



What Factors Influence the Profitability of Firms in Malawi? Evidence from the Non-Financial Firms Listed on the Malawi Stock Exchange

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ABSTRACT

For firms listed on the stock market, profit is crucial as it ensures the efficient allocation of scarce resources, and leads to the increase in the price of shares. The purpose of this study was to identify the drivers of profitability for the non-financial firms listed on the Malawi Stock Exchange (MSE). Previous studies have only focused on commercial banks without considering the determinants of profitability of non-financial firms. This study, therefore, adds to the literature by analyzing the drivers of profitability for non-financial firms listed on the MSE. It employs the panel data method, particularly, the Random Effects model (REM) using quantitative data collected from the financial statements of six non-financial firms listed on the MSE from the period 2014-2018. Regression results indicate that taxation and asset tangibility are the negative determinants of profitability on the MSE while non-tax debt shield (NDTS) and interest rate coverage ratio are positive determinants of profitability. The general policy implication arising from this study is that in order to make more profits managers of the firms should focus on increasing NDTS and interest coverage ratio, having more liquid assets than tangible ones, and reducing the corporate tax charged to firms.

Keywords: Liquidity, Non-Financial Firms, Interest Coverage Ratio, Non-Tax Debt Shield, Leverage, Profitability

JEL Classifications: G0, General; G3, Corporate Finance and Governance

1. INTRODUCTION

Traditionally, economists assume that the main goal of firms is to maximize profit. This behavioral assumption is based on the neoclassical theory of the firm, which posits the firm as a profit-maximizing “black box” that transforms inputs into outputs for sale in the market. Thus, profit is considered the engine of maximum production and efficient resource allocation in pure capitalism (Webster, 2003), and is, therefore, the most sought-after thing among investors, managers of business firms, and government policymakers. This is the case because the existence of profit opportunities represents an important signaling mechanism for the dynamic allocation of society’s scarce productive resources. For

example, rising profits in certain industries signify that the society prefers output produced by those industries. This signals existing firms to expand production and it attracts new firms to enter the industry. On the other hand, declining profits signal producers that society wants less of that particular good or service, thereby presenting existing firms with an incentive to reduce production or exit the industry entirely.

With regards to the stock market, increased profits of listed firms can cause the stock price to rise as investors feel more confident about the firms’ future thereby making demand for the stock increase (Mishkin, 2004). The increase in the demand for stocks leads to an increase in the issuance of dividends and stock

buybacks. This means that an increase in profits attracts more people to invest in the stock market. On the other hand, if firms listed on the stock market are making losses, the price of shares also falls. The fall in the price of shares makes shareholders sell their shares and exit the stock market. Furthermore, the exit of firms from the stock market leads to the reduction of investment and consumption in the economy thereby leading to a decrease in economic activity. Consequently, the decline in economic activity, negatively, affects employment levels as well as economic growth in the economy (Mishkin, 2004). This clearly shows that profit is important for the well-functioning of an economy, and it explains why government policymakers, just like investors on the stock market, are concerned with the profitability of business firms.

2. BACKGROUND

The Malawi Stock Exchange (MSE) was inaugurated in March 1995 and opened for business for the first time on 11 November 1996¹. However, contrary to the expectations of many, the MSE has grown relatively slowly, due to the sporadic and unsustainable macroeconomic stability, the deterioration in economic infrastructure, and stagnation in economic diversification, which have made the economy slow in creating wealth (Chuka, 2016). Table 1 presents the non-financial firms listed on the MSE as of December 2018.

As shown in Table 1, there were only six non-financial companies listed on the MSE at the time data for the study was being collected.

Literature suggests that one of the benefits associated with investing in the stock market is that firms earn dividends which are a distribution of part of the company's net profits to shareholders (Mishkin, 2004). It, therefore, follows that the profitability of the listed firms is crucial as it is a prerequisite for investors to earn large dividends. Hence, profitability has become a very important aspect that most firms focus on for their survival. Additionally, profitability has become a very important tool employed by outsiders such as lenders, investors, and sellers to measure the effectiveness and efficiency of a firm's management team. For instance, firms that make huge profits are construed to have effective and efficient managers while those that make huge losses are considered to have ineffective and inefficient managers. Thus, investors typically look at the historic profitability of a firm as a reflection of management's ability to perform in the future.

The foregoing indicates that profitability is very important, hence, it is necessary to find the drivers of profitability of firms listed on the stock market. Nevertheless, despite the importance of profitability both to firms as well as the economy, there is scanty information on the determinants of profitability of non-financial firms listed on the MSE. It is only Chirwa (1999) and Lipunga (2014) who looked at the determinants of profitability of Commercial Banks in Malawi. However, these studies did not include non-financial firms so much so little is known about what

Table 1: Non-financial firms listed on the Malawi stock exchange as of December 2018

	Firm
1	Illovo Sugar Malawi
2	Telekom Networks Malawi
3	Malawi Investment Property Company
4	Sunbird Hotels
5	National Insurance Company (NICO)
6	Press Corporation

Source: Authors compilation of data from the Malawi Stock Exchange

drives the profitability of the non-financial firms listed on the MSE. This study, therefore, specifically focuses on the determinants of profitability of the non-financial firms listed on the MSE. It addresses the following questions: (1) what factors positively influence the profitability of non-financial firms listed on MSE? (2) what factors negatively influence the profitability of non-financial firms listed on the MSE?

According to Salawu et al. (2008), most of the available shreds of evidence of determinants of profitability of listed firms are from the developed stock markets in developed countries. This makes information about the determinants of profitability of listed firms from the underdeveloped stock markets in developing countries scanty. This study contributes to the existing literature by examining the drivers of profitability of non-financial firms listed on the MSE, which is an undeveloped stock market. The findings of this study provide useful insights to policymakers on how to raise the profitability of firms in Malawi and contribute toward employment generation and economic growth of Malawi.

3. MATERIALS AND METHODS

3.1. Theoretical Framework

The analysis of the drivers of profitability of firms listed on the MSE is based on two theories namely, the risk and uncertainty² theory of profit and the managerial efficiency theory of profit. Propounded by Knight (1951), the risk and uncertainty bearing theory of profit posits that profit is a necessary reward of the entrepreneur for bearing risk and uncertainty in a changing economy. Some of the causes of the uncertainty include: (1) changes in tastes and fashions of people, (2) changes in government policies and laws, particularly taxation, wage and labour policies and laws, (3) changes in people's income and, (4) changes in production technology (Knight, 1951). Thus, profit is a reward for bearing risk and uncertainty. Furthermore, the theory posits that there is a positive relationship between risk and profit so much so that the higher the risk, the greater the possibility of making profit. On the other hand, the smaller the risk, the lower the probability of making profit.

However, the risk and uncertainty bearing theory of profit has been criticized on the grounds that risk and uncertainty of business are not the sole determinants of profit, rather, there are many factors,

¹ The MSE requires that listed companies should prepare their financial statements in line with the provisions of the International Financial Reporting Standards (IFRS).

² Risk refers to the situation where probabilities of the occurrence of an event are known while uncertainty refers situation where probabilities of the occurrence of an event are unknown to the decision maker (Knight, 1951).

chief among them the managerial skill, that have an influence on a firm's profits. This brings forth the managerial efficiency theory of profit. According to the managerial efficiency theory of profit, some firms are more efficient than others in terms of management of productive operations and successfully meeting customers' needs. Therefore, supernormal profit is compensation to firms that have higher managerial skills and production efficiency. On the other hand, firms with lower managerial skills and production inefficiency are compensated with economic losses. Thus, according to the managerial efficiency theory, the firm's ability to extract supernormal profits, in the long run, emanates from being a least-cost producer. This implies that a firm is able to generate high profits by staying ahead of the competition by adopting the most efficient methods of production and management techniques (Webster, 2003).

3.2. Empirical Literature Review

There have been several studies on the determinants of profitability of firms most of which have found different and conflicting results. For example, according to Prasetyantoko and Parmono (2008) key factors that determined the profitability of Indonesian companies listed on the Jakarta Stock Exchange were firm size, and ownership factor. In particular, firm size positively affected the profitability of firms whereas foreign ownership of firms had a bigger effect on firm performance than domestically-owned firms. On the other hand, Liuspita and Purwanto (2019) found that the positive determinants of profitability of food and beverages companies listed on the Indonesian Stock Exchange were company size, company's age, the company's lagged profitability, company's growth, and company's productivity. Similarly, Al-Jafari and Al Samman (2015) found that the positive determinants of profitability of industrial companies listed on the Muscat Securities Market were firm size, growth, fixed assets, and working capital. On the other hand, the study found that there is a negative relationship between profitability and financial leverage.

Ajayi and Zahiruddin (2016) found that for non-financial firms listed on the Nigerian Stock Exchange (NSE) for the period 2010 to 2014, assets tangibility had a positive association with the firms' financial performance as measured by Tobin's Q. This finding is similar to the findings by Kamran et al. (2017) and Cuong et al. (2018) who found that asset tangibility has a positive effect on the financial performance of listed financial firms in Pakistan and the construction-material firms listed on the Vietnam Stock Market, respectively. It is, however, different from Mehmet and Mehmet (2018) and Kristina and Dejan (2017) who found that asset tangibility had a negative effect on the profitability of energy firms listed on the Borsa Istanbul Stock Exchange and on agricultural firms in Hungary and Romania, respectively.

Furthermore, according to Vuong (2017) assets tangibility had a significantly negative impact on the financial performance, as measured by Return on Assets (ROA) and Return on Equity (ROE), of 58 real estate firms listed on the Vietnamese Stock Exchange. On the other hand, Al-Jafari and Al-Samman (2015) found that asset tangibility had a positive influence on the profitability of 17 industrial firms listed on the Muscat Securities Market for the period 2006 to 2013.

3.3. Data and their Sources

As noted from the literature review, there are several factors that have a bearing on the profitability of firms. However, this study concentrated on six factors namely; liquidity, leverage, taxation, non-debt tax shield (NDTS), interest coverage ratio³, and tangibility of assets. These variables have been included in various studies such as Liuspita and Purwanto (2019) and Al-Jafari and Al Samman (2015). The variables are defined and calculated as indicated in Table 2.

This study has used balanced panel data collected from the financial statements of six non-financial companies listed on the Malawi Stock Exchange (MSE) (Table 2). The financial statements were available on the websites of the companies for the period 2014 to 2018. The preparation of the financial statements was in accordance with the International Financial Reporting Standards (IFRS) as per the requirements of the MSE.

3.4. Estimation Methods

To find the determinants of profitability of non-financial firms listed on MSE this study employed panel data. Panel data were chosen because, even though they are not a panacea to all problems that a time series or cross-section study could not handle, it has some advantages over cross section or time series data. For example, panel data give more informative data, more variability, less collinearity among variables, more degrees of freedom, and more efficiency owing to the combining of time series observations with cross-section observations (Baltagi, 2005). This, therefore, produces more reliable parameter estimates. Panel data can also better detect and measure effects that are simply not detectable in pure cross-section or pure time-series data. Furthermore, panel data are able to control for individual heterogeneity so that the results obtained are not biased (Baltagi, 2005).

There are two models that are used in panel data regression analysis namely, the fixed effects model (FEM) and the random effects model (REM). These models differ in terms of the assumptions they place on the regression equations. For instance, FEM assumes that the intercept for each individual observation is time-invariant and that the slope coefficients of the regressors do not vary across individuals or over time. The weakness of the FEM, however, is that despite being straightforward to apply in modeling, it can be expensive in terms of degrees of freedom if there are several cross-sectional units (Gujarati, 2004).

On the other hand, the REM assumes that the intercept of each individual observation is time variant while the slope coefficients of the regressors could be varying across individuals or overtime or not (Baltagi, 2005). After conducting *Hausman test*, the study settled for the REM. As such, using the variables in Table 2, the following REM model was estimated:

$$PROFIT_{it} = \beta_1 + \beta_2 LIQ_{it} + \beta_3 LEV_{it} + \beta_4 TAX_{it} + \beta_5 INTEREST_{it} + \beta_6 NDTS_{it} + \beta_6 ASSETT_{it} + \omega_{it} \quad (1)$$

³ Generally, the lower the interest coverage ratio, the higher the company's debt burden and the higher the possibility of bankruptcy or default. Conversely, a higher interest coverage ratio signals a lower possibility of bankruptcy or default.

Table 2: Definition of the variables used in the study

No	Variable	Definition
1	Profitability (PROFIT)	Based on the Return on Assets (ROA). It is calculated as profit before interest and tax (PBIT) divided by total assets.
2	Liquidity (LIQ)	Based on the current ratio. It is calculated as current assets divided by current liabilities.
3	Interest Coverage Ratio (INTEREST)	It is calculated as earnings before interest and taxes (EBIT) divided by interest expense. It is used to measure a firm's ability to pay interest (Ross et al., 2003).
4	Leverage (LEV)	Calculated as total debt as a percentage of total debt and equity. It shows the extent to which a firm might rely on debt financing (Ross et al., 2003).
5	Taxation (TAX)	Tax as a percentage of profit or earnings before taxation.
6	Non-debt tax shield (NDTS) ⁴	Given as depreciation as a percentage of total assets. In NDTS, government provides incentives for firms to increase their competitiveness.
7	Asset Tangibility (ASSETT)	The ratio of fixed assets to total assets

Where: β_1 is the intercept,

$\beta_2-\beta_6$ are slope coefficients to be estimated,

ω_{it} is the composite error term. It consists of two components, individual specific error (ε_{it}), and the combined time series and cross-section error component, μ_{it} .

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Descriptive statistics of the variables that have been used in the study are presented in Table 3.

As seen in Table 3, interest coverage ratio has the highest overall mean while NDTS has the lowest overall mean. Again, interest coverage ratio has the highest overall standard deviation while NDTS has the lowest standard deviation. Also, of all variables used in the study, leverage has the lowest minimum value while interest coverage ratio has the highest maximum value.

Table 4 presents the pairwise correlation coefficients for variables used in the study.

As shown in Table 4, the positively correlated variables are interest coverage ratio and profitability ($P = 0.0149 < 0.05$), taxation and leverage ($P = 0.0009 < 0.01$), NDTS and profitability ($P = 0.0001 < 0.01$), and NDTS and leverage ($P = 0.0160 < 0.05$). On the other hand, the negatively correlated variables are taxation and asset tangibility ($P = 0.0483 < 0.05$), and liquidity and NDTS ($P = 0.0535 < 0.1$).

4.2. Test Results for Panel Regression Model

In order to decide on whether to use FEM or REM, a Hausman test was carried out.

The results of the test are presented in Table 5.

The test gives a Chi-squared statistic of 1.14 with an associated probability value of 0.9798. This means that it is not statistically significant ($P = 0.9798 > 0.0001$); implying the study failed to reject the null hypothesis. Hence, the REM was appropriate for analysis. The REM was estimated using robust standard errors to

⁴ The government allows firms to use depreciation expense to reduce their tax obligation thereby enabling the firms to become competitive.

Table 3: Descriptive statistics for the variables used in the random effect model

Variable	Mean	SD	Min	Max	Observations
PROFIT					
Overall	0.1898	0.1442	0.0160	0.5042	N=30
Between		0.0146	0.1731	0.2070	n=5
Within		0.1436	0.0108	0.4870	T=6
LIQ					
Overall	1.4241	1.1767	0.2607	5.1552	N=30
Between		0.5877	0.7178	2.0474	n=5
Within		1.0482	0.0294	4.5841	T=6
LEV					
Overall	0.1565	0.1691	0.0000	0.6876	N=30
Between		0.0622	0.0820	0.2549	n=5
Within		0.1593	-0.0974	0.5892	T=6
Tax					
Overall	0.2589	0.2077	-0.0557	1.1919	N=30
Between		0.0650	0.1925	0.3651	n=5
Within		0.1991	-0.0659	1.0857	T=6
NDTS					
Overall	0.0273	0.0417	0.0002	0.1349	N=30
Between		0.0022	0.0247	0.0299	n=5
Within		0.0417	-0.0023	0.1330	T=6
INTEREST					
Overall	13.4196	24.6233	0.4383	125.6471	N=30
Between		5.4505	9.8785	23.0585	n=5
Within		24.1189	-9.2007	116.0081	T=6
ASSETT					
Overall	0.7751	0.2055	0.2583	0.9919	N=30
Between		0.0325	0.7202	0.8007	n=5
Within		0.2033	0.3132	1.0447	T=6

control for the presence of heteroscedasticity. Table 6 presents the results of the random effects panel data regression model.

Table 6 reports that the overall R-squared is 0.8028; thereby indicating that over 80 percent of the variability in profit can be explained by the independent variables in REM. Hence, the model is adequately fit. Going by individual variable, Table 6 shows that the coefficient of taxation is negative and statistically significant ($P = 0.031 < 0.05$); implying that, ceteris paribus, a unit increase in taxation leads to a 0.1787 unit decrease in profit. On one hand, this finding is inconsistent with the finding by Chude and Chude (2015) who found that income tax had a statistically significant positive effect on the profitability of Nigerian breweries. This finding is consistent with the finding by Beigi et al. (2013) and Vätavu (2014) who found that tax had a significant negative effect on the profitability of firms

Table 4: Pairwise correlation coefficients for the variables used in the study

	PROF	LIQ	LEV	INTEREST	ASSETT	TAX	NDTS
PRO	1.0000						
LIQ	-0.1191 (0.5308)	1.0000					
LEV	0.1120 (0.5557)	-0.0210 (0.8993)	1.0000				
INTEREST	0.4401 (0.0149)	0.0463 (0.8080)	-0.3010 (0.1060)	1.0000			
ASSETT	-0.1397 (0.1248)	0.1024 (0.5901)	-0.2937 (0.1151)	-0.0922 (0.6278)	1.0000		
TAX	-0.1397 (0.4615)	-0.2466 (0.1889)	0.5753 (0.0009)	-0.2914 (0.1182)	-0.3635 (0.0483)	1.0000	
NDTS	0.6629 (0.0001)	-0.3560 (0.0535)	0.4361 (0.0160)	-0.1151 (0.5448)	-0.1276 (0.5051)	0.2397 (0.2020)	1.0000

P-values are in the parentheses

Table 5: Hausman test results

Variable	Coefficients		Difference (B-b)	Standard error
	(B) Fixed	(B) Random		
LIQUID	0.0194	0.0130	0.0064	0.0098
LEV	-0.0242	-0.0289	0.0047	0.0418
INTEREST	0.0027	0.0024	0.0003	0.0003
ASSETT	-0.1560	-0.1834	0.0274	0.0346
TAX	-0.1432	-0.1787	0.0356	0.0478
NDTS	2.8041	2.7361	0.0680	0.1394

Chi-squared=1.14. Prob>Chi-squared=0.9798. H_0 : Random effects model is appropriate, while H_1 : Fixed effects model is appropriate

Table 6: Panel data regression output for random effects model

Dependent variable: PROFIT				
Variable	Coefficient	Standard Error	Z-Statistic	P-value
LIQ	0.0123	0.019	0.66	0.510
LEV	-0.0289	0.1747	-0.17	0.869
TAX	-0.1787	0.0827	-2.06	0.031**
NDTS	2.7361	0.3912	6.99	0.000***
INTEREST	0.0024	0.0007	3.34	0.001***
ASSETT	-0.1834	0.0979	-1.87	0.061*
Constant	0.2569	-0.1182	2.17	0.030**

Within $R^2=0.8184$. Between $R^2=0.0045$. Overall $R^2=0.8028$. Asterisks represent level of statistical significance: *(10 percent significance), ** (5 percent significance), *** (1 percent significance).

listed on the Bucharest Stock Exchange. This negative effect has been attributed to the fact that tax acts as additional costs of production to firms, as such, it negatively affects the firms' capability to make profits.

The coefficient of NDTS is positive and statistically significant ($P = 0.000 < 0.01$). This indicates that, *ceteris paribus*, a unit increase in NDTS will lead to a 2.74 unit increase in profitability. This finding is inconsistent with the finding by Sritharan (2015) who found that NDTS had no effect on the profitability of Sri Lankan companies. Furthermore, Table 6 shows that there is a positive and statistically significant relationship between profitability and interest coverage ratio ($P = 0.001 < 0.01$). This shows that as the interest coverage ratio increases, firms' profitability also increases. This finding is similar to the finding by Enekwe (2015) who found that the interest coverage ratio had a positive and statistically significant relationship with the corporate profitability of quoted oil and gas companies in Nigeria. Moreover, since the interest coverage ratio is used to measure a firm's ability to pay interest, this finding is consistent with the finding by Liu (2004) and Liu (2006) who found that interest rate was associated with the failure of corporations in the UK.

Lastly, with regard to asset tangibility, Table 6 shows that there is a statistically significant negative relationship between asset tangibility and profitability ($P = 0.061 < 0.1$). This finding is similar to the findings by Mehmet and Mehmet (2018), Vuong (2017), Isik (2017), and Kristina and Dejan (2017) who found that the asset tangibility is a significant negative driver of the profitability of firms. Asset tangibility and profitability are negatively related because when firms have more tangible assets, they tend to hold fewer liquid assets thereby failing to invest in long-term investments. Now, since it is only firms with more liquid assets that are more likely to benefit from lucrative long-term investment opportunities, firms with more tangible assets fail to make enough profits compared with those with less tangible assets, holding other things constant (Mehmet and Mehmet, 2018).

Policy implications arising from this study are that in order to enhance the profitability of the non-financial firms listed on the MSE, it is imperative for managers to focus on increasing the firms' non-debt tax shield and interest coverage ratio. On the other hand, they need to make sure that they reduce the tangibility of their assets by having few tangible assets and more liquid assets. Furthermore, policymakers from the government need to make sure that they do not expose firms to high taxation rates as that negatively affects the profitability of the firms which, consequently, can bring about economic recession due to job losses caused by the closure of businesses.

5. CONCLUSION

This study set out to find the determinants of profitability of non-financial firms listed on MSE using panel data regression analysis. It has been found that tax, non-debt tax shield, interest cover, and asset tangibility are the main determinants of the profitability of the firms. In particular, the study has found that taxation and asset tangibility negatively affect the firms' profitability while non-debt tax shield and interest cover positively affects the firm's profitability.

On the other hand, contrary to the findings of other studies (Khan et al., 2018), this study has found that liquidity and leverage are not statistically significant determinants of profitability of non-financial firms listed on MSE.

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