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Original Research Article

# The Role of Capital Structure on Firm's Profitability of Listed Cement Sector in Pakistan Stock Exchange

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## Abstract

The main purpose of this research is to find out the relationship between capital structure (debt-equity) as and Profitability of the listed cement companies in Pakistan Stock Exchange. Further specific objective is to find out relation of debt equity with gross profit, earning per share, and return on capital and return on equity. The sample is taken from 10 cement companies which are listed on Pakistan stock exchange. The secondary data is taken from 2011 to 2018 (i.e. 8 years). Mean and standard deviation of all ratios and Pearson product correlation analysis is performed with the help of Eviews 9 to find the relationship between capital structure and profitability. This research determines that debt / equity (Capital Structure) is adversely linked with the profitability, it suggests that decrease in the profitability of the organizations is due to increase in debt capital & vice versa.
**Keywords:** Capital structure; profitability; return on assets; return on capital employed; debt; equity; Pakistani Cement listed firms.



## INTRODUCTION

Cement industry of any country can play an important role in the development of it and provide a large number of employment opportunities to the people of country. Cement is the largest industry after the steel industry in construction of modern infrastructure in the country.

Number of commercial, residential and industrial construction are increasing rapidly in Pakistan and for any kind of construction cement is the core material therefore, cement industry operating on their maximum capacity.

The cement industry in Pakistan is mainly distributed into two regions i.e. the north side and the south side the provinces comes in north side includes KPK, Punjab, Azad Kashmir, Gilgit-Baltistan and some part of Balochistan and south includes provinces of Sindh and Balochistan where 19 units are located in North while 5 units are located in Southern Region [1].

Presently Pakistan comprised of 24 cement firms which are producing 46.39 million tones. The increase in Local dispatches were 163% during the period of 2004 to 2016 while there was historical increase in export with the percentage of 880% from 2004 to 2009, after 2009 there is consistent decline in exports which is recorded as 44% till 2016. All Pakistan Cement Manufacturers Association [2].

The importance of capital structure has been certified by different members of academies, like D. Durand [3], Modigliani & Miller [4] and F. Weston & E. Solomon by supporting of financing decision importance on profitability of any organization. It is important for the organization to identify the right combination in order to get maximum return to its stakeholders amongst the different capital combinations [5].

An optimum capital structure refers to giving maximum return to the shareholders. Finest Capital structure means Good progress and development of the company, so it needs appropriate awareness and good care in order to get a finest capital structure [6].

### Problem Statement

*The importance of capital structure has been certified by different* members of academies, like D. Durand [3], Modigliani & Miller [4] and F. Weston & E. Solomon by supporting of financing decision importance on profitability of any organization. It is important for the organization to identify the right combination in order to get maximum return to its

stakeholders amongst the different capital combinations [5].

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**Research Question**

Many researchers confirmed the relationship between capital structure and firm's profitability. Following questions has developed to answer in this study.

1. What is the relationship between debt to equity and net profit margin?
2. Is there any relationship capital structure & firm's profitability?
3. Is there any relationship between debt to equity and earning per share?
4. Is there any relationship between debt to equity and return on equity?

**Objective of the Study**

The main purpose of this research is to find out the relationship between capital structure (debt-equity) as and Profitability of the listed cement companies in Pakistan Stock Exchange. Further specific objective is to find out relation of debt equity with net profit margin, earning per share, return on capital employed and return on equity.

**Research Gape**

The various studies have been done previously in this field but most of them not belong to Pakistan, only few researchers have selected this field in Pakistan. But cement industry not been able to get that attention. Most of the previous studies include the elements like long & short term funds to get the relationship. In this field there are few new elements is use to get the relationship of profitability and capital structure which is EPS associate to the other old searches.

## LITERATURE REVIEW

After the work on Capital Structure by [4] this subject received extensive attention in finance and academic researchers started debate on Capital Structure, numbers of studies has been done to shown that how capital structure is related or unrelated to the profitability and firm's financial performance accordingly unlike changed in circumstances. Few researchers identified that no capital structure is perfect for individual firm and some of researchers come to the conclusion that percentage of liabilities borrowed which is unrelated to the a firm. The purpose of all researchers is to identify best capital structure to maximize the profit of the Organization.

It is identified from research that capital structure of the firm can increase or decrease firm's value and profitability [7]. Developing countries and developed countries are affected by debts ratio in the same way and the same type of variables but the change in methodical strategies these ratios are change by Country factors like; GDP growth Rate, inflation Rate & the progress of Capital Market [8]. The firm values can be affected by debts finance which can be negative and positive, it depends on the future opportunities avail by the firms [9]. The firm with more debts financing are earning less profit compare to firm which use equity financing. Interest payment on debts financing reduces the profit [10]. Study has also shown the inverse relationship between debt ratio and profitability where increase in debts the profit of the firm will decrease or wise versa [11]. Companies which only use equity financing will have weak financial position and poor credit rating [12-15] these study shows relatively similar findings that there are negative relationship between profitability and debts which means if debt financing will increase profit will decrease or vice versa. Nimalathasan & Brabete [16] study was conducted in Sri Lanka on manufacturing companies which shows that debt to equity ratio is positively related with profitability.

Sri Lanka Business companies of CSE show that there is negative relationship between the debt to equity and firm financial performance [17]. Another research which has conducted on Petroleum industry of Pakistan shows that there is positive effect of debt and equity on the profitability [18]. Research on Mumbai Stock Exchange Manufacture Company shows that there is association exist between debt and equity and profitability, more use of debt means more loss in the firm profitability [19]. Research which was conducted on Listed Sugar companies of Karachi stock exchange shows that there is positive effect of long term debt on firm profitability. Further Researcher advised that firm supposed to use long term liability as part of firm capital in response to increase the firm responsibility [20].

After the research on listed 35 stock exchange companies of Hong Kong, it is resulted that profitability and capital structure is associated one another by [21]. Research on elements of capital structure found in the study that the growth rate, size and the earning is numerically important by [22]. The bond between the profitability and the capital structure in Ghana establish that the major encouraging relationship between Short period debt to Return on Equity (ROE) and the adverse connection among the long period debt to Return on Equity (ROE) by [23].

Age is adversely connected to short term debt but undoubtedly connected positive to long term debt, found in research by Hall *et al*., [24]. The connection between ownership structure, Capital structure and the

performance of the firm between different trades of business applying the example of the French manufacturing organizations establish that there is no adverse relationship of profitability and leverage by [25]. The debt to asset ratio and the interest coverage ratio is related meaningfully with the profit of the organization. More over in the study of Capital structure and profitability it is establish that debt and equity ratio is adversely connected with the profitability [26].

Investment in preference or shares equity, bond or debentures, spread the range of findings of [23] between the relationship of sponsored long term debt or short term debt and the retained earnings [27]. There is a significant connection between debt after the study in the field of academic, students and business firms and many other studies is been done on this field i.e. equity ratios and the (ROE) Return on Equity.by the better understanding the research is been done by [28, 7]. Few results shows that some confirm that the favorable connection between capital structure and profitability and few other shows that adverse connection is their between the variables [29]. Organization capital structure is the combination of its financial available resources to run the business and a main element to show how the business run its operations. Important resources for all the organizations, suppliers of the finance will apply the control over the organization but leverage is dangerous resource for the organization. Debt and equity is the two main classes for financing. Debt holder's use reduce control on the organization and never shows the elements of the organization which shows how the business is run, they get the fix amount of profit and safeguard by pledged obligations. What is need to pay for finance and when its need to be paid is safeguarded by the obligation order, having the risk and the control over the decision [30].

The elements of financing is generally considered as the debt financing and the equity of the capital structure of the organization Brockington [31]. The organizations mixture of diverse securities is known to be the capital structure. The organization can issues too many different kind of securities. In order to try and find the perfect mixture which makes the most of its worth in market price by decreasing the price of the cost of capital by common stock financing the outcome result of cash flow is for the stock holders. After it issue the debt with equity, the cash flow between the common stock holders and the debt holders is shared. By this the debt holders get the amount which is fixed for them and the common stock holders will avail the amount which is remaining after the complete performance of the organization Brealey and Myers [32].

Tailab [33] had a study on the factors which effect the profit of United States companies with the outcome of leverage account increase and age a declining impact on return on assets. On the other hand the size of liquidity in sales has favorable effect on profit of United State companies. But the irrelevant relation is found amongst the size of assets and ROA the study that the capital structure effect on profitability of American Companies related to energy that the full debt have important impact on Return on Equity and Return on Assets.

Gill *et al.*, [27] had an attempt on cover the results of [23] about the relationship of capital structure and profitability. The sample has been taken from service and manufacturing firms of America. The result of experiment shows favorable relation in short-term debt to total assets and the profitability and in total debt to total profitability and the assets in the industry of services. The paper resulted in connection amongst the short-term to the total profitability and the total assets, long-term debt to total assets and the profitability, as well as the total debt to total assets and the profitability in the industry of manufacturing.

Niresh [34] has shown in the studies that there is important adverse relation amongst the debt equity ratio and the return on equity. In this area of other studies by the similarly resulted few of them approve favorable between capital structure and the profitability and amongst variables it is found to be adverse [28, 7, 29, 35-37].

**Summary of literature review**

| **Result** | **REFERENCES** |
|---|---|
| The negative relationship between debt financing and profitability of the firm according to previous researches. | (Singh, B., & Singh, M. [38]) (Eriotis, Frangouli, & Ventoura-Neokosmides [10]), (Onaolapo & Kajola, [11]), (Shah & Khan [13]), (Rafique [14]), (Masnoon & Anwar [15]), (Pratheepkanth [17]), (Singh [19]), (Chisti, Ali, & Sangmi [26]), (Tailab [33]), (Niresh [34]) |
| The positive relationship between debt financing and profitability of the firm according to previous researches | (Nimalathasan & Brabete [16]), (Ali, Zia, & Razi [18]), (Saeed & Badar [20]), (Margaritis & Psillaki [25]). (Hadlock & James [28]), (Carvalho de Mesquita & Lara, [7]), (Gill *et al.*, [27]), (Abor [23]) |

**Theories of Capita Structure**

**The Trade-Off Theory**

Trade off theory is known as the financial theory. Well known economist Modigliani and Miller has worked on that theory. According to this theory any organizations debt payments focus on its tax deductions backing with debts over equity provides less risk.

Financing through equity originally prove to be expensive compares to financing over debts. But organizations with increase in debts will also reason to find them self in the Financial risk. Organization can also balance this risk by decreasing in (WACC) weighted average cost of capital by some level. This shows the statistics of Trade-Off Theory that the capital structure with a blend of Equity & Debt is at Financial Risk which can be balance by reducing the organizations weighted average cost of capital (WACC).

**The Pecking Order Theory**

A wrong decision about the capital structure of the organization may lead Organization to liquidation or in financial suffering. To get the suitable financial management and the components that affect the organizations capital structure is necessary to get the desirable operational performance.

There are three different types of financing:

- Internal Funds (Retained Earning).
- Equity.
- Debts.

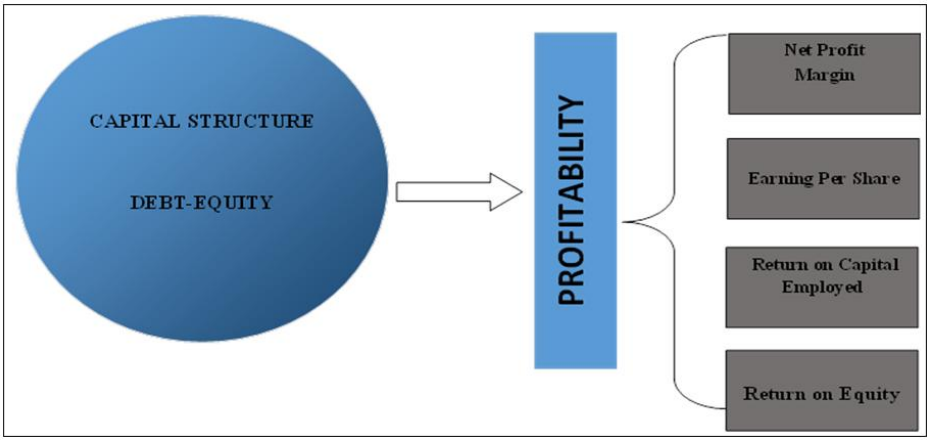
Organization can use these three after setting priorities levels. By giving consideration to internal funds first then to debt and in the last to Equity financing. After consumption of internal financing organization moves to debt financing and if organization cannot meet the required finance required then it moves to the last available option which is the issuance of new shares. That shows the steps organization use for financing. If internal funds are available the organization prefer to utilize that at the maximum and if still there is short of financing then organization goes to next source which is debt, debt is less costly compare to equity financing, In equity financing organization has to issue shares to its stakeholders in which organization shares its ownership with stakeholders.

The Packing Order Theory suggests that organization should prefer its Internal Funding First before going for other sources. If internal funding is not enough to fulfill the organization requirement then organization can choose to go for Debt and then in last choose to go for Equity financing after sharing new Shares to get the required financing.

In the Packing Theory it indicate that if organization can finance through internal funding then it illustrates that its financing situation is Strong enough. But if organization Choses to go for Debt financing then its indicates that in future organization see itself in good financial position in order to pay off its liability that's the reason they the opting to go for Debt. If organization decides to go for issuing of new shares then it suggests that organization stock is overvalued and it want to get some more money before its share price drops.

Pecking order model theory also define that organization have perfect planning for the financing decision which may be use first internal funds, then debts financing and if the funds are not enough for the organization then company have option to use the equity financing as the last available option.

If the pecking theory points only working for the developed countries those having access to choice of debt finance, what is the effect of low debt finance on profitability of country like Pakistan's firms where there is very few options of debt finance on corporate bonds.




**Conceptual Framework**

**Research Hypothesis (Ordinary Least Square Model)**

| |
|---|
| H1 Debt/Equity significance effect on net profit margin. |
| H2 Debt/Equity significance effect on earning per share. |
| H3 Debt/Equity significance effect on return on capital employed. |
| H4 Debt/Equity significance effect on return on equity. |
| H1 Debt/Equity significance effect on net profit margin. |
| H2 Debt/Equity significance effect on earning per share. |
| H3 Debt/Equity significance effect on return on capital employed. |
| H4 Debt/Equity significance effect on return on equity. |
| H1 Debt/Equity significance effect on net profit margin. |

## RESEARCH METHODOLOGY

**Research Philosophy**

This research philosophy is related to positivism as the research is testing a theory.

**Research Approach**

The approached adopted for this research is quantitative research tends to be deductive which means that we are testing a theory which is already developed.

**Research design**

**Data Collection**

Secondary data is used for our quantitative research which was collected from Pakistan Stock Exchange website and companies annual report.

**Sample Size**

In this research we have chosen 10 (Ten) cement companies out of 17 (Seventeen) listed companies of Pakistan Stock Exchange (KSE) 100 index. 07 (Seven) Companies were excluded due to consistent loss in the selected period from 2011 to 2018.

**Result analysis**

Data has been collected from secondary source i.e. Pakistan Stock exchange website and the annual report of the selected firms. The period of study has selected 8 years which is from 2010-11 to 2017-18 during this period export of the cement industry decline 44% and the same time 33% increases in local dispatches and production capacity and surplus capacity 7% increase and 39 % decrease respectively.

First Unit root test has been run to check either data is stationary or unit root, most of the method shows that data are stationary on zero level which means regression analysis is suitable for selected data.

Mean and standard deviation of all these ratios, pooled regression test and Pearson product correlation analysis will be performed with the help of Eviews9 to find the relationship between capital structure and profitability.

## RESULTS AND DISCUSSION

First section of this chapter consist of descriptive analysis i.e. mean and standard deviation of the individual firms as capital structure (debt to equity) is taken as independent variable and profitability (NPM, EPS, ROE and ROCE) are taken as dependent variable. Pearson Correlation Test and Simple Pooled Regression Analysis have been performed between dependent and independent variable to get the results.

**Augmented Dickey–Fuller test (ADF) Test:**

| Variables | Statistics | Probability | Level |
|---|---|---|---|
| DE | 37.8717 | 0.0040 | Zero Level |
| EPS | 48.4409 | 0.0004 | Zero Level |
| NPM | 61.9368 | 0.0000 | Zero Level |
| ROCE | 39.0210 | 0.0066 | Zero Level |
| ROE | 59.4789 | 0.0000 | Zero Level |

**Levin, Lin & Chu test:**

| Variables | Statistics | Probability | Level |
|---|---|---|---|
| DE | -12.9961 | 0.0000 | Zero Level |
| EPS | -7.88816 | 0.0000 | Zero Level |
| NPM | -11.4357 | 0.0000 | Zero Level |
| ROCE | -8.25775 | 0.0000 | Zero Level |
| ROE | -9.37188 | 0.0000 | Zero Level |

**Im, Pesaran and Shin W-stat:**

| Variables | Statistics | Probability | Level |
|---|---|---|---|
| DE | -2.08608 | 0.0185 | Zero Level |
| EPS | -2.89174 | 0.0019 | Zero Level |
| NPM | -4.56989 | 0.0000 | Zero Level |
| ROCE | -2.16635 | 0.0151 | Zero Level |
| ROE | -4.02850 | 0.0000 | Zero Level |

**PP - Fisher Chi-square**

| Variables | Statistics | Probability | Level |
|---|---|---|---|
| DE | 72.7144 | 0.0000 | Zero Level |
| EPS | 85.5835 | 0.0000 | Zero Level |
| NPM | 84.0277 | 0.0000 | Zero Level |
| ROCE | 52.6365 | 0.0001 | Zero Level |
| ROE | 71.9792 | 0.0000 | Zero Level |

**Analysis**

Panel Unit root test has been run to check either data is stationary or unit root although null hypothesis is "panel data has unit root" and alternative hypothesis is "panel data has not unit root" as most of the method shows that the probabilities of all variables are less than 0.05 which shows null hypothesis has been rejected and alternative hypothesis has been accepted, hence it is proved that data which have been taken for study period from 2011 to 2018 of the cements sector listed in Stock Exchange of Pakistan are stationary at level.

**Hausman Test**

| Variables | Fixed | Random | Probability | Appropriate Model |
|---|---|---|---|---|
| EPS-DE | -2.719581 | -2.889184 | 0.2354 | Random Effect |
| NPM-DE | -0.039467 | -0.035383 | 0.3299 | Random Effect |
| ROCE-DE | -4.476923 | -4.154315 | 0.4577 | Random Effect |
| ROE-DE | -0.084877 | -0.073011 | 0.0063 | Fixed effect |

**Analysis**

Hausman test has been run to check either fixed effect is appropriate or random effect is suitable for the data null hypothesis is "random effect is appropriate" and alternative hypothesis is "fixed effect is appropriate" as result shows that the probabilities of variable is more than 0.05 of EPS-DE, NPM-DE and ROCE-DE which shows null hypothesis has been accepted and alternative hypothesis has been rejected, hence it is cleared that random effect is the appropriate for first three models, last one which is ROE-DE probability is less than 0.05 which means random effect is appropriate for the ROE-DE for the data which have been taken for study period from 2011 to 2018 of the cement sector listed in Stock Exchange of Pakistan.

**Model-1: Of Cement Sector**

| Dependent Variable: EPS | | | | |
|---|---|---|---|---|
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 15.89803 | 2.428034 | 6.547696 | 0.0000 |
| DE | -2.889184 | 0.709975 | -4.069415 | 0.0001 |
| R-squared | 0.175567 | Mean dependent var | | 3.927203 |
| Adjusted R-squared | 0.164998 | S.D. dependent var | | 6.741416 |
| S.E. of regression | 6.173352 | Sum squared resid | | 2972.601 |
| F-statistic | 16.61051 | Durbin-Watson stat | | 0.475264 |
| Prob(F-statistic) | 0.000110 | | | |

**Analysis**

This regression model demonstrates that E.P.S. (Earning Per Share) has huge impact or impact on D.E (Debt to Equity). The Probability value is .0001 which is under .05 or 5% that implies dependent variable (E.P.S) Earning Per Share impacts or effects on debt to equity or D.E or can impact on E.P.S (Earning Per Share) just 16.49% and other portion of percentage effects on hidden factors which is also part of this model that means external factors are influencing on 83.51%. The Prob. (F-statistic) is additionally noteworthy that is 0.000110 which is under 5% or .05 and the Derbin Watson-detail demonstrates 0.47. This model states that earning per share has critical impact on debt to equity that implies Capital structure impact

on Profitability in the cement sector which is recorded in Pakistan Stock Exchange.

**Model-2: Of Cement Sector**

| Dependent Variable: NPM | | | | |
|---|---|---|---|---|
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 0.213760 | 0.012731 | 16.79101 | 0.0000 |
| DE | -0.035383 | 0.007613 | -4.647813 | 0.0000 |
| R-squared | 0.217764 | Mean dependent var | | 0.142119 |
| Adjusted R-squared | 0.207736 | S.D. dependent var | | 0.083388 |
| S.E. of regression | 0.074002 | Sum squared resid | | 0.427152 |
| F-statistic | 21.71418 | Durbin-Watson stat | | 1.250203 |
| Prob(F-statistic) | 0.000013 | | | |

**Analysis**

Above regression model illustrates the Net Profit Margin (N.P.M) having great importance or influence on Debt to Equity (D.E). The value of probability is .000 which is fewer than 5% which shows that dependent variable net profit margin is effects on debt to the equity or Effect net profit margin or D.E only 20.07% and other section of the percentage impact on those unseen factors which includes in the model which means that the exterior factors influencing at 79.98%. The (F-statistics) .000013 is also important that is fewer than 5%. As well as stat of D. Watson illustrates 1.250. The model expresses that the N.P.M having great importance on D.E (Debt to Equity) which the capital structure is having great effect on profitability in the sector of general industry which is registered in (PSE) Pakistan Stock Exchange.

**Model-3: Of Cement Sector**

| Dependent Variable: ROCE | | | | |
|---|---|---|---|---|
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 26.79394 | 2.103699 | 12.73658 | 0.0000 |
| DE | -4.154315 | 1.061672 | -3.912993 | 0.0002 |
| R-squared | 0.165553 | Mean dependent var | | 13.54880 |
| Adjusted R-squared | 0.154855 | S.D. dependent var | | 10.57877 |
| S.E. of regression | 9.741103 | Sum squared resid | | 7401.349 |
| F-statistic | 15.47513 | Durbin-Watson stat | | 1.297546 |
| Prob(F-statistic) | 0.000180 | | | |

**Analysis**

This regression model demonstrates that R.O.C.E (Return on Capital Employed) is noteworthy impact or impact on D.E (Debt to Equity). The Probability value is .0002 which is under .05 or 5% that implies dependent variable return on capital employed impact or effects on debt to equity or D.E or can impact on R.O.C.E (Return on Capital Employed) just 15.48% and other portion of percentage effects on hidden factors which is also part of this model that means external factors are influencing on 84.52%. The Prob. (F-statistics) is .00018 which is under 5% or .05 and the Durbin Watson-detail demonstrates 1.29. This model tells that return on capital employed has critical impact on debt to equity that implies Capital structure has critical impact on Profitability in the cement sector which is listed in Pakistan Stock Exchange.

**Model-4: Of Cement Sector**

| Dependent Variable: ROE | | | | |
|---|---|---|---|---|
| Method: Panel Least Squares | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 0.282187 | 0.015410 | 18.31195 | 0.0000 |
| DE | -0.084877 | 0.011501 | -7.379749 | 0.0000 |
| R-squared | 0.539015 | Mean dependent var | | 0.202377 |
| Adjusted R-squared | 0.464444 | S.D. dependent var | | 0.134169 |
| S.E. of regression | 0.098187 | Akaike info criterion | | -1.666398 |
| Sum squared resid | 0.655571 | Schwarz criterion | | -1.309094 |
| Log likelihood | 78.65591 | Hannan-Quinn criter. | | -1.523144 |
| F-statistic | 7.228203 | Durbin-Watson stat | | 1.312451 |
| Prob(F-statistic) | 0.000000 | | | |

**Analysis**

This regression model demonstrates that R.O.E (return on equity) has huge impact or impact on D.E (Debt to Equity). The Probability value is .0000 which is under .05 or 5% that implies dependent variable (R.O.E) return on equity is impact or effects on debt to equity or D.E or can impact on R.O.E (Return on Equity) 46.44% and other portion of percentage effects on hidden factors which is also part of this model that means external factors are influencing on 53.06%. The Prob. (F-statistic) is additionally noteworthy that is .000000 which is under 5% or .05 and the Durbin Watson-detail demonstrates 1.31. This model states that return on equity has critical impact on debt to equity that implies Capital structure impact on Profitability in the cement sector which is recorded in Pakistan Stock Exchange.

**Correlation**

| Correlation | DE | EPS | NPM | ROCE | ROE |
|---|---|---|---|---|---|
| DE | 1.000000 | | | | |
| EPS | -0.464042 | 1.000000 | | | |
| NPM | -0.460123 | 0.491822 | 1.000000 | | |
| ROCE | -0.380645 | 0.243133 | 0.253742 | 1.000000 | |
| ROE | -0.502716 | 0.333526 | 0.495733 | 0.658620 | 1.000000 |

**Analysis**

Above mentioned correlation model shows that there is negative relationship between Debt to Equity i.e. independent variable and Profitability (EPS, GPM, NPM, ROCE and ROE) i.e. dependent variable.

**Discussion**

The all four model significantly explained debt to equity towards firm's profitability. All hypotheses have been accepted. Detailed Discussion on individual hypothesis and compare with previous studies are:

- H2 Debt/Equity significance effect on earning per share.
- H3 Debt/Equity significance effect on return on capital employed.
- H4 Debt/Equity significance effect on return on equity.

**Hypothesis 1**: *Debt/Equity significance effect on net profit margin*.

The alternative hypothesis $H_I$ has accepted and $H_o$ hypothesis is rejected. This answer to the research question 1: What is the relationship between debt to equity and net profit margin? The results revealed that the debt to equity and net profit margin has negative relationship with each other means debt/equity ratio will be increased net profit margin will be decreased or vice versa. This result is matching with earlier research of [38, 10].

**Hypothesis 2**: *Debt/Equity significance effect on earning per share*.

The alternative hypothesis $H_I$ has accepted and $H_o$ hypothesis is rejected. The results revealed that the debt to equity and earning per share has negative relationship with each other means debt/equity ratio will be increased EPS will be decreased or vice versa.

**Hypothesis 3**: *Debt/Equity significance effect on return on capital employed*.

The alternative hypothesis $H_I$ has accepted and $H_o$ hypothesis is rejected. The results revealed that the debt to equity and ROCE has negative relationship with each other means debt/equity ratio will be increased ROCE will be decreased or vice versa.

**Hypothesis 4**: *Debt/Equity significance effect on return on equity*.

The alternative hypothesis $H_I$ has accepted and $H_o$ hypothesis is rejected. The results revealed that the debt to equity and ROE has negative relationship with each other means debt/equity ratio will be increased ROE will be decreased or vice versa.

**Limitations and recommendation**

This study only included secondary data and restrict on one specific industry furthermore, the study period is only eight year, to keep the previous points in mind the research can do further research in this area by adding more industry, also can increase number of study period and may include primary data which makes results more reliable. Research can add some more variable i.e. intervening moderating and also some more independent and dependent variables like; debt to assets and weighted average cost of capital as independent and gross profit margin, return on assets, tobin's q as dependent variable.

## CONCLUSION

Capital structure is not all about debt to equity of an organization; it is also concerned about the managerial operations of the organization. Stability of process should exist between debt and equity as it plays an important role in profitability of any organization.

This research aim is to find out the association of capital structure and profitability of the cement companies which are listed in Pakistan Stock Exchange showing profit in our desired period of study i.e. 2011 till 2018 which are based on (80) eighty observations and analyzed with the help of pooled regression model. The research concludes that combination of debt to equity has significant effect on profitability and

negatively associated with profitability of the firm which means that decrease in profitability of the firm is caused by the increase in debt/equity ratio.

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