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CAPITAL STRUCTURE AND ITS EFFECT ON FIRM PERFORMANCE: AN EMPIRICAL STUDY ON THE LISTED CONSUMER SERVICES SECTOR ORGANIZATIONS IN BOTSWANA

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Abstract:
Discussions on an organizations optimum capital structure that would enhance organizational performance has been a topic of continued academic research. Such studies focused on the choice of debt/equity financing as well as the maintenance of an ideal debt ratio that will support improved firm performance. This paper examines the effect of capital structure on the financial performance of listed organizations in the Botswana Consumer Services Sector. Descriptive research design was used in the study. The research population included all the listed organizations in the consumer services sector in Botswana. The study covered the seven-year period of 2012-2018 and adopted a purposing sampling approach. Dependent variables were Return on Assets (ROA), Return on Equity (ROE), Tobin's Q and Earnings per Share (EPS). The capital structure

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was measured by short-term debt to total assets, long-term debt to total assets, total debt to total assets and total debt to total equity. Control variables were liquidity and firm growth. The data was analyzed using descriptive statistics, correlation analysis and regression analysis. Findings indicate that high-debt financing has a negative and significant effect on the financial performance of consumer services sector firms in Botswana. Total debt to total equity had a negative and significant effect on firms' financial performance measures; ROA, ROE and Tobin's Q. Long term debt to total assets also had a negative and significant effect on EPS. This may be the first study in Botswana on the topic and is expected to benefit the industry, managers, shareholders, investors and future researchers.

JEL: D21; D22; G32

Keywords: Botswana, consumer services sector, capital structure, firm performance, return on assets, return on equity, earnings per share, Tobin's Q

1. Introduction

The management of a business enterprise is responsible for setting up its capital structure in a way that brings maximum profits. Firms, however, have varied levels of leverage and the management should try to come up with the most optimal capital structure for the organization. The debate on capital structure and firm performance has been going on for a very long period of time since the time of Modigliani and Miller (1958), Jensen and Meckling (1976) and Margiratis and Pslilaki (2007). The debate centered on whether there is an optimal capital structure, which could lead to high performance of a firm. Modigliani and Miller (1958) had concluded that in a frictionless market and homogenous expectations, capital structure decisions do not affect the firm performance.

Capital structure decision is the mix of debt and equity that a company uses to finance its business (Damodaran, 2001). However, researchers wanted to find out whether there is a right mix of debts and equity that a firm could use in order to maximize the value of the firm.

The capital structure of the firm is considered optimum if the market value of the shares is maximized. If the firm is not financed using any debt, the shareholder return is equivalent to the firms return; the use of debt affects the return and risk of shareholders. Using debt can increase the return to shareholders but it will also increase the risk. A good balance is therefore desirable in order to maximize shareholders' return.

Where directors dictate corporate decisions and the shares of the firm are carefully held; the capital structure employed by a firm may not always be meant to maximize the firm's value but may sometimes be to protect the manager's interest (Ajibola, Wisdom and Qudus, 2018). This usually happens because equity holders are

generally large in numbers and each shareholder controls a small proportion of the share capital of a corporate firm. The tendency of such shareholders is to take less interest in the monitoring of managers who are then tempted to pursue personal interest, which might be different from those of the shareholder.

According to Al Ali (2017), the relationship between capital structure and firm value has been investigated at length for many years and that the capital structure may affect the valuation of the firm with more leveraged firms being riskier and consequently valued lower than the less leveraged firms. He concluded that a manager whose interest is maximizing shareholder's wealth should make capital structure the main focus for their financing decisions as the right mix can maximize the market price per share of the firm.

There have been various schools of thought on the relevance of capital structure to the performance of a firm. Many previous studies investigated the capital structure for different sectors in a country over a certain period of time. The current study intends to further examine the performance of listed organizations in the Botswana Consumer Services Sector, which has not been investigated extensively.

2. Problem Statement

A firm's capital structure is one of the most important decisions that a firm should make. Employing the right combination of debt and equity can lead to maximum performance of a firm. The fundamental question when considering maximum firm performance is to find the right mix of debt and equity. Equity and debt holders are the major investors in a company and these two have different levels of risks and benefits; debt holders have lower risks compared to equity holders because they have priority when it comes to payment in times of insolvency. Equity holders on the other hand face higher risk because they are considered to be owners of the company and that they are the last to be paid their share in times of insolvency. However, equity holders have greater control in the way the company is run compared to debt holders.

When making financing decisions, the challenge that companies often face is to determine the impact that the financing decision will have on performance as the company performance is crucial to the value of the firm and also for its survival. Firms are often challenged with a financial model that finds the right mix of debt and equity that can lead to maximum performance of a firm.

2.1 Significance of the Study

Research on the relationship between capital structure and firm performance such as those done by Modigliani and Miller (1958), Jensen and Meckling (1976), Margiratis and Pslilaki (2007) and Harris and Raviv (1991) was not directed to any specific sector but was general in its findings and conclusion, hence the need to carry out the current study. The findings of the study are important to managers who are faced with the huge task of making financial decisions. The findings are also important to investors

and shareholders in making investment decisions. The current research findings will also fill the gap that currently exist in the area of impact of capital structure on firm performance among Botswana listed companies. In addition, research in this area of study is mainly based on developed countries with very few studies from developing countries, thus another reason for doing this research. The findings of this study will also add new knowledge to the available literature on capital structure and firm performance theory.

2.2 Objective of the Study

The main objective of the study is to examine the effect of capital structure on the financial performance of listed organizations in the Botswana Consumer Services Sector. More specifically, the study aims to:

- To measure the effect of short-term debt to total assets on return on assets, return on equity, Tobin's Q and earnings per share.
- To measure the effect of long-term debt to total assets on return on assets, return on equity, Tobin's Q and earnings per share.
- To measure the effect of total debt to total assets on return on assets, return on equity, Tobin's Q and earnings per share.
- To measure the effect of total debts to total equity on return on assets, return on equity, Tobin's Q and earnings per share.

Based on the above specific objectives and reviewed literature, the following hypotheses are developed:

H1: Short-term debt to total assets ratio has a negative and significant effect on return on assets, return on equity, Tobin's Q and earnings per share.

H2: Long-term debt to total assets ratio has a negative and significant effect on return on assets, return on equity, Tobin's Q and earnings per share.

H3: Total debt to total assets ratio has a negative and significant effect on return on assets, return on equity, Tobin's Q and earnings per share.

H4: Total debt to total equity has a negative and significant effect on return on assets, return on equity, Tobin's Q and earnings per share.

2.3 Theoretical Review

There are a number of theories that endorses the effect of capital structure on firm performance. Such theories also prescribe methods that firms employ to improve firm performance. A proper appreciation of such theories by an organization's management will enable them to develop the most appropriate financing model that will suit the organization. The most popular theories are:

A. Trade-off Theory

In simple terms, the trade-off theory of capital structure states that an organization's choice of the ratio between debt and equity is a trade-off between its interest tax shields and the cost of financial distress (Kareem, 2019). The theory states that there is an optimal capital structure that maximizes the value of an organization by balancing the

cost and benefit of an additional unit of debt (Ghazouani, 2013). The optimal capital structure is achieved when the weighted average cost of capital is kept at the minimum.

B. Agency Theory

Agency Theory as developed by Jensen and Meckling (1976), combines the basics of agency theory, the theory of property rights and the theory of finance to come up with a theory on a firm's ownership structure. The theory suggests a level of optimal debt in capital structure, which is achieved by minimizing the agency costs. The main contribution of the agency theory towards capital structure is that leverage can well be used to monitor the behavior of the managers and that a high leverage in a firm will lower agency cost, address effectively managerial inefficiency, leading eventually to an enhanced administrative performance (Kareem, 2019).

2.4 Empirical Literature Review

Academicians and researchers have assessed the impact of capital structure on the financial performance of organizations in various sectors.

Some studies on capital structure and firm performance concluded that there was no relationship between capital structure and firm performance**.** Research by Ebaid (2009), which was on the impact of capital structure choice on firm performance in Egypt, concluded that there was no relationship between capital structure and firm performance. Chandra and Udhayakumar (2018), in their study on capital structure and firm performance of Indian firms observed that leverage which is quantified by interest bearing debts to assets does not significantly impact return on assets of the selected firms.

A good number of studies, on the other hand, indicate a significant impact (negative and positive) of capital structure on firm performance. The following studies proved a negative effect of capital structure on firm performance.

Using panel data, Chinaemerem and Anthony (2012), analyzed the effect of capital structure on the financial performance of listed firms in Nigerian Stock Exchange for the period 2004-2010. Return on assets and return on equity were the dependent variables and debt ratio, asset turnover, size and age of the firms were used as independent variables. Their findings indicated that debt ratio has a significant negative impact on firms' financial performance. A study by Khan (2012) on the relationship of capital structure decisions with firm performance focusing on the engineering sector of Pakistan found that that there was a negative relationship between capital structure and firm performance.

Salim and Yadav (2012) investigated the impact of capital structure measured by long-term debt, short-term debt, total debt ratios and growth on the performance of 237 sampled Malaysian listed firms represented by return on equity, return on asset, Tobin's Q and earning per share. The results highlighted a negative relationship of performance proxies with short-term debt, long-term debt and total debt. However, a positive relationship was revealed between growth and performance proxies. Also,

Tobin Q showed a significantly positive relationship between short-term debt and long-term debt.

Ogebe, Ogebe and Alewi (2013) in their research in Nigeria argued that firms should use more of equity than debt in financing their business activities because the latter can become detrimental to the business if over used. A significantly negative relationship was found between leverage and performance by Patrick, Orinya and Kemi (2013) in their study on firms in Nigeria for the 10 year period of 2000 to 2010. Another examination on the effect of capital structure on firm performance by Akeem, Terer, Kiyanjui, and Kayode (2014) on manufacturing firms in Nigeria, using return on assets to represent financial performance and total debt to total assets and total debt to equity as independent variables also showed a negative relationship between capital structure proxies and return on assets.

Bokhari and Khan (2013) examined capital structure-performance relationship in listed non-financial organizations in Pakistan using return on assets, return on equity, net profit margin and earnings per share to represent firm performance and short-term debt, long-term debt and leverage as independent variables. A negative impact was seen on return on assets by short-term debt, long-term debt and leverage. All variables, except long-term debt and leverage of capital structure had a significant negative impact on return on equity; a positive but insignificant effect by all independent variables on net profit margin and all variables had a negatively significant impact on earnings per share. Analyzing a large number of Ukrainian firms, Lavorskyi (2013) concluded a negative relationship between leverage and financial performance. Another study on non-financial firms by Sheikh and Wang (2013) also showed that both total debt ratio and long and short-term debt ratios were negatively related to return on assets.

The study by Khanam, Nasreen and Pirzada (2014) measured firm performance in food sector in Pakistan with return on assets, earnings per share, net profit margin, return on equity and return on capital employed, and capital structure with debt equity ratio, debt to total assets ratio, short-term debt to total assets ratio and long term debt to total assets ratio to assess the impact of capital structure on performance. Findings highlighted a significant negative impact of all capital structure variables on return on assets, return on equity, net profit margin, return on assets and return on capital employed.

Choosing a sample of 422 listed Indian manufacturing firms, Chadha and Sharma (2015) examined capital structure-performance relationship and noted that financial leverage has no impact on the dependent variables, return on assets and Tobin's Q, but a significantly negative relationship with return on equity. Focusing on financial sector in Indonesia, Saputra, Achsani and Anggraeni (2015) analyzed the impact of capital structure on performance of listed financial sector companies and concluded that short term debt to total assets, long term debt to total assets, total debt to total assets and total debt to total equity showed a negative impact on firms' performance measured by return on assets.

Rouf (2015) compared capital structure measures of debt ratio, debt equity ratio, current debt ratio, ratio of shareholder funds to total assets, ratio of total current assets to shareholder equity to return on assets and return on sales. The study found negative and significant impact of capital structure proxies on return on assets and return on sales. A study that was carried out on selected listed non-financial companies in Iraq by Saifadin (2015) using three measures for financial performance viz. return on assets, return on equity and Tobin's Q, revealed a negative impact of capital structure represented by short-term debt to total assets. Tobin Q results, on the other hand, indicated a significant positive impact on firm performance.

Nassar (2016) in his study on firms in Istanbul also found a negative significant relationship between capital structure and organizational performance. Vuong, Vu and Mitra (2017) looked at long-term liabilities, short-term liabilities and growth rate of total assets as proxy for capital structure to gauge the impact on UK firms and concluded that financial performance measured by return on assets had negative relationship with long-term liabilities whereas short-term liabilities had no significant effect on return on assets. Research by Le and Phan (2017) found that all debt ratios viz. long-term debt, short-term debt and total debts to book value and market value of total assets had a significantly negative relationship with return on assets and return on equity of all non-financial listed firms in Vietnam.

Basit and Irwan (2017) selected return on assets, return on equity and earnings per share as dependent variables, and debt to equity ratio, total debt ratio and total equity ratio as independent variables to examine the impact of capital structure on performance among listed Malaysian industrial product companies and found that debt to equity had negative effect on return on assets and that total debt ratio and total equity ratio had no effect on return on assets. On the other hand, debt to equity had a negative effect, total debt had a positive effect and total equity had no significant effect on return on equity. It was also found that total debt ratio had a negative significant effect, total debt ratio had a positive effect and total debt had an insignificant effect on earnings per share.

Ahmed and Afza (2019) looked at the impact of capital structure on firm performance among 396 non-financial firms in Pakistan for the period 2006-2013. Financial performance was measured by return on assets, return on equity and Tobin's Q, whereas, total debt ratio, long-term debt ratio and short-term debt ratio were identified as independent variables. Findings highlight a significantly negative relationship between total debt ratio and return on assets and long-term debt ratio and return on assets. It was also found that short-term debt ratio inversely impacts return on assets.

Research carried out by Kareem (2019) on the effect of capital structure of selected listed manufacturing firms in Sub-Saharan Africa for the period 2006-2016 used total debt to total equity, long term debt to total assets, short term debt to total assets, size and liquidity as proxy for capital structure and return on assets to represent financial performance. Findings underscore a negative impact of total debt to total

equity on the performance and a positive effect of long-term debt to total assets on firm performance. By and large, all the variables were found to have an impact on the performance of the selected firms.

Following studies revealed a positive relationship between capital structure and firm performance:

Yang, Chou, Cheng and Lee (2010) researched on 50 Taiwan non-financial firms and found firm performance as a significant quadratic function of debt ratio. Research carried out by San and Heng (2011) on Malaysian construction sector also found that there was a positive relationship between capital structure and firm performance.

Marietta (2012) found a positive significant relationship between debt/equity ratios and return on assets and equity. Research by Skopljack and Luo (2012) concluded that at relatively low levels of leverage an increase in debt leads to increased profit efficiency and high performance and that at relatively high levels of leverage increased debt leads to decreased profit efficiency as well as high performance.

Ebrati, Emadi, Balasang, and Safari, (2013), studied the effect on profitability of 85 listed firms in Tehran and concluded that the proxies for firm performance, viz. return on equity, return on assets, market value of equity to the book value of equity and Tobin's Q exhibited a positive and significant association with capital structure. In another study on 63 listed firms in Pakistan, Javed, Younas and Imran (2014) found a positive impact on return on assets by capital structure components. Debt to total assets ratio indicated a positive effect on return on equity, whereas equity over assets and long term debts over assets showed a negative impact on return on equity.

Hasan, Ahsan, Rahaman, and Alam (2014) examined the impact using return on assets, return on equity and earnings per share and Tobin's Q as dependent variables and short-term debt, long-term debt and total debt ratios as independent variables. The study concluded that short-term debt has a positive significant effect on earnings per share, whereas long-term debt is negatively significantly affected earnings per share. A significant impact was noticed between return on assets and capital structure ratios, whereas no such effect was found between capital-structure ratios either with return on equity or Tobin's Q.

Twairesh (2014) examined the relationship between return on assets, return on equity and short-term debt, long-term debt and total debt among 74 non-financial firms in Saudi Arabia and found that long-term debt significantly impacted return on equity, whereas short-term debt, long-term debt and total debt had significant impact on return on assets. Dada and Ghazali (2016) looked at 100 listed non-financial firms in Nigeria and the findings showed that assets turnover had a significant positive relationship with Tobin's Q. However, the age of the firms had negative significant impact and sales growth had positive significant impact on return on assets.

Research conducted by Schulz (2017) on Dutch small and medium enterprises used return on assets and return on capital employed to represent performance and total debt to total assets, long-term debt to total assets and short-term debt to total

assets as proxies for capital structure. The findings indicate a significant impact of capital structure on profitability.

Return on assets and return on equity were the proxy for financial performance in the study by Muritala (2018) on the impact of capital structure on financial performance of listed manufacturing companies in Nigeria. The researcher identified debt ratio, asset turnover ratio, size, age, asset tangibility, and growth opportunities as independent variables. The results highlighted that asset turnover, size, and age of the firms were positively related to companies' performance. However, a negative and significant relationship was detected between asset tangibility and return on assets. Ogenche, Githui and Omurwa (2018) focused their study on consumer goods firms and reported that both debt ratio and firm size significantly influence the financial performance.

Abdullah and Tursoy (2019), in their study on German non-financial firms noted that more than 60% of total assets are financed though debt and found a significant positive impact of capital structure on profitability.

3. Methodology

The purpose of this study is to examine the effect of capital structure on the financial performance of listed organizations in the consumer services sector in Botswana. The study has adopted a panel data methodology and an analytical and descriptive research design.

Literature on the topic provides evidence of a number of capital structure parameters that were used to measure the effect on financial performance. Drawing from such literature and based on the objectives of the study, the following conceptual model has been developed:

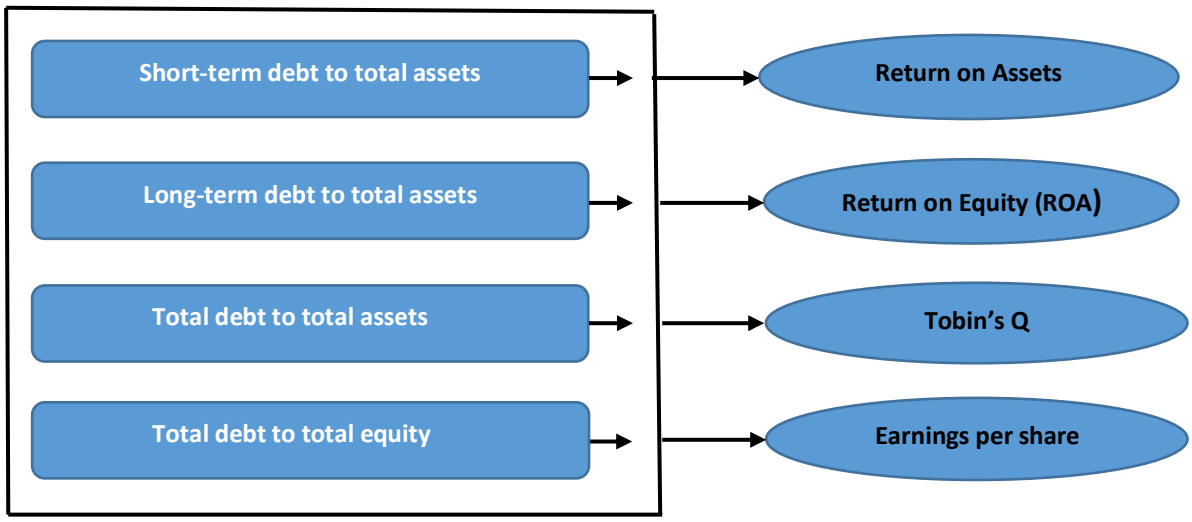

Diagram 1: Conceptual Framework

Table 1: Variables and their Computation

Variables	Abbreviation	Formula
Dependent Variables		
Return on Assets	ROA	Profit before Interest and Tax / Total Assets
Return on Equity	ROE	Profit before Interest and Tax / Shareholders' Equity
Tobin's Q	T's Q	Total market value of firm / Total asset value of firm
Earnings per Share	EPS	Net Income less preferred dividends / Weighted average ordinary shares outstanding
Independent Variables		
Short-term debt to total assets	STDTA	Current Liabilities / Total Assets
Long-term debt to total assets	LTDTA	Non-current Liabilities / Total Assets
Total debt to total assets	TDTA	Total Liabilities / Total Assets
Total debt to Total equity	TDTE	Total Liabilities / Total Equity
Control Variables		
Liquidity	L	Current Assets / Current Liabilities
Growth	G	Percentage change in Net Sales

Source: Ahmed and Afza (2019), Le and Phan (2017), Schulz (2017), Saputra, Achsani and Anggraeni (2015), Ahsan, Rahaman, and Alam (2014), Khanam, Nasreen and Pirzada (2014), Twairesh (2014) and, Sheikh and Wang (2013)

3.1 Data source and Sampling

The research population for the study covered all the listed organizations in the consumer services sector in Botswana. The study has adopted a purposing sampling approach. Also known as judgmental, selective or purposive sampling, it relies on the judgment of the researcher on selection of samples. The data was extracted from the annual reports of five listed organizations in the consumer services sector for the period 2012-2018.

3.2 Model for Data Analysis

The data includes the four dependent variables being Return on Assets (ROA), Return on Equity (ROE), Tobin's Q (T's Q) and Earnings per Share (EPS); the independent variables being four components identified to measure capital structure, viz., total debt to total assets, long-term debt to total assets, short-term debt to total assets and total debt to total equity and two control variables with an effect on the performance of organizations being Liquidity and annual growth of net sales. The relationship is expressed mathematically in equation 1, 2, 3 and 4;

$$ROA_t=\beta_0 + \beta_1 STDTA_t + \beta_2 LTDTA_t + \beta_3 TDTA_t + \beta_4 TDTE_t + \beta_5 L_t + \beta_6 G_t + \varepsilon_t \quad (1)$$

$$ROE_t=\beta_0 + \beta_1 STDTA_t + \beta_2 LTDTA_t + \beta_3 TDTA_t + \beta_4 TDTE_t + \beta_5 L_t + \beta_6 G_t + \varepsilon_t \quad (2)$$

$$T's\ Q_t = \beta_0 + \beta_1 STDTA_t + \beta_2 LTDTA_t + \beta_3 TDTA_t + \beta_4 TDTE_t + \beta_5 L_t + \beta_6 G_t + \varepsilon_t \quad (3)$$

$$EPS_t = \beta_0 + \beta_1 STDTA_t + \beta_2 LTDTA_t + \beta_3 TDTA_t + \beta_4 TDTE_t + \beta_5 L_t + \beta_6 G_t + \varepsilon_t \quad (4)$$

Where;
ROA_t =Return on Assets
ROE_t =Return on Equity
$T'sQ_t$ = Tobin's Q
EPS_t = Earnings per Share
STDTA = Short-term debt to total assets
LTDTA= Long-term debt to total assets
TDTA = Total debt to total assets
TDTE = Total debt to total equity
L= Liquidity (Current assets/Current Liabilities)
G= Growth (Annual growth of net sales)
$\beta_0, \beta_1, \beta_n$=Coefficients
ε_t =error term

3.3 Data Analysis, Discussion and Findings

This section presents the data analysis, discussions and findings. The data was analyzed using descriptive statistics, correlation analysis and regression analysis. The data covers a 7-year period from 2012-2018. Statistical Package for Social Sciences (SPSS) was used to carry out the analysis.

Table 2: Capital Structure of Selected Organizations

Year	STD/TA	LTD/TA	TD/TA	TD/TE	Average
2012	24.25%	15.14%	39.39%	70.89%	37.41%
2013	25.67%	13.04%	38.71%	69.38%	36.70%
2014	25.09%	15.68%	40.78%	74.57%	39.03%
2015	23.48%	13.95%	37.43%	62.91%	34.44%
2016	23.93%	12.22%	36.14%	59.10%	32.84%
2017	20.63%	13.77%	34.40%	58.44%	31.81%
2018	22.56%	13.45%	36.01%	65.46%	34.37%

Table 2 above shows the capital structure of selected companies in the consumer services sector for the period 2012-2018. The capital structure is measured by short-term debts, long-term debts, total assets and total equity. In this study the capital structure has changed over the years gradually with different measures. Short-term debt to total assets remained almost constant between 2012 and 2014, with a decrease in 2015, a sizable fall in 2017, and a slight improvement in 2018. Long-term debts to total assets decreased from 15% to 13.5% over the 7-year period; total debts to total assets decreased almost by 3.4% between 2012 and 2018 and total debt to total equity decreased by 5% during the above-mentioned period.

The variables that measure firm performance are basically profitability ratios generated from financial statements. The above table 3 shows that earning per share for all companies almost consistently increased over the selected 7-year period. Year 2018, showed a significant increase in earnings per share. Return on equity decreased from 18.08% to 15.85%; Returns on assets decreased slightly over 1% during the study period and Tobin's Q increased from 96.68% in 2012 to 125.98% during 2012- 2016 period, but recorded a significant reduction in 2018.

Table 3: Performance of Selected Organizations as Measured by ROE, ROA, EPS and Tobin's Q

Year	EPS	ROE	ROA	Tobin's Q	Average
2012	22.3%	18.08%	11.49%	96.68%	76.04%
2013	26.6%	16.69%	10.78%	98.70%	38.19%
2014	29.1%	16.31%	9.99%	107.20%	40.65%
2015	35.7%	17.72%	11.37%	113.24%	44.50%
2016	38.2%	14.69%	9.84%	125.98%	47.17%
2017	34.9%	14.64%	9.71%	107.58%	41.70%
2018	43%	15.85%	10.21%	100.18%	94.11%

3.4 Descriptive Statistics

Table 4: Descriptive Statistics of the Data

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
ROA	35	0.0174	0.2086	0.1048	0.0482	0.2400	0.3980	-0.6210	0.7780
ROE	35	0.0388	0.2795	0.1628	0.0595	-0.1990	0.3980	-0.5760	0.7780
T's Q	35	0.2983	2.1140	1.0708	0.4424	0.6270	0.3980	0.1310	0.7780
EPS	35	0.0491	0.7949	0.3286	0.2291	0.6590	0.3980	-1.0640	0.7780
STDTA	35	0.1196	0.4343	0.2366	0.1014	0.7250	0.3980	-0.9360	0.7780
LTDTA	35	0.0635	0.2586	0.1389	0.0611	0.5610	0.3980	-1.0860	0.7780
TDTA	35	0.2022	0.6117	0.3755	0.1105	0.5820	0.3980	-0.4400	0.7780
TDTE	35	0.2534	1.5752	0.6582	0.3445	1.2050	0.3980	0.5980	0.7780
L	35	0.7968	7.1952	2.4072	1.6589	1.6370	0.3980	2.1020	0.7780
G	35	-0.3259	0.4625	0.0915	0.1260	-0.4960	0.3980	4.5230	0.7780

The sample was made up of five listed companies in the consumer services sector for a period of seven years, making a total of thirty-five observations. On an average, the dependent variables ROA, ROE, Tobin's Q and EPS had mean values of 10.48%, 16.28%, 1.0708 and 22.91 thebe ($0.02) respectively. The ROA observations ranged from 1.74% to 20.86% whilst for ROE it was from 3.88% to 27.95%. Tobin's Q had a minimum of 0.2983 and 1.0708 as the maximum whilst EPS ranged from 4.91 thebe ($0.004) to 79.49 thebe ($0.07).

The standard deviations of the dependent variables, ROA, ROE, Tobin's Q and EPS were 4.82%, 5.95%, 44.24% and 22.91% respectively. The observations of all the dependent variables were spread more than 4.82 standard deviations on each side of the dependent variable mean respectively, considering normal distribution.

The independent variables, STDTA, LTDTA, TDTA and TDTE had mean values of 23.66%, 13.89%, 37.55% and 65.82% respectively. TDTE had the highest deviation of its observations from the mean of 34.45% followed by TDTA with a standard deviation of 11.05% whilst STDTA had a standard deviation of 10.14% and, LTDTA had the least deviation of the observations from the mean of 6.11%.

On an average, the control variables liquidity and revenue growth had mean values of 240.72% and 9.15% respectively. The liquidity observations ranged from 0.7968 to 7.1952 whilst revenue growth had a minimum of -0.3259 and maximum of 0.4625.

3.5 Correlation Analysis

Table 5: Correlation Analysis

		Correlations									
		ROA	**ROE**	**T's Q**	**EPS**	**STDTA**	**LTDTA**	**TDTA**	**TDTE**	**Liquidity**	**Growth**
	Pearson Correlation	1									
ROA	Sig. (2 tailed)										
	Pearson Correlation	0.937**	1								
ROE	Sig. (2 tailed)	0.000									
	Pearson Correlation	0.556**	0.461**	1							
T's Q	Sig. (2 tailed)	0.001	0.005								
	Pearson Correlation	0.502**	0.497**	0.640**	1						
EPS	Sig. (2 tailed)	0.002	0.002	0.000							
	Pearson Correlation	-0.452**	-0.198	-0.194	0.053	1					
STDTA	Sig. (2 tailed)	0.006	0.254	0.264	0.764						
	Pearson Correlation	-0.523**	-0.474**	-0.399*	-0.684**	-0.146	1				
LTDTA	Sig. (2 tailed)	0.001	0.004	0.018	0.000	0.403					
	Pearson Correlation	-0.704**	-0.444**	-0.398*	-0.330	-0.837**	0.419*	1			
TDTA	Sig. (2 tailed)	0.000	0.008	0.018	0.053	0.000	0.012				
	Pearson Correlation	-0.662**	-0.415*	-0.345*	-0.302	0.825**	0.405*	0.981**	1		
TDTE	Sig. (2 tailed)	0.000	0.013	0.042	0.078	0.000	0.016	0.000			
	Pearson Correlation	-0.127	-0.284	-0.242	-0.294	-0.562**	0.319	-0.339	-0.367*	1	
L	Sig. (2 tailed)	0.466	0.099	0.161	0.087	0.000	0.062	0.046	0.030		
	Pearson Correlation	0.201	0.133	0.355*	0.323	-0.067	-0.187	-0.165	-0.116	-0.061	1
G	Sig. (2 tailed)	0.247	0.445	0.037	0.059	0.702	0.283	0.344	0.505	0.729	
	N	35	35	35	35	35	35	35	35	35	35

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Pearson's correlation is a measure of the strength and direction of association that exists between two continuous variables. The inter-correlations are an important part in trying to find the associations between variables. Seventeen of the correlation relationships were strong at 1% level, eight of the relationships were strong at 5% level, and the rest were weak.

Strong negative correlations were found between return on assets and the following independent variables STDTA, (p= 0.006, r= -0.452), LTDTA, (p= 0.001, r= -0.523), TDTA, (p= 0.000, r= -0.704), and TDTE, (p= 0.000, r= -0.662). Therefore, when the independent variables increase, return on assets decreases.

There was strong negative relationship between LTDTA and return on equity, (p= 0.004, r= -0.474) and between TDTA ratio and return on equity, (p= 0.008, r= -0.444). A strong negative relative relationship at 5% also existed between TDTE and return on equity, (p= 0.013, r= -0.415). According to correlation coefficients, an increase of the LTDTA, TDTA and TDTE will result a decrease in ROE.
Strong negative correlations were found between Tobin's Q and the following independent variables at 1% level, LTDTA, (p= 0.018, r= -0.399), TDTA, (p= 0.018, r= -0.398) and, TDTE, (p= 0.042, r= -0.345). There was a strong positive relationship between Tobin's Q and net revenue growth, (p= 0.037, r= 0.355).

Earnings per share had a strong negative relationship with STDTA, (p= 0.000, r= -0.684). The other relationships of earnings per share with other predictor variables were weak.

There was strong positive correlations between TDTE and these other independent variables viz. STDTA, (p= 0.000, r= 0.825) and TDTA, (p= 0.000, r= 0.981).

3.6 Regression Analysis

3.6.1 Multicollinearity

Daoud (2017) defines Multicollinearity as a situation in statistics, when two or more independent variables in multiple regression models are highly correlated. When the independent variables for a multiple regression model are highly correlated, it has a negative effect on the model. Therefore, the independent variables that are highly correlated must be dropped from the model. The Variance Inflation Factors (VIFs) were calculated for all the independent variables and, Short-term debt to Total assets and Total debt to Total Assets had VIFs > 10. The two independent variables were dropped from the four regression models. These variables were excluded as their effect can be perfectly predicted from one or more of other independent variables and therefore, considered redundant.

Table 6: Regression Results on all the Four Dependent Variables

Variable			ROA			ROE			TOBIN'S Q			EPS		
	Collinearity Tolerance	Statistics VIF	Coefficient	t-stat.	Sig.	Coefficient	t-stat.	Sig.	Coefficient	t-stat.	Sig.	Coefficient	t-stat.	Sig.
Constant			0.207	10.942	0.000	0.275	9.526	0.000	1.633	7.316	0.000	0.680	6.826	0.000
LTDTA	0.576	1.736	-0.083	-0.552	0.585	-0.118	-0.631	0.533	-0.063	-0.326	0.747	-0.560	-3.361	0.002
TDTE	0.560	1.786	-0.758	-4.958	0.000	-0.525	-2.779	0.009	-0.420	-2.141	0.041	-0.104	-0.614	0.544
Liquidity	0.603	1.660	-0.375	-2.544	0.016	-0.438	-2.404	0.023	-0.360	-1.903	0.067	-0.141	-0.865	0.394
Growth	0.962	1.039	0.075	0.640	0.527	0.024	0.165	0.870	0.272	1.819	0.079	0.197	1.531	0.136
R^2			0.608			0.401			0.354			0.520		
Adjusted R^2			0.556			0.321			0.267			0.456		

3.7 Dependent Variable: Return on Assets (ROA)

The regression model measured the impact of the independent variables of LTDTA and TDTE and, control variables Liquidity and Growth on the dependent variable of ROA. The regression output is shown in Table 6.

The model had an R^2 of 0.608, which implies that the changes to return on assets of 60.8% can be explained by the two independent variables, Long-term debt to total assets and Total debt to total equity ratios and two control variables, Liquidity and annual growth of net revenue.

The results show statistically significant negative relationships for TDTE and Liquidity with return on assets. LTDTA have a negative but statistically insignificant relationship with return on assets. However, net revenue growth has a positive but statistically insignificant relationship with the dependent variable. The regression coefficients for LTDTA, TDTE, Liquidity and Growth are -0.083, -0.758, -0.375 and 0.075 respectively. The p-values of predictor variables were LTDTA, p= 0.585, TDTE, p=0.000, Liquidity, p=0.016 and Growth, p= 0.527. These results imply that an increase of LTDTA, TDTE and Liquidity has a negative effect on ROA whilst Growth has a positive effect.

The outcomes are in agreement with the findings of Chinaemerem and Anthony (2012), Akeem, Terer, Kiyanjui, and Kayode (2014), Vuong, Vu and Mitra (2017), Salim and Yadav (2012), Le and Phan (2017), Saifadin (2015), Bokhari and Khan (2013), Khanam, Nasreen and Pirzada (2014), Saputra, Achsani and Anggraeni (2015), Sheikh and Wang (2013), Basit (2017), Rouf (2015) and Ahmed and Afza (2019), who found negative relationships between capital structure variables and return on assets. However, the findings are

not consistent with the results of Imran (2014), Schulz (2017), Twairesh (2014), Marietta (2012) and Hasan, Ahsan, Rahaman, and Alam (2014) who concluded that capital structure variables had a positive relationship with firm performance.

3.8 Dependent Variable: Return on Equity (ROE)

The regression model measured the impact of the independent variables of LTDTA and TDTE and, control variables Liquidity and net revenue growth on the dependent variable of Return on Equity (ROE). The regression output is shown in Table 6.

The model had an R^2 of 0.401, which implies that the changes to return on equity of 40.1% can be explained by the two independent variables, Long-term debt to total assets and Total debt to total equity ratios and two control variables, Liquidity and annual growth of net revenue.

The results show statistically significant negative relationships for TDTE and Liquidity with return on equity. LTDTA have a negative but statistically insignificant relationship with return on equity. However, net revenue growth has a positive but statistically insignificant relationship with the dependent variable. The regression coefficients for LTDTA, TDTE, Liquidity and Growth are -0.118, -0.525, -0.438 and 0.024 respectively. The p-values of predictor variables were LTDTA, p= 0.533, TDTE, p=0.009, Liquidity, p=0.023 and Growth, p= 0.870. These results imply that an increase of LTDTA, TDTE and Liquidity has a negative effect on ROE whilst net revenue growth has a positive effect.

The results are in line with the findings of Chinaemerem and Anthony (2012), Salim and Yadav (2012),Saifadin (2015), Le and Phan (2017), Bokhari and Khan (2013), Khanam, Nasreen and Pirzada (2014) and Chadha and Sharma (2015) who found a negative relationship between capital structure variables and return on equity. However, the outcomes of the study are in disagreement with the conclusions of Marietta (2012), Ebrati, Emadi, Balasang, and Safari, (2013), Twairesh (2014), and Javed, Younas and Imran (2014) who found that capital structure variables had a positive relationship with return on equity.

3.9 Dependent Variable: Tobin's Q (T's Q)

The regression model measured the impact of the independent variables of LTDTA and TDTE and, control variables Liquidity and net revenue growth on the dependent variable of Tobin's Q (T's Q). The regression output is shown in Table 6.

The model had an R^2 of 0.354, which implies that the changes to Tobin's Q of 35.4% can be explained by the two independent variables, Long-term debt to total assets and Total debt to total equity ratios and two control variables, Liquidity and annual growth of net revenue.

The results show a statistically significant negative relationship for TDTE with Tobin's Q. The results also show statistically insignificant negative relationships for LTDTA and Liquidity with Tobin's Q. However, net revenue growth has a positive but statistically insignificant relationship with the dependent variable. The regression coefficients for LTDTA, TDTE, Liquidity and Growth are -0.0063, -0.420, -0.360 and 0.272 respectively. The p-values of predictor variables were LTDTA, p= 0.747, TDTE, p=0.041, Liquidity, p=0.067 and Growth, p= 0.079. These results imply that an increase of LTDTA, TDTE and Liquidity has a negative effect on ROE whilst net revenue growth has a positive effect.

The results are in line with the findings of Salim and Yadav (2012), who found a negative relationship between capital structure variables and Tobin's Q. However, the outcomes of the study are in disagreement with the conclusions of Saifadin (2015), who found that capital structure variables had a positive relationship with Tobin's Q and Ahmed and Afza (2019) and Chadha and Sharma (2015) who found no relationships between Tobin's Q and capital structure variables.

3.10 Dependent Variable: Earnings per Share (EPS)

The regression model measured the impact of the independent variables of LTDTA and TDTE and, control variables Liquidity and net revenue growth on the dependent variable of Earnings per Share (EPS). The regression output is shown in Table 6.

The model had an R^2 of 0.520, which implies that the changes to Earnings per Share of 52% can be explained by the two independent variables, Long-term debt to total assets and Total debt to total equity ratios and two control variables, Liquidity and annual growth of net revenue.

The results show a statistically significant negative relationship for LTDTA with Earnings per Share. The results also show statistically insignificant negative relationships for TDTE and Liquidity with earnings per share. However, net revenue growth has a positive but statistically insignificant relationship with earnings per share. The regression coefficients for LTDTA, TDTE, Liquidity and Growth are -0.560, -0.104, -0.141 and 0.197 respectively. The p-values of predictor variables were LTDTA, p= 0.002, TDTE, p=0.544, Liquidity, p=0.394 and Growth, p= 0.136. These results imply that an increase of LTDTA, TDTE and Liquidity has a negative effect on

ROE whilst net revenue growth has a positive effect.

The results are in line with the findings of Salim and Yadav (2012), Basit (2017), Bokhari and Khan (2013) and Khanam, Nasreen and Pirzada (2014), who found negative relationships between capital structure variables and earnings per share. However, the outcomes of the study are in disagreement with the conclusions of Hasan, Ahsan, Rahaman, and Alam (2014), who found that capital structure variables had a positive relationship with earnings per share.

4. Hypotheses tests

Long-term debt to total assets ratio had a negative and insignificant effect on return on assets, return on equity and Tobin's Q. However, Long-term debt to total assets ratio had a negative and significant effect on earnings per share.

Total debt to total equity ratio had a negative and significant effect on return on assets, return on equity and Tobin's Q. However, total debt to total equity ratio had a negative and insignificant effect on earnings per share.

Short-term debt to total assets and Total debt to total assets were excluded from the regression models as their effect could be perfectly predicted from one or more of other independent variables and therefore, were considered redundant. H1 and H3 were not tested separately as a result of the dropping of two independent variables and therefore, they cannot either be accepted or rejected.

Table 7: Summary of accepted/rejected hypothesis

	Statement (5% significant level)	**ROA**	**ROE**	**Tobin's Q**	**EPS**
H_1	STDTA has a negative and significant effect on ROA, ROE, Tobin's Q and EPS.	Not tested	Not tested	Not tested	Not tested
H_2	LTDTA has a negative and significant effect on ROA, ROE, Tobin's Q and EPS.	Rejected (negative & insignificant)	Rejected (negative & insignificant)	Rejected (negative & insignificant)	Accepted (negative & insignificant)
H_3	TDTA has a negative and significant effect on ROA, ROE, Tobin's Q and EPS.	Not tested	Not tested	Not tested	Not tested
H_4	TDTE has a negative and significant effect on ROA, ROE, Tobin's Q and EPS.	Accepted (negative & significant)	Accepted (negative & significant)	Accepted (negative & significant)	Rejected (negative & significant)

5. Summary of Findings

The descriptive statistics of the study show that the standard deviations of the dependent variables, ROA, ROE, Tobin's Q and EPS were 4.82%, 5.95%, 44.24% and 22.91% respectively. The independent variables, TDTE had the highest deviation of its observations from the mean of 34.45% followed by TDTA with a standard deviation of 11.05% whilst STDTA had a standard deviation of 10.14% and, LTDTA had the least deviation of the observations from the mean of 6.11%.

Seventeen of the correlation relationships were strong at 1% level, eight of the relationships were strong at 5% level, and the rest were weak. All the relationships between dependent variables, ROA, ROE, Tobin's Q and EPS and independent variables LTDTA and TDTE were all negative.

The study revealed statistically significant and negative relationships between total debt to total equity and the dependent variables, return on equity, return on assets and Tobin's Q. This implies that when Total debt to total equity ratios increase the firm performance measured by return on equity, return on assets and Tobin's Q will be impacted negatively. A statistically significant and negative relationship was also established between Long-term debt to total assets and earnings per share. The independent variables, Long-term debt to total assets and total debt to total equity had a negative effect on all the dependent variables.

6. Conclusion and Recommendation

Based on the empirical study and findings, it is concluded that capital structure measured by total debt to total equity and long-term debt to total assets negatively and significantly influenced financial performance of the listed firms in the consumer services sector. The results underscore that these firms should be cautious in using debt as a source of finance and strive to improve their financial-leverage ratio. Main recommendations include:

1. Controlled debt financing, as high levels of dependency on debt capital may adversely affect the profitability
2. Equity capital be given increased importance in financing of assets than debt funds as this may lead to improved financial performance
3. Profit capitalization as an alternate to debt financing may also assist the selected firms to improve their performance.

In short, the selected firms should adopt an optimal capital structure composition and engage in efficient utilization of resources that will eventually result in profit maximization.

6.1 Limitations & Directions for Future Research

The study had limitations in terms of time period considered. For a better understanding of how capital structure impacts on the financial performance, future

research could expand the scope of the study by increasing the sample size and the time period.

Despite the aforementioned limitations, the study provides an in depth understanding of the impact of capital structure on the financial performance of organizations in the consumer services sector in Botswana.

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