An empirical study on the impact on firm value and capital structure Listed companies in the Construction, telecommunication and footwear and textile industries in the Sri Lanka

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Abstract: **What is the optimum capital structure of the firm; this was argued by many economists from very long time. Some economist said there is positive relationship with firm value and capital structure. On the other hand, some economist said there is negative relationship with organization capital structure and value for firms.**

When we reviewed the literature and prolonged our understanding of these theories and hypotheses, we found that the relationship between capital structure and firm performance is interesting aspect and worthwhile to research. Therefore, this study started an extensive literature review and found a research gap, which is the relationship between capital structure and a firm's value from the perspective of capital structure theories in the Sri Lankan context during the period 2010-2015. Since researchers investigate the relationship between capital structure and firm performance in many different countries and there is nothing in the Swedish context, there for thus decided to write the thesis about it.

This study is based on the three volatile business sectors in the country. Only listed firms in telecommunication industry, construction and engineering sector and footwear and textile companies' financial data used for this study. Five years of financial data taken for this analysis from 2010/11 to 2015/16 years. From these selected firms analysed profitability and performance ratios with capital components to find how capital structure help to increase firm value.

The study found that in construction sector return on assets has a positive relationship with short term debt. Earnings per share have positive relationship with long term debt. In the footwear industry return on assets and equity have negative relationship with short term debt and positive relationship with long term debt. Dividend per share has negative relationship with number of shares. In the telecommunication sector have positive relationship with return on assets and debt to equity ratio. Earnings per share have negative relationship with debt-to-equity ratio and number of shares. Return on equity has positive relationship with debt-to-equity ratio and number of shares

Based on the findings it is advised that construction and footwear and textile industry is better to invest using debt financing. Currently have 26% mean of debt-to-equity ratio in these industries. Telecommunication industry it is better to invest using internal source and better to reduce debt to equity ratio. Currently have 33% of mean debt to equity ratio.

Keywords: **The author gives 4 – 10 keywords which are related to the major part of their research work.**

I. INTRODUCTION

Capital structure is referring to the source of funding's of the company. Choose a correct funding method is a challenging decision for the financial managers of the firms. Capital structure will lead to a cost of capital. Investments using debt capital and equity capital have different cost patterns in each category. Return on the investment from project must need to exceed the cost of capital to viable the project.

Choosing the optimal capital structure is one of the biggest challenging thing for company decision makers. Especially the circumstances like 2007 financial crisis. During this period large number of companies bankrupt due to the heavy burden of debt. Repaying debt and interest was challenging thing and lot of companies unable to repay their debt.

There is enormous number of theories were based on the capital structure effect and firm value. As per the Modigliani and Miller (1958), emphasis that the market value of the firm, market value of one stock, does not depend on the capital structure of the firm. This theory by Modigliani and Miller is based on a set of shortening norms. These norms include no taxes, no transaction costs and no information asymmetry. The theory says that the total market value of all financial assets issued by a firm is determined by the risk and return of the firm's real assets, not by the mix of issued securities (Bystrom, 2007).

The argument behind the Modigliani and miller theory is investors can create any capital structure by their own choice. There for no need to concern firm's capital structure. "If investor is highly grateful, the risk and return of the firm's stock will simply be the same as if the firm was highly levered" (Bystrom, 2007). This phase emphasis that leverages inside the firm and more leverage firm yield higher returns to the investors and risk will be incline symmetrically. This is the main idea of Modigliani and miller.

There is theory that the value of the firm and cooperate tax of debt have positive relationship. This theory called as trade off theory. Trade-off theory states firms' profits will try to use high debt to gain a tax shield. The tax portion is an only a cost to firm owners. There is three recipients in the geared firm, one is equity investors, second is debt lenders and third government. Therefore, the value of the geared firm is the total value of debt and equity. In these occurrences, value is maximized with the lowest tax as a cost. (Hillier, et al., 2010).

Another theory is called pecking order theory, according to pecking order theory firm's investment priority need to attain for internal financing, if external finance is requisite firms need to focus on issuing safest security first. The safest security start with debt, then possibly hybrid securities then equity as a last possibility. In difference to the trade -off and pecking order theories of capital structure, (Baker and Wurgler, 2002) found that firms with low level of leverage issued capital when their market assessments were high as measured by the book value and the market value ratio, whereas firms with high leverage ratio issued stock when their market assessments were low. This theory called as the market timing capital structure theory.

1.1 Research Problem

1.1.1 Problem Identification

How do well firms operating in Sri Lanka understand dominant capital structure in their sectors and operate efficiently is still a question which is not answered properly.

Identify the optimum capital structure is critical for finance managers. Capital structure comprise with different debt and equity combinations. Also industry to industry capital structure will change. According to the industry, risk factor is different and the capital structure also differs from industry to industry.

This study is focused on to find the relationship between firm's capital structure and value to it firms. Also to find what is the role of capital structure and value to firm. There for this study is focused to find the capital structure and it is roll to increase firm value.

This study based on only three business sectors. Companies only listed in Colombo stock exchange are used to analyse for this research. Those three industries are Telecommunication, foot ware and textile and Construction and engineering.

1.1.2 Problem Justification

Telecommunication industry is highly volatile; demand for products will change rapidly and have short life span for some products. There for the firms in this industry need to invest continuously on research and developments and product promotions. To develop products and promotions firms need to invest capital. Is this investment decisions are taken considering optimum mix of capital structure? Is this investment bring real value to firm and shareholders? In the telecommunication industry there is two listed companies namely Sri Lanka telecom PLC and Dialog Axiata PLC. Only listed firms in Colombo stock exchange take for this study.

Construction and engineering industry, main reasons to choose this industry is investment for project is very high and some projects have long life spans. Problems are these investments bring value to firms? Are investments with long life

span are operating with appropriate cost of capital throughout the life span? These problems are still not answered properly. In the construction industry four companies are listed in Colombo stock exchange, they are Access engineering PLC, Colombo Dockyard PLC, Lankem Ceylon PLC, MTD walkers PLC

Footwear and textile industry is also a volatile industry. Mainly due to fast changing customer taste and in this industry competition is very high. There for companies in this sector need to develop new designs randomly and change the company products time by time. Lock the customer for their brands also a crucial. To do these activities firms need investments. Firms investments made to overcome the market issues really provide solution to firms, or are these investments become problem for investors from the other hand? Are these investments decisions really overcome the firm's problem only or it will provide value to shareholders too? Those are critical questions to answer yet. In the foot ware and textile industry there are three listed companies. Namely Odel PLC, Hayleys Fibre, and Ceylon leather products PLC.

For this study data analysed using published annual reports of the above-named companies from 2010/11 to 2014/15 years.

1.2 Research problem

Firms are investing to the projects; but is this investment doing with proper identification of the cost of external funds. These investments adding value to the firms as per the shareholders expectation. For a firm to grow it has to embark on value adding projects; hence effective capital budgeting is essential.

One method is to analyses the new projects future viability is analyse future cash flows discounting with appropriate cost of capital. If company has no idea about appropriate capital structure it doesn't have the good sense about appropriate cost of the capital structure.

When firm invest to the projects it is not sufficient to only consider profit. There are more things need to consider than a profit. Are the investments adding value to firms, such as how investments effect for earnings per share (EPS), dividend per share (DPS), return on equity (ROE), and return on assets (ROA). And how these investment affects for firm market price, because this will bring the market value for firms. There for main aim of this study is to find relationship with capital structure and value to firm.

1.3 Objective of the Study

Main objective of this study is to answer the research problem as state above. When we find the answers to research question, we may able to find three possible scenarios.

First scenario we may get as an answer that capital structure and firm have positive relationship with firm value. Second scenario we may find that capital structure and firm value have negative relationship. As per the third finding may be capital structure and firm value have no relationship. Most of the researchers found the positive or negative relationship. There for we expect to find relationship from this study. In addition, we analyse capital structure and firm value in three industries operating in the Sri Lankan market.

Research objective can be summarized as follows.

- To investigate the relationship between capital structure and firm value.

1.4 Significance of the Study.

Firms operate in Sri Lanka is operating different capital market context comparing with develop countries. Capital market in developed economies functioning well comparing with developing economy capital markets. Information asymmetry is considerably lower in develop markets than a developing country. Develop countries have well establish regulations in credit markets than a developing country like Sri Lanka.

There for this research will useful to Sri Lankan listed companies operating under chosen market segments mention above to identify the relationship with capital structure and returns.

1.5 Limitation of the Study.

This study is based only on listed companies in Colombo stock exchange during the period of 2010/11 to 2014/15. The time period is only five years due to the data availability in Colombo stock exchange web site.

This study is based on the published financial statements and accounting ratios. Accounting practice is different from firm to firm. There for the data extracted from financial statements is not prepared under one method. Data analysed for this study is past data. The result of past data change during the time by time.

This study also did using secondary data and only the quantitative data. This study is based only on three business sectors among twenty business sectors in the Sri Lanka mainly due to the time constraint.

1.6 Outline Of The Study.

Outline of the research problem as follows. Chapter one introduction, chapter two critical review of literature, chapter three research methodology and hypothesis, chapter four data analysis, results and presentation. Chapter five Conclusions and recommendation.

2. CRITICAL LITERATURE REVIEW

2.1 Introduction

After Thirty-seven years and more than hundreds of papers after Modigliani and Miller's seminal work, what do we really know about corporate capital structure choice (Raghuran G. rajan and Luigi zingales, 1995). Choice and role of capital structure is still a challenging decision. There are large numbers of theories and researches based on choice of optimal capital structure and its roll to firm value.

An appropriate capital structure decision able to bring wealthy returns to shareholders. Positive net present value of projects able to increased firm cash and enhance the firm value. Inadequate capital structure decision able to destroys firm cash position and investors wealth. Proper capital structure decision also enables the competitive position to firm in order to compete with market rivals.

Capital structure consist with equity and debt portions, when the projects funded totally by equity finance shareholders will have total cash ownership of cash inflows of the project. When projects funded using equity and debt portions owner ship of cash will spread among shareholders and debt funders.

2.2 Defining the Capital Structure.

As per the American economic review the cost of capital and theory of finance by (Franco Modiglani and Merton H Miller, 1958)what is the Cost of capital to a firm, when yields from invested assets are uncertain. What kind of a capital components need to attain, ranging from pure debt instruments, representative money-fixed claims, to pure capital equity issues, giving holders only the right to a data share in the uncertain venture?

The financial management is an activity of managing, planning and control firm resources efficiently. When describe financial management it can devolve further to more areas. Investment choices and financing options. Choices of dividend models and liquidity.

When it comes to investment cost of investment is crucial area to analyse. When firm invest using shareholders' funds it is called equity investments. Investors for the equity are the owners of the firm. For these equity investments shareholders expect returns to their funds. This returns to shareholders called cost of equity. Also, firms use debt financing, for the debt financing firms need to pay interest charges. This interest charge called cost of debt. The total cost of equity and debt we call as cost of capital of the investment. Also, this equity and debt portions mix we called as capital structure.

The investment can be done various ways; all the investments have a cost. To make the investment viable returns from the investment must be higher than the cost of capital. But challenging thing is in the uncertain world it's difficult to correctly account return from the investment.

As per the journal of finance the capital structure puzzle by (Stewart C Myers, 1984) By contrast, we know very few about capital structure. We have no idea how firms choose the debt, equity or hybrid securities they issue. We have recently discovered that capital structure changes communicate information to investors. For the equity investors some firms paying dividends end of the particular periods. When choosing debt and equity financing method firms need to choose the dividend policy apart from paying finance cost for debt investments. Implement dividend policy also a crucial decision before arrive to final decision about capital structure.

The journal of economic, article of capital structure by (Stewart.C Myers, 2001) "the study of capital structure attempts to explain the mix of securities and financing sources used by corporations to finance real investment". Most of the research

on capital structure has focused on the proportions of debt vs. equity observed on the right-hand sides of corporations' balance sheets.

As per the book of essentials of cooperate finance by (Stephan A.Ross,Randolph W.Westerfield & Bradford D.Jordan, 2008) "the Capital structure is the detailed mix of debt and equity the firm uses to fund its operations. As per there finding they have identify two crucial areas. Firstly, to identify the optimum capital ratio and how much firm need to borrow? The selected mixture will shake the risk and value of the firm. The second crucial area is to find what is the least cost funding source? They have further specified that the capital structure is a pie and the capital mixture defines in what way the pie is sliced.

As per the book of Turning Vision into Value: Corporate Finance for Non- financial Executives. By (Ward, M. and Price, A, 2008) graphically illustrate the capital structure as per below.
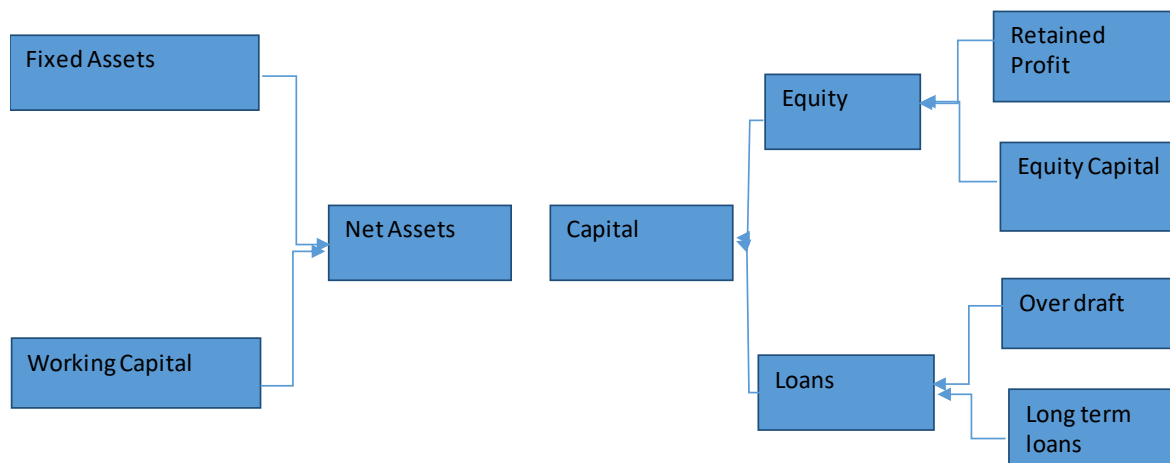

Figure 2.1: Application and funding sources.

Source - Turning vision into value: Corporate finance for non- financial executives. By(Ward, M. and Price, A, 2008)

2.3 Debt Financing

Debt finance is investment method using third party resources from firm or individuals. When firms obtaining debt from outside firms most of the time security will grant from the lender. There for debt lenders have a less risk than equity investors. As a result of this debt finance cost is less than capital investments. Also, apart from this interest portion have a tax relief. This tax relief called tax shield. As a consequence of tax shield debt financing become cheaper than equity investments.

Same way there is draw backs of debt investment. Main risk is regardless of firm profits finance chargers need to pay for the debt lenders. Also, the debt lenders can change the interest rate if firms not get in to proper agreements. If firm fail to repay the debt, debt lenders have legal right to take over the asset kept as a security. Also, administration time and management time will be an additional cost apart from interest cost. On the other hand firm gearing level increase due to debt financing.

(Stewart. C Myers, 1984) A firm's optimal debt ratio is typically expressed as determined by a trade-off of the benefits and costs of borrowing. The firm is depicted as balancing the value of interest tax shields in contradiction of several costs of insolvency or financial awkwardness. Of course, there is argument about how valuable the tax shields are, and which, if any, of the costs of financial awkwardness are material, but these disagreements give only variation on them. The firm is supposed to ancillary debt for equity, or equity for debt, until the value of the firm is maximized.

In the Journal of finance Market timing and capital structure by (Malcolm Baker & Jeffry Wurgler, 2002) High market valuations allow managers to add equity but also allow them to become entrenched. Resisting the debt finance necessary to restore debt to the optimum.

2.4 Defining the Firm Value

Firm value is not only measured by the profits. To increase shareholder wealth and firm value is a responsibility of board of directors and mangers of the firm. This emphasised in agency theory.

As per the book of fundamental of cooperate finance 3rd Edition by (Myers et al, 2001) to carry on business, firms need an almost endless diversity of real assets. Many of these assets are touchable, such as machines and plants, and offices; others are intangible, such as skills of expertise, trademarks, and patents. All of them must be rewarded.

There for financial mangers responsibility is to invest for assets on an appropriate manner. Investments with inadequate knowledge will erode the wealth of shareholders also the firm value.
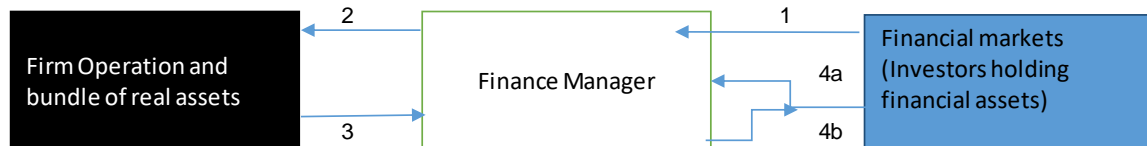

Figure 2.2; Responsibility of finance managers.

Source - fundamental of cooperate finance 3rd Edition by (Myer. Brealy and Marcus, 2001

1) Cash raised by selling financial assets to investors.

2) Cash invested in the firm operation

3) Cash generated by the firms operation.

4a) Cash re investment

4b) Cash returned to investors.

Above figure will show the management roll of investment and shareholder's return.

Mangers responsibility is to increase current value per share, (Richard et al, 2001) However when firm goes bankrupt shareholders are the once who getting back there returns on last. Lenders, borrowers, suppliers and employers are having authentic claim on assets. Wealth on the shareholders increase all the claimants' wealth will maximize.

The mix of funding will effect to the firm value and risk. Managers need to decide the mix of investment method for projects. (Myers et al, 2001). The managers decision there for whether to invest through firm retained profits, debt or equity or hybrid financing.

2.5 Theories of the Capital Structure

There is large number of theories based on the capital structure. To this study only consider three capital structure theories and two hypotheses, the trade-off theory, market timing theory, pecking order theory, efficiency risk hypothesis and franchise value hypothesis.

Modigliani and Miller (1958), emphasis of the irrelevance of capital structure. We do consider this before consider above three theories.

2.5.1 Modigliani and Miller Capital Structure Irrelevance

The capital structure irrelevance is first published in 1958 By Modigliani and Miller (The American economic review, 1958 June). Emphasis the mix of financing is not the matter to increase or decrease firm value in a perfect capital market. Essentially, they theorized that in seamless markets, it does not matter what kind of a capital structure a company uses to venture its operations. They theorized that the market value of a firm is determined by the risk of its underlying assets and earning power, and that its value is independent of the way it chooses to finance its investments or distribute dividends.

In the theory of Modigliani and Miller proposition is based on the following conventions.

- No levies
- No cost for transaction

- No effect of obligation on a company's earnings before interest and taxes.

- Borrowing costs for firm and investors are equivalence

- There is no information asymmetry

But in real world there were taxes, cost for transaction, information asymmetry and different in borrowing costs. This is the MM1 theory emphasis first.

As per the book of fundamental of cooperate finance by (Myers et al, 2001) the formula developed for this theory are as below.

VL = VU

Where VL = Value of a leverage firm

Where VU = Value of an unlevered firm.

According to this formula value of the levered firm and unlevered firm is same. There for cost of capital of the firm is same regardless of capital structure.

But in later Modigliani and Miller develop another theory called MM II. Which associated with the weighted average cost of capital (WACC). This emphasis the percentage of debt in the company's capital structure may cause to escalations, firms return to equity investors. The existence of higher debt levels makes investing in the company riskier, so shareholders demand a higher risk premium on the company's stock. However, because the company's capital structure is irrelevant, changes in the debt-equity ratio do not affect WACC. MM II with corporate taxes acknowledges the corporate tax savings from the interest tax deduction and thus concludes that changes in the debt-equity ratio do affect WACC. Therefore, a greater proportion of debt lowers the company's WACC.

2.5.2 The Pecking Order Theory

As per the (Myers, 1984) due to adverse selection, firms prefer internal to external finance. When outside funds are necessary, firms prefer debt to equity because of lower information costs associated with debt issues. Equity is rarely issued.

Financing comes under three main sources, internal funds, debt and new equity. Companies critically prioritize their sources of financing, first of all firms will look at internal financing, and if it is not adequate then debt, if this both not sufficient then as a choice firms will raise equity as a "last resort". This theory emphasis that firms need to ad-here a hierarchy of financing sources and it is better to look at internal financing when first when it's available and debt is preferred over equity if external financing is required. Equity mean issuing new shares which may lead to bringing new external ownership' into the firm.

According to the Journal of finance Volume 95, Journal of pecking order, debt capacity and information asymmetry by (Leary, Mark and Roberts, 2010)the pecking order theory is based on the opposing selection based on information asymmetry, it was proved that information asymmetry does not need for a financing hierarchy to arise. It has, however, been shown that other factors such as incentive conflicts could generate a pecking order behaviour.

2.5.3 Tradeoff Theory.

Trade off theory justify moderate debt ratio (Myers 2001) this theory emphasis that the firm will obtain borrowings up to point where the minimal value of tax shields on extra debt is just offset by the escalation in the present value of possible costs of financial distress. Financial distress refers to the costs of reformation or bankruptcy, and also to the agency costs that arise when the firm's creditworthiness is in hesitation.

In 1963 Modigliani and Miller develop the theory called MM II, based on the WACC. This theory was developed as a correction of MM I theory. (Modigliani & Miller, 1963). "The deduction of interest in computing taxable corporate profits will prevent the arbitrage process from making the value of all firms in a given class proportional to the expected returns generated by their physical assets"

When re-correcting the MM I formula to MM II formula as per the book of fundamental of cooperate finance by (Myers et al, 2001) new formula as per below.

VL = VU x TC x D

Where:

VL= the value of the levered firm

VU= the value of the unlevered firm

TC= the corporate tax rate

D = the amount of debt

The above re arrange formula present that, value of levered firm is equal to the value of unlevered firm plus present value of the interest tax shield.

Firms need to identify their optimal capital structure and endeavour to reach and keep it. As it is understood, there is large deviation in optimal capital structure among firm. (Graham and Harvey, 2001). Tax shield is also a crucial point in the trade-off theory. Firms able to set off interest payments for their borrowings from tax. In order to increase tax shield firms may choose to borrow in high levels. (Graham and Harvey, 2001)

In the other hand (Myers, 2003) emphasis firms with high debt levels are expected to have good financial performance. But high level of debt may cause to the risk of bankruptcy and conflict with agents and owners to due debt level.

According to trade-off framework, firms set a target debt-to-value ratio and gradually moving towards it, in much the same way that a firm adjusts dividends to move towards a target payout ratio (Myers, 1984)

The pecking order theory emphasised the advantage and risk of the debt. We will consider the advantages and disadvantages of debt as per below.

2.5.3.1 Dynamic Trade off Theory

In the journal of finance, capital structure decision by (Ovtchinnikov, Alexei, 2010) in the traditional trade-off theory firms set target debt to equity levels by weighting cost and benefits. Which include the tax-deductible interest and the reduction of free cash issues.

Static trade-off theory also illustrate by Myers 1984 as per below.
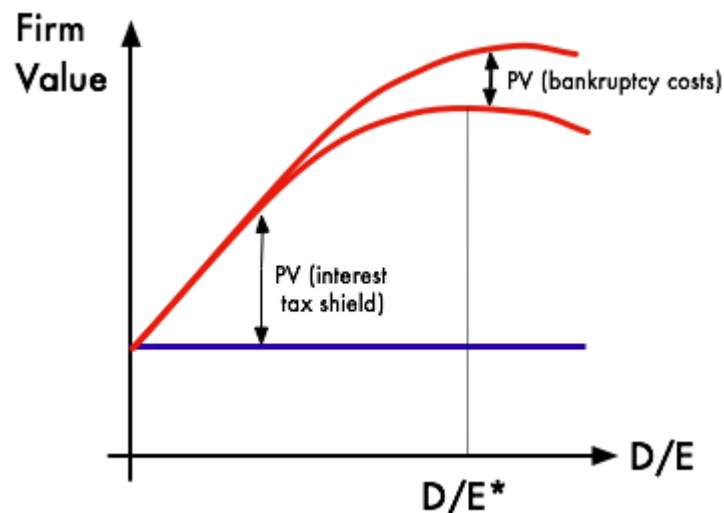
Figure 2.3: Source –The static tradeoff theory of capital structure

Source: The capital structure puzzle. Myers 1984,Page 577

In the dynamic theory of trade-off is identifying that finance resistances make it suboptimal for firms continuously adjust leverage to the target. This was unlike the static trade-off theory. Under the dynamic trade-off theory, firms ponder the benefit of adjusting against the adjustment cost and make leverage adjustments only. When the benefit outweighs the cost (Ovtchinnikov, 2010).

2.5.3.2 Advantages of Debt

- Retain the control – When you in put the debt finance to firm debt lenders will not come to control the firm. Once firm issue shares, share purchased by investors will come to the control of firm

- Tax advantage – Interest is tax deductible and when firm paying tax the percentage of interest will offset.

- Easy planning process to pay – Firms when obtaining debt, they know the schedule of loan repayment. There for this is easier to plan the cash out flow.

- Lower cost than equity – Debt lenders issue the debt while keeping security as a result of this interest cost is lower than equity holders expected return

2.5.3.3 Disadvantages of Debt

- Agency cost – Agency cost can also be trigged by conflict between debt and equity investors (Myers, 2001). Conflicts between equity and debt investors arise when there is risk of default. Equity holders have a residual claim there for shareholders gain when the value of debt amounts falls. Debt holders do not consider about firm profit or value when debt holders totally free of risk.

Also, Agency cost related with the conflict between managers and shareholders. Conflict between manager and shareholder arise when manager fail to act best interest to increase the firm value. (Ryen et al, 1997)

- Qualification criteria - To get qualify for obtain the loans firms need good credit rating and debt lenders require a collateral. Most of the firms facing difficulty to meet those requirements.

- Under investment – The under-investment problem will be arising when firm equity holders feel that most of the resources of firm use to settle other claimants' value. Such as firm largest cash out flows used to settle loans obtain by third party. There for value return from firm to shareholders will decrease (Myers , 1997)

2.5.4 The Market Timing Theory

In Co-operate finance market timing refers to the practicing of issuing share at a high price and purchasing shares at a lower price. (Malcolm Baker and Jeffery Wurgler, 2002). The purpose is to explore temporary fluctuation of the cost of equity relatively to the cost of other forms of capital.

In practice, mangers in firms seem to aggressively involve in market timing in their financing choices. Two-thirds of corporate administrators agree that "the quantity by which our stock is underestimated or overestimated was a significant or very significant deliberation" in equity issue choices in surveys by *(*Graham and Harvey, 2001).

The main difference between the pecking order theory and the market timing theory is whether the assumption of semi-strong form market efficiency is maintained. The theory of pecking order assumes markets are semi-strong efficient, thus the announcement effect of securities issues is the primary proxy for the degree of information asymmetry. The market timing theory does not rely on the assumption of semi-strong form market efficiency. The opportunity exists as long as the relative cost of equity varies over time for either rational or irrational reasons. (Ronbing et al, 2004)

In the research of Fama and French (1997) find that the estimation of the cost of equity using realized returns is "unavoidably imprecise" due to the difficulty in identifying the right asset-pricing model and the imprecision in the estimation of factor loadings and factor risk, premier. Furthermore, what happened in the past does not necessarily repeat itself in the future. An alternative approach estimates the implied equity risk premium with valuation models using accounting fundamentals

2.5.5 Efficiency Risk Hypothesis.

Under the efficiency risk hypothesis more efficient firms use lower equity ratios than other firms. Mainly due to high efficient firms reduce bankruptcy cost and financial distress. (Bonaccorisdipatti, 2006)

Under this theory higher profit efficiency generate higher expected return to the given capital structure. The higher efficiency able to protects firm from future crisis. This hypothesis is joint hypothesis, efficiency is strongly associated with positively with expected returns and high efficiency are substituted for equity capital to manage risk.

(Min Chang Cheng and zuweiching – Tzeng, 2011)

2.5.6 Franchise Value Hypothesis.

The franchise value hypothesis debates that, firms that are more efficient choose capital structure with high equity ratio to protect future earnings, or franchise value, resulting from high return efficiency. (Bonaccorisdipatti, 2006)

The franchise-value hypothesisemphases on the earnings effect of the economic returns generated by productivity on the choice of capital structure. Under this hypothesis, more competent firms choose higher equity capital ratios. Other capital components are constant to protect the returns or franchise value associated with high productivity from the likelihood of liquidation. Higher productivity may create economic returns. Efficiency is expected to continue in the future periods and shareholders may choose to hold extra equity capital to protect these returns, which would be lost in the event of bankruptcy, even if the liquidation involves no obvious bankruptcy or distress costs.

(Min Chang Cheng and Zuwei Ching – Tzeng, 2011)

2.6 Summery of the Literature Review.

In the end of 1950s Modigliani and miller (1958) emphasis on their seminal work paper that firm capital structure is not relevant for the firm value. In this study they emphasis perfect capital market. Levered and unlevered firms have same value. This theory leads start lot of arguments and researches later.

In the real financial world, there is interest component to pay for the borrowings. Also firms need to pay tax for their profits. The tradeoff theory emphasis the relationships with debt and tax shield. Stewart C. Myers (1983) in the Capital structure puzzle journal presented about debt and tax shield. Also, the optimum capital structure and returns to the investors.

There is no universal theory for the debt-to-equity choice and no reason to expect one. Stewart C. Myers (2001). A taxpaying firm that pays a sum of interest receives a partially offsetting "interest tax shield" in the form of lower taxes paid. In some industries which have high risk levels have very little o negative debt to equity ratio. Main finance source of these firms a debt financing. The firm capital structure effect the firm's returns. Also firm capital structure decides the dividend payments. Highly geared firms used more resources to pay debt and interest portions. Equity investor will have only residual value of the firm assets.

Traditional trade of theory firms set target debt to equity levels by weighting cost and benefits. (Ovtchinnikov, Alexei, 2010). The firm's profitability was affect due to the debt levels. Deregulated industries Economists generally decide that deregulation raises firm profitability in some industries and has little effect on or lowers firm profitability in other industries. The reason for increased profitability following deregulation stems from inefficiencies created by regulation and the resulting higher costs of production. The firm profits and performance decide by capital structure decisions.

Dividends are crucial for investors. Since investors can make money on capital gaining what will be the need for paying dividends. Modigliani and Miller,(1963). The effect of a firm's dividend policy on the current price of its shares is a matter of considerable importance, not only to the corporate officials, who must set the policy, but to investors planning portfolios and to economists seeking to understand and appraise the functioning of the capital markets. In this theory emphasis the impacts for dividend per share, earnings per share and capital structure.

	Author	Firm Capital structure and value								
		Gearing ratio (D/E)	Earnings/ EPS or profits	Firm Ordinary capital	Short term debt	Long term debt	Tax shield	ROA	ROE	DPS
1	Franco Modigliani; Merton H. Miller. (1958)	X	X	X				X	X	X
2	Franco Modigliani; Merton H. Miller. (1963)	X	X	X	X	X	X			X
3	Stewart C. Myers. (1983)		X	X	X	X	X	X	X	X
4	Stewart C. Myers. (2001)	X	X	X	X	X	X			
5	Graham and Harvey, (2001)	X	X				X	X	X	X
6	Malcolm Baker & Jeffry Wurgler. (2002)	X	X	X	X	X				
7	Ronbing, et al. (2004)	X		X	X	X			X	
8	Bonaccorisdipatti. (2006)	X	X					X		
9	Stephan A.Ross,Randolph W.Westerfield & Bradford D.Jordan. (2008)	X	X	X	X	X	X	X	X	X
10	Ovtchinnikov. (2010)	X	X		X	X	X			
11	Min Chang Cheng and zuwei ching – Tzeng, (2011)	X	X					X	X	

Figure: 2.4 Summery of literature review.

3. RESEARCH METHODOLOGY

Introduction

In chapter three presented the conceptual frame work for this study. Hypothesis based to analyse this study. Further in this chapter present research methodology, population, data gathering process and the nature of data gathered for this study.

3.1) Conceptual Frame Work
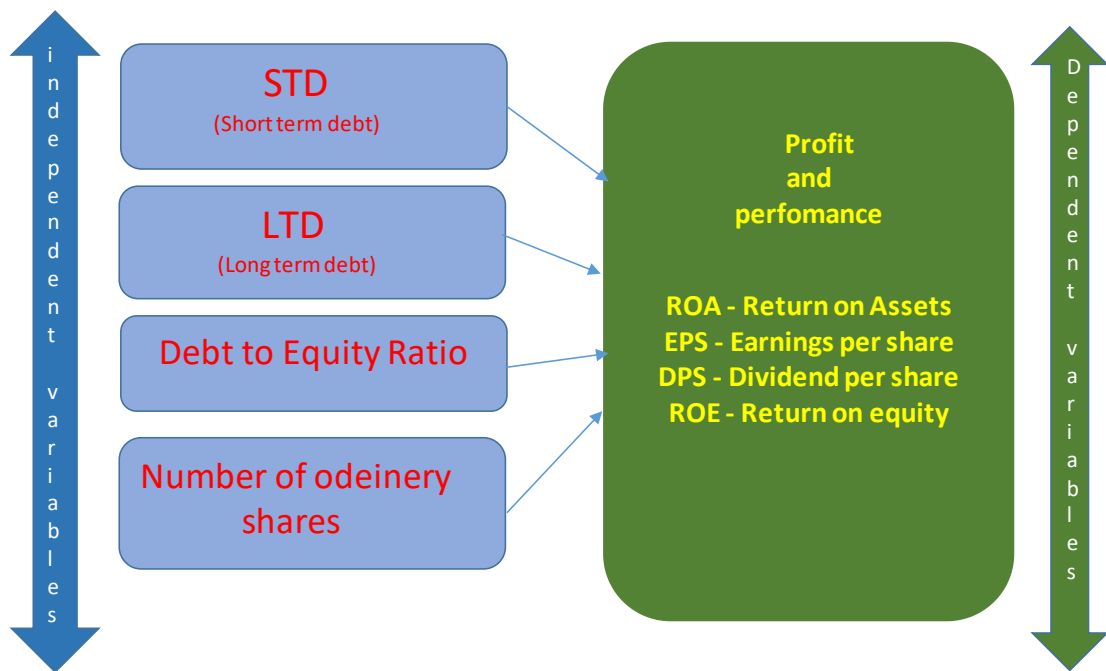
Figure 3.1: Conceptual frame work.

As per figure 3.1 dependent variables are profit and performance measurement ratios. And the independent variables are capital structure variables.

3.2) Independent Variables

To this study as independent variables we use capital structure components. Firm's short-term debt, long term debt, debit to equity ratio and number of ordinary shares we used for this study. As per the large number of recent researchers they have found firm debt and capital gearing ratio have an impact on firm value. Dessi& Robertson (2003), Rajan and Zingales (1995) and Kyereboah-Coleman (2007).

As per the Myers (2003), the firm market value is not the matter when firm goes to bankrupt. It is difficult to sell assets at market value when firms are bankrupt. In addition, Rajan and Zingales (1995, p. 8) state that choosing independent variables depends on research objectives. There for dependent variables are as follows.

- Short term debt- As per short term debt only considers interest bearing borrowings.

- Long term debt - As per long term debt only consider interest bearing borrowings.

- Debit to equity ratio – Debit / Debit + equity. As per debit only consider long term and short-term interest-bearing borrowings.

- Number of ordinary shares.

3.3) Dependent Variables

In this study to measure firm performance we used four accounting measurement ratios. Those accounting ratios are return on assets (ROA), earnings per share (EPS), dividend per share (DPS) and return on equity (ROE). These

measurement ratios are commonly used by investors and financial analyst to measure firm value and performance. In the literature large number of researchers used these ratios to measure firm value, such as Gorton and Rosen (1995), Myers (1983), Myers (2001) and Graham and Harvey (2001).

- **Return on assets. (ROA)**

Return on assets is a good performance measurement ratio. ROA emphasised the management efficiency on assets. It's also more appropriate here because division managers seldom get involved in raising money or in deciding the mix between debt and equity." (Kristy & Susan, 1984)

ROA formula is as follows.

$$\frac{\text{Firm profit(Net income)}}{\text{Total assets}} \times 100\%$$

- **Earnings per share. (EPS)**

Earnings per share measure the shareholders earnings per share they own. EPS serve as a profitability measurement. Earnings per share are considered to be most important variable determining a share price.

EPS calculated as, $\dfrac{\text{Firms net earnings}}{\text{Outstanding number of shares}}$

- **Dividend per share. (DPS)**

Dividend per share is the amount of declared dividend issued by a company per ordinary share. Dividend per share is the amount dividend firm paid out of the business including interim dividend. As per the Modigliani and Miller, (1961) brings out argument that dividend is not relevant to pay. Because the investor can earn capital gaining by selling shares. But most of the investors before invest on firm stock they considering firm dividend policy.

DPS calculated as, $\dfrac{\text{Dividend Payments over a year}}{\text{Number of ordinary shares outstanding.}}$

- **Return on equity. (ROE)**

Returns from shareholders' investments is evaluated as return on equity. This measure shows the management effect to gain additional returns to the shareholders investment. (Raghuran G. rajan and Luigi zingales, 1995). In other words, ROE can emphasise, how much profits firm generate as per the investments made by investors.

$$\frac{\text{Firm Net income}}{\text{Total Equity.}} \times 100\%$$

ROE calculated as,

SUMMARY OF DEPENDENT VARIABLES.

Dependent Variable	Firm profitability
EPS	Profitability
DPS	Income for investors
ROA	Firm efficiency
ROE	Profitability vs equity

3.4) Development of Hypothesis

To analyse this study and to develop arguments 4 hypothesis developed for each industry. This study analyses three business industries using the common 4 hypotheses. Those hypotheses are as follows.

3.4.1) Research Hypothesis Development.

Hypothesis one.

As per our literature review we have seen debt playing crucial roll with firm capital investment and performance. As per the tradeoff theory debt plays a vital role. Debt can split in to two categories according to the period of settlement. One is short term debt. According to international financial reporting standards short term debt is the debt firms settle less than one year period. It is better to check the firm value and short term debt relationship to understand significant of this variables.

H10:µ>There is relationship between short term debt and firm value.

H11:µ> There is no relationship between short term debt and firm value.

Hypothesis two

Long term debt; according to international financial reporting standards long term is the debt repayment period is more than one year. Long term debt used to fund for long term investments. Long term debt also plays a vital role with investments and firm performance. Long term debt also adding values to firm in various ways. Such as tax shield, low financing cost. There for it is vital check the relationship with firm value and long term debt.

H20:µ>There is relationship between long term debt and firm value.

H21:µ> There is no relationship between long term debt and firm value.

Hypothesis three

Debit to equity ratio, firm leverage level measure based on debt to equity ratio. This ratio calculated as per below formula.

$$\frac{Debt}{(Debt + Equity)} \times 100\%$$

Debit equity ratio indicates how much debt use to finance against the shareholders equity. According to (Firer et al, 2008) capital structure decision can have an important impact on firm value. In the other hand (Modigliani and Miller, 1958) emphasized capital structure has not made any impact firm value.

There for it is crucial to check the relationship with debt to equity ratio with firm performance.

H30:µ>There is relationship between debit to equity ratio and firm value.

H31:µ> There is no relationship between debit to equity ratio and firm value.

Hypothesis four

Number of the ordinary shares; according to the pecking order theory it will emphasis last option to raise finance issuing new shares. Issuing shares will bring additional funds to the firm. Also, investors measure the firm performance ratio such as EPS, DPS using number of shares. So, it is vital to check is their relationship with number of shares of the firm and value to the firm.

H40:µ>There is relationship between debit to equity ratio and firm value.

H41:µ> There is no relationship between debit to equity ratio and firm value.

3.5) Research methodology

This chapter presents the method of data collection, analysis and population

3.5.1) Data Collection

For this study we will gathered and analyze only secondary data. Data gathered from the publish account statements on Colombo stock exchange web site. Mostly data gathered from financial position and statement of comprehensive income.

3.5.2) Population of the study

For this study only consider companies listed in the Colombo stock exchange and the related for only telecommunication industry, Foot ware and textile sectors, construction and engineering sector.

I. Telecommunication sector. Listed companies on CSE as at 3/6/2016 are as per below

- Sri Lanka telecom PLC

- Dialog Axiata PLC

II. Foot ware and textile sectors. Listed companies on CSE as at 3/6/2016 are as per below

- Hayleys Fabric PLC

- Ceylon leather products PLC

- Odel PLC

III. Construction and engineering sector. Listed companies on CSE as at 3/6/2016 are as per below

- MTD walkers PLC

- Access engineering PLC

- Lankem developments PLC

- Colombo dockyard PLC

Above mention organisations are my research population.

3.5.3) Data Analysis techniques

- Data analysis carried out using linear regression analysis and descriptive statics. Using SPSS 22.

- Descriptive statistic -To describe the basic features of the data presented. Through this statistical tool this study was able to find out the number of variables, their mean, standard deviation, minimum value and maximum value.

- Liner regression analysis - regression analysis is a statistical tool that is used to investigate the relationships between variables where the investigator collects data on the underlying variables of interest and employs regression to estimate the quantitative effects of the causal variables upon the variable that they influence.

4. DATA ANALYSIS, RESULTS AND PRESENTATION OF DATA.

4.1) Introduction

In chapter four presents data analysis, results of data analysis and presentation of the data. In this section presenting the hypothesis test mention as in chapter three. In this chapter data will presented only for the significantly accepted variables. Appendix one will show the all tested variable data summery.

4.2) Construction Sector Data Analysis and Presentation.

4.2.1 Hypothesis Testing In the Construction and Engineering Sector.

4.2.1.1 Hypothesis Testing STD and ROA

STD AND ROA

When STD and ROA in Construction Industry were analyzed using Linear Regression, the following summary table was generated.

Table: 4.1.1 linear regression summery STD and ROA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523[a]	.274	.222	15.88518

a. Predictors: (Constant), STD

This table provides the R and R^2 values. The R value represents the simple correlation and is 0.523 (the "R" Column), which indicates a moderate degree of correlation. The R^2 value (the "R Square" column) indicates how much of the total variation in the dependent variable, ROA, can be explained by the independent variable, STD. In this case, only 27.4% can be explained, which is not very large.

The next table is the ANOVA table, which reports how well the regression equation fits the data (i.e., predicts the dependent variable) and is shown below:

Table: 4.1.2 summery of ANOVA ROA & STD

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1333.213	1	1333.213	5.283	.037[b]
	Residual	3532.745	14	252.339		
	Total	4865.958	15			

a. Dependent Variable: ROA

b. Predictors: (Constant), STD

This table indicates that the regression model predicts the dependent variable significantly well. When the significance of the regression model is considered, p = 0.037, which is less than 0.05, and indicates that, **the regression model statistically significantly predicts the outcome variable** (i.e., it is a good fit for the data). Hence, we could conclude that STD statistically significantly predicts ROA in the construction industry.

The coefficients table shows a statistically significant (p= 0.037) positive coefficient of 6.314E-9 for the independent variable, hence indicating a positive relationship with the dependent variable.

Table: 4.1.3 correlation ROA with STD

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.936	4.726		.198	.846
	STD	6.314E-9	.000	.523	2.299	.037

a. Dependent Variable: ROA

4.2.1.2 Hypothesis Testing LTD and EPS

Table: 4.1.4 linear regression summery LTD to EPS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.532[a]	.283	.232	11.96390

a. Predictors: (Constant), LTD

The R value of 0.532 indicates a moderate degree of correlation. The R^2 value indicates 28.3% of the total variation in the dependent variable, EPS, can be explained by the independent variable, LTD.

Table: 4.1.5 summery of ANOVA LTD to EPS

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	791.221	1	791.221	5.528	.034[b]
	Residual	2003.889	14	143.135		
	Total	2795.110	15			

a. Dependent Variable: EPS

b. Predictors: (Constant), LTD

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.034, which is less than 0.05, indicates that **the regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that LTD statistically significantly predicts EPS in the construction industry.

Table: 4.1.6 correlation table LTD to EPS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.741	3.814		-.194	.849
	LTD	8.067E-9	.000	.532	2.351	.034

a. Dependent Variable: EPS

The coefficients table shows a statistically significant (p= 0.034) positive coefficient of 8.067E-9 for the independent variable, hence indicating a positive relationship with the dependent variable.

4.2.2) Descriptive Analysis in Construction Sector

Table 4.1.7 descriptive statistics construction and engineering industry.

	N	Minimum	Maximum	Mean	Std. Deviation
STD	20	62x10^5	59x10^8	13x10^8	16x10^8
LTD	16	96x10^4	28x10^8	68x10^7	90x10^7
D/E Ratio	20	.00	.67	.2594	.19527
Shares	20	24x10^6	10x10^8	27x10^7	35x10^7
ROA	20	-27.64	47.40	5.4689	16.24400
EPS	20	-9.06	47.16	5.7215	13.69372
DPS	20	.00	7.99	1.6764	2.67211
ROE	20	-7.50	2.00	-.1799	1.79647
Valid N (list wise)	16				

4.3) Footwear and Textile Industry Data Analysis and Presentation

4.3.1) Hypothesis Testing in Footwear and Textile Analysis

4.3.1.1) Hypothesis Testing STD and ROA

Table: 4.2.1 linear regression summery STD to ROA.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.892[a]	.797	.763	.02596

a. Predictors: (Constant), STD

The R value of 0.892 indicates a strong degree of correlation. The R^2 value indicates 79.7% of the total variation in the dependent variable, ROA, can be explained by the independent variable, STD.

Table: 4.2.2 Summery of ANOVA table STD to ROA.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.016	1	.016	23.492	.003[b]
	Residual	.004	6	.001		
	Total	.020	7			

a. Dependent Variable: ROA

b. Predictors: (Constant), STD

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.003, which is less than 0.05, indicates that **the regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that STD statistically significantly predicts ROA in the Footwear Industry.

Table: 4.2.3 summery of coefficient table STD to ROA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.181	.028		6.543	.001
	STD	-1.412E-10	.000	-.892	-4.847	.003

a. Dependent Variable: ROA

The coefficients table shows a statistically significant (p= 0.003) negative coefficient of -1.412E-10 for the independent variable, hence indicating a negative relationship with the dependent variable.

4.3.1.2) Number of Shares and DPS

Table 4.2.4 linear regression summery for number of shares and DPS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.922[a]	.851	.826	.15928

a. Predictors: (Constant), Shares

The R value of 0.922 indicates a very strong degree of correlation. The R^2 value indicates 85.1% of the total variation in the dependent variable, DPS, can be explained by the independent variable, Number of Shares.

Table: 4.2.5 summery of ANOVA table Number of share to DPS

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.868	1	.868	34.227	.001[b]
	Residual	.152	6	.025		
	Total	1.021	7			

a. Dependent Variable: DPS

b. Predictors: (Constant), Shares

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.001, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Number of Shares statistically significantly predicts DPS in the Footwear Industry.

Table: 4.2.6 Summery table of coefficients number of share to DPS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.029	.098		10.468	.000
	Shares	-3.514E-9	.000	-.922	-5.850	.001

a. Dependent Variable: DPS

The coefficients table shows a statistically significant (p= 0.001) negative coefficient of -3.514E-9 for the independent variable, hence indicating a negative relationship with the dependent variable.

Therefore, out of the independent variables under consideration, only the Number of Shares has a statistically significant relationship with DPS in the Footwear Industry.

4.3.1.3) Hypothesis Testing STD and ROE in Footwear Industry

Table: 4.2.7 linear regression summery STD and ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868[a]	.754	.713	.03163

a. Predictors: (Constant), STD

The R value of 0.868 indicates a strong degree of correlation. The R^2 value indicates 75.4% of the total variation in the dependent variable, ROE, can be explained by the independent variable, STD.

Table: 4.2.8 summery of ANOVA table.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.018	1	.018	18.353	.005ᵃ
	Residual	.006	6	.001		
	Total	.024	7			

a. Predictors: (Constant), STD

b. Dependent Variable: ROE

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.005, which is less than 0.05, indicates that **the regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that STD statistically significantly predicts ROE in the Footwear Industry.

Table: 4.2.9 summery of coefficients STD to ROE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.211	.034		6.273	.001
	STD	-1.520E-10	.000	-.868	-4.284	.005

a. Dependent Variable: ROE

The coefficients table shows a statistically significant (p= 0.005) negative coefficient of -1.520E-10 for the independent variable, hence indicating a negative relationship with the dependent variable.

4.3.1.4) Hypothesis Testing LTD and ROE

Table: 4.2.10 linear regression summery for LTD to ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891ᵃ	.793	.759	.02896

a. Predictors: (Constant), LTD

The R value of 0.891 indicates a strong degree of correlation. The R^2 value indicates 79.3% of the total variation in the dependent variable, ROE, can be explained by the independent variable, LTD.

Table: 4.2.11 summery of ANOVA table LTD to ROE

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.019	1	.019	23.047	.003ᵃ
	Residual	.005	6	.001		
	Total	.024	7			

a. Predictors: (Constant), LTD

b. Dependent Variable: ROE

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.003, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that LTD statistically significantly predicts ROE in the Footwear Industry.

Table 4.2.12 summery of coefficients LTD To ROE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.025	.023		-1.078	.323
	LTD	4.375E-10	.000	.891	4.801	.003

a. Dependent Variable: ROE

The coefficients table shows a statistically significant (p= 0.003) positive coefficient of 4.375E-10 for the independent variable, hence indicating a positive relationship with the dependent variable.

4.3.2) Descriptive Statistics Analysis in Footwear and Textile Industry.

Table: 4.2.13 Descriptive static summery in foot wear industry.

	N	Minimum	Maximum	Mean	Std. Deviation
STD	15	58x10^60	12x10^80	68x10^7	49x10^7
LTD	10	58x10^6	42x10^7	19x10^7	12x10^7
D/E Ratio	15	.12	.42	.2634	.09139
Shares	15	80x10^5	27x10^7	78x10^6	94x10^6
ROA	15	-.01	.14	.0444	.04561
EPS	15	-6.19	5.70	1.3340	2.67516
DPS	10	.12	1.00	.5060	.35381
ROE	15	-.02	.18	.0634	.05697
Valid N (list wise)	8				

4.4) Telecommunication Industry Data Analysis and Presentation

4.4.1) Hypothesis Testing Telecommunication Industry.

4.4.1.1) Hypothesis Testing D/E ratio and ROE

Table 4.3.1 linear regression summery

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.634[a]	.402	.327	.00982

a. Predictors: (Constant), D/E Ratio

The R value of 0.634 indicates a very strong degree of correlation. The R^2 value indicates 40.2% of the total variation in the dependent variable, ROA, can be explained by the independent variable, Debt to Equity Ratio.

Table 4.3.2 summery of ANOVA table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	5.377	.049[b]
	Residual	.001	8	.000		
	Total	.001	9			

a. Dependent Variable: ROA

b. Predictors: (Constant), D/E Ratio

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.049, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Debt-to-Equity Ratio statistically significantly predicts ROA in the Telecommunication Industry.

Table: 4.3.3 summery coefficients analysis D/E ratio to ROA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.019	.014		1.350	.214
	D/E Ratio	.095	.041	.634	2.319	.049

a. Dependent Variable: ROA

The coefficients table shows a statistically significant (p= 0.049) positive coefficient of 0.095 for the independent variable, hence indicating a positive relationship with the dependent variable.

4.4.1.2) Hypothesis Testing D/E ratio and EPS

Table: 4.3.4 summery of linear regression analysis D/E ratio an EPS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854[a]	.729	.695	.60377

a. Predictors: (Constant), D/E Ratio

The R value of 0.854 indicates a strong degree of correlation. The R^2 value indicates 72.9% of the total variation in the dependent variable, EPS, can be explained by the independent variable, Debt to Equity Ratio.

Table: 4.3.5 summery ANOVA table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.827	1	7.827	21.470	.002[b]
	Residual	2.916	8	.365		
	Total	10.743	9			

a. Dependent Variable: EPS
b. Predictors: (Constant), D/ERatio

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.002, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Debt-to-Equity Ratio statistically significantly predicts EPS in the Telecommunication Industry.

Table 4.3.6 summery coefficient analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.487	.845		6.492	.000
	D/E Ratio	-11.612	2.506	-.854	-4.634	.002

a. Dependent Variable: EPS

The coefficients table shows a statistically significant (p= 0.002) negative coefficient of -11.612 for the independent variable, hence indicating a negative relationship with the dependent variable.

4.4.1.3 Hypothesis Testing Number of Shares and the EPS.

Table: 4.3.7 linear regression summery number of shares to EPS.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.947[a]	.897	.885	.37109

a. Predictors: (Constant), Shares

The R value of 0.947 indicates a very strong degree of correlation. The R^2 value indicates 89.7% of the total variation in the dependent variable, EPS, can be explained by the independent variable, Number of Shares.

Table: 4.3.8 summery of ANOVA number of shares to EPS

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.641	1	9.641	70.014	.000[b]
	Residual	1.102	8	.138		
	Total	10.743	9			

a. Dependent Variable: EPS
b. Predictors: (Constant), Shares

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.000, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Number of Shares statistically significantly predicts EPS in the Telecommunication Industry.

Table 4.3.9 summery of coefficient analysis number of share to EPS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.213	.218		14.714	.000
	Shares	-3.098E-10	.000	-.947	-8.367	.000

a. Dependent Variable: EPS

The coefficients table shows a statistically significant (p= 0.000) negative coefficient of -3.098E-10 for the independent variable, hence indicating a negative relationship with the dependent variable.

Therefore, out of the independent variables under consideration, only the Debt to Equity Ratio and the Number of Shares has statistically significant relationships with EPS in the Telecommunication Industry.

4.4.1.4) Hypothesis Testing D/E Ratio and EPS

Table: 4.3.10 linear regression summary D/E ratio to DPS.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.926[a]	.858	.840	.12707

a. Predictors: (Constant), D/E Ratio

The R value of 0.926 indicates a strong degree of correlation. The R^2 value indicates 85.8% of the total variation in the dependent variable, DPS, can be explained by the independent variable, Debt to Equity Ratio.

Table 4.3.11 table of ANOVA test D/E ratio to DPS

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.781	1	.781	48.338	.000[b]
	Residual	.129	8	.016		
	Total	.910	9			

a. Dependent Variable: DPS

b. Predictors: (Constant), D/E Ratio

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.000, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Debt to Equity Ratio statistically significantly predicts DPS in the Telecommunication Industry.

Table 4.3.12: summery of coefficient analysis D/E ratio to DPS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.766	.178		9.927	.000
	D/E Ratio	-3.667	.527	-.926	-6.953	.000

a. Dependent Variable: DPS

The coefficients table shows a statistically significant (p= 0.000) negative coefficient of -3.667 for the independent variable, hence indicating a negative relationship with the dependent variable.

4.4.1.5) Hypothesis Testing Number of Shares and TheDPS

Table: 4.3.13 linear regression analysis number of share to DPS.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.985[a]	.970	.966	.05874

a. Predictors: (Constant), Shares

The R value of 0.985 indicates a very strong degree of correlation. The R^2 value indicates 97.0% of the total variation in the dependent variable, DPS, can be explained by the independent variable, Number of Shares.

Table: 4.3.14 summery ANOVA test number of shares to DPS

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.882	1	.882	255.678	.000[b]
	Residual	.028	8	.003		
	Total	.910	9			

a. Dependent Variable: DPS

b. Predictors: (Constant), Shares

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.000, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Number of Shares statistically significantly predicts DPS in the Telecommunication Industry.

Table: 4.3.15 summery of coefficient analysis number of share to DPS.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.027	.035		29.715	.000
	Shares	-9.371E-11	.000	-.985	-15.990	.000

a. Dependent Variable: DPS

The coefficients table shows a statistically significant (p= 0.000) negative coefficient of -9.371E-11 for the independent variable, hence indicating a negative relationship with the dependent variable.

Therefore, out of the independent variables under consideration, only the Debt to Equity Ratio and the Number of Shares have statistically significant relationships with DPS in the Telecommunication Industry.

4.4.1.6) Hypothesis Testing D/E Ratio to ROE

Table: 4.3.16 linear regression summery D/E ratio to ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809[a]	.654	.610	.02732

a. Predictors: (Constant), D/E Ratio

The R value of 0.809 indicates a strong degree of correlation. The R^2 value indicates 65.4% of the total variation in the dependent variable, ROE, can be explained by the independent variable, Debt to Equity Ratio.

Table: 4.3.17 summery ANOVA test D/E ratio to ROE.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.011	1	.011	15.107	.005[b]
	Residual	.006	8	.001		
	Total	.017	9			

a. Dependent Variable: ROE

b. Predictors: (Constant), D/E Ratio

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.005, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Debt-to-Equity Ratio statistically significantly predicts ROE in the Telecommunication Industry.

Table: 4.3.18 summery of coefficient D/E ratio to ROE.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.043	.038		-1.114	.298
	D/E Ratio	.441	.113	.809	3.887	.005

a. Dependent Variable: ROE

The coefficients table shows a statistically significant (p= 0.005) positive coefficient of 0.441 for the independent variable, hence indicating a positive relationship with the dependent variable.

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4.4.1.7) Hypothesis Testing Number of Shares and ROE

Table: 4.3.19 linear regression summery number of share and ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868[a]	.754	.723	.02303

a. Predictors: (Constant), Shares

The R value of 0.868 indicates a strong degree of correlation. The R^2 value indicates 75.4% of the total variation in the dependent variable, ROE, can be explained by the independent variable, Number of Shares.

Table: 4.3.20 summery ANOVA test number of share and ROE.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.013	1	.013	24.507	.001[b]
	Residual	.004	8	.001		
	Total	.017	9			

a. Dependent Variable: ROE

b. Predictors: (Constant), Shares

The ANOVA table indicates that the regression model predicts the dependent variable significantly well. p value of 0.001, which is less than 0.05, indicates that the **regression model statistically significantly predicts the outcome variable**. Hence it could be concluded that the Number of Shares statistically significantly predicts ROE in the Telecommunication Industry.

Table: 4.3.21 summery of coefficient number of share and ROE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.046	.014		3.364	.010
	Shares	1.138E-11	.000	.868	4.950	.001

a. Dependent Variable: ROE

The coefficients table shows a statistically significant (p= 0.001) positive coefficient of 1.138E-11 for the independent variable, hence indicating a positive relationship with the dependent variable.

Therefore, out of the independent variables under consideration, only the Debt-to-Equity Ratio and the Number of Shares have statistically significant relationships with ROE in the Telecommunication Industry.

4.4.2) Descriptive Statistical Analysis

Table 4.3.22 table of Descriptive Statistics analysis telecommunication industry.

	N	Minimum	Maximum	Mean	Std. Deviation
STD	10	44x10^8	12x10^9	84x10^8	26x10^8
LTD	10	92x10^8	25x10^9	15x10^9	45x10^8
D/E Ratio	10	.21	.42	.3285	.08030
Shares	10	18x10^8	81x10^8	49x10^8	33x10^8
ROA	10	.03	.07	.0496	.01198
EPS	10	.64	3.32	1.6721	1.09255
DPS	10	.13	.89	.5610	.31793
ROE	10	.03	.16	.1022	.04378
Valid N (listwise)	10				

A summary of the findings is presented in the table below. Variables which show statistically significant relationships with the dependent variables are shown in yellow cells.

4.5) Summery of Hypothesis Testing

Table: 4.4 Summery of Significant Relationship with Variables.

	Construction	R	Sig	FootWare	R	Sig	Telecommunication	R	Sig
ROA	STD	0.523	0.037	STD	0.892	0.003	STD	0.131	0.718
	LTD	0.416	0.109	LTD	0.850	0.008	LTD	0.115	0.751
	D/E Ratio	0.29	0.275	D/E Ratio	0.034	0.936	D/E Ratio	0.634	0.049
	Shares	0.195	0.469	Shares	0.103	0.809	Shares	0.623	0.054
EPS	STD	0.223	0.406	STD	0.382	0.351	STD	0.265	0.476
	LTD	0.532	0.034	LTD	0.435	0.282	LTD	0.422	0.224
	D/E Ratio	0.056	0.836	D/E Ratio	0.412	0.311	D/E Ratio	0.854	0.002
	Shares	0.156	0.565	Shares	0.629	0.095	Shares	0.947	0.000
DPS	STD	0.124	0.646	STD	0.491	0.217	STD	0.151	0.676
	LTD	0.229	0.394	LTD	0.676	0.066	LTD	0.614	0.059
	D/E Ratio	0.407	0.117	D/E Ratio	0.224	0.594	D/E Ratio	0.926	0.000
	Shares	0.010	0.970	Shares	0.922	0.001	Shares	0.985	0.000
ROE	STD	0.048	0.859	STD	0.868	0.005	STD	0.204	0.572
	LTD	0.141	0.602	LTD	0.891	0.003	LTD	0.252	0.483
	D/E Ratio	0.022	0.934	D/E Ratio	0.020	0.962	D/E Ratio	0.809	0.005
	Shares	0.165	0.542	Shares	0.066	0.876	Shares	0.868	0.001

When the Construction Industry is considered, STD has a statistically significant relationship with ROA and LTD has a statistically significant relationship with EPS. But none of the independent variables under consideration in this study (out of STD, LTD, D/E Ratio and Number of Shares) has statistically significant relationship with DPS or ROE.

In the Footwear industry, STD and LTD are capable of statistically significantly predicting the ROA and ROE, and Number of shares statistically significantly affects DPS. But none of the independent variables have significant relationships with EPS.

In Telecommunication industry, D/E Ratio statistically significantly affects all four dependent variables. Also Number of shares is capable of statistically significantly predicting the EPS, DPS and ROE in this industry.

5. CONCLUSIONS AND RECOMMENDATION.

Based on our theoretical study and data analysis using linear regression and descriptive statics ready to answer our research questions.

5.1) Conclusion

5.1.1) Construction and Engineering Industry

As per our data analysis and findings in chapter four we can see ROA is statically significant with STD. ROA and STD have semi strong relationship. This data presents that construction and engineering industry returns on assets will increase when they incur short term debt for investments.

EPS statistically significant with LTD. EPS have a semi strong positive relationship with LTD. This data presents last five years construction and engineering industry EPS positively influenced by LTD. When construction firms incurred more LTD to capital structure EPS of the firms will increase.

According to our study statistically prove that debt portion of capital structure will enhance firm performance and value. As per the trade-off theory (Myers 2001) the firm will obtain borrowings up to point where the marginal value of tax shields on additional debt is just offset by the increase in the present value of possible costs of financial anguish.

As per our findings DPS and ROE have no significant relationship with capital structure.

5.1.2) Foot Ware and Textile Industry

In the Foot ware and textile sector ROA and STD have a negative relationship. And on the other hand, LTD has strong positive relationship with ROA. As per this finding it is prove that LTD in foot wear sector increase return on assets and investment using STD decrease the returns from assets. As per the above results we statistically prove that LTD debt financing will increase return on assets and short-term debt reason to erode returns from assets.

As per the MM II theory which is emphasis more on WACC. "The deduction of interest in computing taxable corporate profits will prevent the arbitrage process from making the value of all firms in a given class proportional to the expected returns generated by their physical assets" As per the findings of this study statistically proved that long term debt funding able to increase the firm value.

DPS in footwear and textile field have strong negative correlation with the number of shares. Firms when issuing dividends, price of share will be reduced. As per the theory of Modigliani and Miller, (1961). They emphasis the paying dividend is not crucial for investors. Because investors can earn the returns through capital gaining. Paying dividend is cause to increase cash out flow. When firms cash flow decreases firms' investments will be limited. So, it was better to use cash for future investment instead of paying dividend.

As per our findings we statistically proved that paying dividend is negatively correlated with firm value.

In the footwear industry we found that ROE have a negative relationship with STD and positive impact with LTD. As per the relationship with ROA and ROE we can see there is same correlation ship with STD and LOD. As per the statistical results in the Sri Lanka footwear sector it is always better to invest using LTD rather than STD. Issuing shares and dividend negatively impact for firm performance.

5.1.3) Telecommunication Industry

In the telecommunication industry ROA have a semi strong relationship with D/E Ratio. The capital structure is the precise mix of debt and equity the firm uses to fund its operations. (Stephan A.Ross,Randolph W.Westerfield & Bradford D.Jordan, 2008). Firm use the available investments appropriately using relevant capital ratio, value of firms will increase.

(Stewart. C Myers, 2001) "the study of capital structure attempts to explain the mix of securities and financing sources used by corporations to finance real investment".

In the telecommunication industry EPS have a negative relationship with D/E ratio. As per the findings in the telecommunication industry D/E ratio high firms will earnings per share will decrease. It means firms in telecommunication industry using high debt will result low earnings per share. As a result investor's attraction on this industry will diminish.

EPS have a negative relationship with number of shares. It means issuing number of shares may result for low EPS. When the EPS is become lower, attractiveness of investors will diminish. There for in the telecommunication industry it is not suitable to issue large number of shares.

DPS have a negative relationship with D/E ratio and number of shares. These results will show when firms paying dividend it will effect to the capital structure negatively. Main reason cash of the firms going out. The cash paying as dividend will not bring any returns to the firm.

Telecommunication industry ROE have a strong positive relationship with D/E ratio and number of shares. These results prove that firm capital structure and ROE have positive relationship. Firm operates with optimum D/E ratio firm performance will increase.

5.2) Recommendation

As per the findings of above analysis capital components variously effect by industry to industry. Dividend is negatively impact for two industries. Finally, it can be recommend as below for decision makers in the firms

- Dividend payments is cause to reduce firm value and negatively impact for the debt and equity ratio.

- Employing debt for investments will lead to increase firm performance.

- Firms are advised that when using debt, it is always better to compare marginal benefits of using debt and marginal cost of using debt before employ debt for the investments.

5.3) Suggestions for Further Research

When doing this study realizes that there are many areas to analyse about the capital structure and firm values. There is still lot of puzzles to solve and find about the role of capital structure to firm. Also found that there are very few researches carried out to find Sri Lankan firms performance and capital structure. However, when doing this research there are limitations I faced, such as.

- Gathering data for long years. It is difficult to get data more than five years.

- Due to time constraint this study focused only on three industries. But it is better to have research on all listed firms using at least last ten years financial figures.

For the future research below points are like to suggest

- The same type of research using different variables will bring different results. Such as EBIT, Operating profit etc…

- Quantitative research outlining a certain industry and through surveys uncover the industry characteristics impact on capital structure choice.

- The research based on the young firms listed in Colombo stock exchange and their capital structure choices.

REFERENCES

[1] AlexeiV.Ovtchinnikov. (2010). Capital structure decisions: Evidence from deregulated industries. Journal of finance and economics. Volume 95. Pages 249-274.

[2] Baker, Malcolm. andWurgler, Jeffrey. (2002). Market Timing and Capital Structure. The Journal of Finance. Volume 57, issue 1, pages 1-32.

[3] Brigham, E. F., & Michael C. E. (2011). Financial Management: Theory and Practice (13thEdition ed.). Ohio: South-Western Cengage Learning.

[4] Bryman, A. and Bell, E., (2007). Business Research Methods. 2nd ed. Oxford: Oxford University Press.

[5] Byström, Hans. (2007).Capital Structure and Dividend Policy – The Two Modigliani & Miller Theory. Working paper, Lund University.

[6] Dale W. Jorgenson. (1963). Capital Theory and Investment Behavior. The American economic association. Volume 53, No 2, Pages 247 - 259.

[7] Daniel Creamer, Sergei P. Dobrovolsky, Israel Borenstein, Martin Bernstein. (1960). Debt and Equity Financing. Princeton University Press. Pages 156 -191

[8] Franco Modigliani. and Miller Merton. (1958).The Cost of Capital, Corporation Finance and the Theory of Investment. American Economic Review. Volume 48, issue 3, pages 261-297.

[9] Franco Modigliani. and Miller, Merton. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. The American Economic Review. Volume 53, issue 3, pages 433 – 443

[10] Graham, John. and Harvey, Campbell. (2001). The Theory and Practice of Corporate Finance: Evidence from the Field. Journal of Financial Economics. Volume 60, issue 2 - 3, pages 187 – 243

[11] Hayne E. Leland. (1994). Corporate Debt Value, Bond Covenants, and Optimal Capital Structure. The Journal of Finance. The American finance association. Volume 49, No 2, pages 1213 - 1252.

[12] Hillier, David., Ross, Stephen A., Westerfield, Randolph W., Jaffee, Jeffrey F. and Jordan, Bradford D. (2010). Corporate Finance. MacGraw – Hill, New York.

[13] Kristy, J. E., & Susan Z. D. (1984). Finance without Fear. New York: American Management Association.

[14] Leary, Mark. and Roberts, Michael. (2010). The Pecking Order, Debt Capacity, and Information Asymmetry. Journal of Financial Economics. Volume 95, issue 3, pages 332 – 335

[15] Malcolm Baker & Jeffery Wurgler. (2002). Market timing and capital strucure. The Journal of Finance. The American economic review. Vol LVII, No1.

[16] Milton Harris; ArturRaviv. (1990). Capital Structure and the Informational Role of Debt. The journal of finance. American finance association. Volume 45, No 2, Pages 321 - 349.

[17] Min Chang Cheng and Zuwei Ching – Tzeng. (2011). Does leverage and efficiency effect each other. Journal of finance and economics. Volume 1. No1. Pages 77-95.

[18] Ovtchinnikov, Alexei. (2010). Capital Structure Decisions: Evidence from Deregulated Industries. Journal of Financial Economics. Volume 95, issue 2, pages 249 – 274.

[19] Partington, D., (2002). Essential Skills for Management Research. London: Sage

[20] Rajan, R., &Zingales, L. (1995). What do we know about capital structure? Some evidence from international data, Journal of Finance, 50, 1-58.

[21] Ryan, B., Scapens, R. W., & Theobald, M. (2003). Research Method & Methodology in Finance and Accounting (2nd Edition ed.). London: Thomson.

[22] Sheridan Titman; Roberto Wessels. (1988). The Determinants of Capital Structure Choice. The Journal of Finance. The American finance associaion. Vol. 43, No. 1. Pag: 1-19

[23] Stephan A.Ross,RandolphW.Westerfield& Bradford D.Jordan. (2008) Essentials of co-operate finance. Third edition. Mc Grewhillprimis.

[24] Stewart C. Myers. Richard A. Brealey. Alan J Marcus (2001). Fundamental of co-operate finance. Third Edition. University of Pheonix.

[25] Stewart. C Myers. (1984) The capital structure puzzle. The Journal of finance. The American finance asociation. Voulme 3, pages 575 - 592

[26] Stewart. C Myers. (2001) Capital structure . The Journal of finance. The American finance asociation. Voulme 15, No 2, pages 81 - 102

[27] Ward, M. and Price, A. (2008). Turning Vision into Value: Corporate Finance for Non- financial Executives. Van Schaik Publishers – Pretoria.

[28] Williamson, O.E (1998). Corporate Finance and Corporate Governance. Journal of Finance 43.