

CAPITAL STRUCTURE AND PROFITABILITY. A CASE OF JSE LISTED COMPANIES

Faith Mashavave, Kunofiwa Tsaurai***

Abstract

The research aims to find out the relationship between capital structure and profitability focusing on firms listed on the Johannesburg stock exchange in South Africa. Past research on this topic excluded the Johannesburg Stock Exchange listed firms. The research results will be useful to the business people in South Africa because it will be more in line with the South African economic status and thus relevant. From the graphs and tables of the companies analyzed, it appears there is no relationship between the capital structure and profitability. The fluctuations in the debt/equity ratio and profitability ratio are so severe to such an extent that no meaningful conclusion regarding the relationship between capital structure and profitability can be made. The outcomes are haphazard there is no uniformity and consistence on the outcomes. Other hindrances to the relationship between capital structure and profitability were also discovered and these were attributed to the environmental factors of the company such as economic, political, and social and all other external forces that companies under study were exposed to.

Keywords: Capital Structure; Profitability; JSE

* 15 Aberdeen complex 8 findel cres Highveld, Centurion 0157, South Africa

** Department of Finance, Risk Management and Banking, University of South Africa, P.O. Box 392, UNISA, 0003, Pretoria, South Africa

1. Introduction

The impact of capital structure on firm performance and in particular profitability is a widely contested subject in business circles with opinions varying regarding the extent of its influence. Velnampy and Niresh (2012) stated that capital structure is referred to as the way in which the firm finances itself through debts, equity and securities. Capital structure of a firm refers to the relative mix of various sources of capital utilized by the company and is a key consideration across the business world. Optimal Capital Structure represents the perfect balance between debt and equity which maximizes value of the company and hence the wealth of its owners and minimizes the company's cost of capital.

According to Ahmadiania et al (2012), capital structure is usually measured by the following ratios: ratio of debt to total asset, the equity ratio to total asset, a debt ratio to the equity and equity ratio. Profitability is a primary goal of most business ventures and is often measured by price to earnings ratio. While profitability is defined as the ability of a firm to gain profit, it is a result of all financial plans and decisions. Ahmadiania et al (2012). In today's competitive business environment, good capital structure will act as a merit for the company's profitability. It works as a reflection of the firm's ability to be profitable. Chist et al (2012) state that, of

all the aspects of capital decisions, capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decisions. Therefore careful considerations have to be taken into account because of capital structure's importance. This research seeks to find out the relationship between capital structure and profitability for Johannesburg Stock Exchange listed companies.

According to Gansuwan and Onel (2012), the existence of the link between a firm's capital structure and its profitability has been a hotly debated and researched topic for several decades in finance research and in business management. Some researchers are for more equity than debt while others are for more debt than equity. Shubita and Alsawallah (2012) points out that, the higher the debt the greater the risk. If a business can earn a higher rate of return on capital than the interest rate at which it borrows on its long term debt, it is profitable for the business to borrow money. Mumtaz et al (2013) have the view that in recent years the influence of financial crisis on stock markets around the globe has raised renewed concern on excessive leverage of firms and its impact on their profitability.

The relationship between capital structure and profitability has been researched by many with no definite correlation or formula for the best mix due to diverse findings. After a research of the engineering sector of Pakistan, Khan (2012) finds out that

financial leverage measured by short term debt to total assets and total debt to assets has a significantly negative relationship with the firm's profitability measured by return on assets and gross profit margin. On the other hand, Nimalathasan and Brabete (2010) after a research on the manufacturing companies of Sri Lanka find out that debt to equity ratio is positively and strongly associated to all profitability ratios debt to asset ratio is positively and strongly correlated to gross profit ratio and net profit ratio. According to Velnampy and Niresh (2012), the important question facing companies in need of finance is whether to raise debt or equity. Regardless of the continuing theoretical debate on capital structure, there is relatively little empirical evidence on how companies actually select between financing instruments at a given point of time in order to attain optimum profitability.

2. Literature review

Capital structure is one of the most sensitive issues of any organization, because it directly relates to competitive environment (Madah et al, 2013). Lazaridis and Tryfonidi (2006) shared the same sentiments when they stated that capital structure is area widely revisited by academia in order to postulate firms' profitability. It has been approached in numerous ways. Capital structure is a factor that cannot be ignored by any organization, whether profit making and nonprofit making. Capital structure can also determine the organization's profitability. Most profit making firms' major goal is profit maximization. According to Salim and Yadav (2012) firm's profitability is significantly affected by various factors and capital structure is one of the significant factors among them.

Different researchers discovered different results as far as the relationship of capital structure to profitability are concerned. Salim and Yadav (2012) stated that lot of empirical studies has been done to explore if there is any (positive, negative or no relation) between firm's profitability and capital structure and these studies produced mixed results. These outcomes are discussed below with the major theories in capital structure and profitability.

According to Meideiros and Daher (2004) factors influencing firms in their decision on certain capital structure have been made cause for debate for decades among academics. Each researcher is coming with a different outcome, confusing the firms on which one is the best structure. Goyal (2014) in the research consortium, results shows that there exists a positive relationship between size and profitability of Indian public sector banks. This supports the theory that debts are relatively cheaper than equity and hence increase the return. Chisti et al (2013) on their research on the automobile industry in India concluded that debt to equity ratio is negatively correlated to profitability ratios which imply that if

the debt content is increased aggressively it will adversely impact the profitability.

Derayat (2012) discovered that, the type of industry is affecting in the presence and absence the relationship between capital structure and profitability of companies. Therefore, implementing dummy and examining the model on each industry indicates that, the existence and extent of this relationship is different for industries. Ivashkovskaya and Solntseva (2008) also find out that the impact of determinants on capital structure decisions differs within the national samples. What works for other industries in a certain nation might not necessarily work in the same industry in a different nation.

Due to the economic situation around the world, Ferati and Ejupi (2009) discovered that the company's capital structure constitutes a difficult decision, one that involves several antagonistic factors, such as risk and profitability. Therefore the choice among the ideal proportion of debt and equity can affect the value of the company. On the other hand Osborne et al (2010) stated that the relationship is likely to be time-varying and heterogeneous across banks, depending on banks' actual capital ratios and how these relate to profitability. Osborne et al (2010) added on that those banks with a surplus of capital relative to target, exhibit a strong negative relationship between capital and profitability, both in stressed and non-stressed conditions.

Modigliani and Miller 1958 started with a number of propositions including irrelevance of capital structure to a firm's total market and correlation between cost of equity and the debt equity ratio. Gansuwan and Onel (2012) stated that there are a number of newer theories in comparison to the Modigliani and Miller propositions in line with capital structure versus profitability, some of them are the tradeoff theory, and the agency cost theory and the pecking-order theory. Gatsi and Akoto (2010) pointed out that signaling theory is also an important theory in capital structure that is based on the idea that managers have superior information than outsiders.

These theories mentioned above were developed one after another due to the shortcomings of the previous one. Ahmadinia et al (2012) identified approaches of capital structure which are: net income, net operating, traditional and Miller and Modigliani approach (non-debt tax shield). Subsequent theories include pecking order, static trade off, signaling and agency cost theory which appear the most popular around the debate on the relationship of capital structure and profitability, hence are worth further discussion. Some theories and models predict different relations between profitability and capital structures. For example the Japanese machinery industry the relations firm profitability and leverage ratio are generally negative (Tsuji, 2013)

The tradeoff theory was developed by Hennessy and Whited (2005) and it states that with endogenous

choice of leverage distributions and real investment of graduated corporate income tax, individual taxes on interest and corporate distributions, financial distress costs and equity floatation cost contribute to the relationship between capital structure and profitability. Osborne et al (2010) have the view that higher capital is often supposed to be costly for firms due to capital markets imperfections and tax advantages of debt, but according to the popular trade off view, higher capital may reduce risk and hence lower the premium demanded to compensate investors for the cost of bankruptcy.

Normally companies choose a capital structure that puts them at an advantage. Gowsuwan and Onel (2012) said a tradeoff of costs and benefits of borrowing holding the firm's assets are viewed as determiner of a firm's optimal debt ratio. The tradeoff theory encourages firms to take advantage of debt as a cheap source of capital. Debt reduces the amount of tax the firm pays on its profit because interest on loan is deducted first before tax is calculated. In this case the company will pay less tax though it made lots of profits. Therefore the capital structure promotes profitability, hence positive relationship between the two. This theory suggests a tradeoff between the tax benefit and the disadvantages of higher risk of financial distress.

According to Turkson et al (2012) non-financial firms are highly leveraged firms and also show the importance of short term debts over long –term debts in financing non-financial firms. The correlation and regression results on their research showed a significantly negative association between leverage and profitability. While Chisti et al (2012) concluded that debt to equity ratio is negatively correlated to profitability ratios which imply that if the debt content is increased aggressively it will adversely impact the profitability.

Ivanshkovskaya and Solnsteva (2006) in their research if capitals structure puzzles in the BRIC, the results show that pecking order of financing and trade off theories do not have the same impact over capital structure decisions of comparable firms in emerging markets. Kebewar (2013) stated that according to agency costs theory , there are two contradictory effects of debt on profitability , firstly it is positive in the case of agency costs of equity between shareholders and managers, secondly its effect is negative , resulting from agency costs of debt between shareholders and lenders. Debt's negative effect on profitability has been discovered by many researchers. According to Calabrese (2011) in capital structure theory financing costs are also an important consideration. A firm may have optimal leverage targets, but be prevented from using certain types of debts due to the cost of using these debt instrument. It limits the firm from raising capital anyhow.

The shortcomings on the tradeoff theory led to the development of a renewed pecking theory. You find out that one theory works for some firms but not

for others some they work in certain countries or regions but not in others. According to Ahmadinia et al (2012) pecking theory is the consequence of asymmetric information; it does not take an optimal capital structure as a starting point. Information asymmetries exist in almost every facet of corporate finance and they significantly complicate the managers' ability to maximize firm values (Miglo, 2010).

Gansuwan and Onel (2012) stated that pecking order theory or pecking order hypothesis was developed by Stewart Myers in 1984, as a way of describing the corporate finance behavior that he has observed and based on that, Myers (1984) stated three major points that corporate finance managers tends to adhere to and that is highly relevant for capital structure choices. According to Mireku et al (2014) pecking theory argues that organizations will fund their new investments first using internal source of funds, if internal funds are inadequate or unavailable they will move to the use of debts that are safe, then debts that are risky and lastly equity. This is done in order to maximize profit with fewer costs.

According to Frank and Goyal (2003) the pecking order theory of capital structure is among the most influential theories of corporate leverage. As a result, if a firm follows the pecking order, then in a regression of net debt issues on financing deficit a slope coefficient of one is observed. Gatsi and Akoto (2010) stated that pecking theory suggest that high-growth firms with lower operating cash flows will have high debt ratios because of their unwillingness to raise new equity. Not in agreement, Myers (1984) points out that, managers want to maintain stable shareholders dividends overtime, despite possible fluctuations in earnings, stock prices of investment opportunities.

Managers prefer internal financing compared to external financing (which is funds that are raised through the issuing of either new debt or equity shares). If financing is necessary managers go for the risky option first and so on. Myers (1984) ranks different securities based on one end of the spectrum through common stock on the other end. Ahmad and Zaman (2013) pointed out that capital structure is the option whether to go debt or equity or to mix. Shareholders can enjoy the fruits of capital structure through profitability and they can benefit more if an optimal debt equity ratio is worked out.

Jensen and Mecking (1976) who are the founder of the agency cost theory subsequently define the agency inside relationship in the firm as a contract under which one or more person engages another person (the agent) to perform some service on their behalf .Which involves delegating some decision making authority to the agent. According to Shah (2007) agency cost, for the profitable firms, lenders / creditors give relaxation in monitoring charges, which reduces the debt cost. This motivates profitable firms to go for more debt. Therefore according to the theory

high leverage / debt ratio help reduce its agency conflicts. Agents have to make decisions that promote a positive relationship between the capital structure and profitability. Their decisions should not lead the firm into bankruptcy. If the agent is aware that the great capital of the firm is debt, they tend to be more careful than if its equity.

According to Modigliani and Miller (1958) the theory of capital irrelevance theory exist and it states that financial leverage does affect the firm's market with assumptions related to homogenous expectation, perfect capital markets and no taxes. This means that all things being equal firms would not be worried about their capital structure. However in reality all things cannot be equal and this is the root for the search of answers and solutions that suite each and every firm.

It is not completely clear whether the static trade off theory or pecking-order theory explains the capital structure decisions of firms and the firm's specific determinants like profitability (Oolderink 2013). Osborne et al (2010) stated that, a significant challenge in identifying the causal link from capital to profitability is that the direction of causality can plausibly run the other way. Shah (2007) stated that although extensive research work has been done on capital structure but it remains one of the unsettled topics in finance.

3. Research Methodology

According to Polonsky and Waller (2011), the methodology section provides the reader with the road map of what is to be done and why, letting the readers understand how data were collected and analyzed. It acts as a guideline of how and where information is going to come from that is linked to the objectives of the study. Hair et al (2011) revealed that research design provides the basic directions or recipe for carrying out the project. The major types being non-experimental and experimental methods. According to Salkind (2012), non-experimental research design include, descriptive, historical, correlational and qualitative. While experimental involves true experimental, quasi-experimental and quantitative.

In this study, the authors seek to mainly follow the quantitative research design combined with the descriptive method. According to Polonsky and Waller (2011) quantitative research methods are techniques that are designed to generate information using statistical analysis that can be projected to represent the population as a whole. Pellissier (2007) considered quantitative research as the examination of specific data from large numbers. Polonsky and Waller (2011) stated that descriptive research describes certain characteristics or functions, that management is likely to be interested in, such as market conditions, customer's opinions, purchase behavior and so forth.

According to Saunders et al (2012), participants are persons who answer the questions usually in an interview or group interview. The research will focus on companies that are listed on the Johannesburg Securities Exchange and this decision has been taken by use of judgmental sampling. According to Pellissier (2007) in judgment sampling, items are selected or chosen by sound judgment of the researcher. In this case it would be an advantage to use companies listed on the Johannesburg Securities Exchange because it is local and can access information from the local newspapers and other publications. Companies of different sectors are listed accordingly. Most of these companies are mature in their industries the relevant data needed for the research is likely to be found on their websites.

Saunders et al (2012) stated that a sample is a sub group or part of a larger population and sampling provides alternative to census when it would be impracticable for the researcher to survey the entire population, budget constrains from surveying the entire population and time constraints prevent the researcher from surveying the entire population. According to Christina (2011), the key issue in sampling is this notion of representation and the concept of representation relates to the degree to which the sample drawn from a population can be said to be representative of the population.

From the list five companies were chosen by use of stratified random sampling. According to Saunders stratified random sampling is a modification of random in which you divide the population into two or more relevant and significant strata based on one or a number of attributes. This brought up a fair platform of comparing the capital structure to profitability for a period of twenty years. These companies being in the same environment and economy, they are affected by almost the same issues hence no company will be at an advantage or disadvantage. Moreover they might have tasted or experienced a lot as far as the relationship between capital structure and profitability is concerned.

In this case the Johannesburg Securities Exchange list of companies is already categorized into different sectors and it was a matter of picking one company per sector. Stratified random sampling is best used when the data is chronologically listed in groups like of the Johannesburg Securities exchange. Saunders et al (2012) said, it gives better comparison and hence representation across strata. This enabled the researcher to have a feel of what companies experience in different sectors.

As for the descriptive part of the research the notes on the financial statements of the companies chosen will be used. In this case it can be classified as judgmental sampling. It is also known as convenience sampling or availability sampling. Saunders et al (2012) pointed out that it involves selecting cases haphazardly only because they are easily available to obtain for a sample. In this research, financial

managers or accountants or those responsible for the finances of the companies write notes on the financial reports and these notes are very helpful in this research. Due to the complexity of financial data only those working directly with the finances will be well versed with the terms and details of the financial status of the company. Therefore published financial reports are reliable to use for the descriptive part of the research.

Pellisier (2007) stated that data comes in various forms and from various sources and can have various purposes. Secondary data was collected from the companies' websites, annual reports and financial reports. According to Polonsky and Waller (2011) secondary data is existing data for some purpose other than the problem at hand. Coldwell and Herbst (2004) asserts that advantages of documentation review which is secondary data like financial statements is that you get comprehensive historical information which does not interrupt program or client's routine because information already exists and there are few biases in the information.

Twenty year data about the companies' financial performance was downloaded. Secondary data was preferred in this case because the authors needed accurate information from documents which have been revised and approved for publication. When going to the actual company the personnel might not be patient enough to give their twenty year financial data due to time. Moreover job mobility might hinder the researcher from getting the information needed especially in a case where someone who has been at the company for two years and data for twenty years is needed.

The data was presented in tables which will then be used to draw line graphs. According to Polonsky and Waller (2011) line graphs show the connection of a series of data points using continuous lines. The line graphs clearly show the relationship between capital structure and profitability which are the two variables. Capital structure being the independent variable and profitability being the dependent variable. They clearly reflect whether the relationship is negative or positive.

The ratios that were calculated include, gross profit margin, operating profit margin, net profit margin, earnings per share, return on total assets and return on equity. Gitman (2009) defined the ratios; gross profit margin measures the percentage of each sales rand remaining after the firm has paid for its goods. Operating profit margin measures the percentage of each sale rand remaining after all costs and expenses other than interest, taxes and preferred stock dividends are deducted, the pure profits earned on each sales rand.

Net profit margin measures the percentage of each sale rand remaining after all costs and expenses including interest, taxes and preferred stock dividends

have been deducted. Earnings per share represent the dollar amount earned on behalf of each outstanding share of common stock. Return on assets measures the overall effectiveness of management in generating with its available assets. Return on equity measures the return earned on the common stockholders' investment in the firm.

According to Christina (2011) some research projects generate quantitative data, some generate qualitative data and some generate both. In this case quantitative data will be generated. Line graphs were used to analyse the data collected. According to Saunders et al (2012) multiple line graphs are used to compare the trends for two or more variables so that conjunctions are clear.

Duignan (2014) pointed out that line chart is chosen because businesses and business researchers tend to be more interested in time trends than they are in judging performance on an individual month –by-month basis moreover the line chart is visually more useful and lends itself to identify trends or hinting at relationships between variables. The relationship can be positive or negative. In this scenario profitability will depend on the capital structure which is the independent variable. If the relationship is positive, it means the capital structure is good for the company, while negative relationship call for revisit of the capital structure.

After the collection of data graphs, tables and discussions below seek to analyze the data. Debt equity ratio is used as the capital structure measure. Profit margin is used to measure the profitability of the company. According to Gitman (2009) profitability is the relationship between revenues and costs generated by using the firm's assets both current and fixed in productive activities. Debt to equity ratio is a leverage ratio and it measures the degree to which the assets of the business are financed by debts and the shareholders equity of a business.

Results and discussions

Fig 1 shows that there is no relationship between capital structure and profitability. In 2001 when company A was listed on the JSE the debt ratio was 0.64 and the profit margin was 0.04. In 2002 the debt ratio went up to 0.71 and the profit margin went down to 0.03 which is a negative relationship. In 2005 the debt/ equity ratio was on 1.03 and the profit margin increased to 0.06 this is a positive relationship. In 2008 when the debt/ equity ratio increased to 2.15 the profit margin decreased to 0.04. This shows that there is no consistence. It does not necessarily mean that an increase in debt / equity ratio will cause an increase on profit margin. In 2012 the debt /equity ratio was on 1.1971 yet the profit margin was 0.0715.

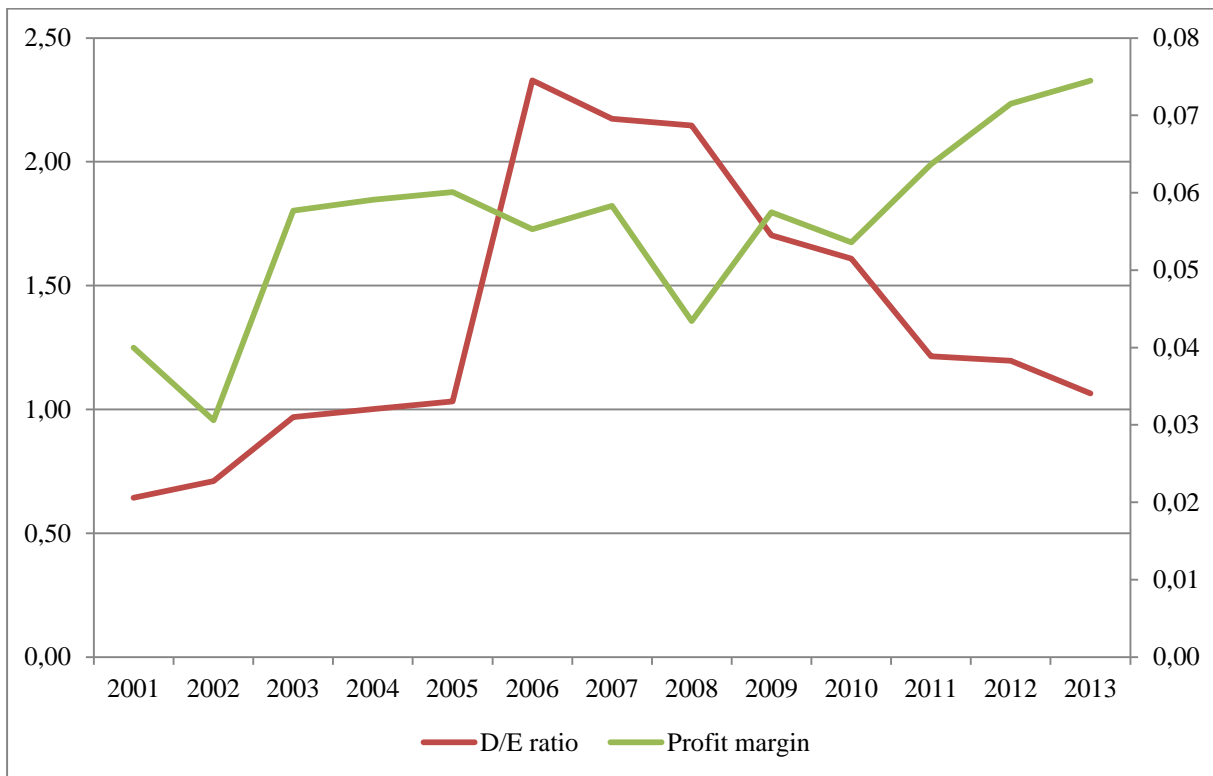
Table 1. Company A’s debt / equity ratio and profit margin over 12 years

Year	D/E ratio	Profit margin
2001	0.64	0.04
2002	0.71	0.03
2003	0.97	0.06
2004	1.00	0.06
2005	1.03	0.06
2006	2.33	0.06
2007	2.17	0.06
2008	2.15	0.04
2009	1.70	0.06
2010	1.61	0.05
2011	1.21	0.06
2012	1.20	0.07
2013	1.06	0.07

Debt / equity ratio Mean = 1.37
 Debt /Equity ratio Range = 1.69

Profit margin Mean =0.06
 Profit Margin Range=0.04

Figure 1. Company A’s debt / equity ratio and profit margin data over 12 years



Source: Company A’s financial statements

From 2001 to 2008 there was a percentage change of debt/ equity ratio of 60.94% while the profit margin had a 50% change in the same period. As from 2005 to 2010 the percentage change for debt/ equity ratio decreased to 56.31% and the profit margin decreased drastically to 16.67%. The Debt / Equity ratio percentage change decreased to -34.16% from 2010 to 2013 while the percentage change for

profit margin increased to 40% showing inconsistency.

According to Company A, 2009-2010 chairman’s report , the global economic recession continued throughout the company’s 2010 financial year and brought with it uncertain economic condition in South Africa. This affected the capital structure and profitability. If business is low shareholders tend to shun investing in companies.

Credit growth has been lagging. The non-recurring effect stimulus packages that boosted the retail spending in November 2008 to March 2009 period

has led to minimal growth in retail. All these are hindrances to the capital and profitability relationship.

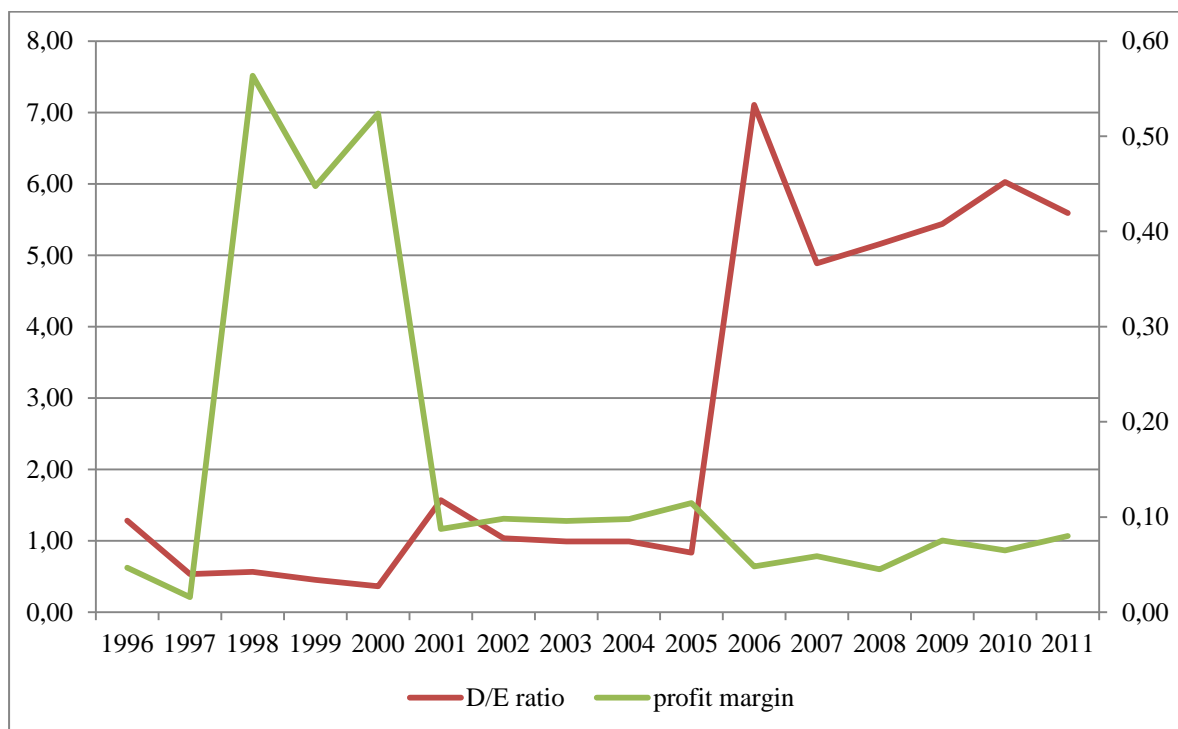
Table 2. Company B's debt / equity ratio and profit margin for 16 years

Year	D/E ratio	Profit margin
1996	1.28	0.05
1997	0.53	0.02
1998	0.57	0.56
1999	0.45	0.45
2000	0.36	0.52
2001	1.57	0.09
2002	1.04	0.10
2003	0.99	0.10
2004	0.99	0.10
2005	0.84	0.11
2006	7.10	0.05
2007	4.89	0.06
2008	5.16	0.05
2009	5.44	0.08
2010	6.03	0.07
2011	5.59	0.08

Debt/Equity ratio Mean = 2.6769
Debt/Equity ratio Range = 6.7403

Profit Margin Mean = 0.15
Profit Margin Range = 0.5479

Figure 2. Company B debt / equity ratio and profit margin over 16 years



Source: Company B financial statements

Company B table shows that the organization has a high debt / equity ratio as compared to its profit margin throughout the years shown by the table and graph. In 1998, the ratio for debt/equity was almost equivalent to the profit margin. In 2001, the debt/equity ratio started to be outstanding. 2006 has the highest debt ratio whilst it has also the lowest

profit margin. As from 2006 to 2011 there is a significantly wide gap between debt/ equity ratio and profit margin. The line graph above shows that there is no relationship between the capital structure and profitability.

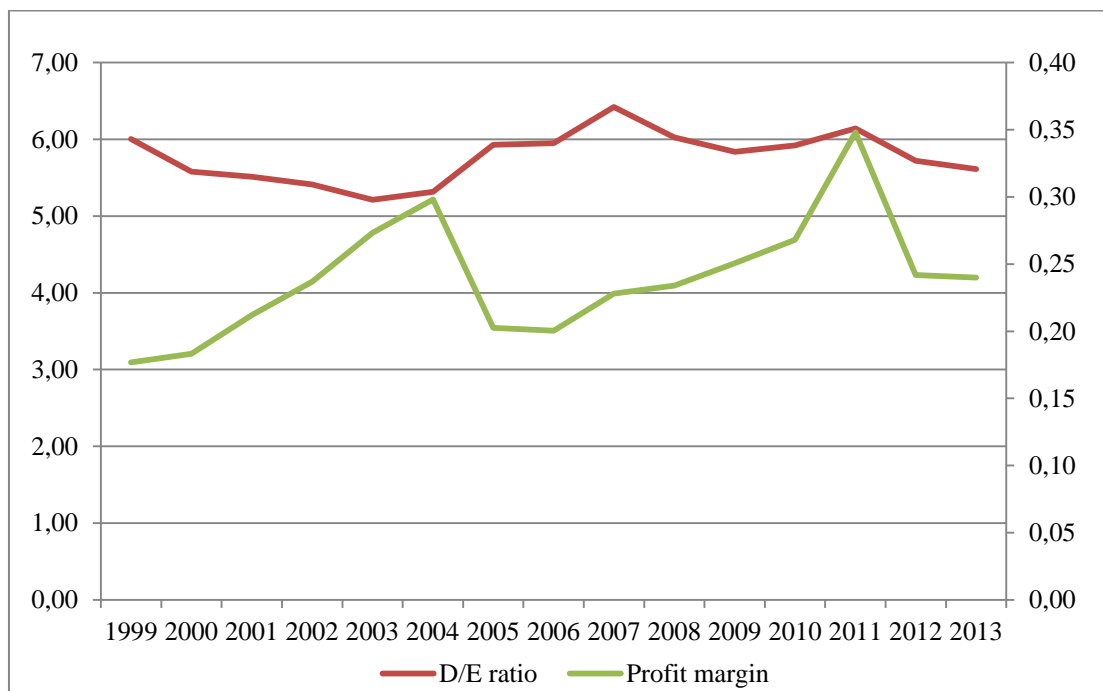
Table 3. Company C debt / equity ratio and profit margin for 15 years

Year	D/E ratio	Profit margin
1999	6.00	0.18
2000	5.58	0.18
2001	5.51	0.21
2002	5.41	0.24
2003	5.21	0.27
2004	5.31	0.30
2005	5.93	0.20
2006	5.95	0.20
2007	6.42	0.23
2008	6.03	0.23
2009	5.84	0.25
2010	5.92	0.27
2011	6.14	0.35
2012	5.72	0.24
2013	5.61	0.24

Debt /Equity ratio Mean = 5.77
Debt/Equity ratio Range = 1.21

Profit Margin Mean = 0.24
Profit Margin Range = 0.1

Figure 3. Company C debt / equity ratio and profit margin 14 years



Source: Company C financial statements

1996 to 2001 has a percentage change of 22,66% for debt equity ratio and 80% for profit margin. As from 2001 to 2006, the percentage change of debt /Equity ratio rose to 352.23% while profit margin percentage change went down to -44.44% which shows a strong negative relationship between the two. Ironically the period from 2006 to 2011 the debt /equity ratio percentage change went down to -14.29% and profit margin percentage change increased to 60% showing that there is no relationship between capital structure and profitability.

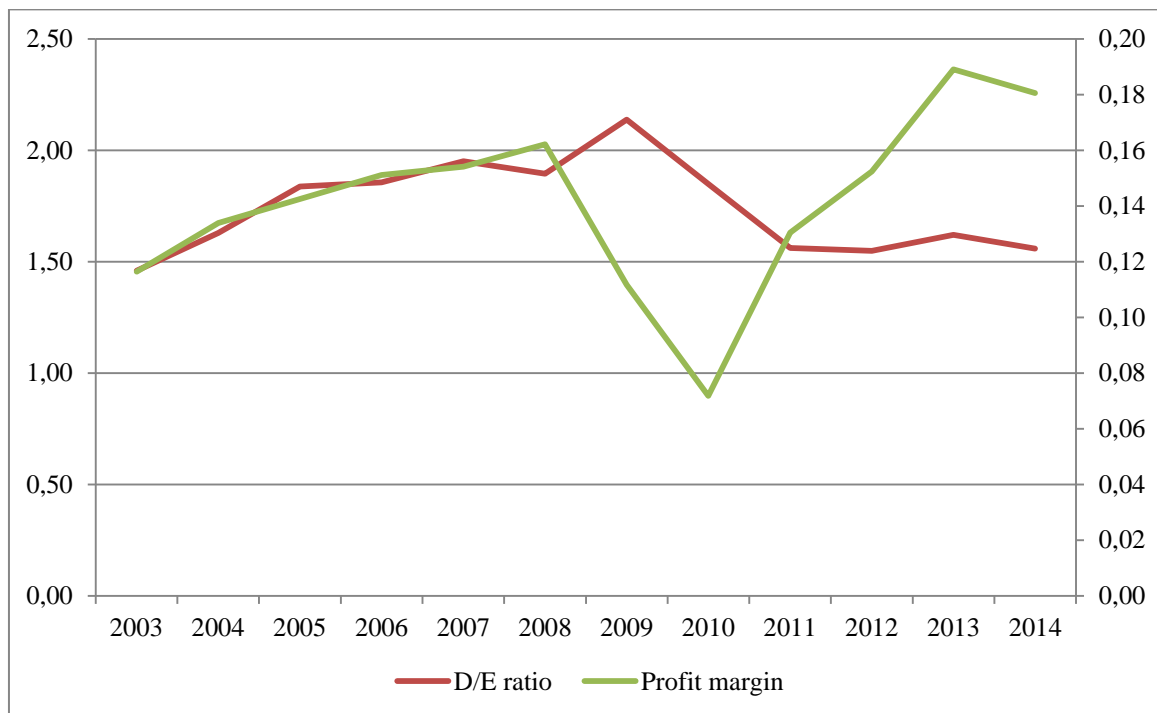
According to the chairman’s report in the financial report 2005 year has borne witness to many challenges within Company B’s business as well as the private health sector. Two of the more public matters have been the events leading to the constitutional court judgment on pharmaceutical dispensing fee structures be revised by department of health before 30 November 2005 and this is a hindrance on profitability.

Table 4. Company D’s debt / equity ratio and profit margin 11 years

Year	D/E ratio	Profit margin
2003	1.46	0.12
2004	1.63	0.13
2005	1.84	0.14
2006	1.86	0.15
2007	1.95	0.15
2008	1.89	0.16
2009	2.14	0.11
2010	1.85	0.07
2011	1.56	0.13
2012	1.55	0.15
2013	1.62	0.19
2014	1.56	0.18

Debt/Equity Mean = 1.74 Profit margin Mean= 0.14
 Debt/ Equity Range = 0.68 Profit Margin Range=0.12

Figure 4. Company D debt / equity ratio and profit margin 11 years



Source: Company D financial statement.

Several other challenges threatens the sustainability of South Africa's world class private health care sector. These include the rising shortage of the doctors, specialists and nurses as well as declining standards and capacity for appropriate training of these professionals. Therefore shortage of skills hinders the relationship between capital structure and profitability. A company cannot maximize its potentials without the rightful skills.

Generally the debt/ equity ratio for imperial ranges from 5.0 to 6.5 while the profit margin is ranges from 0.001 to 0.5. In 1999 the debt/equity ratio was on 6.0021 and the profit margin was on 0.1767. In 2000 the debt/equity ratio decreased to 5.5795 yet the profit margin increased to 0.1833. Years later in 2005 when the debt/equity ratio was 5.9278 the profit margin was up to 0.2026. This shows that there is no relationship between the capital structure and the profitability of the organization. In 2007 the debt /equity ratio was on 6.4193 the profit margin was still around 0.22811.

Company C started with a negative percentage change on debt /equity ratio of -11.50% and 66.67% respectively for profit margin for the years 1999 to 2004. In the following phase from 2004 to 2009 the debt /equity ratio percentage change moved to 9.98% and the profit margin change to a negative (-16.67%). From 2009 to 2013 the percentage changes were reasonably closer to each other, thus -3.94% for debt/ equity ratio and -4% for profit margin respectively.

Company C's financial report of 1997-2003, the chairman's statement stated that, despite the general business, uncertainties that prevailed 2003 and the volatility in the currency market , the performance of the company's foreign trade operations was commendable. However this has a hindrance on profitability. The continued slow economic recovery in 2003 did little to spur lending to the private sector. The banks continue to maintain strict credit control policies and this is a hindrance on the capital structure.

Company D has a higher debt/equity ratio than profit margin as well. In 2003 when Company D was first listed on the JSE the gap between the debt/equity ratio and profit margin was better and there was a positive relationship between the two. However it was becoming wider as years go by. From 2005 to 2008 the profit margin was almost the same. There was a drastic increase on the debt/equity ratio in 2009 and a drastic decrease on profit margin in 2010. The profit margin decrease could have been caused by an increase on debt/equity ratio of the previous year. 2009 and 2010 were also the years where the impact of recession was felt on South African companies. In 2013 as the debt/equity ratio was decreasing profit margin was significantly increasing.

As from 2003 to 2008, the percentage change for debt/equity ratio was 29.45% while profit

margin's was 33% in this case they reflect a strong positive relationship. From 2008 to 2013 the percentage change for debt/ equity ratio went down to a negative 14.29% and the percentage change for profit margin went down to 18.75%. This shows a disjointed relationship between capital structure and profitability.

According to the Chairman's letter, Company D's preferential procurement program me continues to strive of commercial equity with regards to suppliers from designated historically disadvantaged individuals and companies. Company D regards corporate social responsibility as a crucial construction in the society that is burdened by huge disparities and seeks to ensure a balance between the impacts it has on all shareholders.

In respect of corporate social investment some R34.8 million was invested by the Company D foundation to support communities in which Vodacom operates with programs covering education, health and welfare as well as safety and security being the main focus of Company D activities. These activities can affect the profitability of the company in the short term hence also hinder the relationship between the current capital structure and profitability.

Company E's percentage change on debt/ equity ratio was on 15.38% and 0 for profit margin for years 1994-1999. As from 2004 to 2009 the debt/ equity ratio percentage change became a negative 65.07% while the profit margin changed to 100% showing a strong negative relationship. 2009 to 2014 percentage change was characterized by a hefty increase on debt/ equity ratio yet the profit margin also drastically decreased to -70%. These relationships are all inconsistent.

When Company E was listed on the JSE the debt/equity ratio was on 0.39 yet the profit margin was on 0, 0459. Ten years down the line the debt/equity increased to 1.4556 and the profit margin was still at 0.0518. The increase in debt did not necessarily cause an increase on profit margin. In 2005 and 2006 the profit margin was next to nothing and suddenly in 2007 it just shot up to 1.0100. This could be out of the benefits of the 2004 high debt/equity ratio.

According to the chairman's report in the 2011 period, the economic scenario was also difficult. The lead and lag factor saw food prices rise and the impact on general inflation in the foreseeable future with basic foodstuffs the hardest hit. Production inputs such as maize and fertilizer were subject to inflationary pressures which have a ripple effect for clover throughout its supply chain. Therefore inflation is another hindrance especially with regard to the land redistribution question, it has the potential to seriously undermine food security and devastate a wealthy agricultural sector.

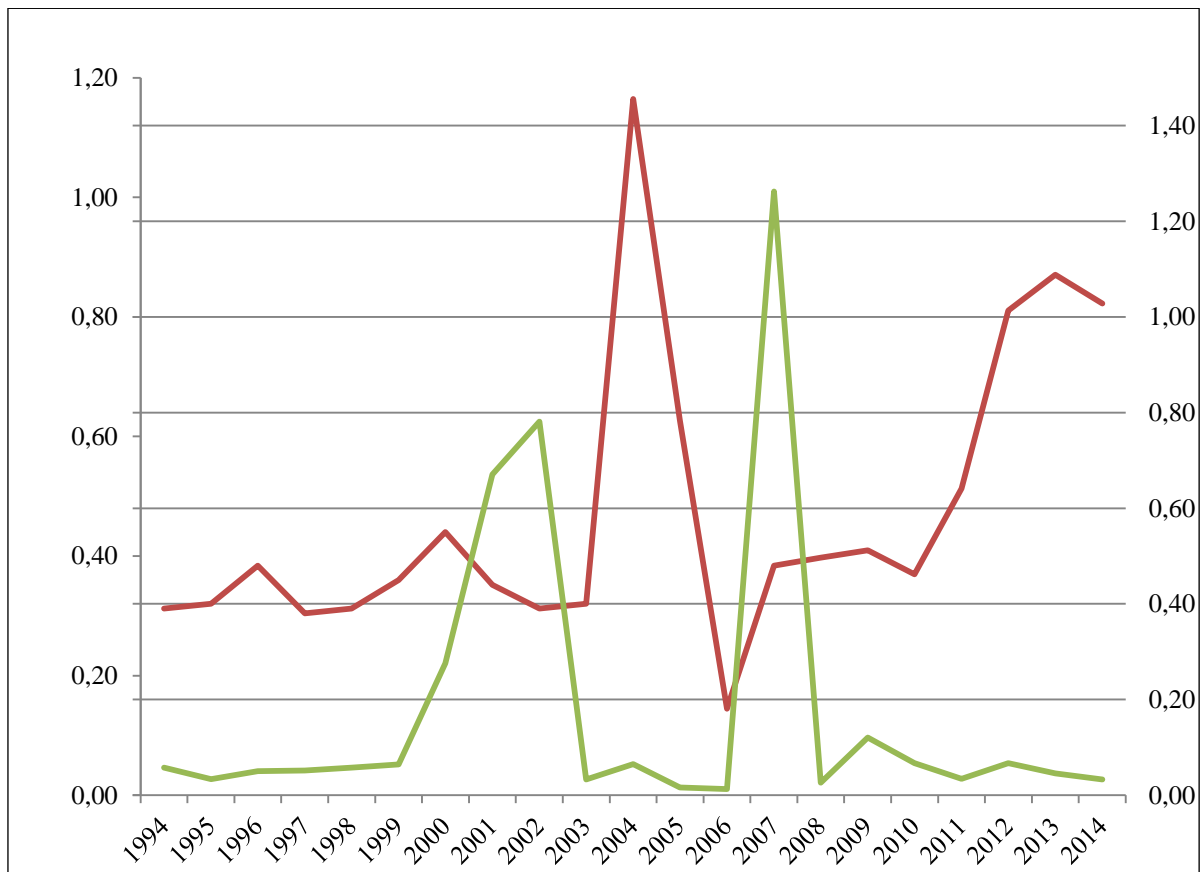
Table 5. Company E debt / equity ratio and profit margin for 21 years

Year	D/E ratio	Profit margin
1994	0.39	0.05
1995	0.40	0.03
1996	0.48	0.04
1997	0.38	0.04
1998	0.39	0.05
1999	0.45	0.05
2000	0.55	0.22
2001	0.44	0.54
2002	0.39	0.63
2003	0.40	0.03
2004	1.46	0.05
2005	0.78	0.01
2006	0.18	0.01
2007	0.48	1.01
2008	0.50	0.02
2009	0.51	0.10
2010	0.46	0.05
2011	0.64	0.03
2012	1.01	0.05
2013	1.09	0.04
2014	1.03	0.03

Debt/Equity ratio Mean = 0.59
Debt / Equity Range = 1.28

Profit Margin Mean = 0.15
Profit Margin Range =1.0

Figure 5. Company E debt / equity ratio and profit margin over 21 years



Source: Company E financial statements

5. Conclusion

From the graphs and tables of the companies analyzed, there is no relationship between the capital structure and profitability of the company. At times the debt/equity ratio and profitability ratio were going in the same direction thus positive relationship and at times they would go in different directions meaning a negative relationship. The outcomes are haphazard there is no uniformity and consistence on the outcomes.

Other hindrances were also discovered and these could be attributed by the environmental factors of the company, thus economic, political, and social and all other external forces the company is exposed to. It seems most companies were increasing their debt/equity ratio as time goes on because they were now well established and could now confidently borrow money from banks yet they do not maximize the debt for profit making.

In some cases companies would borrow money in this year and would start enjoying the benefits in two year time. Yet some would enjoy the benefits in the same year. Due to inflation some figures would keep on growing but not necessarily meaning that the company is doing well. In some cases companies borrow as a way of rescuing themselves from collapsing, so in such cases profit margins would not increase.

The relationship between capital structure and profitability has other factors that affect them. For example if two companies have the same capital structure but they are in different industries they can experience a different relationship of the capital structure and profitability. There are so many external environmental factors that also hinder the relationship between capital structure and profitability.

References

- Ahmad, Y and Zaman, G. (2013). Determinants of capital structure: A case for Pakistani textile composite sector.
- Ahmadinia, H., Afrasiabishani, J. & Hesami, E. (2012) a comprehensive review on capital structure theories.
- Berger, A.N., & Bonaccorsi di Patti, E. (2002) Capital Structure and firm performance. A new approach to testing agency theory and application to the banking industry.
- Calabrese, T. D. (2011). Testing competing capital structure theories of nonprofit organizations.
- Christi, K. A., Ali K., & Sangmi. M. (2013) volume 13 Impact of capital structure on profitability of listed companies evidence from India.
- Clover financial reports from 1994 to 20014
- Coldwell, D. and Herbst, F. (2004) Business research. Juta and co.
- De Mederois, O.R., and Daher, C.E., (2004). Testing static Tradeoff against Peckering order Models of capital structure in Brazilian firms.
- Derayat, M. (2012) the investigation of experimental relationship between capital structure and profitability in acceptable companies of Tehran stock exchange (TSE).
- Duignan, J. 2014. Quantitative methods for business research. Cengage learning.
- Eriksson, P. and Kovalainen, A., 2008. Qualitative Methods in Business Research .Sage publications
- Ferati, R. and Ejupi, E. (2009) Capital structure and profitability: The Macedonian case.
- Frank, M.V., and Goyal, V.K., (2003) Testing the pecking order theory of capital structure.
- Gansuwan, P. & Onel Y. C (2012) The influence of capital structure on firm performance.
- Gatsi, J. G. and Akoto, R. K. (2010) Capital Structure and Profitability in Ghanaian Banks.
- Gitman. L. J., (2009). Principles of managerial finance, 12th edition , the Pearson international edition
- Khan, A. G, (2012) volume 2. The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan.
- Imperial Financial reports from 1999 to 2013
- Ivashkovskaya, I., and Solntseva, M (2006) Capital structure puzzles in BRIC: Do Russian, Brazilian and Chinese firms follow Pecking order or Trade-off logic of finance.
- Kebewar, M. (2013). The effect of debt on corporate profitability. Evidence from French service sector.
- Khan, A. G, (2012) volume 2. The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan.
- Lazaridis, I. and Tryfonidis, D. (2006) Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange. Journal of Financial Management and Analysis, Vol. 19, No. 1.
- Madah, N.A., Sultan, K. and Farooq, K. (2013). Effect of capital structure on profitability. An empirical study of non-financial firms listed in Karachi stock exchange in Pakistan.
- Miglo, A. (2010) The pecking order, trader off, signaling and market –timing theories of capital structure. A review.
- Mireku, K., Mensah, S., and Ogoe, E. (2014). The relationship between capital structure measures and financial performance: Evidence from Ghana.
- Modigliani, F., & Miller, M. (1958) Corporate income taxes and cost of capital. A correction. The American economic review.
- Mumtaz, R., Raul, S., Ahmed, B., and Noreen, U., (2013). Capital structure and financial performance. Evidence from (Kse 100 index)
- Myers S.C (1984) the capital structure puzzles. Journal of economic perspectives.
- Netcare Financial reports from 1996 to 2011
- Nimalathasan. B and Brabete, V. (2010) Capital structure and its impact on profitability: A study of listed manufacturing companies in Sri Lanka.
- Ooderink, P. (2013) Determinants of capital structure: static trade off theory vs pecking-order theory. Evidence from Dutch listed firms.
- Osborne, M., Fuertes and Milne A. (2010). Capital and profitability in banking: evidence from U.S banks.
- Pellisier, R., 2007. Business research made easy, Juta & co.
- Polonsky, J.M. and Waller, D.S., 2011. Designing and Managing a Research Project. A Business Student Guide. Second Edition. Sage publications.

35. Salim, M. and Yadav, R., (2012). Capital structure and firm performance: Evidence from Malaysian listed companies.
36. Salkind, N.J., (2012). Exploring 8th edition. Upper Saddle River, N. J.: Pearson International.
37. Saunders, M., Lewis, P and Thornhill, A. 2012 Research methods for business students. Sixth edition. Pearson educational limited.
38. Shah, S.M.A., (2007) Corporate debt policy- pre and post financial market reforms: The case of the textile industry of Pakistan.
39. Shubita, M. F., & Alsawalhah (2012). The international journal of business and social science. The relationship between capital structure and profitability.
40. Tsuji, C., (2013) corporate profitability and capital structure: The case of the machinery industry firms of the Tokyo stock exchange.
41. Turkson, A. H., Aggrey-fynn, I. and Sarkey, A. S., (2012) Capital structure and profitability of selected listed financial firms in Ghana.
42. Velnampy, T., & Niresh, J., (2012) volume 12 .The relationship between capital structure and profitability
43. Vodacom Financial reports from 2003 to 2013.
44. Woolworths Financial reports from 2001 to 2013.
45. Weathington, B. L., Cunningham, C.J.L., and Pittenger D.J., 2012. Understanding Business research. A John Wiley and sons Publication.