Influence of Capital Structure on the Performance of Nepalese Insurance Companies

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Abstract

This study examines the influence of capital structure on the performance of Nepalese insurance companies. Return on assets and earnings per share are selected as the dependent variables. The selected independent variables are total debt ratio, total equity to total assets, leverage, assets tangibility, firm size and liquidity ratio. The study is based on secondary data of 17 insurance companies with 102 observations for the study period from 2016/17 to 2021/22. The data were collected from publications and websites of insurance companies and annual reports of the selected insurance companies. The correlation coefficients and regression models are estimated to test the significance and importance of capital structure on the performance of Nepalese insurance companies.

The study showed that total debt ratio has a positive impact on return on assets. It means that higher the total debt to total equity ratio, higher would be the return on assets. Similarly, total equity to total assets ratio has a positive impact on return on assets. It means that increase in total equity to total assets ratio leads to increase in return on assets. Likewise, leverage has a negative impact on return on assets. It indicates that increase in leverage ratio leads to decrease in return on assets. Further, the study showed that assets tangibility has a positive impact on return on assets. It means that higher the assets tangibility, lower would be the return on assets. In addition, firm size has a positive impact on return on assets and earnings per share. It indicates that increase in firm size leads to increase in return on assets and earnings per share. Moreover, liquidity ratio has a negative impact on return on assets and earnings per share. It shows that higher the liquidity ratio, lower would be the return on assets and earnings per share. However, total debt ratio has a negative impact on earnings per share. It means that higher the total debt to total equity ratio, lower would be the earnings per share. Similarly, total equity to total assets ratio has a negative impact on earnings per share. It means that increase in total equity to total assets ratio leads to decrease in earnings per share.

***Keywords*:** total debt ratio, total equity to total assets, leverage, assets tangibility, firm size, liquidity ratio.

1. Introduction

Capital structure is the sum of debt and equity quantum or preference shares, common stock and other debt obligations. Irrespective of the industry, as business expands, capital requirement also increases, thus it needs fund

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and this needed fund can come from any of these sources (debt, equity or combination of both). The source of fund must be considered base on cost-benefit. A source of fund to an organization should be more profitable to the firm than other sources of fund (Nelson and Peter, 2019). The company always strives to maximize profits, so the company must take care to make the appropriate decisions that affect its profitability. One of the most critical factors affecting the profitability of a company is the decision to choose the optimal funding source. The capital structure refers to how the company finances its assets, both internally and externally. In other words, debt financing is short-term debt and long-term debt. The second source is equity financing, which is retained earnings and capital paid by the owners. The company must choose the right mix of stocks, debt or securities. This mix is called the optimal capital structure that increases the interest of the company where the cost of capital is reduced, and the value of the company rises (Abrar and Javaid, 2016). Financing always involves a tradeoff between stable-returns and increased-risks and optimization between the two is how shareholder wealth is to be sustainably maximized. Therefore, an optimal financing choice involves a balanced mix of the preferred-stock, common-stock, and bonds.

Shamsuddin *et al*. (2020) explored the impact of capital structure on financial performance of listed insurance companies in Jordon. The study revealed that capital structure influences the profitability of the listed insurance firms in Jordan. The study revealed a significantly positive relation between long-term debt to total assets and profitability indicators, namely, return on assets (ROA), return on equity (ROE) and Tobin's Q. On the other hand, the study found that a short-term debt has a significant positive relationship with return on equity (ROE) and returns on assets (ROA). However, a relationship between short-term debt and Tobin's Q is not statistically significant. Nasimi (2016) examined the effect of capital structure on profitability in the context of London, UK. The study showed that an optimal level of capital structure, effective utilization, and allocation of resources is helpful to achieve organizational goals and a level of efficiency in the business organization. Ahmad (2014) assessed the impact of capital structure on profitability of cement sector of Pakistan. The study showed that there is positive and strong relationship between profitability and capital structure of the business organization. Chisti et al. (2013) explained that there is a negative relationship between debt-to-equity ratio and the profitability of the business organization. The study further added that debt-to-assets ratio and interest coverage ratios are positively governing profit earning ability of the organization.

Boshnak (2023) investigated the impact of capital structure on the performance of firms listed on the Saudi Stock Exchange (Tadawul). The results showed that short-term debt, long-term debt, total debt and debt-

to-equity ratios all have a significant negative impact on firm operational performance (return on assets), while long-term debt, total debt and debt to equity have such an impact on firm financial performance (return on equity) and market performance (in terms of Tobin's Q). Ganiyu et al. (2019) examined the association between capital structure and firm performance in Nigeria with a generalized method of moment technique for the measurement. The study found a significant relationship between capital structure and firm financial performance. Akingunola et al. (2017) examined the link between the decision on capital structure and organization's financial performance in Nigeria between 2011 and 2015. The result showed that short- and long-term debt have positive significant effect on ROE and ROA for the study period. Abata et al. (2017) the relationship among Tobin Q, long term debt to total assets, total debt to total assets, total debt to total equity, return on equity and return on asset of listed firms in South Africa. The results revealed that total debt to total equity and total debt to total assets were inversely related to both Tobin Q and return on asset, while long term debt to total assets were related positively to return on asset and Tobin Q respectively.

Ali and Faisal (2020) investigated the impact of capital structure, profitability and financial performance on the success of the business organization. Capital structure of the business organization refers to the proportion of external funds and internal funds, i.e., debt and equity. In Saudi Arabia, petrochemicals companies are working on equity, but financial performance reflects negative trend for the period 2004 to 2016. The results revealed the unexpected performance of petrochemicals companies due to under-utilization of the resources caused by low demand and lower prices of the products governed by some internal and external factors. The study also found that size, demand, cost of production, profitable streams of products, and low-cost capital in external funds are the factors responsible for overall growth development of the petrochemicals industry of Saudi Arabia. Nassar (2016) ascertained the effect of capital structure on financial performance in Borsa Istanbul between 2005 and 2012 with multivariate regression analysis in measuring return on asset, return on equity and earnings per share as firm performance indicators and debt ratio as a proxy of capital structure. The results showed that there is a negative significant relationship between capital structure and firm performance. Uremadu and Onyekachi (2019) assessed the effect of capital structure on corporate performance in Nigeria. The study found a negative and insignificant impact of capital structure on corporate performance of the consumer goods firm sector of Nigeria. Aramvalarthan et al. (2018) investigated the dependence among capital structure and corporate in India with the application of panel data method in measuring the link between return on equity, firm size, tangibles and capital structure. The result showed that financial leverage has a positive significant effect on the financial

performance of the firm. Aziz and Abbas (2019) examined the association of different debt financing on firm's performance in fourteen economic sectors of Pakistan from 2006 to 2014 with the use of regression method. The results of the study indicated that debt financing has a negative but also significant impact on firm performance in Pakistan. Dada and Abbas (2016) examined the effect of capital structure on firm performance by measuring asset turnover, tangible asset and return on asset in selected firms in Nigeria between 2010 and 2014. The results from the panel data approach showed that assets turnover and tangible assets have a significant positive relationship with Tobin's Q. Risk indicated a significant negative association with Tobin's Q. Muigai and Murithi (2017) ascertained the moderating effect of firm size on the association between firm's capital structure and financial distress of non-financial firms in Kenya from 2006 to 2015 with feasible generalized least square regression model. The results from the study showed that firm size has a significant moderating effect on the relationship between capital structure and financial distress of non-financial firms.

In the context of Nepal, Jaishi (2020) examined the relationship between capital structure and the financial performance of Nepalese insurance companies. The result revealed that insurance companies having a high debt ratio have better financial performance. An increase in debt ratio and tangibility increase return on assets. Similarly, an increase in equity, size and liquidity leads to decrease return on assets in the industry. The study found that total debt ratio, equity to total assets ratio, leverage, size, liquidity and tangibility are the significant factors in determining the financial performance of Nepalese insurance companies. Bhattarai (2020) examined the effects of capital structure on financial performance of insurance companies in Nepal. The result concluded that equity to total assets, leverage, and assets tangibility have significant effects on the financial performance in Nepalese insurance companies. Pradhan and Bhattarai (2016) have examined the impact and importance of financial leverage on firm performance of 16 commercial banks by using secondary data. The return on assets, return on equity and net interest margin were selected as firm's performance whereas debt to equity ratio, debt to total assets ratio and long-term debt to total debt of the firms are selected as financial leverage variables. The result showed that there was negative impact of financial leverage on firm performance.

The above discussion shows that empirical evidences vary greatly across the studies on the relationship between capital structure on bank performance. Though there are above mentioned empirical evidences in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The main purpose of the study is to analyze impact of capital structure on the performance of Nepalese insurance companies. Specifically, it examines the relationship of total debt ratio, total equity to total assets, leverage, assets tangibility, firm size and liquidity ratio with return on assets and earnings per share of Nepalese insurance companies.

The remainder of this study is organized as follows. Section two describes the sample, data and methodology. Section three presents the empirical results and the final sections draws the conclusion.

2. Methodological aspects

The study is based on the secondary data which were gathered from 18 Nepalese insurance companies from 2016/17 to 2021/22, leading to a total of 102 observations. The main sources of data include annual reports of the selected insurance companies. This study is based on descriptive as well as causal comparative research designs. Table 1 shows the list insurance companies selected for the study along with the study period and number of observations.

Table 1

List of insurance companies selected for the study along with study period and number of observations

S. N.	List of insurance companies	Study period	Observations
1	Citizens Life Insurance Limited	2016/17-2021/22	6
2	IME General Insurance Limited	2016/17-2021/22	6
3	IME Life Insurance Company Limited	2016/17-2021/22	6
4	LIC Nepal Limited	2016/17-2021/22	6
5	National Life Insurance Limited	2016/17-2021/22	6
6	Neco Insurance Limited	2016/17-2021/22	6
7	Nepal Insurance Company Limited	2016/17-2021/22	6
8	Nepal Life Insurance Limited	2016/17-2021/22	6
9	NLG Insurance Company Limited	2016/17-2021/22	6
10	Prabhu Insurance Limited	2016/17-2021/22	6
11	Prime life Insurance Limited	2016/17-2021/22	6
12	Prudential Insurance Co. Limited	2016/17-2021/22	6
13	Sanima General Insurance Limited	2016/17-2021/22	6
14	Shikhar Insurance Company Limited	2016/17-2021/22	6
15	Siddhartha Premier Insurance Limited	2016/17-2021/22	6
16	Sun Life Insurance Limited	2016/17-2021/22	6
17	Union life Insurance Limited	2016/17-2021/22	6
Total number of observations			102

Thus, the study is based on 102 observations.

The model

The models used in this study assume that return on assets and earning per share depends upon total debt ratio, total equity to total assets, leverage, assets tangibility, firm size and liquidity ratio of Nepalese insurance companies. The following model equations are designed to test the hypothesis.

$$ROA_{it} = \beta_0 + \beta_1 TDR_{it} + \beta_2 EAR_{it} + \beta_3 LEV_{it} + \beta_4 AT_{it} + \beta_5 FS_{it} + \beta_6 LR_{it} + e_{it}$$

$$EPS_{it} = \beta_0 + \beta_1 TDR_{it} + \beta_2 EAR_{it} + \beta_3 LEV_{it} + \beta_4 AT_{it} + \beta_5 FS_{it} + \beta_6 LR_{it} + e_{it}$$

Where,

ROA = Return on assets as measured by the ratio of net profit to total assets, in percentage.

EPS = Earnings per share as measured by the ratio of net profit to number of shares outstanding, in Rs.

TDR = Total debt ratio as measured by the ratio of total debt to total assets, in percentage.

EAR= Total equity to total assets as measured by the ratio of total equity to total assets, in percentage.

LEV= Leverage as measured by the ratio of total debt to total equity, in percentage.

AT = Assets tangibility as measured by total assets minus intangible assets minus total liabilities.

FS = Firm size as measured by the total assets, Rs. in million.

LR = Liquidity ratio as measured by the ratio of current assets to current liabilities, in percentage.

The following section describes the independent variables used in this study along with hypothesis formulation.

Total debt ratio

Jaishi (2020) examined the relationship between capital structure and the financial performance of Nepalese insurance companies. The result revealed that insurance companies having a high debt ratio have better financial performance. Similarly, Semuel and Widjojo (2016) investigated the nexus between debt ratio and profitability of property and construction-related firms from 2009 to 2013. The estimated result showed a significant positive nexus between debt ratios and the firms' profitability. Chien (2013) revealed a positive effects of capital structure measured by debt ratio on the corporate performance of Taiwan listed Photovoltaic Companies. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship between total debt ratio and performance

of Nepalese insurance companies.

Total equity to total assets

Khan (2009) assessed the relationship of capital structure decisions with firm performance of the engineering sector of Pakistan. The study revealed that there is a negative relationship between equity and firm performance. Employment of debt in capital structure shows that managers have better expectations about the future performance whereas equity sends bad news about the firm performance in the future. A negative relationship between total equity to total assets and firm performance could imply that as the proportion of equity financing decreases in relation to total assets, firm performance improves (Salim and Yadav, 2012). Mboi et al. (2018) revealed that lower equity ratio may indicate higher financial leverage (more debt relative to equity). While this can magnify returns for shareholders in good times, it also increases financial risk. If the company is unable to cover its debt obligations, it might experience financial distress, negatively impacting performance. Based on it, this study develops the following hypothesis:

H_2: There is a negative relationship between total equity to total assets and performance of Nepalese insurance companies.

Leverage

Javed et al. (2015) assessed the effect of financial leverage on efficiency of firms in Pakistan. The regression results showed that leverage has negative association with the efficiency of firms. Harris and Raviv (1991) found that the amount of leverage in a firm's capital structure affects the agency conflicts between managers and shareholders by constraining or encouraging managers to act more in the interest of shareholders and, thus, can alter manager's behaviors and operating decisions, which means that the amount of leverage in capital structure affects firm performance. Dogan (2013) found that financial leverage ratio negatively affects the return on assets. Based on it, this study develops the following hypothesis:

H_3: There is a negative relationship between leverage and performance of Nepalese insurance companies.

Assets tangibility

Irungu *et al*. (2018) determined the effect of asset tangibility on financial performance of listed firms in the Nairobi securities exchange. The study found that there was a positive and significant relationship between asset tangibility and financial performance of financial and non-financial firms. The empirical findings of Mehari and Aemiro (2013) on insurance companies in Ethiopia confirmed statistically significant and positive effect of asset tangibility on

financial performance. Iltas and Demirgunes (2020) assessed asset tangibility and financial performance nexus providing advanced empirical evidence on a time series data of Turkish manufacturing sector. The study stated that firm with higher asset tangibility is likely to lower external financing costs, leading higher financial performance. Lyandres and Palazzo (2016) explored that a firm with relatively high asset tangibility generally has tendency to lower external financing costs and precautionary savings. Based on it, this study develops the following hypothesis:

H_4: There is a positive relationship between assets tangibility and performance of Nepalese insurance companies.

Firm size

Alfadli and Rjoub (2020) investigated the impacts of bank-specific, industry-specific and macroeconomic variables on bank performance. The study found that bank size has a positive and significant relationship with return on assets and return on equity. Similarly, Lohano and Kashif (2019) concluded that bank size is positively related to return on assets and return on equity. Kassem and Sakr (2018) investigated the relationship between bank-specific factors and the profitability of banks in Egypt. The study showed a positive relationship between bank size and profitability measured by return on assets and return on equity. Similarly, Bogale (2019) found that bank size is significant and positively related to profitability of Ethiopian private commercial banks. Likewise, Chhaidar *et al.* (2022) showed that bank size is positively related to European bank's profitability. Based on it, this study develops the following hypothesis:

H_5: There is a positive relationship between firm size and performance of Nepalese insurance companies.

Liquidity

Islam and Rana (2017) analysed the determinants of profitability of selected 15 private commercial banks in Bangladesh. The study identified that loan to deposit (LD) ratio has a positive impact on profitability. Similarly, Gizaw *et al.* (2015) found a positive relationship of current ratio with ROA and ROE. Likewise, Ulandari *et al.* (2016) found that loan to deposit ratio has a positive effect on profitability. In addition, Chou and Buchdadi (2016) stated that liquidity ratio has a positive and significant effect on ROA. Further, Yigermal (2017) concluded that credit to deposit ratio is positively related to profitability. Based on it, this study develops the following hypothesis:

H_6: There is a positive relationship between liquidity and performance of Nepalese insurance companies.

3. Results and discussion

Descriptive statistics

Table 2 presents the descriptive statistics of the selected dependent and independent variables during the period 2016/17-2021/22.

Table 2

Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables of 17 Nepalese insurance companies for the study period from 2016/17 to 2021/22. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) and EPS (Earnings per share as measured by the ratio of net profit to number of shares outstanding, in Rs). The independent variables are TDR (Total debt ratio as measured by the ratio of total debt to total assets, in percentage), EAR (Total equity to total assets as measured by the ratio of total equity to total assets, in percentage), LEV (Leverage as measured by the ratio of total debt to total equity, in percentage), AT (Assets tangibility as measured by total assets minus intangible assets minus total liabilities), FS (Firm size as measured by the total assets, Rs. in million) and LR (Liquidity ratio as measured by the ratio of current assets to current liabilities, in percentage).

Variables	Minimum	Maximum	Mean	Std. Deviation
ROA	-4.25	10.50	4.23	2.64
EPS	-21.41	239.06	24.13	28.46
TDER	0.00	10.95	1.92	1.92
TEAS	4.95	99.82	43.42	22.46
LEV	0.00	45.90	6.66	8.44
AT	7.19	110.82	28.24	21.05
FS	7.33	1272.79	148.55	249.54
LR	0.14	94.51	9.22	18.89

Source: SPSS output

Correlation analysis

Having indicated the descriptive statistics, Pearson's correlation coefficients are computed and the results are presented in Table 3.

Table 3

Pearson's correlation coefficient matrix

This table shows the bivariate Pearson's correlation coefficients of dependent and independent variables of 17 Nepalese insurance companies for the study period from 2016/17 to 2021/22. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) and EPS (Earnings per share as measured by the ratio of net profit to number of shares outstanding, in Rs). The independent variables are TDR (Total debt ratio as measured by the ratio of total debt to total assets, in percentage), EAR (Total equity to total assets as measured by the ratio of total equity to total assets, in percentage), LEV (Leverage as measured by the ratio of total debt to total equity, in percentage), AT (Assets tangibility as measured by total assets minus intangible assets minus total liabilities),

FS (Firm size as measured by the total assets, Rs. in million) and LR (Liquidity ratio as measured by the ratio of current assets to current liabilities, in percentage).

Variables	ROA	EPS	TDER	TEAS	LEV	AT	FS	LR
ROA	1							
EPS	0.220*	1						
TDER	0.225*	-0.116	1					
TEAS	0.347**	-0.222*	0.138	1				
LEV	-0.261*	0.301	0.472**	-0.517**	1			
AT	-0.408**	0.292	-0.131	-0.437**	0.268*	1		
FS	0.461**	0.077	-0.106	-0.655**	0.623**	0.790**	1	
LR	-0.355**	-0.101	-0.113	-0.143	0.173	0.379**	0.456**	1

Note: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent levels respectively.

Table 3 shows that total debt to total equity ratio has a positive relationship with return on assets. It means that higher the total debt to total equity ratio, higher would be the return on assets. Similarly, there is a positive relationship between total equity to total assets ratio and return on assets. It means that increase in total equity to total assets ratio leads to increase in return on assets. Likewise, there is a negative relationship between leverage and return on assets. It indicates that increase in leverage ratio leads to decrease in return on assets. Further, the study shows that there is a negative relationship between assets tangibility and return on assets. It means that higher the assets tangibility, lower would be the return on assets. In addition, firm size has a positive relationship with return on assets. It indicates that increase in firm size leads to increase in return on assets. Moreover, liquidity ratio has a negative relationship with return on assets. It shows that higher the liquidity ratio, lower would be the return on assets.

Similarly, the result also shows that total debt to total equity ratio has a negative relationship with earnings per share. It means that higher the total debt to total equity ratio, lower would be the earnings per share. Similarly, there is a negative relationship between total equity to total assets ratio and earnings per share. It means that increase in total equity to total assets ratio leads to decrease in earnings per share. Likewise, there is a positive relationship between leverage and earning per share. It indicates that increase in leverage ratio leads to increase in earnings per share. Further, the study shows that there is a positive relationship between assets tangibility and earnings per share. It means that higher the assets tangibility, higher would be the earnings per share. In addition, firm size has a positive relationship with earnings per share. It indicates that increase in firm size leads to increase in earnings per share. Moreover, liquidity ratio has a negative relationship with

earnings per share. It shows that higher the liquidity ratio, lower would be the earnings per share.

Regression analysis

Having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and results are presented in Table 4 and Table 5. More specifically, Table 4 shows the regression results of total debt ratio, total equity to total assets, leverage, asset tangibility, firm size and liquidity ratio with return on assets of Nepalese insurance companies.

Table 4

Estimated regression results of total debt ratio, total equity to total assets, leverage, asset tangibility, firm size and liquidity ratio on return on assets

The result is based on panel data of 17 insurance companies with 102 observations for the study period from 2016/17-2021/22 by using linear regression model. The model is $ROA_{it} = \beta_0 + \beta_1 TDER_{it} + \beta_2 TEAS_{it} + \beta_3 LEV_{it} + \beta_4 AT_{it} + \beta_5 FS_t + \beta_6 LR_t + e_{it,}$ *where the dependent variable is ROA (Return on assets as measured by the ratio of net income to total assets, in percentage). The independent variables are TDR (Total debt ratio as measured by the ratio of total debt to total assets, in percentage), EAR (Total equity to total assets as measured by the ratio of total equity to total assets, in percentage), LEV (Leverage as measured by the ratio of total debt to total equity, in percentage), AT (Assets tangibility as measured by total assets minus intangible assets minus total liabilities), FS (Firm size as measured by the total assets, Rs. in million) and LR (Liquidity ratio as measured by the ratio of current assets to current liabilities, in percentage).*

Model	Intercept	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		TDER	TEAS	LEV	AT	FS	LR			
1	3.641 (9.029)**	0.308 (2.075)*						0.390	2.596	4.313
2	2.461 (4.11)**		0.041 (3.331)**					0.110	2.494	11.098
3	4.779 (13.28)**			-0.082 (4.540)**				0.257	2.572	25.934
4	5.681 (12.692)**				-0.051 (4.023)**			0.156	2.437	16.198
5	4.96 (16.43)**					0.005 (4.468)**		0.203	2.364	21.917
6	4.692 (15.43)**						-0.052 (3.417)**	0.115	2.495	11.68
7	2.113 (3.38)**	0.247 (1.730)	0.038 (3.168)**					0.131	2.463	7.194
8	3.635 (4.46)**	0.564 (3.157) **	0.009 (0.558)	-0.130 (2.764)				0.19	2.377	7.745
9	5.026 (5.179)**	0.570 (2.860) **	0.001 (0.066)	-0.015 (2.486)	-0.033 (2.473)			0.246	2.304	7.695
10	5.070 (5.14)**	0.537 (2.557) *	0.068 (0.02)	-0.139 (1.964)	-0.046 (1.633)	0.001 (0.306)		0.237	2.315	6.154
11	4.96 (5.11)**	0.541 (2.630)**	0.006 (0.372)	-0.144 (2.124)	-0.043 (1.796)	0.003 (0.92)	-0.036 (1.964)	0.265	2.263	5.914

Notes:

i. Figures in parenthesis are t-values.

ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.

iii. Return on assets is the dependent variable.

Table 4 that the beta coefficients for total debt ratio are positive with return on assets. It indicates that total debt ratio has a positive effect on return on assets. This finding is consistent with the findings of Semuel and Widjojo (2016). Likewise, the beta coefficients for total equity to total assets are positive with return on assets. It indicates that the total equity to total assets has a positive effect on return on assets. This finding is similar to the findings of Khan (2009). Furthermore, the beta coefficients for asset tangibility are negative with return on assets. It indicates that asset tangibility has a negative effect on return on assets. This finding is consistent with the findings of Iltas and Demirgunes (2020). Moreover, the beta coefficients for firm size are positive with return on assets. It indicates that firm size has a positive effect on return on assets. This finding is similar to the findings of Alfadli and Rjoub (2020). Likewise, the beta coefficients for liquidity ratio are negative with return on assets. It indicates that liquidity ratio has a negative effect on return on assets. This finding is consistent with the findings of Islam and Rana (2017).

The estimated regression results of total debt ratio, total equity to total assets, leverage, asset tangibility, firm size and liquidity ratio on earnings per share of Nepalese insurance companies have been presented in Table 5.

Table 5

Estimated regression results of total debt ratio, total equity to total assets, leverage, asset tangibility, firm size and liquidity ratio on earnings per share

The result is based on panel data of 17 insurance companies with 102 observations for the study period from 2016/17-2021/22 by using linear regression model. The model is $EPS_{it} = \beta_0 + \beta_1 TDER_{it} + \beta_2 TEAS_{it} + \beta_3 LEV_{it} + \beta_4 AT_{it} + \beta_5 FS_t + \beta_6 LR_t + e_{it,}$ *where the dependent variable is EPS (Earnings per share as measured by the ratio of net profit to number of shares outstanding, in Rs). The independent variables are TDR (Total debt ratio as measured by the ratio of total debt to total assets, in percentage), EAR (Total equity to total assets as measured by the ratio of total equity to total assets, in percentage), LEV (Leverage as measured by the ratio of total debt to total equity, in percentage), AT (Assets tangibility as measured by total assets minus intangible assets minus total liabilities), FS (Firm size as measured by the total assets, Rs. in million) and LR (Liquidity ratio as measured by the ratio of current assets to current liabilities, in percentage).*

Model	Intercept	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		TDER	TEAS	LEV	AT	FS	LR			
1	127.43 (6.196)**	-1.711 (1.049)						0.001	28.45 7	1.151
2	36.36 (5.424) **		-0.281 (2.05)					0.038	27.934	4.203
3	23.47 (5.85) **			0.101 (0.269)				0.011	28.634	0.725
4	23.045 (4.366) **				0.039 (0.258)			0.021	28.63	0.067
5	22.83 (6.25) **					0.009 (0.696)		0.001	28.56 0	0.484
6	25.54 (7.33) **						-0.151 (-0.910)	0.002	28.494	0.828
7	38.16 (5.38) **	-1.282 (0.791)	-0.266 (1.91)					0.033	27.997	2.404
8	41.627 (4.302) **	-0.561 (0.264)	-0.332 (1.774)	0.297 (0.529)				0.024	28.125	1.682
9	46.43 (3.892) **	-0.784 (0.364)	-0.366 (1.886)	0.242 (0.427)	0.115 (0.692)			0.018	28.210	1.373
10	46.164 (3.805) **	-0.992 (0.385)	-0.372 (1.876)	0.149 (0.177)	0.078 (0.263)	0.005 (0.149)		0.005	28.394	1.089
11	45.431 (3.740) **	-0.950 (0.369)	-0.328 (1.630)	0.240 (0.283)	0.145 (0.335)	0.007 (0.191)	-0.202 (1.044)	0.007	28.370	1.090

Notes:

i. Figures in parenthesis are t-values.

ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.

iii. Earnings per share is the dependent variable.

Table 5 shows that the beta coefficients for total debt ratio are negative with earnings per share. It indicates that total debt to equity ratio has a negative effect on earnings per share. This finding is consistent with the findings of Chien (2013). Similarly, the beta coefficients for total equity to total assets are negative with earnings per share. It indicates that total equity to total assets has a negative effect on earnings per share. This finding is similar to the findings of Mboi et al. (2018). Likewise, the beta coefficients for leverage are positive with earnings per share. It indicates that leverage has a positive effect on earnings per share. This finding is consistent with the findings of Dogan (2013). Furthermore, the beta coefficients for asset tangibility are positive with earnings per share. It indicates that asset tangibility has a positive effect on earnings per share. This finding is similar to the findings of Lyandres and Palazzo (2016). Similarly, the beta coefficients for liquidity ratio are negative with earnings per share. It indicates that liquidity ratio has a negative effect on earnings per share. This finding is consistent with the findings of Chou and Buchdadi (2016).

4. Summary and conclusion

The capital structure or debt-equity ratio also helps to extend the activity level of the businesses or size of the business. If the cost of capital is lower than the normal rate of return it will positively affect the profit and

profitability of the business organization. So, many factors in the business affect the profit and profitability. The polar extremes of business revenues and business expenditures explain the degree of profitability. The degree of profitability governs the absolute amount of profit and varies according to the size and level of the business activities.

This study attempts to analyze the effect of capital structure on the performance of Nepalese insurance companies. The study is based on secondary data of 17 insurance companies with 102 observations for the study period from 2016/17 to 2021/22.

The study shows that total debt ratio, total equity to total assets and firm size have positive effect on return on assets of Nepalese insurance companies. Similarly, leverage, asset tangibility and liquidity ratio have negative effect on return on assets. Moreover, total debt ratio, total equity to total assets and liquidity ratio have negative effect on earnings per share of Nepalese insurance companies. Similarly, leverage, asset tangibility and firm size have positive effect on earnings per share. A higher debt-to-equity ratio indicates that a company is using more debt to finance its operations. This means that the company has to pay interest on its debt, which reduces the amount of money available for shareholders in the form of dividends or retained earnings. As a result, earnings per share tend to decrease with a higher debt-to-equity ratio. The study also concluded that leverage ratio is the most influencing variable that explain the changes in return on assets of Nepalese insurance companies.

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