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# The relationship between capital structure and performance of Nepalese commercial banks

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**Abstract**
This paper aims to examine the relationship between capital structure and financial performance of Nepalese commercial banks. The study used a sample of 14 commercial banks covering government owned, joint venture and private banks over the period 2013/2014– 2018/2019 with secondary sources of data. Regression analysis is used in the estimation of functions relating the return on assets (ROA) and earnings per share (EPS) with measures of capital structure. The results reveal a negative relation of ROA and EPS with capital structure (Debt/Equity). However, it shows a positive relationship of ROA and EPS with total assets (Size). The findings provide evidence in support of high-level equity capital employed in the capital structure of Nepalese commercial banks.

**Keywords:** capital structure, performance, nepalese commercial banks, return on assets, earning per share

## Introduction

The capital structure decision is considered as one of the most significant decision for business organizations. It is important because of the need to maximize returns of the firms, and because of the impact, such a decision has on the firm's ability to deal with its competitive environment (Abor, 2005) [1]. The relationship between capital structure and financial performance is considerable importance to all banking industry. The banking industry is especially sensitive to changes in financial leverage due to their low level of equity capital to total assets (AL- Kayed, Zain & Duasa, 2014) [2]. In addition, the capital structure of banks is highly regulate. One of the important issues during the capital structure decision-making is to deal with the determination of optimal capital structure of the firm (Chandra & Sharma, 2015) [3].

The financial manager of a firm has to analyze the merits and demerits of various sources of funds before selecting the best one keeping in mind the optimal capital mix or the one that reduces the capital cost. The decision regarding capital structure is a continuous process. It is said to be an optimal one when it maximizes the market value of the firm. The relationship between capital structure and financial performance of the firm has been a subject of considerable debate. There has been a debate centered on whether the proportion of debt usage is relevant or irrelevant to individual firm's value. Eriotis *et al.* (2002) [5] who investigated the relationship between debt-to-equity ratio and firm's profitability. Fama and French (2002) [6], Gill, Biger & Mathur (2011) [7] found a positive relationship between capital structure and profitability. Goyal (2013) [8] identified a positive relationship of debt with profitability. The study of Twairesh (2014) [12] also found the significant impact of leverage on firm's performance. Pouraghajan & Malekian (2012) [10], Quang and Xin (2014) [11] found a significant and negative impact with statistical significance on firm's financial performance. Ibrahim (2009) identified that the capital structure has a weak-to-no impact on firm performance. Olokoyo (2013) [9] showed a significant negative effect of leverage on firm's performance. Zeitun & Tian (2007) [13], using 167 Jordanion companies over fifteen-year period (1989 – 2003), found that a firm's capital structure has a significant negative impact on the firm's financial performance. Doku, Kpekpena & Boatengthe (2019) identified that bank capital to asset ratio has a robust and positive driver of bank financial performance. Most of the Nepalese commercial banks has used debt capital.

In this context, this study tries to answer the following questions in the Nepalese commercial banking literature:

- Is there relationship between capital structure and financial performance?
- Does capital structure impacts on ROA?
- Does capital structure impacts on EPS?

## Objective of the study

The main objective of this study is to examine the relationship between capital structure and financial performance of Nepalese commercial banks. The other specific objectives are:

- To study the impacts of capital structure impacts on ROA.
- To analyze the impacts of capital structure impacts on EPS.

## Data and methodology

This study has followed descriptive research design using secondary sources ofdata. The sample of 14 commercial banks covering government owned, joint venture and private banks has taken over the period 2013/2014–2018/2019. Banks using both debt and equity capital are taken as sample under judgmental basis. Regression analysis is used in the estimation of functions relating the ROA and EPS with measures of capital structure.

**Following regression model is developed for the examination.**

$$EPS = \beta 0 + (\beta 1 \times D/e) + (\beta 2 \times Size) + \mu$$
$$ROA = \beta 0 + (\beta 1 \times D/e) + (\beta 2 \times Size) + \mu$$

Where: EPS= Earnings per Share, ROA=Return on Assets,

D/E = Debt-equity ratio, Size= Total assets, $\beta 0$ = Constant, $\beta 1$ and $\beta 2$ are coefficients of variables included in the model and $\mu$ is error term.

## Results

**Table 1:** Relationship analysis

| | ROA | EPS | D/E Ratio | Size |
|---|---|---|---|---|
| ROA | 1 | | | |
| EPS | .727* | 1 | | |
| D/E Ratio | -.493** | -.248*** | 1 | |
| Size | .606* | .703* | -.138*** | 1 |
| *=Sig. at 0.01, ** =Sig. at 0.05, *** =sig. at 0 .10 | | | | |

Table 1 presents the relationship between the arrangements of variables. As indicated by the idea of productivity, earnings per share and return on assets are the significant wellsprings of financial performance. The outcome supports such an idea. The relationship of EPS on ROA appears to be 72.7%. Nonetheless, these two have been considered in this investigation as reliant factors and consequences for these by the free factors have been assessed independently with the regression models. The outcomes from the relationship network demonstrate that bank's EPS is contrarily connected with D/E ratio and emphatically corresponded with Size. Then again, steady with the priori desire, ROA is contrarily connected with D/E ratio and emphatically connected with Size increment.

**Table 2:** Degree of relationship with earning per share

| Model Summary | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .719 | 0.517 | 0.43 | 8.84938 |
| a. Predictors: (Constant), Size, Debt- Equity Ratio | | | | |
| b. Dependent Variable: Earnings Per Share | | | | |

**Table 3**

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 923.424 | 2 | 461.712 | 5.896 | 0.00 |
| | Residual | 861.428 | 11 | 78.312 | | |
| | Total | 1784.852 | 13 | | | |
| a. Dependent Variable: Earnings Per Share | | | | | | |
| b. Predictors: (Constant), Size, Debt-Equity Ratio | | | | | | |

**Table 4**

| Coefficients | | | | | |
|---|---|---|---|---|---|
| Model | | Un-standardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 5.912 | 10.926 | | .541 | .599 |
| | D/E Ratio | -33.263 | 45.718 | -.154 | -.728 | .482 |
| | Size | 3.0130 | .000 | .682 | 3.223 | .003 |

a. Dependent Variable: Earnings Per Share

Table 2 presents the regression result of the effect of debt equity proportion and size of the business on one of the significant performance measures, EPS. The outcomes of $R^2$ and adjusted $R^2$ addresses the degree of the variability of ward variable can be explained by the independent variable. These results express the general useful force of the regression model. The overall regression model is significant, F (2, 11) = 5.896, P < 001, $R^2$ = 0.52. This exhibit most outrageous 52% of the assortment in the earnings per share can be explained by the assortment in the variables.

Moreover, with the results of coefficients table D/E proportion is inconsequential indicator whereas size of the business huge indicator in the challenge of Nepalese financial enterprises. From this assessment it tends to be inferred that Nepalese commercial banks has gaining equity capital according to heading of Nepal Rastra Bank's capital extension and then debt obligation extent is declined and legitimate.

**Table 5:** Degree of relationship with return on assets

| Model Summary | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .733[a] | .538 | .454 | .00270 |
| a. Predictors: (Constant), Size, Debt-Equity Ratio | | | | |
| b. Dependent Variable: Return on Assets | | | | |

**Table 6**

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | .000 | 2 | .000 | 6.397 | .000 |
| | Residual | .000 | 11 | .000 | | |
| | Total | .000 | 13 | | | |
| a. Dependent Variable: Return on Assets | | | | | | |
| b. Predictors: (Constant), Total Assets, Debt-Equity Ratio | | | | | | |
| Coefficients | | | | | | |
| Model | | Un-standardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .013 | .003 | | 3.795 | .003 |
| | D/ E Ratio | -.028 | .014 | -.417 | -2.015 | .069 |
| | Size | 7.5581 | .000 | .548 | 2.648 | .001 |
| a. Dependent Variable: Return on Assets | | | | | | |

Table 3 represent the regression result of the effect of debt equity proportion and size of the business on one of the significant performance indicator, ROA. The outcomes of $R^2$ and adjusted $R^2$ addresses the degree of the variability of dependent variable can be explained by the independent variable. These results express the general useful force of the regression model. The overall regression model is significant, F (2, 11) = 6.397, P < .001, $R^2$ = 0.538. This exhibit most outrageous 53.8 % of the assortment in the return on assets can be explained by the assortment in the variables.

Furthermore, the results of coefficients table indicate that D/E proportion is inconsequential indicator whereas size of the business huge indicator in the challenge of Nepalese financial enterprises. From this assessment it tends to be inferred that Nepalese commercial banks has gaining equity capital according to heading of Nepal Rastra Bank's capital extension and then debt obligation extent is declined and legitimate. Further concluded that as large as size of the organization better will be the financial performance.

## Conclusion

This paper studies the relationship between capital structure and financial performance of the sample 14 Nepalese commercial banks. ROA and EPS are used as the financial performance indicators. The study reveal a negative relation of ROA and EPS with capital structure (Debt/Equity). It indicates that, there is no impact of capital structure on ROA and EPS. However, it showsa positive relationship of ROA and EPS with total assets (Size). The findings provide evidence in support of high level equity capital employed in the capital structure of Nepalese commercial banks.This

study is useful to the managersof banking industry for taking any decisions on improving financial performance.

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