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RESEARCH ARTICLE

Unlocking the Link Between Firm Level Factors and Capital Structure: "An Industrial Analysis"

Muhammad Faizan[1*], Asad ur Rehman[2], Asad Yaqub[3]

[1,2,3]*Department of Management Science, NUML, Islamabad*

[2,3]*Department of Accounting and Finance, NUML, Islamabad*

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Abstract: This study investigates the influence of firm level factors on capital structure. The determinants of the study are profitability, liquidity, cash gap, cash productivity of asset and firm valuation that effect the capital structure. The population used is the construction sector of Pakistan and the cement sector was selected as the sample size for period of 2016 to 2021. The random effect model is operated as data analysis technique to empirically examine the relationship of variables. The findings show that all predictors influenced the capital structure. The results obtained infer that profitability and cash gap are positively associated with capital structure. Whereas, liquidity, cash productivity of assets and firm valuation is negatively related with capital structure. The two fundamental theories of capital structure, trade-off theory and pecking order theory are used in this study. It emphasizes the significance of probability in determining the capital structure decisions as increased debt usage can lead to tax deductions due to interest payments. The aim is to enhance the company's profits, which in turn will raise the company's worth through optimal selection of capital structure. Our study recommends that companies in construction sector should increase their profitability and manage cash gaps efficiently to leverage positive impact on capital structure and to regularly evaluate form valuation to ensure it aligns with capital structure decision.

Keywords: Profitability, Liquidity, Cash gap, Cash Productivity of assets, Pecking order theory, Capital structure
JEL Classification Codes: G32, G30

Corresponding author: muhammad.faizan@numl.edu.pk

1. INTRODUCTION

Capital structure theories are complex and intriguing topic in finance. The two main aspects of capital structure that receive frequent attention are its impact on firm value, which is associated with finding optimal capital structure, and the determinants of a firm capital structure. Decisions related to capital structure are important for all firms, as they have internal and external effects. Maximizing shareholder wealth is one of the primary goals of financial managers, and setting up optimal capital structure is one way to achieve this objective while minimizing cost of funds. Equity and debt are fundamental components of capital structure, and a firm should strive to determine the optimal mix of these two sources of financing to maximize its value (Naibaho, 2021). Some studies have identified a direct relationship between leverage and firm value. Capital structure policy also affects a firm's risk and return level. The more debt a firm uses to finance its assets, the greater the variability in its cash flow stream, leading to increased risk. As a result, shareholders expect higher rate of return in compensation of the higher risk. Conversely, no precise

theory has yet been developed to determine the exact optimal capital structure.

Indeed, various firm-related factors can impact firm capital structure decisions and it can vary across countries and depend on the firm's specific characteristics (Hossian & Ali, 2012). For instance, the size of the firm can affect its access to financing, with larger firms generally having greater access to debt markets than smaller firms. Similarly, agency costs and bankruptcy costs can also influence firm capital structure choice, as higher agency costs and bankruptcy costs may lead firms to rely heavily on equity financing to avoid financial distress. Profitability and growth opportunities are other important factors that influence firm capital structure decisions (Syah et al., 2022). High profitability can enable a firm to borrow more easily, while also reducing the need to issue additional equity. Conversely, firms with high growth opportunities may be more likely to issue equity to fund their growth, rather than rely solely on debt financing. Variability of earnings, liquidity, asset structure, and ownership structure are also factors that can impact a firm's capital structure choices. For example, firms with more stable earnings may be able to take on more debt, while those with more volatile earnings may need to rely on equity financing to avoid financial distress. Similarly, firms with a more liquid asset structure may be able to borrow more easily, while firms with a more illiquid asset structure may need to rely more heavily on equity financing.

As a developing nation, Pakistan faces several economic challenges, making it important for investors and managers to reconsider the factors that influence the use of debt and the extent of their influence over firms (Sharif, 2023). High debt costs are one of the crucial economic issues faced by Pakistan, which means that firms need to be careful while doing their capital structure decisions. In such an environment, it is essential for firms to analyze the trade-offs between debt and equity financing and choose an optimal mix of these sources that maximizes their value while minimizing risk. Additionally, firms need to be aware of the potential impact of high debt on their operations and financial stability and take steps to manage their debt effectively. This includes monitoring debt levels, evaluating the cost of debt, and maintaining a healthy balance among debt and equity. Overall, it is important for Pakistani firms to make well-informed capital structure decisions that take into account the unique challenges and opportunities presented by the country's economic environment. Developing a new capital structure for an organization is a critical aspect of its startup and ongoing success. Identifying and carefully analyzing the factors that influence a firm’s capital structure decision is crucial. This study examines the relationship between firm-specific factors and capital structure choices, focusing on profitability, liquidity, cash gap, cash productivity of assets, and firm valuation. These elements are essential for making informed capital structure decisions. The aim of this study to examine the influence of these factors on capital structure decision-making process of firms.

The complexity and variability in the capital structure decisions necessitate continuous investigation to understand the factors influencing these decisions. Recent studies have highlighted various determinants such as firm size, growth opportunity and liquidity which significantly affect capital structure. Mardani et al. (2023) found that profitability and liquidity negatively correlated while firm size and growth have positive affect on capital structure. Saif-Alyousfi et al. (2020) reported that profitability, growth opportunity, tax shield, and liquidity have a negative impact on debt measures. These finding underline the necessity for further research to explore these determinants within specific economic context of Pakistan. Our study aims to fill this gap in the literature by focusing on the construction sectors of Pakistan. The insights from this study will contribute to the broader understanding of capital

structure determinants, offering practical recommendations to enhance financial stability and profitability for firms operating in similar economic environments.

2. LITERATURE REVIEW

Capital structure describes the combination of debt and equity a company utilizes to fund its investments and operations. The importance of capital structure lies in its influence on companies' risk profile, profitability and overall value. The method a company uses to raise capital affects is cost of capital, which is the expense of borrowing money or issuing equity. Companies with high proportion of debt will experience a higher cost of debt, whereas those with more equity will face a higher cost of equity. Striking an optimal balance between debt and equity can help reduce the overall cost of capital (Naibaho, 2021). A company with too much debt may face difficulties in raising additional capital or renegotiating its debt terms, especially during economic downturns. However, a company with more equity may have more financial flexibility, but it may not be able to take advantage of tax benefits of debt financing. Debt financing can magnify profits and increase shareholder returns in good times, but it can also result in a larger loss in bad times. Equity financing, on the other hand, does not have any such obligations but dilutes ownership and control. So, these points enlighten the importance of the capital structure.

Many theories have been proposed for the capital structure and many debates have been conducted on it as well but up till now, no optimal percentage of capital structure is proposed. Jensen and Meckling (1976), are credited with research in this field, which was based on earlier studies by Fama and Miller (1972). Jensen and Meckling identify two types of conflicts: conflicts that arise between shareholders and managers, and conflicts that arise between debtholders and equity holders. Making our concern with the second conflict, debtholders and equity holders often find themselves in conflict due to the incentive structure created by the debt contract. This is because the debt contract can encourage equity-holders to make suboptimal investment decisions. Specifically, when an investment generates substantial returns, equity holders stand to benefit more than debtholders. Conversely, if investment fails, debtholders bear the losses due to limited liability. However, if debt-holders correctly anticipate the future behavior of equity-holders, they may require a lower price for the debt to compensate for the risk of suboptimal investments. Consequently, the cost associated with the incentive to invest in the project that decrease value, created by the debt contract, is ultimately borne by the equity holders who issue the debt (Harris & Raviv, 1991).

Pecking order theory says, Companies with ample internal funding resources due to high profitability typically have lower levels of debt, as their internal funds can sufficiently meet their financing needs. The firms firstly used their internal financing available at less cost than firms move towards debt and later on equity by choosing them as last option. This suggests that there is no ideal capital structure for such companies (Myers, 1977). The trade-off theory of leverage argues that a company's ideal capital structure is achieved by balancing the benefits of debt financing, such as favorable tax treatment, against the potential drawbacks, such as increased interest rates and the risk of bankruptcy. Brigham and Houston (2011), explain that finding an optimal capital structure involves weighing the pros and cons of debt financing. The net income approach emphasizes the capital structure, cost of capital and firm value. It suggests that firms should maintain a moderate level of debt to balance lower cost of capital against higher

financial risk. The goal is to determine an optimal capital structure which maximizes firm overall value.

According to Hirdinis (2019), the firms with strong profitability ratios may opt to increase their debt levels. This is because companies with high profits are typically viewed as having promising growth prospects and may require additional funds to support their expansion plans. Several studies, including Antwi et al. (2012), Ahmad et al. (2015) and Sari and Sedana (2020), have shown a positive correlation between company's profitability and its capital structure

H1: Profitability positively influences capital structure.

Companies liquidity replicates their ability to meet short-term financial obligations. High liquidity can attract investors and increase demand for shares, potentially boost stock prices. Liquidity is an important factor for company's success and is a major concern for businesses. According to Farooq and Masood (2016), there is a strong relationship between liquidity and capital structure. Sari and Sedana (2020) also found that higher liquidity level can positively influence company's capital structure and overall value. Whereas Jahfer and Madurasinghe (2019) identified negative association among capital structure and liquidity, concluding as firm's liquidity increases, their leverage decreases and vice versa. This underscores the critical role of liquidity in determining a firm's financial structure

H2: Liquidity negatively correlates with capital structure.

The cash gap measures the period a company needs to finance its current assets with external sources, typically managed through short-term borrowing. A shorter cash gap indicates effective cash management and efficient operations, while a longer cash gap can result in cash shortage and higher financing cost. Generally, a positive correlation exists between cash gap and leverage, where reducing debt shortens the cash gap and vice versa. Malinic et at. (2013) revealed positive link between the capital structure and cash gap. They also noted that shortening the cash gap is achieved not by reducing inventory or speeding up receivable collection but by delaying payments of suppliers.

H3: Cash gap positively correlates with capital structure

Cash productivity of assets (CPA) measures companies' ability to produce positive cash flows through their assets, reflecting whether the company can achieve a cash surplus or deficit from its core operations. In essence, CPA provides insight into the potential of companies' assets to produce cash flow. Cao and Leung (2020) point out that high cash flow reduces the company dependence on debt financing. A high cash flow to assets ratio indicates a reduced need for external financing. Furthermore, robust cash flow often reflects high-quality projects and overall strong firm performance, further decreasing reliance on debt financing.

H4: Cash productivity of assets negatively correlates with capital structure.

According to Zou and Bai (2022), companies can simultaneously adjust their capital structure and distribute dividends, determining endogenous internal financing ratio during this process. To optimize their capital structure, company should evaluate equity financing, debt financing, and the weighted average cost of capital in advance. Based on relevant research, it is believed that dividend distribution behavior can significantly impact capital structure adjustments. The dividend performance of a corporation is predominantly influenced by its dividend policy, which determines the amount of dividend payouts (Banerjee & De, 2015). The process of establishing a suitable dividend

policy has piqued the curiosity of researchers worldwide due to the constant dilemma faced by corporate management on the appropriate balance between paying dividends to shareholders and retaining funds for future provisions. Companies that pay cash dividends tend to have more flexibility in their funding arrangements by attracting more investors towards them and less likely to take the debt from the creditors. The results are aligned with the study of Sinabutar and Nugroho (2015), which found a negative relationship between debt-to-equity ratio and dividend payout ratio.

H5: Valuation is negatively correlates with capital structure.

3. METHODOLOGY

Time frame for data used in analysis of this study is from 2016 to 2021. Cross-sectional and time series data, also known as panel data, is used for analysis. The source of data collection is secondary data. For this purpose, data is collected from the official websites of firms by accessing the financial statements of these firms. The official website of Pakistan Stock Exchange (PSX) is also catered to collect the data of firms.

The manufacturing sector especially in Pakistan is a leading contributor in the economy and its share in GDP of the country is highest (SBP, 2018; Bhutta et al., 2019). The cement industry of Pakistan is chosen as sample size. There is a fundamental lack of understanding among finance managers of cement industry regarding capital structure. The cement industry in Pakistan experienced positive cash flows in the past but has since faced a decline. Furthermore, Pakistan's cement industry has lost market share to other countries' cement industries in terms of exports (Sharif, 2023). The high cost of cement production in Pakistan has led to significant expenses for gasoline and transportation. The industry has high production costs. In order to mitigate these costs, the cement industry is exploring alternative fuel options. However, the effectiveness of decision-making related to capital structure is a crucial issue that needs to be addressed from which the cost can be minimized. So, the effect of the study is measured by underpinning this sector. It is important for the researcher to check the accuracy and health of the data before going for the suitable analysis of the data. This includes the descriptive analysis and correlation matrix. After that, a multiple regression is run to examine the impact of profitability, liquidity, cash gap, cash productivity of assets and firm valuation on the capital structure.

The dependent variable in this study is capital structure which is measured with debt to asset ratio (dtar). The formula of dtar is dividing debt on total assets. This ratio takes into account all company's debt and assets, while the debt to equity ratio only reflects the proportion of debt relative to equity, and debt to capital ratio considers debt relative to both equity and debt financing. Consequently, debt-to-asset ratio, provides a broader picture of how a company has financed its operations and the associated risks of its capital structure. Furthermore, debt to asset ratio is less susceptible to manipulation than other measures of capital structure. For instance, a company can increase its debt-to-equity ratio by reducing equity without necessarily increasing debt levels, while the debt to capital ratio can be influenced by the company's choice of capital structure. In contrast, the debt to asset ratio, is not influenced by such factors and provides a more objective measure of company’s capital structure.

Focusing towards the independent variables; the profitability is measured with return on equity (ROE) which

is a good predictor of firm profitability. The formula for ROE is net profit divided by shareholder's equity. The liquidity is gauged with current ratio (Cura) and its measured by dividing current assets by current liabilities. The firm's cash gap is calculated with the number of days payable (Nodp). The formula of Nodp is account payable turnover divided by 365. The cash productivity of the firm is calculated with cash return on asset (Caschroa). The formula of Cashroa is dividing cash flow from operations by average total assets. The firm valuation is considered as one of the best factors of the firm which is measured with cash dividend per share (Cashdivps).

The model that estimates the relationship of the factors is selected after some analysis. For regression analysis we need to select from common factor model, such as random effect model and fixed effect model. Previous studies make regression as good one to employ in the study (Triani, 2019; Razali et al., 2019). Based on above points the following is the estimation model of this study;

$$(dtar)it = \alpha 0 + \beta 1(roe)it + \beta 2(cura)it + \beta 3(nodp)it + \beta 4(cashroa)it + \beta 5(cashdicps)it + e$$

4. RESULTS & ANALYSIS

This section is to elaborate on the results that arise after the analysis. This portion consists of descriptive statistics, correlation analysis and regression analysis as well, which is selected by running some analysis to make a choice on empirical basis between fixed effect model, common effect model, and random effect model.

4.1 Descriptive Statistics

Table 1

Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
Dtar	102	.492	.246	.004	1.618	.035	1.435	1.989	9.396
Roe	102	8.847	20.988	-117.815	39.867	-99.526	35.886	-3.535	20.878
Cura	102	1.976	4.102	0	30.813	0	28.292	6.108	41.413
Nodp	102	-6.56	567.967	-5630.533	556.979	0	337.123	-9.643	96.139
Cashroa	102	7.705	8.615	-14.858	26.382	-13.182	25.79	-.037	2.653
Cashdivps	102	2.721	3.996	0	14	0	14	1.52	4.147

Source: author computation

Table 1 provides summary statistics for one dependent variable dtar and independents variables including roe, cura, nodp, cashroa, and cashdivps. "Obs" shows the number of observations, which is 102 for all variables. "Mean" is the average value of each variable across all observations. "Std. Dev." is standard deviation of variables, which gives an indication of how spread out the data is. "Min" & "Max" are minimum and maximum values of each variable, respectively. "p1" and "p99" are the 1st and 99th percentiles, respectively. These are useful for identifying extreme values or outliers. "Skew." and "Kurt." are measures of skewness and kurtosis, respectively, which describe the shape of the distribution of each variable. Based on this information, we can see that the variables have different ranges, means, standard deviations, and distributions. Looking at the results, "nodp" has a very large standard deviation compared to the other variables, suggesting that it has more variability. "roe" has a negative minimum value. Overall, these statistics can help us understand the characteristics of the dataset.

4.2 Pairwise correlations

Table 2

Correlation

Variable	(1)	(2)	(3)	(4)	(5)	(6)
(1) dtar	1.000					
(2) roe	-0.160	1.000				
(3) cura	-0.416*	-0.006	1.000			
(4) nodp	-0.047	0.015	0.014	1.000		
(5) cashroa	-0.341*	0.540*	-0.070	0.045	1.000	
(6) cashdivps	-0.252*	0.389*	-0.032	0.040	0.561*	1.000

**** p<0.01, ** p<0.05, * p<0.1*

The above table shows the correlation coefficients between six variables: dtar, roe, cura, nodp, cashroa, and cashdivps. Table 2 of this study presents the correlation of variables. According to Gujrati (2003) if the correlation value is greater than 0.70 then there is problem of multicollinearity among variables. The multicollinearity issue creates the biasness of results. As per above empirical results there is no issue of multicollinearity throughout the variables. Some values are indicating positive, and some are showing negative correlation among the variables. Like, the correlation coefficient between dtar and roe is -0.160, while the correlation coefficient between dtar and cura is -0.416. The correlation value between dtar and cashroa is -0.341, whereas dtar has -0.252 correlation value with cashdivps. In contrast, there is a positive correlation between roe and cashroa having the value of 0.540, while there is also a positive correlation between cashdivps and cashroa is 0.561. The strength of the correlations varies, with some coefficients being close to zero, as the correlation between nodp and cashroa is only 0.045, while others are more substantial, like the correlation between roe and cashdivps is 0.389.

4.3 Regression Analysis

To run the regression firstly it is crucial to select which model is suitable for our study out of the common effect model, random effect model and fixed effect model. For this purpose, there is a need to take an empirical decision in the selection of models. First of all, hausman random fixed test is operated to select the model out of fixed effect model and random effect model.

4.3.1 Hausman Random Fixed

Table 3

Hausman Random Fixed Test

	B random	(B) fixed	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E
Roe	.0029786	.00342	-.0004414	.0003469
Cura	-.0204639	-.0194256	-.0010383	.001548
Nodp	.000065	.0000796	-.0000145	.0000108
Cashroa	-.0055591	-.0041894	-.0013697	.0009809
Cashdivps	-.0112209	-.0124994	.0012784	.0019406

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
chi2(5) = 8.66 Prob>chi2 = 0.1235

The random effect and fixed effect model are operated and then hausman random fixed test is run. The results in table 3 are indicated that chi2 value is 8.66 and Prob>chi2 is 0.1235. The Prob value is more than 0.05 which is showing that the results are statistically insignificant so, fixed effect model will not be implemented. Random effect model is needed to apply. Moreover, there is also a need to know that from the common effect model and random effect model which test we should select. For this purpose, we will go for further analysis.

4.3.2 Breusch-Pagan Lagrange multiplier (LM)

Table 4

Breusch-Pagan Lagrange Multiplier (LM)

	Var	**sd = sqrt(Var)**
Dtar	.0603869	.2457375
E	.0105101	.1025188
U	.0124544	.1115993

Test: Var(u) = 0, chibar2(01) = 81.41, Prob > chibar2 = 0.0000

Testing for random effects Vs. Simple OLS: Breusch-Pagan Lagrange multiplier (LM) is required to run. The results of table 4 show that chi2 value is 81.41 and Prob>chi2 is 0.0000. The Prob value is less than 0.05 whic shows that the results are statistically significant so, common effect model is ignored, and random effect model will be selected.

4.3.3 Random Effect Model

Table 5

Random Effect Model

Dtar	**Coef.**	**St.Err.**	**t-value**	**p-value**	**[95% Conf**	**Interval]**	**Sig**
Roe	.003	.001	4.24	0.000	.002	.004	***
Cura	-.02	.003	-6.15	0.000	-.027	-.014	***
Nodp	000006	0.00002	2.98	.003	0.00002	0.0001	***
Cashroa	-.006	.002	-2.52	.012	-.01	-.001	**
Cashdivps	-.011	.005	-2.36	.018	-.021	-.002	**
Constant	.58	.037	15.76	0.000	.508	.652	***

Mean dependent var	0.492	SD dependent var	0.246
Overall r-squared	0.205	Number of obs	102
Chi-square	76.819	Prob > chi2	0.000
R-squared within	0.551	R-squared between	0.045

**** p<.01, ** p<.05, * p<.1*

Table 5 shows the regression results. The random effect regression is used in the study to empirically evaluate the firm's capital structure. First of all, the value of R-square is 0.551 which is inferring that the influence of predictors on capital structure (DV) is 55.1%. Moreover, the P-value 0.000, portraying relationship is statistically significant at 5% level of significance. The first determinant is profitability which is measured with ROE. P-value of ROE is 0.000 and providing relationship is statistically significant with capital structure at 5% level of significance. Liquidity is the second determinant which is quantified with current ratio. The P-value of CURA is 0.000 which is showing that

relationship is significant with capital structure at 5% level of significance. The third proxy is the number of days payable (NODP) to measure the cash gap. The P-value is 0.003 and indicates a statistically significant association with capital structure. Cash productivity of assets is gauged with cash return on assets (CASHROA). The results show that P-value is 0.012 which is inferring significant relationship with capital structure. Finally, the valuation of the firms is measured with a cash dividend per share. The P-value of cash dividend per share (CASHDIVPS) is 0.018. The results indicate statistically significant firm valuation with capital structure at 5% level of significance. The coefficient values of ROE and NODP are positive which is showing a positive relationship with capital structure, while the coefficient values of CURA, CASHROA and CASHDIVPS are negative which is indicating an inverse relationship of these variables with capital structure.

5. DISCUSSION AND CONCLUSION

The firm's profitability is positively associated with capital structure. The study's findings indicate that firms with strong profitability ratios may opt to increase their debt levels. The findings are aligned with the study of Sari and Sedana (2020), which identified that there is a positive relationship among capital structure and profitability. This is because companies with high profits are typically viewed as having promising growth prospects and may require additional funds to support their expansion plans, resulting in a greater reliance on debt. Liquidity negatively associated with capital structure. Hirdinis (2019) found that a company's liquidity ratio has a significant negative impact on its capital structure. This suggest that firms with higher liquidity levels tend to rely more on internal financing and less reliant on debt. Companies with ample liquidity prefer using their internal funds before considering debt or issuance of new shares, as reducing current debt lowers overall corporate debt levels. Results are aligned with pecking order theory which says that firms firstly rely on their internal financing which is least costly for the firm. These findings align with prior research by Ghasemi & Razak (2016), which also examined the influence of liquidity on capital structure using Quick Ratio and Current Ratio as proxies for liquidity and debt-to-asset ratio and debt-to-equity ratio as proxies for capital structure. He found that liquidity significantly affects capital structure, with the Quick-Ratio positively affecting leverage and Current Ratio negatively affecting it.

The cash gap measured with the number of days' payable is positively related to capital structure of the firm. Malinic et al. (2013), highlighted that reducing the cash gap is achieved not due to reducing inventory or accelerating receivables collection, but instead by slowing down supplier payments. To fill the cash gap can result in an increase in days payable outstanding, which means that the company is shifting the burden of financing the cash cycle onto its suppliers. When companies increase their days payable outstanding, this puts the financing burden on the suppliers, ultimately that leads to an increase in total debt as well. If a firm is experiencing a cash flow shortfall and heavily includes credit trading and is unable to meet its payment obligations, it may be forced to increase its external debt levels to cover its immediate financing needs.

The firm's cash return on asset has a significant negative impact on a company's debt to total asset ratio, suggesting that more cash productivity of assets tend to have lower leverage. Companies with higher cash holdings relative to their assets tend to generate free cash flows, supporting agency theory. According to this theory, managers prefer to invest free cash flows in fixed assets, affecting the firm's capital structure. However, this negative correlation

is also consistent with the pecking order theory, which suggests that companies prioritize internal funds, including cash flow, before resorting to external financing. This relationship is supported by the findings of Karadeniz et al. (2009) and Rezaei and Jafari (2015). Companies with high cash flow typically have a high level of productivity and investment. In such cases, external financing may not be necessary as the company's financial condition is strong enough to back their investment. Additionally, a high cash flow can indicate good quality project and overall performance of the firm, creating them less likely to rely on debt financing. The firm valuation is negatively associated with capital structure. The way a company distributes its dividends can significantly impact its financing decisions and capital structure (Zou1 & Bai, 2022). Cash dividend-paying companies often enjoy greater funding flexibility by attracting a larger pool of investors and are less reliant on debt financing from creditors. The results are aligned with the study of Sinabutar and Nugroho (2015), which identified a negative association between capital structure and dividend payout ratio.

5.1.Conclusion

This study investigates the influence of firm-level factors on capital structure, specifically focusing on industrial (sector) level in Pakistan. Utilizing panel data analysis to inspect various variables that influence debt financing decisions as a proxy for capital structure. There may be several factors that could affect capital structure, like the debt to equity ratio only considers the proportion of debt relative to equity financing, and debt to capital ratio considers debt relative to both equity and debt financing. This study primarily considers debt-to-total asset ratio. It takes into account all of a company's debt and assets. Consequently, debt to total asset ratio, therefore, provides a broader picture of how a company has financed its operations and the associated risk level of its capital structure.

Profitability is positively associated with capital structure. The companies that have the ability to generate substantial profits are typically those which enable them to manage risks effectively. Moreover, the products they manufacture are not particularly distinctive, resulting in lower production costs. As a result, these companies are capable of utilizing debt as a financing source, which grants them the advantage of tax deductions on interest expenses. The managers of the cement industry must pay attention to utilize their debt to generate cash flows for firms. Liquidity is adversely linked to capital structure. More liquidity firms will lead to low level of debt firms need to take. It is important for managers to actively monitor the company's liquidity position and ensure that it remains at a level that is sufficient to meet short-term obligations and unexpected cash needs. This may involve implementing strategies such as maintaining a cash reserve. Moreover, the managers should carefully consider the trade-off between the benefits associated with debt financing (like tax deductions on interest expenses) and potential cost (such as reduced liquidity).

The number of days' payable shows a positive relationship. By extending the payment terms with its suppliers, a company can increase its cash flow but ultimately it also increases the debt level of the firm. The managerial implication of this relationship is that managers should carefully evaluate the trade-offs between extending payment terms and maintaining positive supplier relationships. Additionally, managers need to monitor the company's cash flow and working capital needs to ensure that the company can meet its obligations in a timely manner, while also minimizing its reliance on debt financing. The negative association between cash ROA and debt-financing highlights the importance of cash ROA in maintaining a balanced capital structure that supports company's growth and

cash flow preserving. Managerial implications of this relationship are that managers need to carefully evaluate their company's debt levels based on cash ROA. The negative association between cashdivps and capital structure imply firms have high cash for the shareholders and they avoid the creditors' conflict to compensate the shareholders on creditors' wealth. So, they are based on shareholders' wealth rather than on creditors. The managerial implications of this relationship are that managers need to carefully balance the amount of cash dividends paid to shareholders with the company's financial obligations. While dividend is an important way to reward shareholders and maintain investor confidence, that the firm have enough finance and no need to take the external financing. This study digs out the facts that for the decisions of capital structure, management needs to be careful while focusing on firm level factors. The optimization in firm level factors refer towards the selection of fabulous capital structure for the firm. In future, the research can be extended by investigating this relationship by engaging macroeconomic factors like inflation, interest rates and economic growth. Given our study's limitation as a panel study, future researchers should aim to conduct longitudinal studies or comparative analyses across different sectors and countries.

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