by return on assets (ROA), but have no significant relationship with return on equity (ROE).This suggests that

debt in the non-financial sector of Malawi's listed companies has no influence on ROE but has a negative impact on ROA.

The capital structure irrelevance theory advanced by Modigliani and Miller proposition I supports the findings on ROE According to Graham (2000), large firms tend to rely less on debt, which is consistent with the pecking order theory, resulting in an inverse relationship between leverage and profitability. This is consistent with the findings on ROA, which contradict the findings of Saddick et al. (2020). in the banking sector. The banking sector benefits from low-cost debt obtained from deposits, allowing it to maximize debt financing benefits. Saddick et al. (2020) point out that bank debt in Malawi, like in most African countries, is primarily made up of deposits. Deposits cost relatively less and send no negative signals to the market.

In terms of empirical findings, these conclusions are similar with those found in Africa, which explain the negative link between specific types of debt and relatively high price, such studies include Abor(2005), Addae et al., 2013,Fama and French (1998), Graham (2000) and Mesquita and Lara (2003).This is due to Malawi's relatively high borrowing costs, which make it difficult for listed non-financial businesses to profit from debt financing.

According to the research, Malawi's listed non-financial sector debt has a negative relationship as measured by ROA but no effect as measured by ROE. As a result, financial managers should look for alternative sources of funding, as debt financing may not always be profitable. Managers should instead aim to invest in high-payoff (positive NPV) initiatives that will offset the negative consequences of debt financing. The study has contributed to the literature by demonstrating that debt lowers profitability in the Malawi stock exchange's listed non-financial sector.

5.3 Policy Implications

According to the findings, total debt and short-term debt ratio have a negative effect on profitability (ROA) among non-financial firms listed on the MSE. This implies that firms in Malawi can maximize their profits by utilizing other sources of financing, such as internal sources, as indicated by the pecking order. Above-average returns on the Malawi stock exchange indicate that firms have access to reserves and should choose to fund projects internally rather than relying on high-interest-bearing loans. The negative impact of debt on profitability is caused by disproportionately high debt financing costs.

In order for interest-bearing debt to contribute positively to profitability, interest rates should be lower in order to reduce borrowing costs. Government monetary policy may contribute to this; however, the availability of alternative funding may decrease the pressure on the government to alter its monetary position. This is true for large businesses that generate enormous profits because they may internalize a portion of those returns as reserves.

Smaller enterprises will continue to rely primarily on external sources, necessitating the need for an effective stock exchange that allows smaller firms to raise financing. According to the findings, more equity financing will result in higher profits, i.e., the inverse of total debt to total assets is equity to total assets. This means that increased share capital will result in higher profits (ROA).As a result, the government's involvement would be deliberate policy to enhance stock market participation as well as ease regulations on enterprises joining the MSE.

Managers must exercise prudence when utilizing excessive debt because it erodes the firm's worth and has a negative impact on shareholder value. Investors, on the other

hand, should be wary of companies that rely heavily on debt to finance their assets, as high interest rates reduce the gains that would otherwise be achieved from alternative financing.

5.4 Limitations of the Study

The study's main challenge was a lack of data access. We were unable to obtain some data that could have improved this study. The sample period and size were primarily determined by data availability. More data access can increase the sample size, allowing for modifications to estimation techniques, particularly under static panel, resulting in more robust results. To tackle the data constraint, the sample data was retrieved from financial records, and an appropriate estimation technique was applied to account for the small sample size.

5.5 Areas of Further Study

The paper did not cover the entire gap in capital structure analysis on the Malawi stock exchange. An analysis of all listed firms on the stock exchange, as well as revisions to the banking sector study using a more appropriate estimation technique given the sample size, remain areas that require significant attention.

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