

Impact of Capital Structure on the Profitability in the Manufacturing and Non-Manufacturing Industries of Pakistan

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Abstract

The aim of this paper is to observe the connection between the capital structure and profitability and in fastidious, to measures their significance in manufacturing and non manufacturing industries of Pakistan. The paper adopts a quantitative data of different manufacturing and non manufacturing organizations in Pakistan. The financial statements were analyzed of manufacturing and non manufacturing organizations of Pakistan for the period of 2008-2013. The study reveals that there is a strong negative relationship between the profitability and debt in manufacturing industry and in the Non -manufacturing industry, there is a strong positive relationship between profitability and debt. The population of this study is Manufacturing and Non-Manufacturing industry of Pakistan and units of analysis are D.G Cement factory and AGTL from Manufacturing industry and, HBL & Bank Al-Falah from Non-Manufacturing industry. In this paper descriptive statistics were used to interpret the data. It is proved that manufacturing industry has found a strong negative regression between debts and profit and the non- manufacturing has found a strong positive regression between debt and profit.

Keywords: Total debt; capital structure; profitability, performance; Return on Equity; Return on investment; Earning Per share and Price to Earnings Ratio, leverage.

1. Introduction

Every firm wants to maximize the shareholder wealth for this purpose, it uses two ways one is to reinvest its income into the business and the second was to pay the dividend. The firm pays the outstanding ordinary share to the shareholders on the basis of current price. The objective of the firm of optimal capital structure could be accomplished by minimizing the cost of capital. The capital structure is the combination of equity and debt used in the field of finance by the Watson and Head (2007). It is difficult to measure the capital structure of the firm. The capital structure of the firm is very critical to various stakeholders to maximize the capital return of the firm which also increase the ability of the firm to operate its competitive ethnicity. So today it is an imperative issue which is facing by the manager how to choose the mix debt & equity to attain maximum the capital structure of the firm and want to minimize the cost of debt because to achieve the fruitful return for the owner of the business. Financial managers always tried to make exertion for ascertaining particular combinations that will minimize the cost profit and also market value.

The Gateman (2003) also played an important role and believed that the value of the firm is maximized when the cost of capital is minimized. The cost of capital of the firm is minimized by the combination of the debt & equity and hence maximized the profit by the minimize the capital structure of the firm. But unfortunately the managers of the firms do not have a formula for the optimal capital structure. In the modern theory, Miller and Modigliani (1958) also breaking the path with their contribution under the perfect market supposition. Miller and Modigliani about the capital structure of irrelevance theory were first published in 1958. According to this theory a firm finances, it's all assets i.e. based on debt and equity can have no effect on the value of the firm. The value of the firm depends on the productivity and the quality of the assets in which a firm is invested. The shares of the dissimilar are homogenous and those are therefore perfect substitutes for one firm to another. All the shares are traded under the perfect market condition. Miller and Modigliani also correct their statement in which they said that the tax deductibility of debt would prevent arbitrage from making the value of all firms. Since the introduction of the Miller and Modigliani capital structure irrelevance theory existence and determination of an optimal capital structure of the firm which is very imperative issues in corporate finance (Ryun, Vasconcellos & Kish, 1997). The existing theory of the capital structure to explain a choice of practice or provide the practitioners, line of direction with regard to the optimal mix debt and equity in their finance decisions (CAI & Gosh, 2003).

The capital structure is depending on the two main factors of the company one is leverage and the other is assets.

Properly all the firms have to evaluate the capital structure so for the implementation to get the optimal capital structure for decision of the finance otherwise firm will have to face different financial problems, such as bankruptcy and financial torment, etc. it is necessary for those firms which want to maximize the profit and minimize the cost of debt. The behavioral signaling theory was defined by the good progress of agreement with CEO and CFO (Baker and Wager, 2012). On the practical focal point is depending on the risks of future earning so in which, finally making a decision for good performance of the banking industry of Pakistan. The agency size of the firms depends on the effect of the agency's ability in which describes the efficiency and effectiveness of the banking industry. The agency represented in two ways of agencies in which first the small agencies and other is the large agencies. The small agency is considered as a lower ability and to also the lower level of performance in which industries face the failure.

Pakistan financial field have been analyzing insignificant modifications since independence in 1947 in which the major issue which is created between the debt and equity. The firms are not ability to pay short term liability while the industry suffers into failure. When these industries not are able to pay the liabilities then they also will not be able to perform well. The manufacturing and non manufacturing industries have invested deeply to generate profit for a running business in Pakistan. So, the main reasons the failure of an industry is the bad economy and also faces financial distress (Kibet, Teeny & Moto, 2011). As result this will bring into the loss of investors wealth which they invested.

The minority studies the description of the international comparison of capital structure measures (Raj & Zingales 1995). In which some studies provide evidence on the capital structure measures from the emerging markets of south - East Asia (Annuar & Shamsheer 1993).

2. Objective Statement

The objectives of the study are as follows;

1. Impact of capital structure on the Profitability of manufacturing and servicing industries.
2. To creates optimal capital structure.
3. To finds high quality and high performance in the industries of Pakistan.
4. To obtain optimistic value and growth of equity.
5. To get the constructive balance of EPS through the different banking industries of Pakistan.
6. To find out how debt affects on the capital structure.

3. Literature Review

Many researchers, research on the performance of the firms, in which one is EBay (2009), determined the capital structure and performance of the firms. The main motive of the study was to check the relationship between the debt and financial performance of the listed companies (Karachi stock exchange during the period 2008 2012). The capital structure decisions have been important for the implications of the value of the firm and its cost of capital (Firer et al, 2008). Poor capital structure decisions can lead to an increased cost of capital, thereby lowering the net present value of many firms. Explanatory variables for this study was used as short term of the total debt to total asset while return on equity (ROE), return on assets (ROA), market to book value ratio (MBVR), earnings per share (EPS) were used as a proxy of accounting and market measures of the firm performance. The results obtained by using multiple regression analysis and indicate that capital structure is negatively related with EPS and ROA while it has significant positive relation with ROE.

3.1 *Miller & Modigliani Theory of Irrelevance*

In their influential paper, Modigliani and Miller (1958) showed that the firm value is autonomous of the capital structure it takes on (MM irrelevance theory). They agreed that there would be many arbitrage opportunities in the perfect capital market if the firm value depends on its capital structure. Moreover, their investors can resolve any capital structure decision of the firm's air both their investors and firms can borrow at the same rate of interest. So, the theory is unrealistic assumptions, yet it gives the basics theoretical background for further research.

3.2 *Trade off Theory*

Trade off theory represents the interest tax shield and bankruptcy (financial loss) plays an important role on the leverage ratios. This theory suggests the value of levered firm and the value of unlevered in which plus current value of interest tax shield. TAXES Interest is the tax deductible expense which decreases the tax liability and increases the after tax cash flows. Firms in their stab to increase cash flows and market value will embark on a higher level of debt if the tax rate is higher. Thus, tax rate and leverage have positive relations.

3.3 *Bankruptcy Costs*

The possibility of default on debt increases, and then the level of debt also increases beyond the optimal point. The firm should default on repayment of loans; the control of the firm will be switched from shareholders to the bondholders who will try to retrieve their investment through the process of bankruptcy. Because the possible

financial distress due to by the higher level of leverage a dismal faced two types of bankruptcy of costs. They faced direct cost and indirect cost. The direct cost is which includes the administrative costs of the bankruptcy process. If the firm is a large in size, these costs constitute only a small percentage of the firm. Therefore, for a small firm, these fixed costs comprise higher percentage and are considered an active variant of the firm. The indirect cost arises because of change in investment policies of the firm foresees possible financial suffering. The firm will cut down expenditure on research and development, training and education of employees, advertisement to avoid the bankruptcy. The ownership tried to control the firms tend to avoid borrowing in order to reduce the business and financial risks (Nam et al., 2003). Whereas the Grossman and Hart (1986) and Anderson et al. (2003), in their survey report on their empirical investigation, the report was the negative results show.

3.4 Agency theory

The idea of the agency cost was propounded by Jensen and Meckling (1976) and their studies based on the Fama and Miller (1972). Jensen and Meckling that the agency cost take apart the control of the owner that's why the possible conflict between shareholders and managers' interests due to the manager's share of less than 100 percent of the firm. Furthermore, acting as agents to shareholders, managers tries to appropriate wealth away from the bondholders to shareholders by taking more debt and investing in risky projects. The managers play a vital role for many implications for the capital structure of a firm. By putting the studies of Partum and Ismail (2007) also searched that the high leverage leads to decrease the agency cost and increases the level of performance and efficiency. Barclay and Smith (2010) declared that much of finance education was designed to pass on to finance student rules derived to the actions of successful practitioners. The commonly stated motives of the financial management are to maximize the wealth of the shareholders of the firms. Shareholder wealth in turn is defined as the current price of the firm's outstanding ordinary shares of the firms. Large shareholders have a temptation to monitor the management to reduce the agency cost (Shleifer and Vishay, 1986). Saied et al (2013) also studied the effect of capital structure on the performance of the listed banks of Karachi Stock Exchange in the Pakistan during the period for the year 2008-12.

3.5 Manufacturing Industry

Manufacturing and non manufacturing sector earns profit through sale in which the sale probably tangible (Products) or intangible (Services). There is favorable relationship between profitability and EPS thus an unfavorable relationship between debt and profitability.

The value of the firm = Debt + Equity:

3.6 Profitability

The owner's of the firm has ability to invest its income for the sale of assets and shares to earn profit called profitability. The formula of profitability ratio is given below

Profitability Ratio = Net Profit/ Net sale.

3.7 Return on Equity

It means the firm common stock shareholders who invest their money to generate the profit. It is measured through following formula;

Return on Equity = Net Income/ Shareholder equity 20%

3.8 Return on Assets

It's represents how firms use its total assets and to the generate income.

ROA = Operating Income /Avg. Total Assets

3.9 Earnings per Share

When firm buy or sell the stock in the market, then the corporations needs come to know the annual earnings per share.

EPS = Net Income / No. of Outstanding Shares

3.10 Debt to Equity Ratios

It represents the debt ability on the equity. If the debt increases than the equity then it will show that your firm is more risky. It is computed by the following formula;

Debt to Equity Ratio = Total Debt / Total Equity

3.11 Price to Earnings Ratio

In which the analyst expresses what is the market value how much you earn from a sale? If the market price is greater the purchase price, then the price earnings ratio will be increased and it is known by the following formula;

PER= Market Price / Earnings per Share

3.12 Leverage

It represent's to use the cost of fixed assets an attempt to improve profitability. There are two types of leverage in which one is operating leverage and second is financial leverage.

3.12.1 Operating leverage

It consists of the fixed operating costs associated with the production of goods and services.

$$\text{Degree of Operating Leverage Ratios} = \text{Fixed cost}/\text{total cost}$$

3.12.2 Financial Leverage

It represents to utilize of fixed financial costs of the firms like as interest on the debt.

$$\text{Degree of Financial Leverage Ratios} = \% \text{ change in EPS}/\% \text{ change in EBIT}$$

4. Model Specification

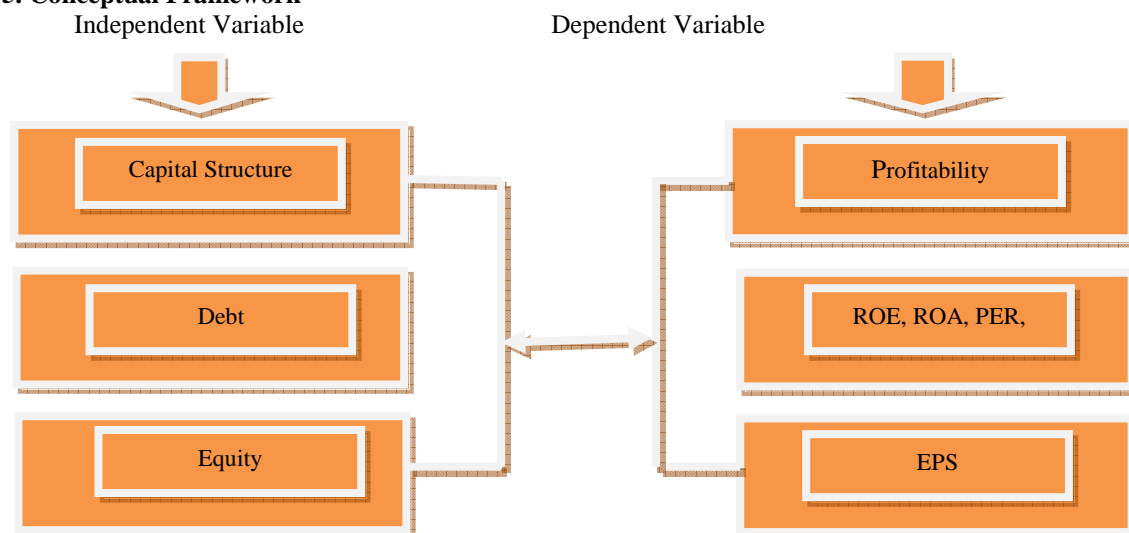
As regards to objectives, the study specifies following model.

$$TD = \beta_0 + \beta_1 CP + \beta_2 EPS + \beta_3 ROE + \beta_4 ROA + \beta_5 PP + \beta_6 PE + E_i$$

Where, in the above model,

PP	:	Profitability
TD	:	TOTAL DEBT (Measure short terms plus long term debt)
CP	:	Capital Structure (Measure total debt plus equity)
ROE	:	Return on Equity (Measure total Net Income divided by total Equity)
ROA	:	Return on Assets (Measure Net Income divided by Total Assets)
EPS	:	Earning Per Share (Measures Total Net Income Divided by Outstanding share)
PE	:	Price to Earnings Ratio (Measures Market price divided by EPS)
E_i	:	Error terms
β_i	:	Slope Coefficients

5. Conceptual Framework



Manufacturing Industries Hypothesis:

- HA1= Debt shows negative relationship with Profit.
- HA2=Debt shows a negative relationship with total EPS.
- HA3=Debt shows negative relationship with Equity.

Non- Manufacturing Sectors Hypothesis:

- HB1= Debt shows a positive relationship with Profit.
- HB2=Debt shows a positive relationship with EPS.
- HB3=Debt shows a positive relationship with Equity.

6. Data Collection and Methodology

It is not a method of collecting data but it is a sequence of measure the data which is collected from the following organizations. In which also used the specific variables opts for the predicaments. To find out the corporate governance features of performance this was working in Pakistan. These types of studies are also conducted by the many researchers in Pakistan and also by the international pollsters. In which the secondary data techniques were employed. In which also the correlation analysis, regression analysis, descriptive statistic and historical analysis are generally created. This methodology had been adopted to acquire the objectives,

which is analyzing the changes in the debt level in the performance of the firms. The data for the study is collected from the financial statements of the banks and also with the concerns organizations. In this methodology six year data (2008-2013) were collected from the relevant organizations of both manufacturing and non-manufacturing which are performing successfully in Pakistan. In which total debt are taken as the independent variable and the dependent variable is the profitability, ROE, ROA, and also the earning per share.

7. Result and Discussion

Figure shows five year Profit two manufacturing sectors (DG. Cement Factory and AL-Gahzi tractor Factory) in pakistan.This figure represents variation of profitability. The DG_PRO level is greater variation than AGTL_PRO. It can be seen the profitability amximum of 2013 is approximately 5,500,000 and 100000. It is proved tha DG cement factory profit level is greater than AGTL_Pro.

In table 2, The correlation coefficient for the relationship between the independent variable and the dependent variable is .763, which would be characterized as strong relationship using the rule of thumb that a correlation between 0.0 and 0.20 is very pathetic 0.20 to 0.40 is weak; 0.40 to 0.60 is fair; 0.60 to 0.80 is well-built; and greater than 0.80 is very strong. The relationship between the independent variables and the dependent variable was incorrectly characterized as strong relationship. The relationship should have been characterized as a strong relationship in which shows the model is much supported.

In table 3, To interpret the direction of the relationship between the variables, we look at the coefficient for the independent variable and dependent variable. This hypothesis shows which the effect there is negative relationship between the profit and Debt on the behalf of beta = -.763 and the significant is also rejected because the value of P is more than 0.05.

$$DG_DEBT = \beta_0 - \beta_1 DG_PRO$$

Hypothesis HA1= is rejected.

Figure 1

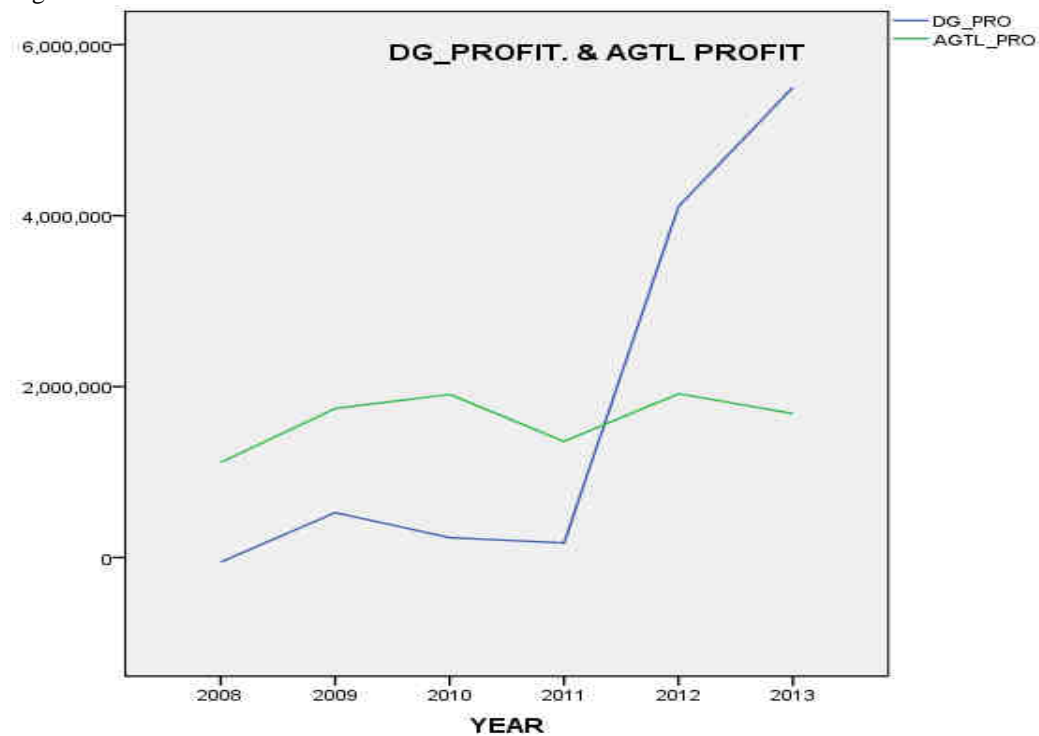
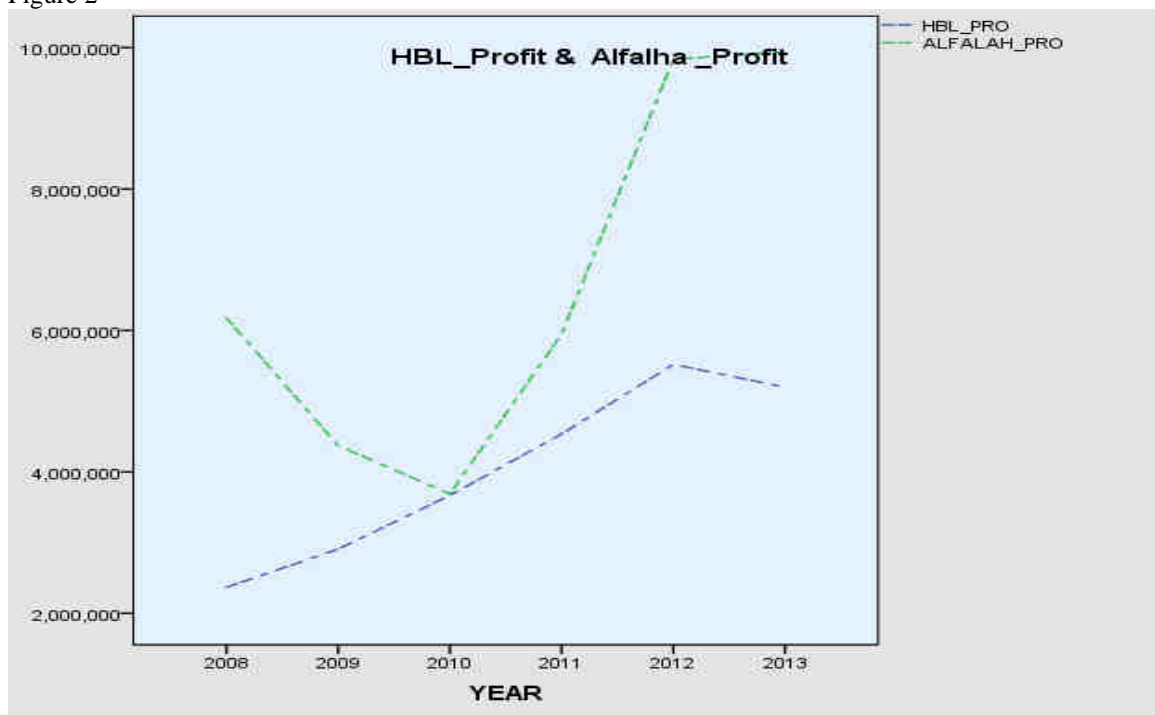


Figure 2



This figure shows that HBL is more profitable than Alfalah

Table 1: Descriptive Statistics

	Sum	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
DG_EPS	25.28	5.51139	1.007	.845	-1.254	1.741
DG_PRO	10485856	2416083.71	1.085	.845	-1.033	1.741
DG_DEBT	74876617	2230339.01	.161	.845	.357	1.741
DG_EQUITY	188664048	9106673.75	1.291	.845	2.704	1.741
AGTL_PRO	9724906	321146.74	-.877	.845	-.600	1.741
AGTL_EPS	219.29	7.77	-.202	.845	-1.992	1.741
AGTL_DEBT	21985298	3244663.44	1.489	.845	1.264	1.741
AGTL_EQUITY	39121968	1451699.55	-.275	.845	-1.068	1.741
ALFALAH_PRO	39962910	2671166.92	.451	.845	-1.801	1.741
ALFALAH_EPS	11.79	1.33	.167	.845	-2.824	1.741
ALFALAH_DEBT	2092905134	155809428.34	-1.607	.845	3.278	1.741
ALFALAH_EQUITY	324408940	71822181.83	2.383	.845	5.742	1.741
HBL_EPS	28.57	.61	-.549	.845	-1.438	1.741
HBL_PRO	24197908	1264585.06	-.164	.845	-1.838	1.741
HBL_DEBT	1915957903	108955853.65	-.295	.845	-1.582	1.741
HBL_EQUITY	100123148	5223343.58	.080	.845	-1.580	1.741

Table 2: Manufacturing Industries Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.763 ^a	.582	.478	1746113.37825

Table 3: Coefficients DG_PRO

Dependent Variable: DG_PRO and Independent variable: Total Debt.

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12062350.211	4427064.953		2.725	.053
	DG_DEBT	-.827	.350	-.763	-2.361	.078

Table 4: DG_EQUITY Coefficients

Dependent variables: DG_PRO

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5105642.843	2460155.218		-2.075	.107
	DG_EQUITY	.218	.076	.822	2.881	.045

In table 4, this hypothesis shows that the results in which there is a positive significance between the profit and equity on the behalf of beta =.822 and the significance is as well as accepted. Because, the P value is less than 0.05.

$$DG_EQUITY = \beta_0 + \beta_1 DG_PRO$$

Hypothesis HA2 is= accepted

Table 5:

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.611	10.739		2.478	.068
	DG_DEBT	-1.795E-006	.000	-.726	-2.113	.102

Dependent Variable: DG_EPS and Independent variable is debt.

In table 5, this hypothesis shows that the results in which there is a negative significance between the profit and equity on the behalf of beta =.726 and the significance is accepted because the P value is less than 0.05.

$$DG_DEBT = \beta_0 - \beta_2 DG_EPS$$

Hypothesis HA3= is accepted.

It is proved that DG_EPS has negative significance with DG_DEBT.

Table 6: DG_DEBT Coefficients

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	79525744.395	8545419.636		9.306	.001
	DG_DEBT	-3.853	.676	-.944	-5.701	.005

Dependent Variable: DG_EQUITY

In table 6, this hypothesis shows that the results in which there is a negative significance between the profit and equity on the behalf of beta =-.944 and the significance is accepted because the P value is less than 0.05.

$$DG_DEBT = \beta_0 - \beta_1 DG_EQUITY$$

Hypothesis HA3= is accept

It is proved that DG_EQUITY has negative relationship with DG_DEBT.

In table 7, the relationship between dependent and independent variable is very weak because R value is less than 50%.

Table 7: AGTL Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.206 ^a	.043	-.197	1588179.91873

Predictors: (Constant), AGTL_DEBT

In table 8, this hypothesis shows that the results in that there is a negative significance between the profit and equity on the behalf of beta $-.304$ and the significance is rejected because P value is greater than 0.05 .

$$AGTL_DEBT = \beta_0 - \beta_1 AGTL_PRO$$

Hypothesis HA1 = is rejected

Table 8: AGTL_PRO Coefficients

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1731055.596	222139.875		7.793	.001
	AGTL_DEBT	-.030	.047	-.304	-.638	.558

Dependent Variable: AGTL_PRO

In table 9, this hypothesis shows that the results in which there is a negative significance between the profit and equity on the behalf of beta = $-.623$ and the significance is accepted because the P value is less than 0.05 .

$$AGTL_DEBT = \beta_0 - \beta_1 AGTL_EPS$$

Hypothesis HA2 = is accepted

It is proved that AGTL_EPS has negative significance with AGTL_DEBT.

Table 9: AGTL_EPS Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	42.017	4.413		9.521	.001
	AGTL_DEBT	-1.493E-006	.000	-.623	-1.593	.186

Dependent Variable: AGTL_EPS

Table 10: Coefficients

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6182329.252	1031379.321		5.994	.004
	AGTL_DEBT	-.092	.219	-.206	.421	.695

Dependent Variable: AGTL_EQUITY

In table 10, this hypothesis shows that the results in which there is a negative significance between the profit and equity on the behalf of beta = $.695$ the significance is accepted because the P value is less than 0.05 .

$$AGTL_DEBT = \beta_0 - \beta_1 AGTL_EQUITY$$

Hypothesis HA3 = is accepted.

It is proved that AGTL_EQUITY has negative significance with AGTL_DEBT.

Table 11: Non- Manufacturing Sectors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993 ^a	.986	.982	170109.13338

In table 11, the relation between dependent and independent variable is very strong in which R value is 93% so this model is much supported.

Table 12: ALFALAH_PRO Coefficients

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8618342.176	3051086.840		2.825	.048
	ALFALAH_DEB T	0.08	.004	.787	14.93	.026

Dependent Variable: ALFALAH_PRO

Table 13: HBL_PRO Coefficients

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	353679.677	233525.101		1.515	.204
	HBL_DEBT	.012	.001	.993	16.502	.000

Dependent Variable: HBL_PRO

In table 12, this hypothesis shows that the results in which there is a positive significance between the profit and equity on the behalf of beta = .787 the significance is accepted because the P value is less than 0.05.

$$ALFALAH_DEBT = \beta_0 + \beta_1 ALFALAH_PRO$$

HB1 = is accepted.

It is proved that ALFALAH_PRO has positive relationships with ALFALAH_DEB.

In table 13, this hypothesis shows that the results in which there is a positive significance between the profit and equity on the behalf of beta = .993 the significance is accepted because the P value is less than 0.05.

$$HBL_DEBT = \beta_0 + \beta_1 HBL_PRO$$

Hypothesis HB1= is accepted.

It is proved that HBL_PRO has positive relationship between HBL_DEBT.

Table 14: HBL_EPS Coefficients

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.179	.465		6.841	.002
	HBL_DEBT	4.957E-009	.000	.872	3.568	.023

Dependent Variable: HBL_EPS

In table 14, this hypothesis shows that the results in which there is a positive significance between the HBL_EPS and HBL_DEBT on the behalf of beta = .872 the significance is accepted because the P value is less than 0.05.

$$HBL_DEBT = \beta_0 + \beta_1 HBL_EPS$$

Hypothesis HB2 = is accepted.

It is proved that HBL_EPS has positive relationship between HBL_DEBT.

In table 15, this hypothesis shows that the results in which there is a positive significance between the HBL_EQUITY and HBL_DEBT y on the behalf of beta = .988 the significance is accepted because the P value is less than 0.05.

$$HBL_DEBT = \beta_0 + \beta_1 HBL_EQUITY.$$

Hypothesis HB3= is accepted

It is proved that HBL_EQUITY has positive relationship with HBL_DEBT.

Table 15: HBL_EQUITY Coefficients

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1557872.518	1223021.400		1.274	.272
	HBL_DEBT	.047	.004	.988	12.957	.000

Dependent Variable: HBL_EQUITY

8. Conclusions

This paper has checked the impact of change in capital structure on the profitability. The ruling specifies that capital structure of sample of manufacturing and non manufacturing industries change with the change of capital structure it effect the profitability significance or insignificance. So it is proved that most of the manufacturing industries have been found that negative impact between profitability and total debt while servicing sectors have positive impact with profitability and debt. It shows discrepancy of capital structure over five years. The major statement of objective to maintains on the profitability in both industries. So, if overcome of such problems such as loss, risk, liabilities and other factors that affect the profitability.

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