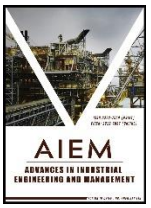
ZIBELINE INTERNATIONAL™ PUBLISHING

ISSN: 2222-7059 (Print)
ISSN: 2222-7067 (Online)

Advances in Industrial Engineering and Management (AIEM)

DOI: http://doi.org/10.7508 /aiem.01.2023.48.51



RESEARCH ARTICLE

NEPALESE MANUFACTURE COMPANIES AND CAPITAL STRUCTURE

Anusha Thapa*, Dhirendra Man Thapa

Mid-West University, Surkhet, Nepal
Corresponding Author Email: anushathapaa4@gmail.com

ARTICLE DETAILS

Article History:

Received 01 February 2023
Accepted 04 March 2023
Revised 07 April 2023
Available online 27 April 2023

ABSTRACT

A suitable capital structure is a requirement for profitability and must be taken very seriously. The era of traditional business organizations operating for profit is over. The modern business environment is more complex and competitive. Consequently, business sustainability has become a topic of discussion worldwide in recent years. Every business organization places a high priority on making a profit because an organization's ability to sustain itself in the marketplace depends on its profitability. The study was conducted in 2021 to determine the trends in the debt-to-total assets ratio, the debt-to-equity ratio, the liquidity and size effects on the firm's return on equity, return on assets, and net profit, as well as the relationship between capital structure and the firm's profitability. The two manufacturing companies of Nepal viz Ghorahi Cement Industry and Sarbottam Cement Nepal were selected for a detailed study of profitability and capital structure. The required data from the year 2068 to 2077 were collected. Minimum, maximum, mean, and standard deviation have been used in descriptive statistics to describe the positions of capital structure and profitability. Correlation and regression analysis have been used to examine the connection between capital structure and profitability. The researcher identifies positions with debt and debt-to-equity ratios that are lower than average. Likewise, the level of ROE was found to be higher than average. In contrast, it has been found that ROA and NP positions are below average. Debt ratio has been found to have a poor relationship with ROA, NP, and size. Similarly, the debt-to-equity ratio had a poor correlation between ROA, NP, and Size. NP, size, and liquidity all have a strong negative correlation with it.

KEYWORDS

ROA, NP, ROE, Debt equity and Debt Assets

1. INTRODUCTION

The capital structure is the proportion of equity to debt capital. This is important from a financial perspective because it is connected to the company's capacity to satisfy the interests of its stakeholders (Simerly and Li, 2000). The choice of debt and equity to finance affects the company's financing strategy. A proper balance is required to ensure that risk and shareholder return are balanced. An ideal capital structure can help to maximize the value and ultimately, the wealth of the shareholders by containing a reasonable mix of debt and equity (Basnet, 2021). The crucial capital structure choice is made by the management of a manufacturing company to maximize profits, cut down on capital expenditures, and increase shareholder wealth. The capital structure of the majority of businesses is composed of both debt and equity. The decision between debt and equity must be based on the strategic importance and the company's value (Sultan and Adam, 2015). The financial performance of a company is greatly affected by its capital structure, which meets the demands of its stakeholders, who always want their business to become more valuable. Companies use hybrid financings, such as debt and equity, to fund their operations, which determines their capital structure (Muhammad, et al., 2014). The capital structure decision is critical for the continued existence of any business organization to maximize returns to stakeholders (Jaishi and Poudel, 2019). Numerous studies have looked into the relationship between capital structure and performance. Some studies (Dare and Sola, 2010) discovered a positive correlation between capital structure and performance, whereas other studies discovered a negative correlation (Iorpev and Kwanum, 2012). Some studies, however, found no link between performance and capital structure (Prahlathan and Rajan, 2011). Nepal's manufacturing industry is facing obstacles. Many significant businesses have folded, and more are about to do so. The profit margin is very low even though almost all businesses can turn a profit. Due to enduring weaknesses in the adoption of new technology, inadequate infrastructure, a lack of power, stagnant political processes, challenging trading conditions, international competition, and the global economic downturn, the manufacturing sector has grown unevenly over the years. The region's labor force and raw materials are essential to Nepal's manufacturing sector. Industrial growth is crucial for raising the standard of living for Nepalese citizens in the context of their underdeveloped nation. It is almost impossible to know the current situation of manufacturing companies due to limited research. It is necessary to address various issues concerning business performance. Therefore, the focus of the present investigation is to determine how the capital structure of manufacturing companies affects their profitability.

2. MATERIALS AND METHODS

2.1 Research Design

The study attempts to analyze critically the manufacturing companies of Nepal in term of equity and debt positions in capital investments. The study attempts to compare and relate two or more variables. To accomplish the predetermined goals of the study, a causal-comparative design was employed.

2.2 Population, Sample and Sampling Design

Out of Nepal's 19 listed manufacturing industries, only five companies have contributed. Two manufacturing firms, Ghorahi Cement Industry and Sarbottam Cement Nepal were selected as the sample size for the study.

Quick Response Code	Access this article online	
	Website: www.aiem.com.my	**DOI:** 10.26480/aiem.01.2023.48.51

Cite The Article: Anusha Thapa, Dhirendra Man Thapa (2023). Nepalese Manufacture Companies and Capital Structure. *Advances in Industrial Engineering and Management, 12(1): 48-51.*

2.3 Nature and Source of Data Collection

Instead of placing more emphasis on qualitative data, the study mainly focused on quantitative data. The related and reliable data from the manufacturing firms intended by Ghorahi Cement Industry and Sarbottam Cement Nepal were used to produce the study's results. The profit and loss statement, balance sheet, cash flow statement, and statement of retained revenue were the main financial statement taken into consideration.

2.4 Method of Data Analysis Tools and Technique

2.4.1 Financial Tool

2.4.1.1 Debt to Total Assets

It calculates the proportion of a company's assets that are financed by creditors. The lower the ratio, the greater the protection provided to creditors in the event of liquidation.

(D/A) = Total debt/Total assets

2.4.1.2 Debt to Total Equity

A company's total liabilities are divided by its shareholder equity to determine its debt-to-equity (D/E) ratio.

Debt to equity = Total Debt/Total Equity

2.4.1.3 Return on Total Assets (ROA)

Return on assets measures how profitable a company is in comparison to its total assets.

Return on Assets (ROA) = Net profit/Total Assets

2.4.1.4 Return on Equity (ROE)

The financial performance indicator known as return on equity is obtained by dividing net income by shareholders' equity. ROE is considered an estimate of how successfully management is producing profit from a company's assets.

Return on Equity = Net profit/Total Equity

2.4.1.5 Net Profit (NP)

The net profit margin of a company or business segment is the ratio of net profit to revenue. Although decimal terms can also be used to express net profit margin, percentages are more common.

Net Profit = Net profit/Total sales

2.4.2 Descriptive Statistic

Mean and standard deviation was used to measure the average positive relationship and risk measurement between dependent and independent variables.

2.4.3 Regression Analysis

The regression equation undertakes the dependent variable of Return on equity (ROE), Return on Assets (ROA) and Net profit (NP) along with independent variables Debt to total assets ratio, Debt to Total Equity ratio, liquidity and size.

The regression equation for this study was:

$Y_1 = \propto + B1DERj + B2DARRj + size + Liquidity$ +ej

$Y_2 = \propto$ +B1DERj +B2DARj +size+$Liquidity$+ej

$Y_3 = \propto$ + B1DERj + B2DARj + $size + Liquidity$+ ej

The extension forms:

Y_1=Dependent variable Return on Equity (ROE)

Y_2 = Dependent variable Return on Assets (ROA)

Y_3 = Dependent variable Net Profit (NP)

α = Constant value

B1= Coefficient variable X1

DARj = Debt to total assets ratio (DAR)

B_2 = Coefficient of variable X 2

DERj = Debt to total equity ratio (DER)

ej = Error Terms

Here DAR and DER are the independent variables.

3. Results and Discussion

3.1 Ratio Analysis

The company's debts to assets ratio from the years 2068 to 2077 were 0.0465, 0.4195, 0.4682, 0.6134, 0.7314, 0.5137, 0.5712, 0.5241, 0.4815 and 0.4219. The year 2072 had the highest debt-to-equity ratio at 1.6413, followed by the year 2071 with 1.4624. The company's return on equity is directly impacted by earthquakes and COVID-19, as indicated by the highest return on equity in 2069 of 38.11%. The company's assets produced more profit in 2069 and 2070 respectively (Table 1).

Table 1: Ratio Analysis of Ghorahi Cement Industry

Variable	Year									
	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077
Debt to Equity	1.4584	0.9402	1.2646	1.4624	1.6413	1.2625	1.2663	0.8253	0.9175	1.1101
Debt to Assets	0.0465	0.4195	0.4682	0.6134	0.7314	0.5137	0.5712	0.5241	0.4815	0.4219
Return on Equity	0.2103	0.3811	0.1369	0.04551	-0.1071	0.0481	0.1113	0.2245	0.2208	-0.0096
Return on Assets	0.1593	0.1785	0.1723	0.0128	0.0421	0.0112	0.1021	0.112	0.0532	0.0322
Net Profit Margin	0.1043	0.1831	0.0823	0.0134	-0.0321	0.0419	0.0589	0.0954	0.0769	0.0176
Liquidity	0.6058	1.0436	1.0157	0.6446	0.7142	0.8761	1.2053	1.4991	1.5109	1.4151
Size	9.6818	9.1061	9.1129	9.0646	9.5235	9.3641	9.3326	9.4628	9.5722	9.6597

Sources: SPSS Software

Table 2: Ratio Analysis of Sarbottam Cement Nepal

	Year									
Variable	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077
Debt to Equity	2.8494	2.541	2.6214	2.8321	3.0213	3.5191	2.6746	2.7346	2.3081	1.351
Debt to Assets	0.764	0.755	0.797	0.757	0.7301	0.7824	0.7126	0.7312	0.7173	0.6719
Return on Equity	0.0724	0.115	0.2018	0.2418	0.2411	0.4361	0.3143	0.2038	0.214	0.1215
Return on Assets	0.0124	0.0331	0.0421	0.0513	0.0636	0.0634	0.1722	0.1128	0.0715	0.0174
Net Profit Margin	0.0345	0.033	0.014	0.0512	0.0413	0.0518	0.0667	0.0616	0.0325	0.0236
Liquidity	1.0927	1.1082	1.1348	1.1892	1.3127	1.3429	1.1322	1.3846	1.3236.	1.3129
Size	7.712	7.736	7.779	7.895	7.916	7.776	8.4277	8.3141	8.0248	8.5252

Sources: SPSS Software

The debt-to-equity ratio was highest during the year 2073 and followed by the year 2072 respectively. The lowest debt to equity ratio was lowest (1.351) in the year 2077. Although the ideal debt-to-equity ratio differs by industry, it is generally believed to not go over 2.0. Similarly, Return on equity (ROE) quantifies the share of a company's shareholders' profits that were generated between 2068 and 2077. In 2074, the assets produced a higher profit than in previous years. Net profit margin ratios for the business from 2068 to 2077 were 0.0345, 0.033, 0.014, 0.0512, 0.0413, 0.0518, 0.0667, 0.0616, 0.0325 and 0.0236 respectively (Table 2).

3.2 Descriptive Statistics

Debt to equity ranges from 0.7213 to 3.731 with an average ratio of 1.8774. The minimum values to the maximum value of DAR were 0.0355 to 0.6851. Similarly, the return on equity, return on assets, net profit, liquidity and size had an average value of 0.146, 0.0542, 0.0345, 1.1915 and 8.4307 respectively (Table 3).

Table 3: Descriptive Statistics

Variable	Range Statistics	Minimum Statistic	Maximum Statistics	Mean		Standard Deviation Statistics
				Statistics	Standard Error	
DER	2.2517	0.7213	3.731	1.8774	0.1021	0.613
DAR	0.5135	0.0355	0.6851	0.5043	0.357	0.1328
ROE	0.321	-0.167	0.4143	0.146	0.0241	0.1329
ROA	0.167	0.0177	0.1625	0.0542	0.0928	0.1483
NP	0.157	-0.0356	0.1204	0.0345	0.1094	0.0208
Liquidity	0.6782	0.8198	1.3478	1.1915	0.3241	0.1744
Size	1.897	6.372	7.597	8.4307	0.138	0.5721

Sources: SPSS Software

3.3 Correlation Analysis

Table 4: Correlation Analysis

Variable	DER	DAR	ROE	ROA	NP	Liq.	Size
DER	1						
DAR	0.532 **	1					
ROE	0.2476	-0.047	1				
ROA	-0.221	-0.362 *	0.643 **	1			
NP	-0.443	-0.442 **	0.624 **	0.643 **	1		
Liq.	0.174	0.319	0.153	-0.043	-0.021	1	
Size	-0.841**	-0.573**	-0.251	0.173	0.134	-0.112	1

** Correlation is significant at the 0.01 level (2- tailed),

* Correlation is significant at the 0.05 level (2- tailed)

3.4 Regression Analysis

Table 5. Regression Analysis for Dependent Variable Return on Equity (ROE)

Model Summary

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	0.572[a]	0.352	0.253	0.1432

Predictors: (Constant), Size, Liquidity, Debt to assets ratio, Debt to equity ratio

Coefficient [a]

Model		Un-standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.726	1.08		1.521	0.027
	Debt to equity ratio	-0.02	0.059	-0.374	-0.47	0.549
	Debt to assets ratio	-0.132	0.425	-0.393	-1.63	0.287
	Liquidity	0.158	0.114	0.254	1.215	0.167
	Size	-0.042	0.071	-1.023	-1.59	0.086

Dependent Variable: ROE

The impact of the dependent variable on the independent variable had no effect on ROE having a significant level of 0.549, 0.287, 0.167 and 0.086 respectively which was greater than 0.05.

$Y_{ROE}=1.726_0 + (0.02)\ (DER) + (0.132)\ (DAR) + 0.158\ (Liq.) + (0.042)\ Size + E$

Table 6: Regression Analysis for Dependent Variable Return on Assets (ROA)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.641[a]	0.236	0.11	0.0213

Predictors: (Constant), Size, Liquidity, Debt to assets ratio, Debt to equity ratio

Coefficients [a]

Model		Un-standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.485	0.241		1.435	0.241
	Debt to equity ratio	-0.28	0.042	-0.526	-0.75	0.347
	Debt to assets ratio	-0.24	0.035	-0.424	-1.63	0.132
	Liquidity	0.033	0.043	0.154	0.675	0.374
	Size	-0.035	0.052	-0.647	-1.18	0.376

Dependent Variable: ROA

The independent variables debt to equity ratio, debt to assets ratio, liquidity and size had no effect on ROA having significant levels of 0.347, 0.132, 0.374 and 0.376 respectively which were greater than 0.05 (Table 6).

$Y_{ROA}=0.485_0 + (0.28)\ (DER) + (0.24)\ (DAR) + 0.033\ (Liq.) + (0.035)\ Size + E$

Table 7: Regression Analysis for Dependent Variable Net Profit (NP)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.583[a]	0.326	0.638	0.0233

Predictors: (Constant), Size, Liquidity, Debt to assets ratio, Debt to equity ratio

Coefficients [a]

Model		Un-standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.731	0.231		1.568	0.538
	Debt to equity ratio	-0.32	0.016	-0.584	-1.23	0.056
	Liquidity	0.016	0.038	0.14	0.673	0.092
	Debt to assets ratio	-0.14	0.064	-0.693	-1.34	0.023
	Size	-0.036	0.062	-0.528	-1.61	0.077

Dependent Variable: Np

The independent variables debt to equity ratio, liquidity and size had no effect on NP with the significant level of 0.056, 0.092 and 0.077 respectively which was greater than 0.05 and the debt to assets ratio effect on NP with an insignificant level of 0.023.

$Y_{NP}=0.731_0 + (0.32)\ (DER) + (0.016)\ (DAR) + 0.14\ (Liq.) + (0.036)\ Size + E$

4. Conclusion

The study examines how the capital structure of Nepalese manufacturing firms affects their profitability using data from 2068 to 2077. The study's findings indicate that the debt ratio and debt-to-equity ratio have decreased in recent years. Thus, it can be said that Nepalese manufacturing companies face little financial risk, which results in low earnings per share for the companies. Similar to return on equity, return on assets is also lower, but the net profit ratio has increased recently. Along with ROE, ROA, and NP, the debt ratio is negative. The debt-equity ratio is similarly negatively correlated with ROE, but it is significantly more negatively correlated with ROA and NPR. Additionally, it is concluded that changes in the debt-to-equity ratio and the debt-to-income ratio have little bearing on ROE, whereas changes in the debt-to-asset ratio and the debt-to-equity ratio result in higher returns for equity shareholders and higher ROA, respectively. Increases in debt and decreases in equity have an impact on net present value (NPR), respectively. The ROE, ROA, and Net profit are not different, while ROA is different based on the size of the firm and liquidity.

References

Basnet, N. 2021. Capital structure decision and profitability: A study of Nepalese manufacturing companies. MBS Thesis. Central Department of Management. Tribhuvan University.

Dare, F. D., and Sola, O. 2010. Capital structure and corporate performance in Nigeria petroleum industry: Panel data analysis. Journal of Mathematics and Statistics, 6(2), 168-173.

Iorpev, L., and Kwanum, I. M. 2012. Capital structure and firm performance: Evidence from manufacturing companies in Nigeria. International Journal of Business and Management Tomorrow, 2(5), 1-5.

Jaishi, B., and Poudel, R. L. 2019. Capital Structure and Firm Efficiency of Non-Financial Institutions in Nepal. The Journal of Nepalese Business Studies, Vol. XII.

Muhammad, H., Shah, B., and Islam, Z. 2014. The Impact of Capital Structure on Firm Performance: Evidence from Pakistan. Journal of Industrial Distribution and Business 5-2 (2014) 13-20. doi http://dx.doi.org/10.13106/jidb.2014.vol5.no2.13.

Prahalathan, B., and Rajan, R. P. C. 2011. The impact of capital structure-choice on firm performance: Empirical investigation of listed companies in Colombo stock exchange, Srilanka. International Journal of Research in Commerce and Management, 2(4), 12-17.

Simerly, R. L., and Li, M. 2000. Environmental dynamism, capital structure and performance: A theoretical integration and empirical test. Strategic Management Journal, 21(1), 31-49.

Sultan, A. S. and Adam, M. H. M. 2015. The effect of capital structure on profitability: an empirical analysis of listed firms in Iraq. European Journal of Accounting, Auditing and Finance Research. Vol.3, No.2, pp.61-78.