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Impact of liquidity on bank profitability in Nepalese commercial banks

Prof. Dr. Radhe S. Pradhan and Deepa Shrestha

Abstract

This study examines the effect of liquidity on the performance of Nepalese commercial banks. Investment ratio, liquidity ratio, capital ratio and quick ratio are the independent variables used in this study. The dependent variables are return on equity (ROE) and return on assets (ROA), while one year lagged variables for independent variables are also used to determine the more specific result of the previous year's effect on the current years ROE and ROA. The secondary sources of data have been used from annual reports of the banks and supervision report of Nepal Rastra Bank. The regression models are estimated to test the significance and effect of bank liquidity on performance of Nepalese commercial banks.

Correlation between capital ratio and return on equity found to be positive indicating higher the capital ratio higher would be the return on equity. However, the correlation between return on equity and liquidity ratio is found to be negative indicating higher the liquidity in the bank lower would be the return on equity. Further, the correlation is found to be negative for quick ratio with return on equity. Beta coefficients for investment ratio and capital adequacy are positively significant with bank performance, which indicate that increase in investment ratio and capital ratio leads to increase the performance of the banks. However, beta coefficients for liquidity ratio and quick ratio are negative with return on assets and return on equity indicating increased liquidity ratio and quick ratio decreases the return on assets and return on equity of the bank.

Keywords: Capital ratios, investment ratio, liquidity ratio, quick ratio, return on assets, return on equity, lagged variables.

I. Introduction

Bank liquidity refers to the ability of the bank to ensure the availability of funds to meet financial commitments or maturing obligations at a reasonable price at all times. Bank liquidity means a bank having money where they need it particularly to satisfy the withdrawal needs of the customers (Wasiuzzaman and Tarmizi, 2010). Liquidity is a financial term that means the amount of capital that is available for investment. Today, most of this capital is credit fund. That is because the large financial institutions that do most investments prefer using borrowed money (Felix and Claudine, 2008). Profitability and liquidity are effective indicators of the corporate health and performance of not only the commercial banks, but all profit-oriented ventures (Eljelly, 2004). These performance indicators are very important to the shareholders and depositors who are major publics of a bank.

Through the financial inter-mediation role, the commercial banks reactivate the idle funds borrowed from the lenders by investing such funds in different classes of portfolios. The

liquidity risk of banks arises from funding of long-term assets by short-term liabilities, thereby making the liabilities subject to rollover or refinancing risk. Liquidity risk is usually of an individual nature, but in certain situations may compromise the liquidity of the financial system. Liquidity risk management in banks is defined as the risk of being unable either to meet their obligations to depositors or to fund increases in assets as they fall due without incurring unacceptable costs or losses. Effective liquidity risk management helps ensure a bank's ability to meet its obligations as they fall due and reduces the probability of an adverse situation developing (Ahmad, 2009).

A bank is responsible for the sound management of liquidity risk. A bank should establish a robust liquidity risk management framework that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources. Supervisors should assess the adequacy of both a bank's liquidity risk management framework and its liquidity position and should take prompt action if a bank is deficient in either area in order to protect depositors and to limit potential damage to the financial system (Kumar and Yadav, 2013).

Banks face two central issues regarding liquidity. Banks are responsible for managing liquidity creation and liquidity risk. Liquidity creation helps depositors and companies stay liquid, for companies especially when other forms of financing become difficult. Managing liquidity risk is to ensure the banks own liquidity so that the bank can continue to serve its function (Vossenand & Ness, 2010). During the early "liquidity phase" of the financial crisis that began in 2007, many banks – despite adequate capital levels – still experienced difficulties because they did not manage their liquidity in a prudent manner. The crisis drove home the importance of liquidity to the proper functioning of financial markets and the banking sector. Prior to the crisis, asset markets were buoyant and funding was readily available at low cost.

The rapid reversal in market conditions illustrated how quickly liquidity can evaporate, and that illiquidity can last for an extended period of time. The banking system came under severe stress, which necessitated central bank action to support both the functioning of money markets and, in some cases, individual institutions. In the aftermath of the crisis, there is a general sense that banks had not fully appreciated the importance of liquidity risk management and the implications of such risk for the bank itself, as well as the wider financial system. As such, policymakers have suggested that banks should hold more liquid assets than in the past, to help self-insure against potential liquidity or funding difficulties. This has led to an international desire for common measures and standards for liquidity risk (Basel Committee on Banking Supervision, 2013).

The performance of commercial banks can be affected by internal and external factors (Kosmidou, 2008). These factors can be classified into bank specific (internal) and macroeconomic variables. The internal factors are individual bank characteristics which affect the bank's performance. These factors are basically influenced by the internal decisions of management and board. The external factors are sector wide or country wide factors which are beyond the control of the company and affect the profitability of banks. But this study is concerned with the relationship between the customer satisfaction and the bank perfor-

mance To measure the profitability of commercial banks there are variety of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones (Murthy and Sree, 2003).

Liquidity risk is said to be assassin of banks. This risk can adversely affect both bank's earnings and the capital. Therefore, it becomes the top priority of a bank's management to ensure the availability of sufficient funds to meet future demands of providers and borrowers, at reasonable costs. Episodes of failure of many conventional banks from the past and the present provide the testimony to this claim. For instance, as United States/U.S. subprime mortgage crisis reached its peak in the years 2008/9 unprecedented levels of liquidity support were required from central banks in order to sustain the financial system. Even with such extensive support, a number of banks failed, were forced into mergers or required resolution. A reduction in funding liquidity then caused significant distress. In response to the freezing up of the interbank market, the European Central Bank and U.S. Federal Reserve injected billions in overnight credit into the interbank market. Some banks needed extra liquidity supports (Longworth 2010; Bernanke 2008).

It is evident that liquidity and liquidity risk is very emerging and important topic. Therefore banks and regulators are keen to keep a control on liquidity position of banks. However, this fragility is also a source of efficiency. Diamond and Rajan (2001) argue that the financial intermediation structure is efficient in that it disciplines banks when carrying out their lending function. The threat of a run is an incentive for the bank to choose projects with high return. More generally, this also suggests that an "even more liquid" bank might not always be desirable for the efficiency of the financial system. Therefore, effective liquidity risk management helps ensure a bank's ability to meet cash flow obligations, which are uncertain as they are affected by external events and other agents' behavior and to keep their optimal profitability.

In Nepalese context, Karki (2004) found that liquidity ratio was relatively fluctuating over the period, return on the equity is found satisfactory and there is positive relationship between deposits and loan advances. The recommendations made that are the existing condition of the liquidity of the banking and financial institutions needs to be reduced through an appropriate investment policy. Further, Joshi (2004) analyzed financial performance through the use of appropriate financial tools and to show the cause of change in cash position of the two banks. In which he stated that bank profitability uses the return on assets, the return on equity and net interest margin. The study found that liquidity and bank loan are positively related to bank profitability

Studies of Nepalese banks' profitability are important as guidance towards enhancing the economy since banks do contribute to economic growth and stability. Stability in the banking sector helps to maintain stability in the economy (Baral, 2005).Few studies have been conducted on determinant of profitability of the commercial banks in Nepal, for example, Karki (2004) also found that the positive relationship between capital adequacy and profitability, Joshi (2004) found that the liquidity and banks loan are positively related to banks profitability and Maharjan (2007) revealed that the capital adequacy and liquidity is positively associated with banks profitability.

The major purpose of the study is to examine effect of bank liquidity on banking performance in Nepalese commercial banks. Specifically, it examines the effect of capital ratio, investment ratio, liquidity ratio and quick ratio to return on assets and return on equity of commercial banks of Nepal.

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 conclusion and discusses the implications of the study findings.

II. Methodological aspects

This study has used secondary sources of data to analyze the impact of liquidity on bank performance. The total number of observation for the study consists of 144 from 16 commercial banks for the purpose of analyzing the relationship between the bank liquidity, and bank performance. The secondary data for bank performance and liquidity have been taken from annual report of the commercial bank for the year 2005/06 to 2013/14.

Table 1 shows the number of commercial banks along with the number of the respondents selected for the study.

Table 1
List of banks along with study period and number of observations

S.No	Banks	Years	No of Observations
1.	Nepal Bank Ltd.	2005/06-2013/14	9
2.	Rastriya Baninjya Bank	2005/06-2013/14	9
3.	Agriculture Dev. Bank	2005/06-2013/14	9
4.	Nabil Bank	2005/06-2013/14	9
5.	Nepal Investment Bank	2005/06-2013/14	9
6.	Standard Chartered Bank	2005/06-2013/14	9
7.	Himalayan Bank Ltd.	2005/06-2013/14	9
8.	Nepal Bangladesh Bank	2005/06-2013/14	9
9.	Nepal SBI Bank	2005/06-2013/14	9
10.	Everest Bank Ltd.	2005/06-2013/14	9
11.	Bank of Kathmandu	2005/06-2013/14	9
12.	Lumbini Bank Ltd.	2005/06-2013/14	9
13.	Machhapuchre Bank Ltd	2005/06-2013/14	9
14.	Kumari Bank	2005/06-2013/14	9
15.	Kumbini Bank Ltd.	2005/06-2013/14	9
16.	Sunrise Bank Ltd.	2005/06-2013/14	9
	Total Observation		144

Thus, the study is based on 144 observations.

The Model

Model 1: $ROA_{it}=\alpha_0 + \alpha_1 IR_{it} + \alpha_2 LR_{it} + \alpha_3 CR_{it} + \alpha_4 QR_{it} + \varepsilon_{it}$

Model 2: $ROE_{it}= \alpha_0 + \alpha_1 IR_{it} + \alpha_2 LR_{it} + \alpha_3 CR_{it} + \alpha_4 QR_{it} + \varepsilon_{it}$

Model 3: $ROA_{it}=\alpha_0 + \alpha_1 IR_{it} + \alpha_2 LR_{it} + \alpha_3 CR_{it} + \alpha_4 QR_{it} + \alpha_5 IR_{it-1} + \alpha_6 LR_{it-1} + \alpha_7 CR_{it-1} + \alpha_8 QR_{it-1} + \varepsilon_{it}$

Model 4: $ROE_{it}= \alpha_0 + \alpha_1 IR_{it} + \alpha_2 LR_{it} + \alpha_3 CR_{it} + \alpha_4 QR_{it} + \alpha_5 IR_{it-1} + \alpha_6 LR_{it-1} + \alpha_7 CR_{it-1} + \alpha_8 QR_{it-1} + \varepsilon_{it}$

Where, dependent variables are: ROA_{it}=return on assets for the firm during the period t, ROE_{it}= return on equity for the firm during the period t, & independent variables are: IR_{it}= investment ratio for the firm during the period t, LR_{it}= liquid ratio for the firm during the period t, CR_{it}= capital ratio for the firm during the period t, QR_{it}= quick ratio for the firm during the period t, It-1 = variable for one year lag and ε_{it}= Error term

Return on assets

Return on assets (ROA) is a financial ratio that shows the percentage of profit that a company earns in relation to its overall resources (total assets). Return on assets is a key profitability ratio which measures the amount of profit made by a company per dollar of its assets. This ratio is calculated as net profit after tax divided by the total assets. This ratio measure for the operating efficiency for the company based on the firm's generated profits from its total assets. It shows the efficient management at using assets to generate earnings. The ratio of net income to total assets measures the return on total assets (ROA) after interest and taxes (Siraj and Pillai, 2012). Posnikoff (1997) and Margolis & Walsh (2003) found a positive and significant relationship between liquidity and financial performances. ROA is the ratio of net income to total assets. This ratio measures the profitability achieved by the bank by investing its assets in various activities, and is calculated by dividing net income by total assets.

Return on equity

The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested (Siraj and Pillai, 2012). Net income is for the full fiscal year (before dividends paid to common stock holders but after dividends to preferred stock). Authors found that liquidity status positively affects the bank performance. ROE is the ratio of net income to shareholder's equity. This ratio measures the management efficiency in utilizing the bank funds in achieving a profit, and is calculated by dividing net income (net profit after tax) by equity.

Capital ratio

It measures the financial strength of a bank and indicates the extent of financial stability at the bank. Capital can be calculated by dividing capital by total assets. The equity-to-asset ra-

tio measures how much of bank's assets are funded with owner's funds and is a proxy for the capital adequacy of a bank by estimating the ability to absorb losses. As the literature review pointed out, there are mixed results regarding the relationship between the equity-to-asset ratio and banks‟ profitability. Following the risk-return trade off, a higher equity-to-asset ratio leads to a lower expected return. Opposed to the risk-return hypothesis, Berger (1995b) examines the signalling hypothesis and bankruptcy cost hypothesis; suggesting that a higher equity-to-asset ratio increase profitability due to signaling issues or lower costs of financial distress. Based on it, this study has developed the following hypothesis;

H1: There is positive relationship between capital ratio and bank profitability.

Investment ratio

Loan to deposit is the most important ratio to measure the liquidity condition of the bank. Loan means the advances for the conventional banks. Bank with Low LDR is considered to have excessive liquidity, potentially lower profits, and hence less risk as compared to the bank with high LDR. However, high LDR indicates that a bank has taken more financial stress by making excessive loans and also shows risk that to meet depositors' claims bank may have to sell some loans at loss (Ahmed, 2009). The investment ratio indicates to the appropriateness of investing the available funds to the bank which derived from deposits, to meet the demands of credited loans and advances. Investment ratio can be calculated by dividing the credit facilities by total deposit.

H2: There is positive relationship between investment ratio and profitability in the Nepalese commercial banks.

Liquidity ratio

This ratio measures the ratio of liquid assets by total assets. Liquid assets includes cash & equivalent and cash reserve at the central bank, short-term deposits in banks and other government and non-government guaranteed securities as a percentage of total bank assets. Liquid ratio can be calculated by dividing the acid liquid ratio by total assets. Liquidity risk is one of the types of risk for banks; when banks hold a lower amount of liquid assets they are more vulnerable to large deposit withdrawals. Therefore, liquidity risk is estimated by the ratio of liquid assets to deposit and liquid asset to total asset. Pasiouras and Kosmidou (2007) found a negative relationship between liquidity ratio and profitability. Molyneux and Thorton (1992) and Guru et al. (2002) found a negative relationship between liquidity and bank profitability. Based on the above evidences, this study has formulated hypothesis as;

H3: There is negative relationship between the liquidity ratio and profitability in the Nepalese commercial banks.

Quick ratio

This ratio measures the bank's ability to repay short-term obligations during a very limited period (a few days). Quick ratio can be calculated by dividing the difference of current asset and inventory by current liabilities. Nimer et al. (2013) did a study on the impact of

Jordanian banks profitability. Bank profitability is the ability of a bank to generate revenue in excess of cost, in relation to the bank's capital base. This study sought to find out whether liquidity through quick ratio has significant impact on Jordanian banks profitability through return on asset (ROA).The study noted that a profitable banking sector is better able to resist negative impact and share in to the stability of the financial system. Based on this, study has developed hypothesis as;

H4: There is positive relationship between quick ratio and bank profitability.

III. Presentation and analysis of data

Descriptive statistics

The descriptive statistics used in this study consists of mean, standard deviation, minimum and maximum values associated with variables under considerations. The descriptive statistics are summarized on table 2.

Table 2
Descriptive statistics

This table summarizes the descriptive statistics- mean values and standard deviation of different variables used in this study during the period 2005/06 through 2013/14 associated with 16 sample banks. ROA and ROE are the variables used to measure the financial performance of commercial bank. The dependent variables used in the study are: ROA is Return on assets, ROE is return on equity, the independent variables are; IR as investment ratio, LR as liquidity ratio, CR as capital ratio, and QR as quick ratio.

Variables	Min.	Max.	Mean	SD
ROA (in %)	-18.92	18.04	1.92	3.32
ROE (in %)	-458.43	194.03	16.30	48.92
IR (in %)	.27	1.04	.71	.16
LR (in %)	.67	31.11	7.27	6.19
CR (in %)	.01	.33	.076	.059
QR (in %)	1.34	37.99	6.94	5.24

The table shows that the average return on assets (ROA) is 1.92 percent with the minimum value of -19.92 percent and maximum value of 3.31 percent. Return on equity (ROE) ranges from minimum value of -458.43 to maximum value of 194.03 percent leading to the average of 16.3015 percent.

Similarly, the descriptive statistics for the independent variable shows that investment ratio has minimum value of 0.27 percent and maximum value of 1.04 percent leading to the mean of 0.71 percent. The average liquidity ratio of the sample banks is noticed to be 7.27 percent with a minimum value of 0.67 percent and maximum value of 31.11 percent. Capital ratio ranges from minimum value of 0.01 percent to maximum value of 0.33 percent with an average of 0.076 percent. Similarly, quick ratio ranges from minimum value of 1.34 percent

to maximum value of 37.99 percent with an average of 6.94 percent.

Correlation analysis

Bivariate Pearsons correlation coefficient analysis has been attempted to find the correlations between dependent and independent variables and the results are presented in table 3. Table 3 shows that investment ratio is positively related to return on assets which indicate that higher the investment ratio higher would be the return on assets of the banks. The liquidity ratio is also positive with return on assets indicating that higher the liquidity ratio higher would be the bank performance measured by return on assets. Further, relationship between capital ratio and return on assets is also found to be positive indicating higher the capital ratio of the bank higher would be the return on assets. However, correlation between quick ratio and return on assets shows negative relation indicating there is negative relation of return on assets and quick or acid-test ratio.

Table 3

Bivariate Pearson correlation coefficients for return on assets and determinant's of liquidity

This table reveals the Bivariate Pearson correlation coefficients of ROA. The independent variables are; IR as investment ratio, LR as liquidity ratio, CR as capital ratio, and QR as quick ratio.

Variables	ROA	IR	LR	CR	QR
ROA	1	.082	.160	.190*	-.079
IR		1	-.281**	.471**	.190*
LR			1	.094	-.470**
CR				1	.234**
QR					1

Note: *'*' sign indicates that correlation is significant at5 percentage level and '**' indicates that correlation is significant at 1 percentage level.*

The correlation coefficient between dependent variable; return on equity (ROE) and independent variables; IR, LR, CR and QR is shown in table 4.

Correlation result in table 4 shows that return on equity is positively related to investment ratio. This indicates that higher the investment ratio higher would be the return on assets and return on equity. Similarly, correlation between capital ratio and return on equity found to be positive indicating higher the capital ratio higher would be the return on equity. However, the correlation between return on equity and liquidity ratio is found to be negative indicating higher the liquidity in the bank lower would be the return on equity. Further, the correlation is found to be negative for quick ratio with return on equity.

Table 4

Bivariate pearson correlation coefficients for return n equity (ROE) and determinants of liquidity

This table reveals the bivariate Pearson correlation coefficients of ROE. The independent variables are; IR as investment ratio, LR as liquidity ratio, CR as capital ratio, and QR as quick ratio.

Variables	ROE	IR	LR	CR	QR
ROE	1	.071	-.225**	.095	.013
IR		1	-.281**	.471**	.190*
LR			1	.094	-.470**
CR				1	.234**
QR					1

Note:

'' sign indicates that correlation is significant at5 percentage level and*

*'**' indicates that correlation is significant at 1 percentage level.*

Regression analysis

Regression analysis results are the statistical tools for the data analysis. The regression analysis has been conducted to examine whether or not the return on asset and return on equity are affected by liquidity determinants of Nepalese commercial banks. The regression result of return on assets with liquidity variables are shown in table 5.

Result in table 5 revealed that beta coefficient is positively significant for investment ratio with return on assets which indicates that increased investment ratio increases the return on assets of the banks. However, beta coefficient for liquidity ratio is negative with return on assets indicating increased liquidity ratio decreases the return on assets of the bank. Further, beta coefficient is positive for capital ratio with return on assets. This result also indicates that increase in capital ratio increases the return on assets. However, the beta coefficient for quick ratio is negatively significant with return on assets. This indicates that increase in quick ratio leads to decrease the return on assets. These findings are consistent with the findings of Kosmidou (2008); Pasiouras and Kosmidou (2007).

Table 5

Regression result of return on assets

This table shows regression analysis results of variables based on panel data of 16 commercial banks from the year 2005/06 to 2013/14. This table shows regression result of model one as: ROAit= α0 + α1 IRit+ α2 LRit + α3 CR it + α4 QR it + εit, in the form of simple and multiple regressions. The reported values are intercepts and slope coefficients of respective explanatory variables with t-statistics in parenthesis. Dependent variable is Return on Assets denoted as ROA and independent variables are;IRit as investment ratio, LRit as liquidity ratio, CRit as capital ratio, and QRit as quick ratio.

Specification	Intercept	IRit	LR it	CR it	QR it	Adj. R^2	F value
I	3.004* (4.157)	.905 (.914)				.032	.836
II	1.988* (7.851)		-.051 (-1.930)			.019	3.726
III	1.343* (5.418)			13.392* (5.199)		.154	27.033*
IV	2.668* (9.731)				-.044 (-1.402)	.007	1.965
VIII	4.051* (6.385)	3.795* (3.943)		19.985* (7.267)	-.074* (-2.648)	.271	18.695*
IX	4.757* (5.838)	4.330* (4.182)	-0.039 (-1.374)	21.556* (7.257)	-.097* (-2.986)	.275	14.58*

Note: *'*' sign indicates that t-statistics and F-statistics are significant at 1 percentage level and '**' indicates that t-statistics and F-statistics are significant at 5 percentage level.*

Table 6 reveals regression result in terms of return on equity (ROE). The result reveals that beta coefficient is positive for investment ratio indicating increased investment ratio increases the return on equity (ROE) of the banks. The beta coefficient is positive for capital ratio with return on equity and it is significant at five percent level. This indicates that increase in capital ratio increases the bank performance as measured by return on equity (ROE).

Table 6

Regression results of return on equity (ROE)

This table shows regression analysis results of variables based on panel data of 16 commercial banks from the year 2005/06 to 2013/14. This table shows regression result of model two as: ROEit= α0 + α1 IRit+ α2 LRit + α3 CR it + α4 QR it + εit, in the form of simple and multiple regressions. The reported values are intercepts and slope coefficients of respective explanatory variables with t-statistics in parenthesis. Dependent variable is Return on equity denoted as ROE and independent variables are ;IRit as investment ratio, LRit as liquidity ratio, CRit as capital ratio, and QRit as quick ratio.

Specification	Intercept	IRit	LR it	CR it	QR it	Adj. R^2	F value
I	1.505 (.084)	20.832 (.853)				.012	.728
II	29.197* (4.740)		-1.774* (-2.747)			.044	7.544*
III	10.365 (1.562)			78.139 (1.133)		.002	1.285
IV	15.488* (2.277)				-.117 (-.150)	.007	.022
VIII	36.029* (3.406)		-2.560* (-3.441)	137.643 (1.950)	-1.667 (-1.853)	.067	4.411*
IX	55.745* (2.446)	28.292 (.097)	-2.855* (-3.556)	180.433** (2.172)	-1.772** (-1.955)	.066	3.546*

Source: Panel Data in Appendix A

Note: *'*' sign indicates that t-statistics and F-statistics are significant at 1 percentage level and '**' indicates that t-statistics and F-statistics are significant at 5 percentage level.*

However, beta coefficient for liquidity ratio is negative with return on equity. This result indicates that higher liquidity ratio leads to lower return on equity for commercial banks of Nepal. Further, the beta coefficient for quick ratio is also negative and is significant at five percent. These findings are consistent with findings of Kosmidou (2008).

To obtain the more precise result for the relationship among dependent and independent variables, one year lagged data have been regressed with each dependent variable ROE and ROA. Table 7 shows the regression result of regular data and one year lagged variables for ROA.

Table 7

Regression results of return on assets (ROA) with lagged liquidity variables

This table shows regression analysis results of variables based on panel data of 16 commercial banks from the year 2005/06 to 2013/14. This table shows regression result of model one as: ROAit= α0 + α1 IRit+ α2 LRit + α3 CR it + α4 QR it + α5 IRit-1 + α6 LR it-1 + α7 CR it-1 + α8 QR it-1 + εit in the form of simple and multiple regressions. The reported values are intercepts and slope coefficients of respective explanatory variables with t-statistics in parenthesis. Dependent variable is Return on Assets denoted as ROA and independent variables are ;IRit as investment ratio, LRit as liquidity ratio, CRit as capital ratio, and QRit

as quick ratio, further one year lag variable for same are; IRit-1 as investment ratio, LRit-1 as liquidity ratio, CRit-1 as capital ratio, and QRit-1 as quick ratio

Specification	Intercept	IRit	LR it	CR it	QR it	IRit-1	LR it-1	CR it-1	QR it-1	Adj. R^2	F value
I	2.740* (5.524)	.791 (1.163)								.002	1.353
II	1.748* (10.285)		-.059* (-3.329)							.066	11.085*
III	1.451* (8.579)			9.575* (5.447)						.167	29.672*
IV	2.410* (12.802)				-.033 (-1.539)					.009	2.370*
V	3.035* (7.705)					1.494* (2.754)				.048	7.586*
VI	1.875* (11.411)						.016 (.914)			-.001	.835
VII	1.845* (10.804)							1.891 (1.076)		.001	1.157
VIII	2.528* (15.379)								-.077)* (-4.145)	.111	17.178*
IX	3.694* (8.120)	2.606* (4.060)		13.441* (6.481)			-.028 (-1.706)		-.081* (-4.428)	.323	16.491*
X	3.873* (8.308)	2.675* (4.182)		13.813* (6.657)	-.034 (-1.581)		-.033* (-1.982)		-.065* (-3.169)	.331	13.855*
XI	3.827* (7.407)	1.915 (2.070)	-.018 (-.697)	11.722* (4.014)	-.028 (-1.179)	.775 (.997)	-.045 (-1.761)	1.889 (.763)	-.070* (-3.152)	.325	8.817*

Note: *'*' sign indicates that t-statistics and F-statistics are significant at 1 percentage level and '**' indicates that t-statistics and F-statistics are significant at 5percentage level.*

As shown in table 7, the beta coefficient is negative for investment ratio with return on assets. The result indicates that higher the investment ratio higher would be the return on equity. However, the beta coefficient is negative for liquidity ratio with return on assets. Further, beta coefficient for is positive for capital ratio with return on assets. This result indicates that increase in capital ratio increases the return on assets. However, the beta coefficient for quick ratio is negative with return on assets and it is significant at one percent level.

Further, the beta coefficient is positive for one year lagged investment ratio with return on equity and it is significant at five percent level indicating that higher the investment ratio in the previous year higher will be the return on assets in the current year. However, beta coefficient is negative for liquidity ratio with return on equity and is significant at five percent level; this result indicates that higher the liquidity ratio in the previous year may decreases the return on assets in the current year. Further, beta coefficient for capital ratio is positive with return on equity indicating increased capital ratio also increases the bank performance as measured by return on assets. But, beta coefficient is found to be negative for quick ratio with return on assets and it sis significant at one percent level. This result also indicates that higher the quick ratio lower would be the banking performance as measured by return on assets.

Similarly, table 8 also shows the regression result of return on equity (ROE) with lagged liquidity variables as independent variables. The regression result with one year lagged variables shows that beta coefficient for one year lagged investment ratio is positive indicating that higher the

investment ratio in the previous year higher would be the return on equity in the current year. Further, the beta coefficient for capital ratio is also found to be positive with return on equity and it is significant at five percent level. This result also reveals that higher the capital ratio in the previous year leads to higher return on equity in the current year. However, the beta coefficient for liquidity ratio is found to be negative with return on equity and found to be significant at five percent level. This result is consistent with the finding of the study by Qasim and Ramiz (2011) and Al-Khouri (2011). Further, the beta coefficient for one year lagged quick ratio is also found to be negative with return on equity indicating that increased quick ratio in the continuous year would lead to decrease in return on equity in the current year or coming year.

Table 8

Regression results of return on equity with lagged liquidity variables

This table shows stepwise regression analysis results of variables based on panel data of 16 commercial banks from the year 2005/06 to 2013/14. This table shows regression result of model one as: ROAit= α0 + α1 IRit+ α2 LRit + α3 CR it + α4 QR it + α5 IRit-1 + α6 LR it-1 + α7 CR it-1 + α8 QR it-1 + εit in the form of simple and multiple regressions. The reported values are intercepts and slope coefficients of respective explanatory variables with t-statistics in parenthesis. Dependent variable is Return on Equity denoted as ROE and independent variables are ;IRit as investment ratio, LRit as liquidity ratio, CRit as capital ratio, and QRit as quick ratio, further one year lag variable for same are; IRit-1 as investment ratio, LRit-1 as liquidity ratio, CRit-1 as capital ratio, and QRit-1 as quick ratio

Specification	Intercept	IRit	LR it	CR it	QR it	IRit-1	LR it-1	CR it-1	QR it-1	Adj. R^2	F value
I	1.505 (.084)	20.832 (.853)								-.002	.728
II	29.197 (4.740)		-1.774 (-2.747)							.044	7.544
III	10.365 (1.562)			78.139 (1.133)						.002	1.285
IV	15.488 (2.277)				.117 (.150)					-.007	.022
V	-1.780 (-.105)					24.920 (1.071)				.001	1.146
VI	28.009 (4.147)						-1.758** (-2.401)			.035	5.764
VII	28.009 (4.147)						-1.758** (-2.401)			.035	5.764
VII	17.106 (2.381)							18.813 (.254)		-.007	.065
VIII	11.125 (1.522)								-.652 (-.787)	-.003	.619
IX	44.460 (3.594)		-3.312 (-3.934)	243.690 (2.221)	-1.619 (-1.622)			155.541 (1.680)		.106	4.841
X	64.054 (2.663)	33.7855 (1.060)	-3.545 (-3.953)	310.228 (2.491)	-2.059 (-1.829)			164.846 (1.739)	-.734 (-.738)	.102	3.448
XI	54.451 (2.182)	64.319 (1.439)	4.086 (3.290)	405.334 (-2.874)	-2.116 (-1.870))	38.495 (1.026)	-.985 (-.795)	266.809** (2.229)	-1.134 (-1.053)	.102	2.847

Note: *'*' sign indicates that t-statistics and F-statistics are significant at 1 percentage level and '**' indicates that t-statistics and F-statistics are significant at 5percentage level.*

IV. Summary and conclusion

Liquidity is a financial term that measures the amount of capital that is available for investment. Today, most of this capital is credit fund. That is because the large financial institutions prefer using borrowed money for investment. Low interest rates mean credit is cheaper, thus, businesses and investors are more likely to borrow. The return on investment has to be higher than the interest rate, to make investments attractive. In this way, high liquidity spurs economic growth (Heffernan, 1996). The banking institution had contributed significantly to the effectiveness of the entire financial system as they offer an efficient institutional mechanism through which resources can be mobilized and directed from less essential uses to more productive investments. Liquidity creation itself is seen as the primary source of economic welfare contribution by banks and also as their primary source of risk. Therefore, virtually every financial transaction or commitment has implications for bank's liquidity. In Nepalese context, authors have found that liquidity ratio was relatively fluctuating over the period, return on the equity is found satisfactory and there is positive relationship between deposits and loan advances. It is also found that the liquidity and banks loan are positively related to banks profitability and some authors revealed that the capital adequacy and liquidity is positively associated with banks profitability.

The major purpose of this study is to determine the impact of bank liquidity on financial performance. This study is based on secondary sources of data of 16 commercial banks for the year 2005/6 to 2013/14 leading to the total observations of 144.

Result revealed that return on equity is positively related to investment ratio. This indicates that higher the investment ration higher would be the return on assets and return on equity. Similarly, correlation between capital ratio and ROA and ROE is found to be positive indicating higher the capital ratio higher would be ROA and ROE. However, the correlation between return on equity and liquidity ratio is found to be negative indicating higher the liquidity in the bank lower would be the return on equity. Further, the correlation is found to be negative for quick ratio with return on equity. Beta coefficient is positive for investment ratio and capital adequacy with bank performance which indicates that increased investment ratio and capital ratio increases the bank performance. However, beta coefficient for liquidity ratio and quick is negative with return on assets and return on equity indicating increased liquidity ratio and quick ratio decreases the return on assets and return on equity of the bank, but this relation is not significant at five percent level.

This study concludes that liquidity status of the bank plays important role in banking performance in case of Nepalese commercial banks. This study revealed that investment ratio, liquidity ratio and capital ratio has positive impact on bank performance, while quick ratio has positive impact on the same. The result with one year lagged variables also showed similar result that higher liquidity ratio, investment ratio and increased capital ration result in increase in the bank performance measured by return on assets and return on equity. However, the negative relation with quick ratio showed that increased quick ratio may leads to decrease in bank performance. The study suggests that banks willing to increase bank performance should increase capital ratio and investment ratio while should control liquidity ratio and quick ratio.

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Factors affecting share prices of banking and non-banking enterprises: A case of Nepalese enterprises

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Abstract

This study examines the impact of firm specific variable on stock price of Nepalese enterprise. Market price per share and price earnings ratios are selected as dependent variable for this study. Earnings per share, profitability, market to book value, total debt to total assets, total assets, cash flows and dividend per share are the independent variables. The data are collected from the annual reports of the firms and Banking and Financial Statistics published by Nepal Rastra Bank. In addition to these, website of selected banks and non-banks and Nepal Rastra Bank, different published articles, reports, books and magazines were also analyzed. The regression models are applied to test the factors affecting share price of banks and non-banks in Nepal.

Using data of 32 banks and non-banks listed in NEPSE for the period 2003/04-2012/13, the result shows that dividends significantly affect the stock price of the enterprise. Earnings per share, profitability and size are the major determinants of stock price of banks and non-banks in Nepal. Earnings per share, profitability, investment opportunities, size, and liquidity documented the significant positive impact on market price per share. Dividend per share, earning per share, return on equity has positive impact on price earnings ratios and total debt to total equity has negative impact on price earnings ratios. Similarly, investment opportunities, liquidity and leverage are the most prominent factors affecting price earnings ratio of Nepalese banks and non-banks

Keywords: Market price per share, price earnings ratio, earnings per share, dividend per share, market to book value, profitability, leverage, size, liquidity.

I. Introduction

The market price of a share is a key factor that influences investment decision of stock market investors. The share price is one of the most important indicators to the investors for their decision to invest or not in particular companies share (Gill & Biger, 2012). Stock market works as an intermediary between savers and companies seeking additional financing for business expansion which leads to industrialization and creation of employment opportunities leading to higher standard of living of the society. It provides a platform to individuals, governments, firms and organizations to trade through the purchase of shares. A stock market is very crucial to sustainable economic growth as it can assure the flow of resources to the most productive investment opportunities. So, as an important institution of a country, stock market is of a great concern to investors, stakeholders and the government. Banks and financial institutions are special components of a healthy and wealthy financial system of the country (Alam,2005). It receives money from those who want to save in the form of deposits and it lends money to those who need it. Banking sector plays the significant role in overall development of the economy in all countries (Sivagnanasithi et al., 2009). Thus the banking sector reflects the larger economy (Singh & Dutta, 2013). Banks

motivate people to keep their surplus money as deposits in the bank and then bank utilize that money by providing loan to these people who have deficit and need of that fund or by investing that fund in other profitable sector (Selgin, 1988).

Stock market plays a significant role in the economy of a country both directly as a source of funds and as a determinant of firms' value and its borrowing capacity (Tease, 1993). It provides avenue for investment and capital formation and can act as an indicator or predictor of overall economic condition. The stock price in the market is not static rather it changes every day. The most obvious factors that influence are demand and supply factors. The price of any commodity is affected by both micro-economic and macro-economic factors. A number of empirical studies have been conducted on the determinants of stock price. These studies examined at the relationships between stock prices and the factors that could impact on it. The link between fundamental factors (e.g. firm earnings, dividends and book-value per share) and stock price changes has always remained as the focus area of interest for market analysts, fund managers, and investors.

According to Fama (1970), a stock market is efficient (pricing) if current securities' prices reflect all available information. In an efficient market, stock prices would be analyzed by technical analysis or fundamental analysis. Technical analysis evaluates the stock price movement and predicts the future stock price based on historical data of stock price. Fundamental analysis evaluates the intrinsic value of the company and compares it to the stock price.

Gordon (1959) stated that variation in price among common stocks is of considerable interest for the discovery of profitable investment opportunities, guidance of corporate financial policy, and understanding of the psychology of investment behavior. Although one would expect that this interest would find expression in cross-section statistical studies, a search of the literature is unrewarding. Stock prices would be determined primarily by fundamental factors. Various studies have found important fundamental factors that determine the share prices for different markets, viz., dividend, retained earnings, size, earnings per share, dividend yield, leverage, payout ratio, and book value per share. A stock price in an efficient (price) market provides investors with a good measure of any firm's performance and its value. Srinivasan (2012) noticed that, understanding the impact of various fundamental variables on stock price is very much helpful to investors as it will help them in taking profitable investment decisions.

Hartono (2004) in a study of the impact of dividend and earnings on stock prices in the US argued that a significantly positive impact is made on equity prices if positive earnings information occurs after negative dividend information. Also, a significantly negative impact occurs in equity pricing if positive dividend information is followed by negative earning information. Patell (1976) examined the common stock price behavior accompanied by voluntary disclosure of corporate forecasts of earnings per share. This study indicates that disclosures of forecasts of earnings per share were accompanied by significant price adjustments.

Chang et al. (2008) identified a co integration relationship between stock prices and EPS

in the long-run and stated that for the firm with a high level of growth rate, EPS has less impact in explaining the stock prices & vice-versa. Somoye, Akintoye, & Oseni (2009) found dividend per share and earnings per share as determinants of share prices. Harkavy (1953) investigates the relationship between retained earnings and stock prices. The study found that there is a propensity for stock prices to differ in a straight line with the ratio of distributed earnings. The results also show that the price of firm's stock that retained large ratio of its earnings is higher than the price of stock of firm that retained small proportion of its earnings. Friend & Puckett (1964) distinguish between the effect of dividends and retained earnings on stock prices. The results show that the effect of dividends on stock prices is greater than the effect of retained earnings in several times for three industries, which is in contrast with Harkavy (1953). Saeidi & Okhli (2012) found a direct and very strong relationship between assets return and stock prices.

The change in stock price is not only affected by macro-economic factors but it is also affected by firm-specific variables like dividend per share, earning price per share, return on asset, leverage, size of the firm and many others. Collins (1957) used data from US banks and found that dividend per share and book value per share influence share prices. Docking and Koch (2005) revealed that there is a direct relationship between dividend announcement and equity price behavior. Altamimi (2007) identified that the EPS was found to be the most influencing factors over the market.

In the context of Nepal, Gurung (2004) stated that there is no synchronization among different securities market performance indicators. It does not have sufficient capacity to handle risk relative to the volume of trading (K.C., 2010). Baral and Shrestha (2006) revealed that the Nepalese stock market is inefficient in pricing the shares.K.C. (2004) found that the stock market in Nepal is underdeveloped and has failed to show impact on the overall national economy. Pradhan and Upadhyay (2006) indicated that the company information, lack of profitability of the company, market operation system and government policy regarding investment are appeared to be the major causes of deficiency in the Nepalese stock market. The major purpose of this study is to identify the firm-specific determinants of share price in Nepalese commercial banks and non banks. Specifically, it examines the impact of earning per share, dividend per share, leverage, size, market value to book value, profitability, on share price of banks of and non banks.

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 section draw conclusions and discuss the implications of the study findings.

II. Methodological aspects

The study is based on the secondary data analyses which are collected from14 banks and 18 non-banks in Nepal at least for four years from 2003/04 to 2012/13, leading to the total of 251 observations. The secondary data have been obtained from the annual reports of respective sample enterprises and from the published and online reports of Security Board of Nepal (SEBON), Nepal Stock Exchange (NEPSE) and Nepal Rastra Bank (NRB).
The research design adopted in this study is casual comparative type as it deals with

relationship of earnings per share, market to book ratio, return on equity, cash flows, total assets and total debt to total assets ratio and dividend per share with market price per share and price earnings per share. Table 1 shows the number of banks and non-banks selected for the study along with the study period and number of observations.

Table 1: Selection of banks and non banks along with study period and number of observations

Group of the institution	S. No.	Name of the institution	Symbol	Study period	Observations
Banks	1	Nabil Bank	NABIL	2003/04-2012/13	10
	2	Nepal Investment Bank	NIBL	2003/04-2012/13	10
	3	Standard Chartered Bank	SCB	2003/04-2012/13	10
	4	Himalyan Bank	HBL	2003/04-2012/13	10
	5	Nepal SBI bank	SBI	2003/04-2012/13	10
	6	Everest Bank	EBL	2003/04-2012/13	10
	7	Bank of Kathmandu	BOK	2003/04-2012/13	10
	8	Laxmi Bank	LBL	2003/04-2012/13	10
	9	Siddhartha Bank	SBL	2004/05-2012/13	9
	10	Kumari Bank	KBL	2003/04-2012/13	10
	11	Prime Commercial Bank	PCBL	2007/08-2012/13	5
	12	Citizen Bank international	CZBIL	2006/07-2012/13	6
	13	Lumbini Bank	LUBL	2008/09-2012/13	4
	14	Sunrise Bank	SRBL	2008/09-2012/13	5
Non-Banks	15	Chilime	CHCL	2003/04-2012/13	10
	16	Butwal power	BPCL	2006/07-2012/13	7
	17	Arunvalley hydropower	AHPC	2008/09-2012/13	5
	18	Salt trading	STC	2005/06-2012/13	8
	19	Soaltee hotel	SHL	2004/05-2012/13	9
	20	NIDC capital market	NIDC	2003/04-2009/10	7
	21	Bottlers Nepal	BNL	2008/09-2012/13	5
	22	Nepal Door shanchar	NTC	2003/04-2012/13	10
	23	Bishal bazar	BBC	2003/04-2012/13	10
	24	Nepal life insurance	NLIC	2007/08-2012/13	6
	25	National life insurance	NLICL	2007/08-2012/13	6
	26	Asian Life insurance	ALICL	2008/09-2012/13	5
	27	Shikharinsurance	SICL	2004/05-2012/13	9
	28	Premier insurance	PIC	2007/08-2012/13	6
	29	Sagarmathainsurance	SIC	2005/06-2012/13	8
	30	Surya life insurance	SLICL	2008/09-2012/13	5
	31	Prime life insurance	PLIC	2007/08-2012/13	6
	32	Necoinsurance	NIL	2003/04-2012/13	10
Total Observation					251

Thus, the study is based on 251 observations.

The Model

The theoretical statement of the models is that the stock price may be regarded as subject to the constraints of earnings per share, market to book value, return on equity, total debt to total assets, cash flows, dividend per share and total assets. The theoretical statement may be framed as under:

MARKET PRICE PER SHARE = f (EPS, SIZE, LEV, PROF, LIQ, IO, DPS)

PRICE EARNINGS RATIO = f (EPS, SIZE, LEV, PROF, LIQ, IO, DPS)

More specifically,

$$MPS_{it} = \beta_0 + \beta_1 LnSZ_{it} + \beta_2 LEV_{it} + \beta_3 PROF_{it} + \beta_4 LnLIQ_{it} + \beta_5 EPS_{it+} \beta_6 IO_{it+} \beta_8 DPS_{it} + \varepsilon it \quad .....(i)$$

$$PE_{it} = \beta_0 + \beta_1 LnSZ_{it} + \beta_2 LEV_{it} + \beta_3 PROF_{it} + \beta_4 LnLIQ_{it} + \beta_5 EPS_{it+} \beta_6 IO_{it+} + \beta_8 DPS_{it} + \varepsilon it \quad .....(iii)$$

Where, Ln SZ= size of firm, LEV= Leverage, PROF= Profitability, LIQ= Liquidity, EPS= Earnings per share, IO= Investment Opportunities, DPS= Dividend per share, MPS= Market price per share, PE= Price earnings ratio and εit= error term.

Market price of share

The price of a share at a particular moment represents the balance struck between the buyers and sellers. On a long term perspective, the empirical study has proved that the share price is directly related to the earnings of the firm as well as to the dividends declared by the firm (Naveed and Ramzan, 2013). Daily price fluctuations arise because of changesin the buying and selling pressure. Due to these fluctuations it becomes difficult to decide as to which marketprice should be taken as a measure of dependent variable.

Price earnings ratio

Price earning ratio expresses the relationship between the market price of a company's share and its earnings per share. It indicates the extent to which the earnings of each share are covered by its price. Molodovsky (1953) found that the price earnings ratio has gained enormous popularity for evaluating individual stocks and stock markets as potential investments. Malhotra and Tandon (2013) indicated that firms' book value, earnings per share, and price earnings ratio have a significant positive impact on firm's stock price.

Earnings per share

It refers to the ratio of the profit after tax of the company for any financial year after payment of preference dividend. The equity shareholders are the sole claimants to the net earnings of the corporation after making payment of dividend to the preference shareholders. EPS serves as an indicator of a company's profitability. Ball & Brown (1968) and Baskin (1989) found that the earning per share has a positive relationship with market price which indicates higher the earning per share, higher will be the market price. Based on it, the study develops the following hypothesis:

H 1: There is a positive relationship between earning per share and market price of share

Firm size

The size of the bank and non-bank is measured by the natural logarithm of total assets (Gill et al. 2009). Generally, the large companies offer better investment opportunities to investors than the smaller ones. The shares of large companies are actively traded and they provide more liquidity and marketability to the investors. Thus, the temptation to buy shares of large companies leads to increase in its market price of large companies, with access to capital, better credit rating, and more customers, which will enhance their profitability and increase their ability to pay higher dividends (Dickens, Michael, & Joseph, 2002). Based on it, this study develops the following hypothesis:

H2: There is positive relationship between firm's size and market price per share.

Profitability

Profitability in this study is measured as return on equity or net income after tax divided by total equity. It measures the ability of the bank management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2011). Wen (2010) stated that the higher ROA shows that the company is more efficient in using its resources. Emekekwue (2008) found return on assets as a ratio which seeks to measure the amount of profit generated from the entire assets of the firm. Profitability has a positive relationship with stock price (Kabajeh, 2012). Based on it, this study develops the following hypothesis:

H3: Profitability is positively related to stock price

Cash flow (CF)

The cash flow of the bank and non-bank is measured by the natural logarithm of cash flow. A firm's cash flow is a good measure of the firm's liquidity and it is very important to compare a firm's liquidity position in relation to its share price. According to the agency theory of cash flow, firms with high cash flows pay higher dividends in order to diminish the agency conflict between their managers and shareholders. Otherwise, managers may pursue their own personal agenda and maximize their personal wealth instead of maximizing the wealth of its shareholders.Liquidity is an essential factor that affects the share price.Farzaneh Heidarpoor (2012) stated that with increase/decrease of liquidity, stock prices increases/ decreases in same direction.Based on it, this study develops the following hypothesis:

H4: Liquidity is positively related to stock price

Investment opportunities (IO)

Market to book value of a firm's equity is used as a proxy for investment opportunities. If a firm is growing rapidly and firm have investment opportunities with positive net present value of the investment then they need funds to finance the expansion, and the more likely the firm is to retain earning rather than to pay them as dividends. Consequently, firms with higher growth opportunities are likely to retain a greater portion of their earning. Foucault(2013) found that investment opportunities are positively related with stock price. Base on it, this study develops the following hypothesis:

H5: Investment opportunities is positively related to stock price

Leverage

A *leverage ratio* is any one of several financial measurements that look at how much capital comes in the form of debt or assesses the ability of a company to meet financial obligations. Nirmala, Sanju and Ramachandran (2011) found that leverage is significant determinant of share prices. Uwuigbe, Olowe, Olusegun, and Godswill (2012), andIrfan and Nishat (2002) also conclude that leverage is the influencing factor for share price changes. Based on it, the study develops the following hypothesis:

H 6: There is a positive relation between leverage and market price of share.

Dividend per share

Dividend is the portion of the profit after tax which is distributed to the shareholders for their investment bearing risk in the company. The dividend rate of a company has a significant influence on the market price of a share. The dividends generally influence the share price in a positive direction as depicted in earlier empirical works such as Desai (1965) and Irfan and Nishat (2000). Based on it, the study develops the following hypothesis:

H7: There is a positive relationship between dividend per share and market price of share.

III. Presentation and analysis of data

Descriptive Statistics

Table 2 shows the descriptive statistics of total sample. Table 4.10 shows the descriptive statistics of total sample selected. Clearly, the market price per share ranges from Rs. 50 to Rs. 9830 leading to the average market price per share of Rs. 922.91. The minimum value of dividend per share is zero and maximum value is Rs 140, leading to the average dividend per share to Rs 25. 60. The earnings per share ranges from Rs.-418.35 to Rs 196, leading to the average of Rs. 39.60. Likewise, minimum value of price earnings ratio is-4711.72 times and the maximum value is 2727 times leading to the average of 10.79 times, return on equity ranges from -80.31 percent to 126.82 percent, investment opportunities ranges from -7.05 times to 24.48 times. Similarly, use of total debt out of total assets ranges from 0.03 percent to 697.72 percent, dividend per share ranges from zero to Rs 140, cash flows ranges from Rs-65.76 million to Rs34657.39 million. The average of return on equity has been observed to 22.16 percent while the average of investment opportunities is 4.06. Similarly, the average use of debt out of total assets is 79.08 percent.

Table 2: Descriptive statistics

(The table shows the descriptive statistics of market price pershare, and its determinants for total 32 sample firms for the study period of 2003/04 to 2012/13 that makes a total of 251 observations. Descriptive statistics includes minimum value, maximum value, mean value and standard deviation)

Variables	Minimum	Maximum	Mean	Std. deviation
DPS(Rs)	.00	140.00	25.59	30.65
MPS(Rs)	50	9830	922.91	1138.05
EPS(Rs)	-418.35	196.00	39.60	48.67
PE(times)	-4711t.72	2727.00	10.78	392.46
ROE(%)	-80.31	126.82	22.15	20.21
IO(times)	-7.05	24.48	4.06	4.22
TD/TA(%)	.03	697.72	79.08	53.01
TA(Rs million)	38.18	114225.1	15225	19687.83
CF(Rsmillion)	-65.76	34657.39	1680.1	4061.83

Correlation analysis

Having indicated the descriptive statistics the Pearson correlation coefficient has been observed and the results are presented in table 3.

Table 3: Correlation matrix of dependent and independent variables

(This table shows the Pearson correlation coefficients among market price per share, price earning ratios and its determining variables of total sample selected. The correlation coefficients are based on 251 observation of 32 sample organization.)

Variables	MPS	DPS	EPS	PE	ROE	IO	TD/TA	TA	CF
MPS	1								
DPS	.659**	1							
EPS	.491**	.549**	1						
PE	0.072	0.027	0.022	1					
ROE	.268**	.400**	.244**	0.035	1				
IO	.822**	.500**	.338**	0.074	.353**	1			
TD/TA	0.018	-0.009	0.007	-0.073	-0.054	0.045	1		
TA	.253**	.328**	.223**	0.033	0.074	.209**	0.07	1	
CF	0.017	0.115	0.092	0.014	0.02	-0.037	-0.045	.715**	1

Note:

1. '**'represents 1% level of significance
2. '*' represents 5% level of significance

The table shows that the market price per share is positively correlated with dividend per share, earning per share, price earnings ratio, return on equity, investment opportunities, leverage, total assets and cash flows. It indicates that increase in dividend per share and earning per share leads to increase in market price per share. Similarly, higher the return on equity, investment opportunities higher would be market price per share. Likewise, increase in leverage, total assets and cash flow also leads to increase in market price per share.

The result shows that price earning ratio is positively correlated with dividend per share, earning per share, return on equity. Whereas it is negatively correlated with total debt to total equity which indicates that increase in total debt to total equity leads to decrease in price earning ratio.

Regression analysis

The regression results of market price per share have been presented in table 4.

The table shows that beta coefficient for the earning per share, return on equity and investment opportunities are positive. It indicates that increase in earning per share, return on equity and investment opportunities leads to increase the market price of the shares of all sample enterprises. Similarly, the positive coefficients have been observed for total assets, cash flows, and dividend per share in all the equations. The coefficient are significant for earning per share, return on equity, investment opportunities, total assets, cash flows, and dividend per share. The result hence, indicate that higher the cash flow and dividend per share higher would be the stock price per share of all sample enterprises.

Table 4: Regression of earnings per share, profitability, investment opportunities, total debt to total assets, total assets and cash flows and dividend per share on market price per share

(The results are based on pooled cross-sectional data of 32 Nepalese organizations with 251 observations for the period 2003/04-2012/13 by using linear regression model. The model is $MPS_{it} = \beta_0 + \beta_1 LnSZ_{it} + \beta_2 LEV_{it} + \beta_3 PROF_{it} + \beta_4 LnLIQ_{it} + \beta_5 EPS_{it+} \beta_6 IO_{it} + \beta_8 DPS_{it} + \varepsilon it$*)*

Models	Intercept	Regression Coefficient							R^2	SEE	F
		EPS	PRO	IO	TD/ TA	TA	CF	DPS			
(1)	434.95 (5.04)	11.27 (8.59**)							0.24	993.37	73.80
(3)	519.74 (4.27)		17.94 (4.21**)						0.068	1106.61	0.00
(4)	-161.93 (-2.49)			232.53 (22.00**)					0.67	649.19	484.01
(5)	895.56 (6.52)				0.386 (0.27)				0.40	1147.05	0.08
(6)	-1967.27 (-2.50)					130.29 (3.68**)			0.05	1114.60	13.61
(7)	-1449.17 (-2.41)						121.87 (3.98**)		0.06	1112.21	15.86
(8)	238.42 (3.14)							23.89 (13.35**)	0.43	857.70	175.21
(9)	855.98 (6.42)				0.51 (0.36)				0.3	1148.49	0.65
(10)	-348.36 (-4.97)	3.27 (7.21**)		183.14 (20.78**)					0.77	540.78	267.29
(11)	-941.98 (-2.93)	6.14 (7.08**)	5.07 (2.02**)	211.86 (20.16**)	0.089 (0.12)		37.31 (2.23**)		0.79	586.75	129.31
(12)	-1186.08 (-3.08)	2.95 (3.42**)		179.96 (17.57**)		38.67 (2.20**)		10.01 (6.26**)	0.73	562.35	150.12

Note:

1 '**' represents 1% level of significance
2 '*' represents 5% level of significance
3. Figures in parentheses are t-values

The regression of independent variables on price earning ratios produced the results as indicated in table 5.

The table shows that beta coefficient for total debt to total assets is negative with price earning ratio. It indicates that increase in debt to total assets leads to decrease in price earning ratio of total sampled enterprises. However, the beta coefficient for cash flow is positive indicating that increase in cash flow leads to increase in price earning ratio. Similarly the beta coefficient for investment opportunities is also positive relation with price earnings ratio. The positive coefficients have been observed for total EPS, DPS, profitability and firm size. The result hence, indicates that higher the investment opportunities, EPS, DPS, profitability and firm size higher would be the price earnings ratios. Similarly, higher the debt to equity ratios lower would be the price earnings ratios.

Table 5: Regression of earnings per share, dividend per share, profitability, investment opportunities, total debt to total assets, total assets and cash flows on price earnings ratio for total sample

(The results are based on pooled cross-sectional data of 32 Nepalese organization with 251 observations for the period 2003/04-2012/13 by using linear regression model. The model is $PE_{it} = \beta_0 + \beta_1 LnSZ_{it} + \beta_2 LEV_{it} + \beta_3 PROF_{it} + \beta_4 LnLIQ_{it} + \beta_5 EPS_{it+} \beta_6 IO_{it} + \beta_7 DPS_{it} + \varepsilon it$ *)*

Models	Intercept	Regression coefficients							R^2	SEE	F
		EPS	DPS	PRO	IO	TD/TA	TA	CF			
(1)	1.23 (0.03)	0.20 (0.37)							0.004	407.20	0.14
(2)	-1.67 (-0.045)		0.40 (0.45)						0.004	412.53	0.21
(3)	-10.10 (-0.23)			0.82 (0.57)					0.003	418.00	0.32
(4)	-25.24 (0.63)				7.43 (1.19)				0.002	406.96	1.4
(5)	57.01 (1.09)					-0.56 (-1.08)			0.001	416.25	1.16
(6)	-479.14 (-1.54)						21.85 (1.6)		0.007	415.00	2.51
(7)	-340.10 (-1.41)							17.72 (1.45)	0.005	423.05	2.11
(8)	-306.23 (-1.23)				7.14 (0.99)	-0.583 (-1.06)		16.75 (1.36)	0.007	422.74	1.50
(9)	-620.14 (-1.71)	0.12 (0.17)	-1.25 (-0.88)	1.21 (0.59)	10.91 (1.26)	)	33.63 (1.09)		0.05	426.22	0.85

IV. Summary and conclusion

The stock market plays a pivotal role in the growth of the industry and commerce of the country that eventually affects the economy of the country to a great extent. It works as the channel through which the public savings are channelized to industrial and business enterprises.Stock market indices have become an indication of the health of the economy of a country which indicates the importance of stock markets. There are various factors that affect the share prices in the stock market in any economy.

The major purpose of this study is to find the factors affecting share prices of Nepalese banking and non banking enterprises. The study is based on the secondary data analyses which are collected from14 banks and 18 non-banks in Nepal from 2003/04 to 2012/13, leading to the total of 251 observations.

The result shows that market price per share is positively correlated with dividend per share, earning per share, price earnings ratio, return on equity, investment opportunities, leverage, total assets and cash flows. It indicates that increase in dividend per share and earning per share leads to increase in market price per share. Beta coefficient for the earning per share, return on equity and investment opportunities is positive with MPS. It indicates that increase in earning per share, return on equity and investment opportunities leads to increase the market price of the shares of all sample enterprises. Similarly, the positive coefficients have been observed for total assets, cash flows, and dividend per share in all the equations. The coefficient are significant for earning per share, return on equity, investment opportunities, total assets, cash flows, and dividend per share. The result hence, indicate that higher the cash flow and dividend per share higher would be the stock price per share of

all sample enterprises. Price earnings ratio is positively correlated with dividend per share, earning per share, return on equity. Whereas it is negatively correlated with total debt to total equity which indicates that increase in total debt to total equity leads to decrease in price earning ratio.Beta coefficient for total debt to total assets is negative with price earning ratio.

The major conclusion of this study is that that share price affects the value of the enterprise. Earnings per share, profitability and size are the major determinants of market price per share of banks and non-banks in Nepal, and there is little group specific importance of the determinants of share price in Nepal This study concludes that dividend per share was found to be positively related with market price per share. Other variables such as earnings per share, profitability, investment opportunities, size and liquidity found to have positive relationship with market price per share.

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Relationship between CSR Activities and Corporate Governance in Nepalese Commercial Banks

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Abstract

This study examines the effect of firm size, board size, public ownership, foreign ownership, audit committee, ROA, and ROE on CSR activities. The CSR activities are selected as dependent variables. Firm size, board size, public ownership, foreign ownership, audit committee, ROA, and ROE are the independent corporate governance variables. The data are collected from the banking and financial statistics published by Nepal Rastra Bank and annual reports of the sample banks. In addition to these, different published articles, reports, books and magazines are also analyzed. The information regarding compliance of legal provisions on corporate governance are collected from Regulation and Supervision Department of Nepal Rastra Bank, Company Registrar Office and also from the concerned bank .The regression models are applied to test the significance and importance of corporate governance in the Nepalese commercial banks.

The result shows that foreign ownership and ROE are positively significant at 5 percent level of significance. Similarly, board independence, board size, public ownership, board meeting, and presence of audit committee, firm size and ROA have insignificant relation with CSR activities.

Key Words: Corporate Social responsibility, corporate governance, foreign ownership, Return on Equity.

I. Introduction

Corporate governance has been defined as a system of law and sound approaches by which corporations are directed and controlled focusing on the internal and external corporate structure with the intension of monitoring action of management and directors and thereby mitigating agency risks which may stem from the misdeeds of corporate officers (Sifuna, 2012).The governance structure specifies the distributions of rights and responsibilities among the different participant in the corporation (such as the board of ditectors, managers, shareholders, creditors, auditors, regulators, and other stakeholders) and specifiifes the rules and proscedures for making decisions in corporate aafairs. Government provides the structures throug which corporations set and persue their objectives, while reflecting the context of the social, regulatory nd market environment.

Corporate governance has become a vital subject through the last twenty years (Chapra and Ahmed 2002). This is because the recent high incidence of corporate collapses, such as Enron, WorldCom, HIH Insurance, and Global Crossing, together with the increased global awareness of the need for sound corporate governance based on stakeholder's accountability and financial transparency (McLaren 2004).

Most of the previous studies have examined the impact of the corporate governance mechanisms, including board of directors on voluntary service (Akhtaruddin et al. 2009; Li et al. 2008; Haufang and Jainguo 2007; Zeghal et al. 2007; Barako et al. 2006; Gul and Leung 2004; Eng and Mak 2003; Ho and Wong 2001). Other studies have been investigated the association between the board of directors' structure and CSR in non-financial industry (AbdurRouf 2011; Said et al. 2009; Rashid and Lodh 2008; Buniamin et al. 2008; Haniffan and Cooke 2005). However, scarce studies have examined the influence of the board of directors' attributes on CSR in the financial sector (Barako& Brown, 2008; Khan, 2010).

In the literature of social and environmental accounting, a number of studies agree that CSR disclosure can be used by companies to mitigate legitimacy threat and decrease the legitimacy gap (e.g., Chen et al. 2008; Deegan et al. 2002; Deegan et al. 2000). Consequently, legitimacy theory suggests that the top management of organizations is responsible to meet legitimacy gap, and practice necessary social activities and provide to the different groups of stakeholders to include accountability. Therefore, the corporate governance structure of board of directors (board size, board composition, and the separation roles of CEO and chairman) is expected to play an important function in decreasing legitimacy gap by expanding the disclosures of CSR.

The purpose of this paper is to investigate the corporate social responsibility (CSR) reporting information of Nepalese listed commercial banks and explores the potential effects of corporate governance (CG) elements on CSR activities

The remainder of this paper is organized as follows: section two describes the sample, data, and methodology. Section three presents the empirical results and the final section draws conclusions and discussion the implications of the study findings

II. Methodology aspects

The study is based on the secondary data which were gathered for 20 banks in Nepal .The main source of data are banking and financial statistics published by Nepal Rastra Bank which is supplemented by NRB directives, legal provision incorporated in Company's Act, 2063 and concerned by- laws regarding corporate governance, the provisions on Bank and Financial Institutions Act, 2063; Supervisions reports Nepal Rastra Bank and so on. The data were collected on firm size, board size, public ownership, foreign ownership, audit committee, ROA, ROE and CSR activities.

The research design adopted in this study is causal comparative type as it deals with relationship of corporate governance mechanism and controls variables with bank performance.

These data were collected for the period 2009/2010-2013/2014. Table 1 shows the number of commercial banks selected for the study along with the study period and number of observation.

Table 1: Selection of companies, period of study and number of observations

S. N.	Particulars	Study Period	Number of samples
1	Nepal credit and Commerce Bank	2010- 2014	5
2	Bank of Kathmandu	2010- 2014	5
3	NIC Asia Bank Limited	2010- 2014	5
4	Prime bank	2010- 2014	5
5	Agriculture Development Bank	2010- 2014	5
6	Citizen Bank international ltd	2010- 2014	5
7	Sunrise bank	2010- 2014	5
8	Janata Bank Limited	2010- 2014	5
9	Machhapuchre Bank	2010- 2014	5
10	Laxmi Bank	2010- 2014	5
11	Nepal Investment Bank	2010- 2014	5
12	Siddhartha Bank	2010- 2014	5
13	Himalayan bank	2010- 2014	5
14	NABIL bank	2010- 2014	5
15	Everest Bank	2010- 2014	5
16	Standard and chartered bank	2010- 2014	5
17	Nepal Bangladesh Bank Ltd	2010- 2014	5
18	Kumari bank ltd	2010- 2014	5
19	NMB	2010- 2014	5
20	Nepal SBI bank	2010- 2014	5
Total number of observations			**100**

Source: www.nrb.gov.np

The Model

CSR = f (CG), Hence CSR = f (BS, BM, PO, FO, AC, FS, ROA and ROE)

More Specifically,

$CSR= \beta_0+ \beta_i v_{ij}+ e_{ij}$

Where, performance will be measured under two proxies:-

CSR = Natural log of total CSR amount.

β_i= explanatory variables of corresponding independent variables where i= 0,1,2,3,4,5,6,7

V_{ij} = independent variable

e_{ij} = error terms

Under this basic model we formulated the following regression model:

$CSR= \beta_0+ \beta 1\ BS+ \beta_2 PO + \beta_3 FO + \beta_4 BM + \beta_5 AUD+ \beta_6 ROA +\beta_7 ROE_{+} e_{ij}$

$\ln(CSR) = \beta_0 + \beta 1\ BS+ \beta_2\ PO + \beta_3\ FO + \beta_4\ BM + \beta_5 AUD+ \beta_6\ ROA +\beta_7 ROE_{+} e_{ij}$

The dependent variable: The dependent variable of the study is corporate social responsibility which means natural log of amount of corporate social responsibility.

The independent variables: The independent variables are: board size (number of board members in the firm), number of public ownership, foreign ownership (value 0 if the bank is not owned by foreign banks and 1 if owned), board meeting (number of board meeting

held in a year)composition of audit committee (a dichotomous variable, assigned 1 if there are at least 3 non-executive directors on the audit committee, otherwise 0, ROA, ROE and firm size (as reported in the bank annual report).

Board size

Empirical evidence in corporate governance suggests that the board size impact the level of controlling, monitoring, and disclosure (Akhatruddin et al. 2009; Chaganti et al. 1985). The benefit of larger boards is an increase the company value, because they provide a firm with specialists' members from different fields of expertise. In addition, boards with more members are having the capability of better monitoring, and therefore, are having the ability to practice their function effectively related to governance and disclosure. The most important advantage of the great number of members is that they have more capacities to solve problems. Although of these benefits of larger boards, they have a negative impact on decision making and the costs that could overweight the advantages (Lipton and Lorsh 1992). An increase the number of board's members leads to problems in coordination (Jensen 1993), and makes them less effective to monitor top managers (Yermack 1996).

H_1: there is positive significant relationship between Board size and CSR Activities.

Board composition

The independent board of directors is considered to be the main corporate governance structure. It is expected that directors' independence can strengthen the board by monitoring the management behaviour, and protecting the investors' interests (Petra 2005), as well as reducing agency cost (Choe and Lee 2003). Because of the importance function of the non-executive of the directors' board, UK firms tended to raise the number of independent directors (Higgs 2003; Hampel 1998). The possible reasons are that: outside board's members have good skills and experiences (Kor and Misangyi 2008); they are lower informed and more effective monitoring (Linck et al. 2008); and Facing the un-desirer CEO's decisions (Rachdi and Ben-Ameur 2011).

H2: Public ownership has positive influence on CSR.

H3: Foreign ownership has positive influence on CSR.

Audit Committee

An active audit committee should be expected by an effective monitoring mechanism. As a best practice, audit committee meeting should be conducted at least once a year without the presence of executive board members (Norman, Takiah&Mohd, 2009). The role of audit committee is to help produce high quality financial reporting. Thus, this will reduce agency cost and lead to greater quality of disclosures (Forker, 1992).

H4: There is a relationship between audit committee and corporate social Responsibility

III. Presentation and analysis

Descriptive Result

In this section descriptive statistics of dependent and independent variables of the study is shown in the Table 2. Mean, maximum, minimum, median and standard deviation values are included in the table below. These figures give overall description about data used in the regression models.

Table2 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CSR	100	0.000	15.700	10.96147	3.496434
Board Size	100	5.000	10.000	7.74000	1.001211
Public Ownership	100	0.000	5.000	2.18000	0.845427
Foreign Ownership	100	0.000	1.000	0.35000	0.479372
Board Meeting	100	5.000	23.000	11.72000	3.609975
Audit Committee	100	.000	1.000	0.89000	0.314466
Firm Size	100	21.573	25.238	24.15069	0.612973
ROA	100	-.987	8.151	1.68706	1.081777
ROE	100	-6.137	47.872	17.16710	9.124590
Valid N (list wise)	100				

This section of the study presents the results and discussion of the descriptive analysis. The firm specific variables used in this study are of firm size, board size, public ownership, foreign ownership, audit committee, ROA, ROE and CSR activities. This descriptive statistics we can minimum value of CSR is 0 where as maximum is 15.70 with mean value of 10.96147 which have the standard deviation with 3.496434. It is evident that the board size ranges from 5 to 10 persons, leading to the average number of board size to be 7.74 persons. The firm size ranges from Rs 21.57 million to Rs25.24 million, leading to the average firm size of Rs 24.15 million. The Board Meeting ranges from 5times to 23 times, leading to the average board meeting of 11.75 times.

Correlation Analysis

Having indicated the descriptive statistics, the Pearson correlation coefficients have been computed. The correlation coefficients show the extent and direction of the linear relationship between bank efficiency and variables affecting it. The Pearson's correlation coefficients of bank efficiency have been computed and the results are presented in table 3. The firm specific variables used in this study are of firm size, board size, public ownership, foreign ownership, audit committee, ROA, ROE and CSR activities. The correlation analysis has been carried out to investigate the effect of firm size, board size, public ownership, foreign ownership, audit committee, ROA, ROE on CSR activities of Nepalese commercial bank. The correlation measures the strength of the linear relationship between variables. Table 3 presents the results of correlation analysis.

Table 3: Correlations matrix for the dependent and independent ariables

Ratios	CSR	Board Size	Public Ownership	Foreign Ownership	Board Meeting	Audit Committee	Firm Size	ROA	ROE
CSR	1								
Board Size	-0.17	1							
Public Ownership	0.058	.450**	1						
Foreign Ownership	.301**	-.314**	-.207*	1					
Board Meeting	0.085	.214*	.420**	-0.13	1				
Audit Committe	0.19	-0.028	0.037	-0.077	-0.116	1			
Firm Size	0.14	0.003	-0.012	.323**	0.112	-0.111	1		
ROA	0.188	-.296**	0.081	.269**	-0.009	0.136	.251*	1	
ROE	.210*	-.385**	-0.185	.393**	0.055	0.055	.463**	.803**	1

Table shows that board size is negatively correlated with CSR activities. It indicates that increase in board size leads to decrease the CSR activities. Foreign ownership and ROE are positively significant at 5 percent level of significance. Similarly, board independence, board size, public ownership, board meeting, and presence of audit committee, firm size and ROA have insignificant relation with CSR activities. It indicates that with the increase in the foreign ownership will increase the CSR activities in the commercial banks in Nepal. Also ROE and CSR activities significant relationship indicates that increase in ROE will increase in CSR activities.

Regression Analysis:

The regression of corporate governance and control variables on corporate social responsibility has been analyzed. The regression of corporate governance variables and control variables on corporate social responsibility produced the result is indicated in Table 4.

The table 4 indicates that a beta coefficient for foreign ownership is positive and significant at 1 percent level of significance. It indicates that larger the participation of foreign owners, higher would be expenses on CSR related activities. Likewise, the beta coefficient for return on equity is also positive and significant. It indicates that higher the ROE, larger the expenses on CSR related activities.

Table 5: Regression of corporate governance and control variables on CSR

The results are based on pooled cross sectional data of 20 banks with 100 observations for the period 2009/10- 2013/14 by using linear regression model. The model is, $CSR = \beta_0 + \beta 1 BS + \beta_2 PO + \beta_3 FO + \beta_4 BM + \beta_5 AUD + \beta_6 ROA + \beta_7 ROE_{+} e_{ij}$

Model	intercept	Regression Coefficients of CSR								Adj. R2	SEE	F
		PO	FO	BM	AC	ROA	ROE	FS	BS			
1	10.439	0.24 (0.57)								0.007	3.51	0.33
2	10.19 (24.52)		2.19 (3.12*)							0.08	3.35	9.47
3	9.99 (8.36)			0.083 (0.085)						0.003	3.5	0.718
4	9.08 (8.73)				2.115 (1.92)					0.026	3.45	3.68
5	9.94 (15.48)					0.607 (0.061)				0.025	3.45	3.59
6	9.577 (13.02)						0.08 (2.13*)			0.35	3.44	4.54
7	-8.38 (-0.608)							0.801 (1.404)		0.1	3.48	1.97
8	0.638 (1.34)								-0.593 (-1.71)	0.01	3.46	2.91
9	12.29 (4.18)	0.638 (1.34)	2.132 (2.894)	0.091 (0.094)					-0.585 (-1.52)	0.097	3.32	3.65
10	2.76 (0.18)	0.56 (1.03)	2.1 (2.64)	0.112 (1.02)	2.47 (2.27)	-0.05 (-0.08)	0.014 (.167)	0.274 (0.411)	-0.525 (-1.27)	2.112	3.3	2.56

Notes: Figures in the parenthesis are t-values
The asterisk (**) and (*) indicates that the results are significant at 1 percent and 5 percent.
Dependent variables are corporate social responsibility.

IV. Summary and conclusion

Corporate governance is a system by which companies are directed and controlled. Corporate governance is the way in which the suppliers of finance to corporation ensure themselves of getting a return on their investments. Corporate governance is concerned which the ways and means by which the government of a company (the directors) is made responsible to its electorate (the shareholders).

This study aims at examining the relationship between corporate governance and corporate social responsibility in Nepal's banking sector. It determines the effects of firm size, board size, public ownership, foreign ownership, audit committee, ROA, ROE on CSR activities of Nepalese commercial bank. The study is based on pooled cross-sectional analysis of secondary data of 20 banks for the period 2009/2010-2013/2014. As a first approximation to the theory, this study hypothesizes that the bank performance depends on several corporate governance variables and control variables such as firm size, board size, public ownership, foreign ownership, audit committee, ROA, ROE and CSR activities of Nepalese commercial bank. The study reveals that foreign ownership and ROE are positively significant at 5 percent level of significance.

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Capital structure choice of commercial banks around South Asia: The role of country specific determinants with special reference to Nepal

Arjun Gautam

Abstract

The aim of this study is to examine the influence of macroeconomic factors on corporate capital structure of commercial banks of selected South Asian countries. The ratio of total debt to total assets, long term debt to total assets and short term debt to total assets are taken as the dependent variables. The country specific variables such as inflation, GDP growth rate, ratio of stock market capitalization to GDP, ratio of quasi money supply to GDP and discount rate on 91 days T-bill are taken as independent variables. The study is based on panel data of commercial banks of South Asian countries, namely, Bhutan, India, Nepal, Pakistan and Sri-Lanka. The study period is chosen from 2001 to 2013

This study reveals that the impact of country specific variables on capital structure choice is not same for the commercial banks of South Asian countries. The impact of ratio of quasi money supply to GDP is negatively significant with the total debt ratio for Nepal. The impact of GDP growth rate and discount rate on 91 days T-bill is negatively significant with the total debt ratio for India. In case of Sri-Lanka, the impact of GDP growth rate has been found to be negatively significant with the total debt ratio. Factors such as inflation and discount on 91 days T-bill have negative impact on the long term debt ratio of commercial bank of India whereas GDP growth rate and ratio of stock market capitalization to GDP were found to be positively significant with long term debt ratio for Sri-Lanka. Similarly, factors such as GDP growth rate, ratio of quasi money supply to GDP and ratio of stock market capitalization to GDP were found to be negatively significant for long term debt ratio of commercial banks of Bhutan. Lastly, the impact of inflation, GDP growth rate, ratio of stock market capitalization to GDP, ratio of quasi money supply to GDP and discount rate on 91 days T-bill were not found to be significant with the short term debt ratio of commercial banks of selected countries.

Keywords: total debt ratio, long term debt ratio, short term debt ratio, inflation, GDP growth rate, ratio of stock market capitalization to GDP, ratio of quasi money supply to GDP and discount rate on 91 days T-bill.

I. Introduction

Capital structure and its influence on the firm financial performance and overall value have remained as an issue of great attention among financial scholars. The relationship between capital structure and firm value has been the subject of considerable debate. Throughout the literature, debate has been centered on whether there is an optimum capital structure for an individual firm or whether the proportion of debt usage is irrelevant to the individual firm's value. Especially significant is Modigliani and Miller's (MM) capital structure theory of 1958, which showed that, given a company's investment policy and not taking taxes and transaction cost into account, the choice of financial policy does not affect the current market value of the company.

Capital structure is the mix of debt and equity used to finance the operation of a firm. Capital structure is how a firm finances its overall operations and growth by using different sources of funds. Companies which do not formally plan their capital structures are likely to have uneconomical and imbalanced capitals structures and could face unforgivable difficulties in raising capital on favorable terms in the long-run (Wippern, 1996).

Capital structure and strategic planning is required in order to select effective resources to achieve the goal of shareholders wealth maximization (Fix, 2003). Companies make their financial decisions according to the source of financing and capital structure based on the company's internal characteristics and doubtless on the macroeconomic conditions and country specifics which is the external factor.

The capital structure and its adjustment can be influenced by internal and external factors it also called determinants of capital structure. The source of financing firstly prefers retained earnings as internal source, then debt, and at least new equity issues (Myers, 1984).Thus, profitable companies have opportunity to use their profits and consequently have lower debt ratio among industry they operate. In fact, internal factors and their impact can be managed by a company, at the same time macroeconomic factors cannot be controlled by the managers. However, both firm specific and country specific determinants have a significant influence on the corporate capital structure. The knowledge about the level, direction and power of their impact support companies to make effective decisions.

Several studies have been conducted to examine the relationship between corporate capital structure and external factors. Bastos (2009) argued that inflation does not influence the capital structure. However, Camara (2012) revealed that macroeconomic conditions included inflation rate have significant relation with capital structure.
Bokpin (2009) found that there is negative relation between GDP and capital structure. Inflation and short-term debt to equity ratio has positive relation. Interest rate significantly positively influences capital structure. Development in banking sector positively influences capital structure. There is a negative relation between stock market development and short-term debt.

Gross domestic product is the sum of money value of all final goods and services produced within the domestic territory of a country during a year. The study in Nigeria on financial structure and economic growth states that macro econometric model confirmed an indirect relationship between financial structure and economic growth through banking sector domestic credit to the economy (Afangideh, 2008) . There is a negative and significant relation between corporate capital structure and GDP as well as GDP growth (Dincergok, 2011).

Muthama (2013) stated that the macro economic factors have pronounced influence on the capital structure of the listed companies. GDP growth rate is found to have a positive influence on long term debt ratio and a negative influence on total debt ratio and short term debt ratio. Inflation on the other hand had a negative influence on the short term debts while interest rates as measured by the treasury bills have a positive influence on the long term debt ratio and total debt ratio and a negative influence on short term debt ratio.

The capital structure decision is inversely related to the economic conditions for the relatively unconstrained sample of firms, whereas it is pro-cyclical for the relatively constrained sample of firms (Korajczyk and Levy, 2003). However, several theories of capital structure have concentrated on the relationship between capital structure and firm specific variables in an attempt to explain the presence of an optimal capital structure. For example, presence of favorable tax treatment of interest payments and bankruptcy costs associated with increasing debt lead to the notion of an optimal capital structure which maximizes the value of the firm and respectively minimizes its average cost of capital.

From the macroeconomic perspective, the theories of capital structure state that tax shield, assets structure, profitability, firm size, growth opportunities, risk , liquidity, industry class and product uniqueness are the firm specific key attributes which determine the capital structure. Besides the firm specific attributes discussed by various researchers several macroeconomic factors, such as economic growth rate, inflation rate, capital market development, government policies etc. also significantly influence capital structure decision of the firms (Titman and Wessel, 1988).

International studies comparing differences in the capital structure between countries started to appear only during the last few decades. In a study of seven advanced industrialized countries, Rajan and Zingales (1995) concluded that common firm-specific factors significantly influence the capital structure of firms across countries; several country-specific factors also play an important role.

Booth et al. (2001) found that capital structure decisions of firms in these countries are affected by the same firm-specific factors as in developed countries. However, the study also found that there are differences in the way debt ratio is affected by country-specific factors such as GDP growth and capital market development. They conclude that more research needs to be done to understand the impact of institutional factors on firms' capital structure choices.

In a study on macroeconomic conditions and firm's choices of capital structure, Riaz (2014) confirmed that the key economic factors have an influence on capital structure decisions of Pakistan's manufacturing firms. The findings of this study showed that GDP growth rate of Pakistan has a significant negative association with debt ratios whereas mix results are found while analyzing the relationship between lending rate and three debt ratios. The aim of this study is to investigate the role of key economic factors in strategic financial decisions of the listed firms from Pakistan's major manufacturing sectors.

This study aims at examining the ability of country specific variables like inflation, GDP growth rate, ratio of stock market capitalization to GDP, ratio of quasi money supply to GDP and discount rate on 91 days T-bill to explain the capital structure choice of the commercial banks of South Asian countries.

The remainder of this study is organized as follows. Section two describes the sample, data and methodology. Section three presents the empirical result and final section draws conclusions and discusses the implications of the study findings.

II. Methodological aspects

The study is based on the secondary data which were gathered for commercial banks of South Asian countries for the period 2001 to 2013, leading to the total observation of 13 years observations. The secondary data have been obtain from data base maintain by the central banks of each sampled country and data base of World Bank statistics.

The panel data analysis has been undertaken in the study. The research design adopted in this study is causal relational types as it deals with relationship of debt ratio of the firm with country specific determinants such as inflation, GDP growth rate, ratio of stock market capitalization to GDP, ratio of quasi money supply to GDP and discount rate on 91 days T-bill.

These data were collected for the period 2001to 2013. Table 1 shows the name of sample countries whose aggregate financial information of commercial banks has been for the study along with the study period and number of observations years.

Table 1: Countries selected for the study along with number of observations

Country	Sample period	Number of observations
Nepal	2001 to 2013	13
India	2001 to 2013	13
Sri-Lanka	2001 to 2013	13
Pakistan	2001 to 2013	13
Bhutan	2001 to 2013	13

The study used panel data for the purpose of analysis. The theoretical statement of the model is that the total debt ratio, long term debt ratio and short term debt ratio may be regarded as subject to constrains of inflation, GDP growth rate, ratio of stock market capitalization to GDP, ratio of quasi money supply to GDP and discount rate on 91 days T-bill. The equation to be estimated has been specified as under

Model 1: $TDR = \alpha + \beta_1 INF + \beta_2 SC + \beta_3 GGR + \beta_4 DR + \beta_5 M2 + er$

Model 2: $LTDR = \alpha + \beta_1 INF + \beta_2 SC + \beta_3 GGR + \beta_4 DR + \beta_5 M2 + er$

Model 3: $STDR = \alpha + \beta_1 INF + \beta_2 SC + \beta_3 GGR + \beta_4 DR + \beta_5 M2 + er$

Where,

TDR = Total debt ratio i.e. total debt to total assets, LTDR = Long term debt ratio i.e. long term debt to total assets, STDR = Short term debt ratio i.e. short term debt to total assets, INF= inflation, SC= ratio of stock market capitalization to GDP, GGR= GDP growth rate, DR= Discount rate on 91 days T-bill and M2 = ratio of quasi money supply to GDP.

III.The Results

Descriptive statistics

Table 2 shows descriptive statistics of the selected variables for five South Asian countries. It is observed that the average total debt ratio is highest for the commercial banks of Bhutan i.e. 100.68 percent with the standard deviation of 6.88 percent. The average long term debt ratio is observed to be highest for commercial banks of Sri-Lanka i.e. 59.95 percent with standard deviation of 9.14 percent. The lowest short term debt ratio is observed to be 33.07 percent with standard deviation of 12.98 percent for the commercial banks of Sri-Lanka. The average inflation is 7.06 percent, 7.13 percent, 9.89 percent, 9.11 percent and 3.94 percent for Nepal, India, Sri-Lanka, Pakistan and Bhutan respectively. Moreover, the highest average GDP growth rate is observed for India i.e. 7.05 percent.

Table 2: Descriptive statistics (mean and standard deviations) of the selected variables for South Asian countries.

Country	Nepal		India		Sri-Lanka		Pakistan		Bhutan	
Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TDR (%)	97.67	4.23	89.74	5.11	93.02	3.96	95.46	1.17	100.68	6.88
LTDR (%)	22.37	4.67	11.63	1.92	59.95	9.14	24.04	1.87	25.5	8.79
STDR (%)	75.29	8.52	78.11	4.58	33.07	12.98	71.42	2.63	75.18	10.97
INF (%)	7.06	2.89	7.13	3.06	9.89	5.12	9.11	4.94	3.94	7.12
GGR (%)	3.94	1.4	7.05	2.35	5.68	2.59	4.07	2.04	5.5	3.78
M2 (%)	65.36	12.85	69.68	7.34	38.43	2.34	43.21	3.76	60.51	6.66
SC (%)	23.55	13.84	64.03	33.96	22.22	9.93	23.58	11.39	16.34	2.9
DR (%)	4.2	2.43	6.98	1.5	10.78	4.33	8.8	3.66	4.03	1.47

The descriptive statistics also shows that the average lowest ratio of quasi money supply to GDP and ratio of stock market capitalization to GDP is for Sri-Lanka i.e. 38.43 percent and 22.22 percent. In addition, the average discount rate on 91 days T-bill is observed to be lowest for Bhutan i.e. 4.03 percent with the standard deviation of 1.47 percent.

Correlation analysis

Having indicated the descriptive statistic of debt ratio and macroeconomic condition of five South Asian countries, the Pearson Correlation Coefficients have been computed and the results are presented from Table 3 to Table 5. Among the determinants of total debt ratio, the highest correlation has been observed to be 0.616 between ratio of quasi money supply to GDP and total debt ratio of commercial banks of Nepal. Similarly, the highest correlation has been observed to be 0.623 between total debt ratio and ratio of quasi money supply to GDP, 0.793 between total debt ratio and GDP growth rate, 0.838 between total debt ratio and discount rate on 91 days T-bill and 0.538 between total debt ratio and ratio of quasi money supply to GDP respectively for India, Sri-Lanka, Pakistan and Bhutan.

Table 3: Computation of correlation coefficients of total debt ratio for commercial banks of South Asian countries with its determinants

Country	Inflation	GDP Growth Rate	Ratio of quasi money supply to GDP	Ratio of stock market capitalization to GDP	91 days T-Bill discount rate
Nepal	-.405	-.052	-.616*	-.083	-.296
	(.170)	(.865)	(.025)	(.788)	(.326)
India	-.406	-.457	-.623*	-.529	-.538
	(.169)	(.117)	(.023)	(.063)	(.058)
Sri-Lanka	.049	-.793**	.307	-.716**	-.110
	(.873)	(.001)	(.308)	(.006)	(.721)
Pakistan	-.580*	.631*	.776**	.342	-.838**
	(.038)	(.021)	(.002)	(.253)	(.000)
Bhutan	-.118	-.055	.538	-.136	.195
	(.700)	(.858)	(.058)	(.658)	(.523)

*Notes:'**' Sign indicates that Correlation is significant at the 1 percent level and '*' indicates Correlation is significant at the 5% level. Figures in parentheses are t-values.*

Table 3 indicates that correlation coefficient for inflation is negative for the majority of countries except Sri Lanka. The negative relation indicates that higher the inflation, lower would be the total debt ratio. The coefficient of GDP growth rate is positive only for commercial banks of Pakistan and negative for rest of the countries. The positive correlation indicates that higher the GDP growth rate, higher would be the total debt ratio of banks. Similarly, the correlation coefficient for ratio of quasi money supply to GDP is negative and significant for both Nepal and India. It indicates that increase in quasi money supply with respect to GDP would decrease the total debt ratio of commercial banks of both Nepal and India. The correlation coefficient of ratio of stock market capitalization to GDP and 91 days T-Bill discount rate is positive for commercial banks of Pakistan and Bhutan respectively.
Table 4 shows that among the determinants of long term debt ratio, the highest correlation for long term debt ratio of commercial banks of Nepal has been observed to be 0.419 with ratio of quasi money supply to GDP. Similarly, the highest correlation has been observed to be 0.802 between long term debt ratio and discount rate on 91 days T-bill, 0.738 between long term debt ratio and ratio of stock market capitalization to GDP, 0.411 between long term debt ratio and inflation and 0.728 between long term debt ratio and ratio of stock market capitalization to GDP respectively for India, Sri-Lanka, Pakistan and Bhutan.

Table 4 shows that the correlation coefficient of inflation is negative for India, Sri-Lanka and Bhutan. It indicates that increases inflation would decrease the long term debt ratio of commercial banks of India, Sri-Lanka and Bhutan. The correlation coefficient of GDP growth rate is negative for Nepal, Pakistan and Bhutan. It indicates that increase in GDP growth rate would decrease the long term debt ratio. Similarly, the correlation coefficient of ratio of quasi money supply to GDP is positive only for Nepal. It indicates that increase ratio of quasi money supply to GDP would increases the long term debt ratio of Nepalese commercial banks. The ratio of stock market capitalization to GDP is negatively correlated with long term debt ratio of commercial banks of Nepal, India, Pakistan and Bhutan. It indicates that decrease in ratio of stock market capitalization to GDP would increase the long term debt ratio of above countries whereas the correlation coefficient of discount rate

is positive for Nepal, Sri-Lanka, Pakistan and Bhutan. It indicates that decrease in discount rate on 91 days T-bill would decrease the long term debt ratio.

Table 4: Computation of correlation coefficients of long term debt ratio for commercial banks of South Asian countries with its determinants

Country	Inflation	GDP Growth Rate	Ratio of quasi money supply to GDP	Ratio of stock market capitalization to GDP	91 days T-Bill discount rate
Nepal	.157	-.019	.419	-.191	.189
	(.610)	(.951)	(.154)	(.531)	(.536)
India	-.741**	.354	-.793**	-.362	-.802**
	(.004)	(.236)	(.001)	(.224)	(.001)
Sri-Lanka	-.076	.643*	-.398	.738**	.078
	(.806)	(.018)	(.178)	(.004)	(.800)
Pakistan	.411	-.225	-.278	-.326	.325
	(.163)	(.459)	(.357)	(.277)	(.279)
Bhutan	-.576*	-.098	-.642*	-.728**	.199
	(.039)	(.749)	(.018)	(.005)	(.514)

*Notes:'**' Sign indicates that Correlation is significant at the 1 percent level and '*' indicates Correlation is significant at the 5% level. Figures in parentheses are t-values.*

The correlation analysis of short term debt ratio and its determinants of five sampled South Asian countries have been presented in Table 5.

Table 5: Computation of correlation coefficients of short term debt ratio for commercial banks of South Asian countries with its determinants

Country	Inflation	GDP Growth Rate	Ratio of quasi money supply to GDP	Ratio of stock market capitalization to GDP	91 days T-Bill discount rate
Nepal	-.287	-.016	-.536	.064	-.251
	(.342)	(.959)	(.059)	(.836)	(.408)
India	-.141	-.658*	-.362	-.262	-.438
	(.646)	(.015)	(.224)	(.386)	(.135)
Sri-Lanka	.068	-.694**	.374	-.738**	-.088
	(.825)	(.008)	(.208)	(.004)	(.774)
Pakistan	-.552	.443	.545	.385	-.606*
	(.051)	(.130)	(.054)	(.194)	(.028)
Bhutan	.387	.044	.852**	.498	.852**
	(.191)	(.886)	(.000)	(.083)	(.000)

*Notes:'**' Sign indicates that Correlation is significant at the 1 percent level and '*' indicates Correlation is significant at the 5% level. Figures in parentheses are t-value.*

Table 5 shows that among the determinants of short term debt ratio, the highest correlation for short term debt of commercial banks of Nepal has been observed to be 0.536 with ratio of quasi money supply to GDP. Similarly, the highest correlation has been observed to be 0.658 between short term debt ratio and GDP growth rate, 0.738 between short term debt ratio and ratio of stock market capitalization to GDP, 0.606 between short term debt ratio and 91 days T-Bill discount rate and 0852 between short term debt ratio and ratio of quasi money supply to GDP and 91 days T-Bill discount rate of India, Sri-Lanka, Pakistan and Bhutan respectively.

Table 5 also shows that the correlation coefficient of inflation is negative for Nepal, India and Pakistan. It indicates that increase in inflation would decrease the short term debt ratio of commercial banks of Nepal, India and Pakistan. The correlation coefficient of GDP growth rate is positive for Pakistan and Bhutan. It indicates that increase in GDP growth rate would increase the short term debt ratio of commercial banks of Pakistan and Bhutan. Similarly, ratio of quasi money supply to GDP is negatively correlated with short term debt ratio of Nepal and India. It indicates that increase in ratio of quasi money supply to GDP would decrease the short term debt ratio of commercial banks of Nepal and India. The correlation coefficient of ratio of stock market capitalization to GDP is positive for Nepal, Pakistan and Bhutan. It indicates that increase in ratio of stock market capitalization to GDP would increase the short term debt ratio of commercial banks of Nepal, Pakistan and Bhutan. Discount rate on 91 days T-bill is negatively correlated with the short term debt ratio of Nepal, India, Sri-Lanka and Pakistan. It indicates that increase in discount rate on 91 days T-bill would decrease the short term debt ratio of above countries.

Regression results

In order to analyze the effect of inflation, GDP growth rate, ratio of quasi money supply to GDP, ratio of stock market capitalization to GDP and discount rate on 91 days T-bill on capital structure, the regression equations specified earlier are estimated and the results are presented in Tables 6 to 8. As indicated earlier, capital structure has been defined in term of total debt ratio, long term debt ratio and short term debt ratio. The regression of impact of country specific factors on total debt ratio of commercial banks of South Asian countries is presented in Table 6. It indicates that the regression coefficient of inflation is negative for Nepal, India, Pakistan and Bhutan. This indicates that higher the inflation rate, lower would be the total debt ratio. The total debt ratio of commercial banks of Bhutan is better explained by ratio of quasi money supply to GDP as the regression coefficients are positive and significant at 5 percent level of significance. It indicates that large the ratio of quasi money supply to GDP, larger would be total debt ratio.

Table 6: Estimated relationship between macroeconomic variables and total debt ratio of commercial banks of South Asian countries.

The results are based on pooled data of commercial banks of five South Asian countries for the period of 2001 to 2013, leading to the total of 65 observations. The Model is: $TDR = \alpha + \beta_1 INF + \beta_2 SC + \beta_3 GGR + \beta_4 DR + \beta_5 M2 + e$ *where TDR= total debt ratio, INF= inflation, SC= ratio of stock market capitalization to GDP, GGR= GDP growth rate, DR= discount*

rate on 91 days T-bill and M2 = ratio of quasi money supply to GDP.

Country	Model	Intercept	Regression Coefficient of TDR					R square	SEE	F Value
			INF	GGR	SC	DR	M2			
Nepal	1	110.91					-0.203	0.379	3.482	6.710
		21.325					2.59*			
	2	102.791	-0.513			-0.355		0.202	4.138	1.269
		30.125	1.20			0.698				
India	3	102.807	-0.255	-0.978	-0.068			0.505	4.156	3.063
		21.756	0.557	1.913	1.644					
	4	111.490	-0.191	-1.100		-1.806		0.583	3.907	3.883
		16.754	0.445	2.266*		2.061*				
Sri-Lanka	5	101.597	0.135	-1.200		-0.288		0.664	2.651	5.939
		37.064	0.469	3.974*		0.856				
	6	87.203	0.088	-0.788	-0.145	-0.312	0.416	0.786	2.402	5.134
		6.756	0.292	1.943	1.194	0.979	1.326			
Pakistan	7	87.177	-0.104				0.214	0.784	0.598	18.145
		40.961	2.901*				4.551*			
	8	97.292	-0.018	0.007		-0.224		0.714	0.726	7.481
		84.047	0.328	0.548		2.362*				
Bhutan	9	77.494	-0.053	-0.546	-1.055		0.721	0.459	6.195	1.700
		4.116	0.187	0.958	1.305		2.503*			
	10	70.631	-0.081	-0.458	-0.906	0.891	0.729	0.493	6.416	1.359
		3.214	0.272	0.758	1.046	0.677	2.440*			

Table 6 shows that the beta coefficient for GDP growth rate is negative for India, Sri-Lanka and Bhutan. This indicates that if the GDP growth rate increases, total debt ratio of commercial banks of these countries would decrease accordingly. Similarly, regression coefficient for ratio of quasi money supply to GDP is positive for Sri-Lanka, Pakistan and Bhutan. It indicates that increase in ratio of quasi money supply to GDP, would increase the total debt ratio of commercial banks of above countries. The beta coefficient for ratio of stock market capitalization to GDP is negative for India, Sri-Lanka and Bhutan. This indicates that increase in ratio of stock market capitalization to GDP would decrease the total debt ratio of the above countries. Similarly, beta coefficient for discount rate is negative for all sample countries expect Bhutan. It means that increase in discount rate on 91 days T-bill would decrease the total debt of commercial banks of all sampled countries except Bhutan.

Table 7: Estimated relationship between macroeconomic variables and long term debt ratio of commercial banks of South Asian countries

The results are based on pooled data of commercial banks of five South Asian countries for the period of 2001 to 2013, leading to the total of 65 observations. The Model is: LTDR = $\alpha + \beta_1 INF + \beta_2 SC + \beta_3 GGR + \beta_4 DR + \beta_5 M2 + e$ where LTDR= long term debt ratio, INF= inflation, SC= ratio of stock market capitalization to GDP, GGR= GDP growth rate, DR= discount rate on 91 days T-bill and M2 = ratio of quasi money supply to GDP.

Country	Model	Intercept	Regression Coefficient of LTDR					R square	SEE	F Value
			INF	GGR	SC	DR	M2			
Nepal	1	21.175	0.852	-0.162	-0.177			0.184	4.879	0.676
		4.58	1.261	0.145	1.288					
	2	20.470	0.782	-0.143	-0.174	0.247		0.199	5.126	0.497
		3.949	1.067	0.122	1.197	0.390				
India	3	18.796	-0.284			-0.735		0.795	0.956	19.362
		14.367	2.720*			3.462*				
	4	16.628	-0.310	0.265		-0.666		0.897	0.713	26.186
		13.683	3.962*	2.995*		4.160*				
Sri-Lanka	5	101.381	-0.029	2.167			-1.391	0.538	7.173	3.489
		2.791	0.069	2.653*			1.548			
	6	89.745	-0.124	0.523	0.608	0.691	-1.288	0.745	6.040	4.091
		0.164	0.164	0.512	2.00*	0.863	1.633			
Pakistan	7	23.856	0.148		-0.049			0.259	1.763	1.752
		15.514	1.438		1.105					
	8	25.754	0.133	-0.049		0.031		0.176	1.960	0.642
		7.286	0.890	0.129		0.121				
Bhutan	9	95.538	-0.271	-0.805	-2.107		-0.497	0.909	3.242	20.065
		9.696	1.830	2.699*	4.976*		3.297*			
	10	95.736	-0.271	-0.807	-2.111	-0.026	-0.497	0.909	3.466	14.048
		8.065	1.691	2.473*	4.511*	0.036	3.083*			

Table 7 shows that the regression coefficient of inflation is negative for India, Sri-Lanka and Bhutan. It indicates that increase in inflation would decrease the long term debt of commercial of above countries. The beta coefficient for GGR is positive for India and Sri-Lanka. It indicates that increase in GDP growth rate would increase the long term debt of commercial banks of India and Sri-Lanka. The table also shows that the inflation, GDP growth rate and discount rate on 91 days T-bill best describe the long term debt ratio of commercial banks of India as the beta coefficients for inflation and discount rate on 91 days T-bill is negative and positive for GDP growth rate as well as significant at 5 percent level of significance. Similarly, the independent variables i.e. inflation, GDP growth rate, ratio of stock market capitalization to GDP, ratio of quasi money supply to GDP and discount rate on 91 days T-bill best describes the long term debt ratio of commercial banks of Bhutan. GGR, SC and M2 are significant at 5 percent level of significance.

Table 8: Estimated relationship between macroeconomic variables and short term debt ratio of commercial banks of South Asian countries

The results are based on pooled data of commercial banks of five South Asian countries for

the period of 2001 to 2013, leading to the total of 65 observations. The Model is: STDR = α + β_1 INF + β_2SC + β_3 GGR + β_4 DR + β_5 M2 +e where STDR= short term debt ratio, INF= inflation, SC= ratio of stock market capitalization to GDP, GGR= GDP growth rate, DR= discount rate on 91 days T-bill and M2 = ratio of quasi money supply to GDP.

Country	Model	Intercept	Regression Coefficient of STDR					R square	SEE	F Value
			INF	GGR	SC	DR	M2			
Nepal	1	98.517					-0.355	0.287	7.513	4.436
		8.799					2.106*			
	2	80.977	-1.748		0.283			0.200	8.351	1.247
		12.797	1.563		1.210					
India	3	81.894			-0.059			0.191	4.308	2.604
		31.119			1.614					
	4	88.286	-0.166	-1.274				0.445	3.743	4.011
		21.280	0.470	2.768*						
Sri-Lanka	5	57.330	0.562	-3.398		-0.975		0.515	10.443	3.181
		5.310	0.495	2.839*		0.736				
	6	0.453	0.211	-1.311	-0.753	-1.002	1.705	0.757	8.384	4.353
		0.010	0.201	0.926	1.781	0.902	1.556			
Pakistan	7	60.099	-0.244				0.313	0.497	2.044	4.937
		8.270	1.993				1.955			
	8	74.533	-0.152	0.126		-0.255		0.415	2.322	2.132
		20.139	0.846	0.283		0.840				
Bhutan	9	6.830	0.366				1.331	0.780	5.634	17.767
		0.456	1.578				5.358*			
	10	18.068	0.218	0.259	1.052		1.219	0.828	5.579	9.609
		1.066	0.856	0.505	1.443		4.696*			

Table 8 shows that the single independent variable i.e. ratio of quasi money supply to GDP represents 28.7 percent of the dependent variable i.e. short term debt ratio of commercial banks of Nepal. The beta coefficient for M2 is negative as well as significant at 5 percent level of significance. It indicates that increase in M2 would significantly decrease the short term debt of Nepalese commercial banks. Similarly, the regression of inflation and GDP growth rate best describe the short term debt ratio of commercial bank of India. The beta coefficients for these two variables are negative. This indicates that decrease in inflation rate and GDP growth rate would increase short term debt ratio of commercial banks of India. The result is significant only for GDP growth rate. The independent variables such as inflation, GGR, SC, DR and M2 best describe the short term debt ratio position of commercial banks of Sri-Lanka. The results are not significant for either of the variables. Similarly, the regression

inflation, GDP growth rate and ratio of stock market capitalization to GDP best describes the short term debt ratio position of commercial banks of Pakistan. The beta coefficient for inflation and SC is negative but not significant. It indicates that increase in inflation rate and SC would decrease the short term debt ratio position of commercial banks of Pakistan. The table also shows that the variable such as inflation, GDP growth rate, ratio of stock market capitalization and ratio of quasi money supply to GDP best describe the short term debt ratio position of commercial banks of Bhutan. The beta coefficients for all variables are positive but significant for M2 only. It indicates that increase in the rate and ratio of these variables would increase short term debt position of commercial banks of Bhutan.

IV. Summary and conclusion

Since, after the path breaking seminal paper by Modigliani and Miller (1958), a substantial amount of effort has been forwarded in finance literature to determine the factors that influence a firm's choice of capital structure. From the microeconomic perspective, the theories of capital structure state that tax shield, assets structure, profitability, firm size, growth opportunities, risk, liquidity, industry class and product uniqueness are the firm specific key attributes which determine the capital structure (Titman and Wessels, 1988). However, the study also states that the capital structure is merely firms' decision regarding the mix of debt and equity capital, the macroeconomic variables also play significant role in their capital structure decisions.Demirguc-Kunt and Maksimovic (1999), Booth, Demirguc-Kunt and Maksimovic (2001),Claessens, Djankov and Nenova (2001) and Bancel and Mittoo (2004) reveals that a firm’s capital structure is not only influenced by firm-specific factors but also by country specific factors.

The objective of the study is to reveal the empirical relationship between various country specific variables such as inflation, GDP growth rate, ratio of quasi money supply to GDP, ratio of stock market capitalization to GDP and discount rate on 91 days T-bill and capital structure of commercial banks of South Asia.

This study reveals that the commercial banks of Bhutan has the highest average total debt ratio whereas, it was lowest for Indian Banks. The highest average long term debt ratio and short term debt ratio was observed for Sri-Lankan and Indian banks respectively. The highest average inflation and discount rate was observed for Sri-Lanka. Similarly, the highest average GGR, M2 and SC was observed for India. The correlation coefficient was observed to be highest between SC, M2 and short term debt ratio of commercial banks of Bhutan whereas lowest correlation coefficient was observed between GGR and short term debt ratio of commercial banks of Nepal.

To conclude, GDP growth rate and ratio of quasi money supply to GDP have been found to be significant factors affecting the total debt ratio and long term debt ratio of commercial banks of South Asia. Meanwhile, none of the independent variable such as inflation, GDP growth rate, ratio of quasi money supply to GDP, ratio of stock market capitalization to GDP and discount rate on 91 days T-bill has significant impact on short term debt ratio of commercial banks of South Asian countries.

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The impact of credit risk on the performance of Nepalese commercial banks.

Laxmi karki

Abstract

This study examines the impact of credit risk on the performance of Nepalese commercial banks. The performance in terms of return on assets, return on equity and net interest margin are selected as dependent variables. Capital adequacy ratio, non-performing loan ratio, loan and advance to deposit ratio and loan loss provision ratio are taken as independent variables. Similarly leverage, liquidity, deposit, bank size and growth of net interest margin are taken as control variable. The data are collected from bank supervision reports published by Nepal Rastra Bank and annual reports of selected commercial banks. The study is based on 126 observations from 18 commercial banks in Nepal. The regression models are estimated to test the significance and importance of credit risk on the performance of Nepalese commercial banks.

The result shows that capital adequacy ratio, loan loss provision ratio and liquidity have positive and significant impact on ROA. Similarly loans and advance to total deposit ratio and leverage has positive and insignificant impact on ROA. Nonperforming loan ratio and bank size has negative and significant impact on ROA. However, growth of net interest income and deposit has negative and insignificant impact on ROA. Loan loss provision ratio has positive and significant impact on ROE. Likewise, capital adequacy ratio, loans and advance to total deposit ratio, liquidity, growth of net interest income and leverage has positive and insignificant impact on ROE. However, nonperforming loan ratio has negative and significant impact on ROE. Similarly bank size and deposit has negative and insignificant impact on ROE. Capital adequacy ratio and deposit has positive and significant impact on NIM. Likewise, loans and advance to total deposit ratio, loan loss provision ratio, liquidity and bank size has positive and insignificant impact on NIM. However, nonperforming loan ratio, leverage and growth of net interest income have negative and insignificant impact on NIM.

Keywords: Return on assets, return on equity, net interest margin, capital adequacy ratio, loan and advance to deposit ratio, nonperforming loan ratio, loan loss provision ratio, Liquidity, growth of net interest income, leverage, deposit, bank size

I. Introduction

Banks are financial institutions that play intermediary role in the economy through channeling financial resources from surplus economic units to deficit economic units. In turn, they facilitate the saving and capital formation in the economy. Banks are exposed to different types of risks, which affect the performance and activity of these banks, since the primary goal of the banking management is to maximize the shareholders' wealth, so in achieving this goal banks' manager should assess the cash flows and the assumed risks as a result of directing its financial resources in different areas of utilization. Bank plays a vital role to emerging economies where most borrowers have no access to capital markets. Thus, bank is considered as an intermediary between the depositors and borrowers (Campbell, 2007).

At present, minimizing and investigating the degree of systemic risk in banking is major concern of policymakers (Demirgüç-Kunt & Detragiache, 1998). However, when putting an effective risk management in place, some loan turns to be distress in the due course of time for various reasons. It, therefore, understands the drivers of credit risk which is a major issue for financial stability (Bonfim, 2009). In today's environment of intense competitive pressures, volatile economic conditions, rising default rates and increasing levels of consumer and commercial debt, an organizations ability to effectively monitor and manage its credit risk could mean the difference between success and survival (Altman, 2002).

It is evident that the efficient and effective performance of banking industry over time guarantees financial stability of any nation (Oke et al., 2012). The health of financial sector depends chiefly on sound baking system. Failures in financial intermediation can disrupt the development process (Abhiman & Saibal, 2007). In the case of banks, the issue of credit risk is of greater concern because of the higher levels of perceived risks resulting from some of the characteristics of clients and business conditions. Credit risk is the risk that a loan which has been granted by a bank, will not be either partially repaid on time or fully and where there is a risk of customer or counterparty to default.

Effective credit risk management system involved establishing a suitable credit risk environment, operating under a sound credit granting process, maintaining an appropriate credit administration that involves monitoring, processing as well as enough controls over credit risk (Greuning and Bratanovic, 2003). Top management must ensure, in managing credit risk, that all guidelines are properly communicated throughout the organization and that everybody involved in credit risk management understands what is required of him/her. Sound credit risk management system (which include risk identification, measurement, assessment, monitoring and control) are policies and strategies which clearly outline the purview and allocation of a bank credit facilities and the way in which credit portfolio is managed; that is, how loans were originated, appraised, supervised and collected (Pricewaterhouse, 1994).

When banks grant loans, they expect the customers to repay the principal and interest on an agreed date. A credit facility is said to be performing if payment of both principal and interest are up to date in accordance with agreed repayment terms. The non- performing loans (NPL) represent credits which the banks perceive as possible loss of funds due to loan defaults. They are further classified into substandard, doubtful or lost. Bank credit in lost category hinders bank from achieving their set targets. (Kolapo et al, 2012). Capital adequacy in banking business provides protection against sudden financial losses. (Greuning H., 2003) considering the importance policy makers and industry practitioners place on risk management and capital adequacy as a distress prevention strategy, it is crucial to know whether this optimism is truly warranted. It is against this backdrop that the present paper set out to empirically ascertain the impact of credit risk on profitability of Nepalese commercial banks.

Poudel (2012) tried to explore various parameters pertinent to credit risk management and it effect on banks' financial performance. The study found that capital adequacy ratio (CAR) and non performing loan (NPL) are negatively related with return on assets (ROA). It suggested the banks to design and formulate strategies that will not only minimize the exposure of the banks to credit risk but will enhance profitability.

The purpose of this study is to examine the impact of credit risk on the performance of Nepalese commercial banking sectors. Specifically, it examines the impact of capital adequacy ratio, loan and advance to deposit ratio, nonperforming loan ratio, loan loss provision ratio, liquidity, growth of net interest income, leverage, deposit and bank size on the bank performance.

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 section draws conclusions and discuss the implications of the study findings.

II. Methodological aspects

This study is based on the secondary data which are gathered for 18 commercial banks in Nepal. The main sources of data are supervision reports of NRB and various annual reports of different commercial banks. The data were collected on return on assets, return on equity, net interest margin, capital adequacy ratio, loan and advance to deposit ratio, nonperforming loan ratio, loan loss provision ratio, liquidity, growth of net interest income, leverage, deposit and bank size. These data were collected for the period 2007/08- 2013/14.

Table 1 shows the number of commercial banks selected for the study along with the study period and number of observations.

Table 1: Number of commercial banks selected for the study along with study period and number of observations

S.N	Name Of Commercial Bank	Indicator	Study Period	Observation
1.	Nepal SBI Ltd	SBI	2007/2008-2013/2014	7
2.	Everest Bank Ltd	EBL	2007/2008-2013/2014	7
3.	Nabil Bank Ltd	NAB	2007/2008-2013/2014	7
4.	Himalayan Bank Ltd	HBL	2007/2008-2013/2014	7
5.	Standard Chartered Bank Ltd.	SCB	2007/2008-2013/2014	7
6.	Nepal Investment Bank	NIB	2007/2008-2013/2014	7
7.	Bank of Kathmandu	BOK	2007/2008-2013/2014	7
8.	Siddhartha Bank Limited	SBL	2007/2008-2013/2014	7
9.	Lumbini Bank	LBL	2007/2008-2013/2014	7
10.	Machhapuchhre Bank	MBL	2007/2008-2013/2014	7
11.	Kumari Bank Limited	KBL	2007/2008-2013/2014	7
12.	Laxmi Bank Limited	LAX	2007/2008-2013/2014	7
13.	Nepal Credit And Commerce	NCC	2007/2008-2013/2014	7
14.	Citizen Bank	CIB	2007/2008-2013/2014	7
15.	NMB Bank Limited	NMB	2007/2008-2013/2014	7
16.	Sunrise Bank Limited	SRBL	2007/2008-2013/2014	7
17.	Prime commercial bank limited	PCBL	2007/2008-2013/2014	7
18.	Nepal Bangladesh Bank Limited	NBBL	2007/2008-2013/2014	7
	Total Observation			126

Thus, the study is based on 126 observations.

The Model

As a first approximation, the model estimated in this study assumes that the banks' performance depends on several independent variables and control variables. Return on asset, return on equity and net interest margins are the dependent variables. The independent variables considered are capital adequacy ratio, loan and advance to deposit ratio, nonperforming loan ratio, loan loss provision ratio. Similarly, the control variables considered are liquidity, growth of net interest income, leverage, deposit and bank size. Therefore, the model takes the following forms:

Profitability = f (NPLR, CAR, LATDR, LLPR, D, SZ, LQ, L, G)

More specifically,

Model 1:

ROEit = = β0 β0 + β1 NPLRit + β2 CARit + β3 LATDRit+ β4 LLPRit + β5 Dit + β6 lnSZit + β7 LQit + β8Lit + β9Git +eit

Model 2:

ROAit = = β0 β0 + β1 NPLRit + β2 CARit + β3 LATDRit+ β4 LLPRit + β5 Dit + β6 lnSZit + β7 LQit + β8Lit + β9Git +eit

Model 3:

NIMit = β0 β0 + β1 NPLRit + β2 CARit + β3 LATDRit+ β4 LLPRit + β5 Dit + β6 lnSZit + β7 LQit + β8Lit + β9Git +eit

Where, LATDR =loan and advance to total deposit ratio, CAR= Capital adequacy ratio, NPLR = nonperforming loan ratio, LLPR = loan loss provision ratio, SZ= bank size, D = deposit, LQ = liquidity, L = leverage, G = growth of net interest income are independent and control variables and e_{it} is the error term.

Return on assets (ROA)

Return on asset is the ratio of net income and total asset of the company. It measures the efficiency of banks management in generating profit out of its scarce resource. Thus, if the ratio of ROA is high, it indicates that the firm is performing better. Strong bank profitability measured in terms of ROA might result from high lending rate, fees and commission that lead bank growth in size and profitability. It further indicates that the efficiency of the management of the company in generating net income from all the resources of the institution (Khrawish, 2011).

Return on equity (ROE)

It is the amount of net income returned as a percentage of shareholder's equity. ROE tells what percentage of profit the company makes for every monetary unit of equity invested in the company. Khrawish (2011) stated that ROE is the ratio of net income after taxes divided by total equity capital. ROE reflects how effectively a bank management is using shareholders' funds. Thus, it can be deduced from the above statement that the better the ROE the more effective the management in utilizing the shareholder's capital.

Net interest margin (NIM)

Net interest margin measures the gap between the interest income the bank receives on loans and securities and interest cost of its borrowed funds. It reflects the cost of bank intermediation services and the efficiency of the bank. The higher the net interest margin, the higher the bank's profit and the more stable the bank is. Thus, it is one of the key measures of bank profitability. However, a higher net interest margin could reflect riskier lending practices associated with substantial loan loss provisions (Khrawish, 2011).

Nonperforming loan ratio (NPLR)

NPLs are loans that are outstanding both in its principal and interest for a long period of time contrary to the terms and conditions under the loan contract. Any loan facility that is not up to date in terms of payment of principal and interest contrary to the terms of the loan agreement is NPLs. NPL is a loan that delays for the payment of principal and interest for more than 90 days. Deterioration in asset quality is much more serious problem of bank unless the mechanism exists to ensure the timely recognition of the problem. It is a common cause of bank failure. It distresses the performance and survival of banks (Mileris, 2012). Based on it, this study develops the following hypothesis:

H1: Non-performing loan ratio is negatively related with performance.

Capital adequacy ratio (CAR)

Capital adequacy refers to the amount of equity and other reserves which the bank holds against its risky assets. The purpose of this reserve is to protect the depositor from any unexpected loss. Capital adequacy is a measure of bank`s financial strength since it shows the ability to withstand/tolerate with operational and abnormal losses. It also represents the ability to undertake additional business. Makri et al. (2014) found that capital adequacy is the measure of banks solvency and ability to absorb risk. Thus, this ratio is used to protect depositors and promote stability and efficiency of financial systems. Based on it, this study develops the following hypothesis:

H2: Capital adequacy ratio is positively related with performance.

Loan and advance to deposit ratio (LATDR)

Loan to deposits is net loans and losses divided by total deposits Banks accept deposits to lend the same at a higher rate of interest. Loan to deposit ratio shows the degree of conversion of deposits in credits (Dogan, 2013). Commercial Banks are the dealers of money and suppliers of credit. They are the active participants in the process of deposit mobilization and credit creation. Loan and advances is a debt provided by one entity to another entity at certain interest rate. Loan and advances is generally provided at a cost, referred to as interest on the debt, which provides an incentive for the lender to engage in the loan. Based on it, this study develops the following hypothesis:

H3: Loan and advance to deposit is positively related with performance.

Loan loss provision ratio (LLPR)

A loan loss reserve is a contra income account that enables banks to recognize in their profit and loss statements the expected loss from a particular loan portfolio. Depositors are protected against unexpected loss through capital adequacy reserve and protected against anticipated loss through loan loss provision reserve. There was positive relation between ROA and LLP which suggest that bank managers use LLP in managing their present and future earnings (Zoubi & Al-Khazali, 2007). When the amount of Loan Loss Provision increases, the quality of the assets will decrease and vice versa. Based on it, this study develops the following hypothesis:

H4: Loan loss provision ratio is positively related with performance.

Deposit (D)

Deposits are defined as funds placed in a financial institution by economic surplus units such as households, corporations, investors and government. These funds can either be from cash claims to money like checks placed in depositors' accounts, bank loans or money from investments. Deposit is nothing more than the assets of an individual which is given to the bank for safe keeping with an obligation to get something from it. From an institutional perspective, the primary motive for mobilizing savings lies in lower cost of capital compared to other sources of funds. Depositors are one of the aspects of the bank liabilities that management has been influencing through deliberate action (Kishakisi, Vaidya, 1999). Based on it, this study develops the following hypothesis:

H5: Deposits is positively related with performance.

Size (SZ)

Total Assets are the proxy for the size of the bank. If the size of the bank is high, it means the total assets of the bank is also high and when total assets are high, investment will obviously high as a result of which bank will earn more profitability in short period of time. Such investments are also done in different sectors. Then a transformation of natural logarithm is used. Eddy and Seifert (1988) and Fama & French (2000) indicated that large firms distribute a higher amount of their net profits as cash dividends, than small firms. Several studies have tested the impact of firm size on the dividend-agency relationship. Based on it, this study develops the following hypothesis:

H6: Bank size is positively related with performance.

Growth of net interest income (G)

Growth of net interest income can be positive or negative. In regard to banks, net interest income should go up as the yield curve steepens because the bank is able to pay depositors a relatively low rate, but it can charge its borrowers a higher rate. Net interest income is the cash flow banks receive from loans and investments in securities minus interest payments on deposits and other forms of debt. Net interest income is the difference between the revenue generated by a bank’s asset and the expenses generated by a bank’s liabilities.

According to the Samuel & Julius (2012) there is positive and significant relationship between bank growth and profitability. Growth of interest income can be measured by subtracting beginning net interest income from ending net interest income and dividing the result ending net interest income. Based on it, this study develops the following hypothesis:

H7: Growth of net interest income is positively related with performance.

Leverage (L)

Financial leverage is the relative proportions of the debt, equity, and other securities that a firm has outstanding, constitute its capital structure (Demarzo & Berk, 2007). Also, financial leverage is defined as the use of borrowed money to make an investment and return on that investment (Smith, 2002). It is more risky for a company to have a high ratio of financial leverage. Leverage allows a greater potential returns to the investor than otherwise would have been available, but the potential loss is also greater: if the investment becomes worthless, the loan principal and all accrued interest on the loan still need to be repaid (Andy, Chuck, & Alison, 2002). The degree of this financial risk is related to the firm's financial structure. Based on it, this study develops the following hypothesis:

H8: Leverage is negatively related with performance.

Liquidity (LQ)

Bank liquidity is a measure of the ability and ease with which assets can be convened to cash. Liquid assets are those that can be converted to cash quickly if needed to meet financial obligations; examples of liquid assets generally include cash, central bank reserves, and government debt. It is the ability of current assets to meet current liabilities. To remain viable, a financial institution must have enough liquid assets to meet its near-term obligations, such as withdrawals by depositors. Higher liquidity would allow a firm to deal with unexpected contingencies and to cope with its obligations during periods of low earnings (Liargovas & Skandalis, 2008). Based on it, this study develops the following hypothesis:

H9: Liquidity is positively related with performance.

III. Presentation and analysis of data

Descriptive Statistics

The descriptive statistics of dependent variable (return on asset, return on equity and net interest margin), independent variables (capital adequacy ratio, non-performing loan ratio, loan and advance to deposit ratio and loan loss provision ratio) and control variable (bank size, leverage, liquidity, deposit and growth of net interest income) of the study is shown in table 2.

Table 2: Descriptive Statistics

This table shows the descriptive statistics- mean and standard deviation of credit risk variable and performance variable with 18 sample commercial banks from 2007/08 to 2013/14. Here ROA. ROE and NIM are the dependent variables whereas capital adequacy ratio, loan and advance to deposit ratio, Nonperforming loan ratio, and loan loss provision ratio are independent variable. Liquidity, growth of net interest income, leverage, deposit and bank size are control variable.

Descriptive Statistics					
Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA (%)	126	.04	21.93	1.97	2.32
ROE (%)	126	-38.24	72.80	18.15	12.13
NIM (%)	126	.43	7.75	3.27	.94
CAR (%)	126	-18.17	33.96	12.19	4.52
LATDR (%)	126	38.70	96.75	77.10	11.30
NPLR (%)	126	.00	31.73	2.33	4.07
LLPR (%)	126	.000	60.48	3.84	7.20
LQ (%)	126	10.75	70.78	26.63	8.28
G (%)	126	-28.95	80.18	19.49	21.10
L (%)	126	79.05	99.56	90.61	2.97
D(RS.in billion)	126	14.32	18.13	16.89	0.68
SZ (RS.in billion)	126	22.54	25.19	23.97	0.61

The table shows that return on asset ranges from 0.04 percent to 21.93 percent, leading the average return on asset to 1.97 percent. Return on equity has minimum value of -38.24 percent to a maximum of 72.80 percent with a mean of 18.15 percent. The average net interest margin of selected banks during the study period is noticed to be 2.27 percent with minimum ratio of 0.43 percent and a maximum of 7.75 percent.

The capital adequacy ratio of selected banks ranges from a minimum of -18.17 percent to 33.96 percent with an average of 12.19 percent. The loan and advance to deposit ratio has a minimum value of 38.80 percent and a maximum of 96.75 percent with an average of 77.10 percent. Nonperforming loan ratio ranges from 0 percent to 31.73 percent, leading the average nonperforming to 2.33 percent. Similarly, loan loss provision ratio is observed to be 3.84 percent with a minimum value of 0 percent and maximum value of 60.48 percent. Likewise, liquidity varies from a minimum of 10.75 percent to a maximum of 70.78 percent leading to an average of 4.81 percent. Similarly, growth of net interest income is observed to be 19.49 percent with a minimum value of (28.95) percent and maximum value of 80.18 percent. Leverage ranges from minimum of 79.05 percent to maximum of 99.56 percent with the average of 90.61 percent. Deposit ranges from Rs 14.32 billion to Rs 18.13 billion, leading the average deposit to Rs 16.89 billion. Similarly, average size of total assets is observed to be Rs 23.97 billion with a minimum value of Rs 22.54 billion and maximum value of Rs 25.19 billion.

Correlation analysis

Having indicated the descriptive statistics, the Pearson Correlation Coefficients have been computed and the results are presented in Table 3.

Table 3: Pearson's correlation matrix for dependent, independent and control variables

This table reveals the Pearson correlation coefficients between different dependent and independent variables. Return on assets, return on equity, net interest margin, capital adequacy ratio, loan and advance to deposit ratio, Nonperforming loan ratio, loan loss provision ratio , liquidity, growth of net interest income, leverage, deposit and bank size are defined in the table 3. The correlation coefficients are based on the data from 18 sample banks with 126 observations for the period 2007/08 to 2013/14.

Variables	ROA	ROE	NIM	CAR	LATDR	NPLR	LLPR	LQ	LNSZ	LND	G	L
ROA	1											
ROE	.705**	1										
NIM	.654**	.420**	1									
CAR	.277**	.107	.188*	1								
LATDR	.018	.023	.056	.202*	1							
NPLR	-.614**	-.268**	.-449**	.502**	.180*	1						
LLPR	.691**	.297**	.431**	-.518**	.150	.955**	1					
LQ	.207*	.032	.015	.196*	-.145	.193*	.194*	1				
LNSZ	-.183*	-.130	.107	-.154	-.551**	-.329**	-.352**	-.057	1			
LND	-.138	-.101	.193*	-.286**	-.597**	-.256**	-.282**	-.158	.963**	1		
G	-.021	.010	-.148	.004	.027	-.076	-.012	-.102	-.239**	-.217*	1	
L	.060	.006	-.123	-.739**	-.138	.360**	.417**	-.168	.167	.206*	.025	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The result shows that there is positive relationship of capital adequacy ratio and loan loss provision ratio with return on assets which indicates that higher the capital adequacy ratio and loan loss provision ratio, higher would be the return on assets. Likewise, loan and advance to deposit ratio and liquidity have positive relationship with return on assets. It indicates that an increase in loan and advance to deposit ratio and liquidity leads to an increase in return on assets. Leverage has also positive relationship with return on assets which indicates that higher the leverage, higher would be the return on assets. The result shows that nonperforming loan ratio and size of total assets are negatively correlated with return on assets, which indicates that higher the nonperforming loan ratio and size of total assets, lower would be the return on assets. The result also indicates that growth of net interest income and deposit has negative relationship with return on asset which reveals that higher the growth of net interest income and deposit, lower would be return on assets.

The result shows that there is positive relationship of capital adequacy ratio and loan loss provision ratio with return on equity which indicates that higher the capital adequacy ratio and loan loss provision ratio, higher would be the return on equity. Likewise, loan and advance to deposit ratio and liquidity have positive relationship with return on equity. It indicates that an increase in loan and advance to deposit ratio and liquidity leads to an increase in return on equity. Similarly, Leverage and growth of net interest income has also

positive relationship with return on equity which indicates that higher the leverage and growth of net interest income, higher would be the return on equity. The result shows that nonperforming loan ratio and size of total assets are negatively correlated with return on equity, which indicates that higher the nonperforming loan ratio and size of total assets, lower would be the return on equity. The result also indicates that deposit has negative relationship with return on equity which reveals that higher deposit, lower would be return on equity.

The result shows that there is positive relationship of capital adequacy ratio and loan loss provision ratio with net interest margin which indicates that higher the capital adequacy ratio and loan loss provision ratio, higher would be the net interest margin. Likewise, loan and advance to deposit ratio and liquidity have positive relationship with net interest margin. It indicates that an increase in loan and advance to deposit ratio and liquidity leads to an increase in net interest margin. Similarly size of total assets and deposit has also positive relationship with net interest margin which indicates that higher the size of total assets and deposit, higher would be the net interest margin. The result shows that nonperforming loan ratio and leverage are negatively correlated with net interest margin, which indicates that higher the nonperforming loan ratio and leverage, lower would be the net interest margin. The result also indicates that growth of net interest income has negative relationship with net interest margin which reveals that higher the growth of net interest income, lower would be net interest margin.

The regression of independent variables on return on assets shows that beta coefficient for nonperforming loan ratio, growth of net interest income, bank size and deposit are negative as indicated in Table 4. It indicates that higher the nonperforming loan ratio and growth of net interest income, lower will be the return on assets. This finding is similar to Bourke (1989), and Felix and Claudine (2008). The result also indicates that an increase in the bank size and deposit leads to a decrease in the return on assets. This finding supports the findings of Amato & Burson (2007) and (Rostami, 2011). However, a beta coefficient is significant for size of bank only at 5 percent level of significance. The study also reveals that the beta coefficients are positive for capital adequacy ratio, loans and advance to total deposit ratio, loan loss provision ratio, liquidity and leverage with return on assets. The results hence indicate that higher the capital adequacy ratio, higher the return on assets. This finding supports the findings of Furlong & Keeley (1989) and Ochei (2013). The positive relation between loans and advance to total deposit ratio and return on assets indicates that an increase in the loans and advance to total deposit ratio leads to an increase in return on assets. This finding is consistent with the finding of Kithinji (2010) and Funso, Kolade and Ojo (2012). Likewise, higher the loan loss provision ratio, higher would be the return on assets. This finding supports the findings of Zoubi, (2007) and Gizaw, (2015). The result also indicates that an increase in the liquidity leads to an increase in the return on assets. This finding is consistent with the finding of Agbada & Osuji (2013). The beta coefficient of liquidity is significant at 5percent level of significance. The result also indicates that an increase in the leverage leads to an increase in the return on assets. This finding is consistent with the finding of Margaritis & Psillaki (2010) and contradicts with the finding of Fama & French (2002).

The regression of independent variables on return on equity shows that beta coefficient for nonperforming loan ratio, bank size and deposit are negative as indicated in Table 5. It indicates that higher the nonperforming loan ratio, lower will be the return on equity. This finding is similar to the findings of Bourke (1989), and Felix and Claudine (2008). The result also indicates that an increase in the bank size and deposit leads to a decrease in the return on equity. This finding supports the findings of Amato & Burson (2007) and (Rostami, 2011). The study also reveals that the beta coefficients are positive for capital adequacy ratio, loans and advance to total deposit ratio, loan loss provision ratio, liquidity, growth of net interest income and leverage with return on equity. The results hence indicate that higher the capital adequacy ratio, higher the return on equity. This finding supports the findings of Furlong & Keeley (1989) and Ochei (2013). The positive relation between loans and advance to total deposit ratio and return on equity indicates that an increase in the loans and advance to total deposit ratio leads to an increase in return on equity. This finding is consistent with the finding of Kithinji (2010) and Funso, Kolade and Ojo (2012). Likewise, higher the loan loss provision ratio, higher would be the return on equity. This finding supports the findings of Zoubi, (2007) and Gizaw, (2015). The result also indicates that an increase in the liquidity leads to an increase in the return on equity. This finding is consistent with the finding of Agbada & Osuji (2013). The result also indicates that an increase in the leverage leads to an increase in the return on equity. This finding is consistent with the finding of Margaritis & Psillaki (2010) and contradicts with the finding of Fama & French (2002). Likewise, higher the growth of net interest income, higher would be the return on equity. This finding is consistent with the finding of Samuel & Julius Dasah, (2012).

Table 5: Regression of capital adequacy ratio, loan and advance to deposit ratio, nonperforming loan ratio, loan loss provision ratio , liquidity, growth of net interest income, leverage, deposit and bank size on return on equity.

The results are based on panel data of 18 commercial banks with 126 observations for the period of 2007/08 to 2013/14 by using linear regression model. Return on equity is the dependent variable while, capital adequacy ratio, loan and advance to deposit ratio, nonperforming loan ratio, and loan loss provision ratio are independent variable. Liquidity, growth of net interest income, leverage, deposit and bank size are control variable. The model is $ROE_{it} = \beta_0 + \beta_1 NPLR_{it} + \beta_2 CAR_{it} + \beta_3 LATDR_{it} + \beta_4 LLPR_{it} + \beta_5 lnD_{it} + \beta_6 lnSZ_{it} + \beta_7 LQ_{it} + \beta_8 L_{it} + \beta_9 G_{it} + e_{it}$

Models	Intercepts	Regression Coefficients of									Adj R2	SEE	F
		CAR	NPLR	LATDR	LLPR	LQ	LND	LNSZ	L	G			
1	29.41 (4.31)**	0.63 (1.19)									0.003	27.24	1.44
2	17.59 (6.49)**		-1.79 (-3.1)**								0.06	26.39	9.61
3	17.70 (!.11)			0.052 (0.25)							-0.008	27.39	0.065
4	17.45 (6.60)**				1.13 (3.47)**						0.08	26.16	12.03
5	18.99 (2.30)*					0.10 (0.35)					-0.007	27.39	0.13
6	89.90 (1.49)						-4.03 (-1.13)				0.002	27.26	1.28
7	160.46 (1.69)							-5.78 (-1.46)			0.009	27.17	2.24
8	17.93 (0.34)								4.23 (0.07)		-0.008	27.40	0.005
9	21.68 (8.39)**									0.003 (0.11)	-0.008	27.40	0.012
10	21.89 (1.34)	0.69 (1.27)		0.11 (0.51)							-0.003	27.33	0.84
11	48.65 (0.49)				1.09 (3.12)**			-1.29 (-0.32)			0.07	26.26	6.02
12	61.80 (0.59)		-1.71 (-2.74)*					-1.84 (-0.43)		0.005	0.051	26.58	3.26

Note:

i. Figures in parentheses are t-values.
ii. The asterisk (**), (*) sign indicates that the results are significant at 0.01 and 0.05 level of significance respectively.
iii. Dependent variable is return on equity.

The regression of independent variables on net interest margin shows that beta coefficient for nonperforming loan ratio, leverage and growth of net interest income are negative as indicated in Table 6.

Table 6: Regression of capital adequacy ratio, loan and advance to deposit ratio, nonperforming loan ratio, loan loss provision ratio , liquidity, growth of net interest income, leverage, deposit and bank size on net interest margin.

T*he results are based on panel data of 18 commercial banks with 126 observations for the period of 2007/08 to 2013/14 by using linear regression model. Net interest margin is the dependent variable while, capital adequacy ratio, loan and advance to deposit ratio,*

nonperforming loan ratio, and loan loss provision ratio are independent variable. Liquidity, growth of net interest income, leverage, deposit and bank size are control variable. The model is NIMit = β0 + β1 NPLRit + β2 CARit + β3 LATDRit+ β4 LLPRit + β5 lnDit + β6 lnSZit + β7 LQit + β8Lit + β9Git +eit

Models	Intercepts	Regression Coefficients of									Adj R2	SEE	F
		CAR	NPLR	LATDR	LLPR	LQ	LND	LNSZ	L	G			
1	3.74 (16.01)**	0.04 (2.13)*									0.03	0.93	4.55
2	3.04 (34.79)**		-0.10 (-5.59)**								0.19	0.85	31.25
3	2.93 (5.28)**			0.004 (0.63)							-0.005	0.95	0.39
4	3.06 (35.33)**				0.06 (5.33)**						0.18	0.86	28.36
5	3.23 (11.30)**					0.002 (0.17)					-0.008	0.95	0.03
6	-1.24 (-0.60)						0.27 (2.19)*				0.03	0.93	4.8
7	-0.67 (-0.20)							0.16 (1.19)			0.003	0.94	1.43
8	5.82 (3.16)**								-2.79 (-1.38)		0.007	0.94	1.91
9	3.32 (37.54)**									-0.001 (-1.66)	0.01	0.94	2.76
10	16.59 (6.13)**	0.12 (5.07)**							-12.94 (-4.74)**	-0.001 (-1.61)	0.18	0.85	10.41
11	3.08 (33.31)**		-0.08 (-1.89)		0.02 (0.42)					-0.001 (1.48)	0.19	0.85	11.16

Note:

i. Figures in parentheses are t-values.
ii. The asterisk (**), (*) sign indicates that the results are significant at 0.01 and 0.05 level of significance respectively.
iii. Dependent variable is net interest margin

The table indicates that higher the nonperforming loan ratio, lower would be the net interest margin. This finding is similar to Mamman and Oluyemi (1994) and Batra (2003). The result also indicates that an increase in the leverage and growth of net interest income leads to a decrease in the net interest margin. This finding supports the findings of Margaritis & Psillaki (2010) and Raza (2013). The study also reveals that the beta coefficients are positive for capital adequacy ratio, loans and advance to total deposit ratio, loan loss provision ratio, liquidity, bank size and deposit with net interest margin. The results hence indicate that higher the capital adequacy ratio, higher the net interest margin. This finding supports the findings of Furlong & Dang & Uyen (2011) and Ochei (2013). The positive relation between loans and advance to total deposit ratio and net interest margin indicates that an increase in the loans and advance to total deposit ratio leads to an increase in net interest margin. This finding is consistent with the finding of Kithinji (2010) and Funso, Kolade and Ojo (2012). Likewise, higher the loan loss provision ratio, higher would be the net interest margin. This finding supports the findings of Zoubi, (2007) and Gizaw, (2015). The result also indicates

that an increase in the liquidity leads to an increase in the net interest margin. This finding is consistent with the finding of Agbada & Osuji (2013). The result also indicates that an increase in the bank size leads to an increase in the net interest margin. This finding is consistent with the finding of Jonsson (2007) and contradicts with the finding of Amato & Burson (2007). Likewise, higher the bank deposit, higher would be the net interest margin. This finding is consistent with the finding of (Arsalan Gholami & Younes Salimi, 2014) and contradicts with the finding of (Rostami, 2011).

IV. Summary and conclusion

Among risks in banking operation credit risk which is related to substantial amount of income generating assets is found to be important determinant of bank performance. Credit risk plays an important role on banks profitability since a large chunk of banks revenue accrues from loans from which interest is derived. Adequately managing credit risk in financial institutions is critical for the survival and growth of the financial institutions. In the case of banks, the default of loans and advances poses serious setbacks not only for borrowers and lenders but also to the entire economy of a country. The long term success of any banking institution depended on effective system that ensures repayments of loans by borrowers which were critical in dealing with asymmetric information problems, thus, reduced the level of loan losses.

The study basically aims at evaluating the impact of credit risk on profitability of Nepalese commercial banks. The study is based on pooled cross-sectional analysis of data of 18 commercial banks for the period 2007/08 to 2013/14.

The study revealed that capital adequacy ratio, loan loss provision ratio and liquidity have positive and significant impact on ROA. Similarly loans and advance to total deposit ratio and leverage has positive and insignificant impact on ROA. Nonperforming loan ratio and bank size has negative and significant impact on ROA. Similarly growth of net interest income and deposit has negative and insignificant impact on ROA. Loan loss provision ratio has positive and significant impact on ROE. Similarly capital adequacy ratio, loans and advance to total deposit ratio, liquidity, growth of net interest income and leverage has positive and insignificant impact on ROE. Nonperforming loan ratio has negative and significant impact on ROE. Similarly bank size and deposit has negative and insignificant impact on ROE. Capital adequacy ratio and deposit has positive and significant impact on NIM. Similarly loans and advance to total deposit ratio, loan loss provision ratio, liquidity and bank size has positive and insignificant impact on NIM. Similarly nonperforming loan ratio, leverage and growth of net interest income have negative and insignificant impact on NIM.

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Impact of corporate governance indicators on market valuation of companies: A case of banking and non-banking Nepalese firms

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Abstract

This study examines the impact of corporate governance variables on market valuation. The market price per share, change in market price per share and percentage change in market price per share are selected as market valuation variables for this study and these three are the dependent variables. Board size, board composition, Tobin's Q and firm age are independent variables. The data are collected from the Banking and Financial Statistics published by Nepal Rastra Bank, supervision reports of Nepal Rastra Bank, and banks annual reports of the selected banks. The regression models are estimated to examine the impact of corporate governance indicators on market valuation of companies: A case of banking and non-banking Nepalese firms.

The results indicate that beta coefficient for board size is negative with market price per share, change in market price per share and percentage change in market price per share. It indicates that increase in board size leads to decrease in market valuation as indicated by market price per share, change in market price per share and percentage change in market price per share. The result also indicates that beta coefficient of board composition is negative with market price per share. It reveals that higher the number of outside directors, lower would be market price per share. However, the beta coefficient of firm age is positive with market price per share which shows that larger the operation period, higher would be market price per share. The beta coefficients are observed to be significant for board size, board composition and firm age at 1 percent and 5 percent level of significance respectively.

Key words: corporate governance, market price per share, change in MPS, Percentage change in MPS, Tobin's Q, board size, firm age, board composition

I. Introduction

In the beginning of the new millennium, several companies in USA (Lehman Brothers, Enron, Worldcom, TYCO, Global crossing, wal-mart, XEROX and many more), India (Satyam), UK (Barings Bank), Netherland (Royal Ahold), Italy (Parmalat) and elsewhere faced collapse because of corporate governance problems and unethical practices (Panfilii & Popa 2012). The problems of corporate world have a lot to do with the failure to safeguard the interests of shareholders. In the past few years corporate looting have become so frequent. The existing regulatory framework seemed to be inadequate to deal with the corporate fraud. A need have been felt for taking measures in erring corporations and for initiating preventive steps to avoid corporate frauds in future.

Corporate governance has been defined by Denis & McConnell (2003) as a set of mechanisms that induces the self-interested managers of a company to make decisions that maximize the performance of the company to its shareholders. Corporate governance is seen as an essential mechanism helping the company to attain its corporate objectives and monitoring performance is a key element in achieving these objectives (Mallin, 2013).

The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation such as, the board, managers, shareholders and other stakeholders, and spell out the rules and procedures for making decisions on corporate affairs, By doing this, it also provides the structure through which the company's objectives are set and the means of attaining those objectives and monitoring performance. This definition is in line with the submission of Wolfensohn (1999) and Uche (2004). Corporate governance is a field in economics that investigates how to secure or motivate efficient management of corporations by the use of incentive mechanisms, such as contracts, organizational designs and legislation. This is often limited to the question of improving financial performance, for example, how the corporate owners can secure/motivate that the corporate managers will deliver a competitive rate of return (Mathiesen 2006).

Corporate governance is a set of process an entity's culture, policies, laws and institutional value that affect way a corporation is directed, administered or controlled. It is a combination of corporate policies and best practices adopted by corporate bodies in achieving its objectives in relation to their stakeholders (Shleifer & Vishny 1997) .It aims to protect shareholder's rights, to enhance disclosure and transparency, to facilitate effective functioning of the board and to provide an efficient legal and regulatory enforcement framework. It addresses the principal/agency problem through a mix of company law, stock exchange rules and sub regulatory codes. It arises from high profile corporate scandals, globalization and increased investor activism.

Corporate governance is the system by which business corporations are directed and controlled. The term Corporate Governance has been identified to mean different things to different people. Magdi & Nadareh (2002) stress that corporate governance is about ensuring that the business is run well and investors receive a fair return. OECD (1999) provides a more encompassing definition of corporate governance. It defines corporate governance as the system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation such as, the board, managers, shareholders and other stakeholders, and spell out the rules and procedures for making decisions on corporate affairs, By doing this, it also provides the structure through which the company's objectives are set and the means of attaining those objectives and monitoring performance. This definition is in line with the submission of Wolfensohn (1999) and Uche (2004). According to Mathiesen (2002), corporate governance is a field in economics that investigates how to secure or motivate efficient management of corporations by the use of incentive mechanisms, such as contracts, organizational designs and legislation. This is often limited to the question of improving financial performance, for example, how the corporate owners can secure/motivate that the corporate managers will deliver a competitive rate of return.

Corporate governance (CG) is the process which facilitates the creation of shareholder's value, protection of the individual and collective interests of all stakeholders in an establishment are achieved through. Corporate governance is generally associated with the existence of agency problem and its roots can be traced back to separation of ownership and control of the firm. Agency problems arise as a result of the relationship between shareholders and managers and are based on conflicts of interests between controlling shareholders and

minority shareholders which are at the heart of the corporate governance literature (Mayer 1999). Developing economies are more prone to corporate governance and its importance is increasing in literature. Governance of bank is one of the highly studied sectors in the literature of finance. Failure of the many companies during financial crisis of 1997 resulted other firms worldwide to adopt firm specific corporate governance codices in order to emphasize good corporate governance. As the banking industry becomes increasingly deregulated; the question arises whether we should expect market discipline and internal mechanisms to play an increasing role in banking firm governance (Adams & Mehran 2005).

The main reason for emerging economies to consider introducing corporate governance is their need to build investor confidence to attract foreign and local investment and expand trade (Abhayawansa & Johnson 2007). International donor agencies such as the IMF and World Bank as well as organizations such as the OECD indirectly influence developing countries to improve their corporate governance mechanisms and regulatory infrastructure (Athukorala & Reid 2002).

The adoption of corporate governance was also stimulated by the belief that the economic crisis that hit the South East Asian stock markets in 1997-1998 was partly due to weak corporate governance in the region (Mobius 2002). This resulted in governance reforms in the emerging markets to restore investor confidence by providing a secure institutional platform on which to build an investment market (Monks & Minow 2004).

Sound corporate governance is an important element of sustainable private sector development not only because it strengthens businesses ability to attract investment and grow, but also because it makes them, stronger, more efficient, and more accountable. The definition of corporate governance most widely used is the system by which companies are directed and controlled. Corporate governance essentially involves balancing the interests of them many stakeholders in a company – these include its shareholders, management, customers, suppliers, financiers, government and the community. Since, corporate governance also provides the framework for attaining a company's objectives; it encompasses practically every sphere of management, from action plans and internal controls to performance measurement and corporate disclosure. Corporate governance is based on principles such as conducting the business with all integrity and fairness, being transparent with regard to all transactions, making all the necessary disclosures and decisions, complying with all the laws of the land, accountability and responsibility towards the stakeholders and commitment to conducting business in an ethical manner (Thomsen & Pedersen, 2000).

According to Beeks and Brown (2006), a company's corporate governance quality increases as additional common corporate governance standards are met. Hence, a company with corporate governance quality is defined as one that possesses and meets the common corporate governance set by the authorities (Lokman et. al 2009). Hence, the importance of corporate governance has become a part of corporate success. The corporate governance of the banks is more important than other industries (Adnan 2011).

In Nepalese context, Sapkota (2008) stated that the financial sector reform was initiated by central bank and the government with view of enhancing the corporate governance and performance of banking sector especially the state owned banks the study analyzed the relationship between the CG mechanism and the performance.

Koirala et al. (2012) indicated that corporate governance has some effect on bank performance in Nepal. This study further established a notion that there indeed might be some impact of different corporate governance variables in the performance and profitability of Nepalese banks. Therefore, it emphasized the importance of corporate governance in Nepalese institutions. Poudel & Hovey (2013) found an important implication for bank in Nepal since it is found that strong board size and audit committee size and higher proportion of independent director in audit committee, lower frequency of board meeting and lower ratio of institutional ownership has better influence in Nepalese banks.
Adhikari (2014) finds that survival and stability of financial sector depends on the quality of its governance system. Effective corporate governance in banking industry helps foster financial stability, strengthen risk management and ultimately contribute to a strong financial system. Pradhan (2014) found there is a significant impact of corporate governance on ROA as well as ROE in the financial institutions mainly for commercial bank and he also revealed that the return on equity and return on assets are negatively related to board size and number of executive directors.
The above discussion shows that the studies devoted to market valuation of firm from corporate governance are of greater significance. Hence this study focuses on the factors affecting market valuation of firms from corporate governance using the more recent data in the context of Nepal.

The purpose of this study is to investigate the relationship between corporate governance variables and market valuation of the Nepalese banking and non-banking companies. Specially, it examines the impact of board size, board composition, Tobin's Q and firm age on market price per share (MPS) change in MPS and percentage change in MPS.

The reminder of this paper is organized as follows. Section two describes the sample, data, and methodology. Section three presents the empirical results and the final section draw conclusions and discusses the implications of the study findings.

II. Methodological aspects

The study is based on the secondary data which were gathered for 10 commercial banks, 5 development bank and 5 insurance companies in Nepal. The main source of data are banking and financial statistics published by Nepal Rastra Bank which is supplemented by supervision reports of Nepal Rastra Bank, and the annual reports of selected banks. The data were collected for market price per share, change in MPS, percentage change in MPS, Tobin's Q, board size, board composition and firm age.

The pooled cross sectional data analysis has been undertaken in the study. The research design adopted in this study is causal comparative type as it tells with relationship of

corporate governance and control variables with market valuation of banking and non-banking companies. More specifically, the study examines the effect of board size, board composition, Tobin's Q and firm age on market valuation of firms. These data were collected for the period 2009/10-2013/14. Table 1 shows the list of commercial banks, development bank and insurance companies selected for the study along with study period and number of observations.

Table 1: Selection of companies, period of study and number of observations

S. N.	Particulars	Study Period	Number observations
Commercial Banks			
1	Nepal credit and Commerce Bank	2009/10-2013/14	5
2	Bank of Kathmandu	2009/10-2013/14	5
3	NIC Asia Bank Limited	2009/10-2013/14	5
4	Nepal Investment Bank	2009/10-2013/14	5
5	Himalayan Bank	2009/10-2013/14	5
6	NABIL Bank	2009/10-2013/14	5
7	Everest Bank	2009/10-2013/14	5
8	Standard and Chartered Bank	2009/10-2013/14	5
9	Nepal Bangladesh Bank Ltd	2009/10-2013/14	5
10	Nepal SBI bank	2009/10-2013/14	5
Development Banks			
11	Nepal Industrial Development Corporation	2009/10-2013/14	5
12	Siddhartha development bank ltd.	2009/10-2013/14	5
13	JoytiBikas Bank Ltd.	2009/10-2013/14	5
14	Vibor Development Bank Ltd.	2009/10-2013/14	5
15	Pashimanchial Development Bank Ltd.	2009/10-2013/14	5
Insurance Companies			
16	National Life Insurance Company	2009/10-2013/14	5
17	Surya life Insurance Company	2009/10-2013/14	5
18	Nepal life Insurance Company	2009/10-2013/14	5
19	Neco Insurance Company	2009/10-2013/14	5
20	Shikhar Insurance Company	2009/10-2013/14	5
Total number of observations 100			

Hence, the study is based on 100 observations.

The model

As a first approximation, the model estimated in this study assumes the market valuation of firm depends on several corporate governance and control variables. The corporate governance variables are board size and board composition. The control variables considered are Tobin's Q and bank age. Therefore the model takes the following form:

Market Valuation = f(CG variables, Control variables)

More specifically,

$MPS= \beta_0 + \beta 1\ BS+ \beta_2\ BC + \beta_3\ FA+ \beta_4 TQ+e_{ij}$

Change in $MPS =\beta_0 + \beta 1\ BS+ \beta_2\ BC + \beta_3\ FA+ \beta_4 TQ+ e_{ij}$

% change in $MPS = \beta_0 + \beta 1\ BS+ \beta_2\ BC + \beta_3\ FA+ \beta_4 TQ+ e_{ij}$

Where,
Marketability is used as a dependent variable and is measured in terms of the following:
MPS = Market price per share
Change in MPS = Change in market price per share
% change in MPS = Percentage change in market price per share

There are various measures of market valuation. According to La Porta, Lopez-de- Silanes, Shleifer, & Vishny (2000), market valuation of firm is measured as the reflaction of profitability and productivity of enterprises. Lemmon & Lins (2003) indicated that market valuation may refer to the development of the share price or the present valuation of a company. In this study, market valuation of firm has been measured as firm value in terms of market price per share, change in MPS and percentage change in MPS.
The independent variables consists of corporate governance variables and control variables as under:
Corporate governance variables
BS = Board Size
BC = Board Composition

Board size
The board of director is the top executive body of company and assigned with the responsibility of formulating policies and strategies and supervising operation of the company. Haniffa et. al. (1995) found that there is an inverse relationship between board size and profitably. Yermack (1996) find that there is inverse association between board size and firm value. Companies with small boards also exhibit more favorable values for financial ratios, and provide stronger CEO performance incentive from compensation and the threat of dismissal. Based on it, this study develops the following hypothesis:

H1: Board size is negatively related with share price.
H2: Board size is negatively related with change in share price.
H3: Board size is negatively related with percentage change in share price.

Board Composition
Adusei (2011) found that an increase in board independence results in bank efficiency. The higher the number of independent directors on the board, the more independent it is from the management and the higher profitability of the company. However, the literature does not ignore the important role of the executive directors on the board. Therefore, in general, it could be concluded that the number of independent directors on the board should be relatively low in order for the board to make independent decisions (Htay, 2012). Based on it, this study develops the following hypothesis:
H7: Proportion of outside directors is negatively related with share price.
H8: Proportion of outside directors is negatively related with change in share price.
H9: Proportion of outside directors is negatively related with percentage change in share price.

Control variables
TQ = Tobin's Q
FA = Firm Age

Tobin's Q

Yermack (1996) find that there is inverse association between board size and firm value using, Tobin's Q as an approximation of market valuation. Companies with small boards also exhibit more favorable values for financial ratios, and provide stronger CEO performance incentive from compensation and the threat of dismissal. Based on it, this study develops the following hypothesis:

H4: Tobin's Q is positively related with share price.
H5: Tobin's Q is positively related with change in share price.
H6: Tobin's Q is positively related with percentage change in share price.

Firm age

Bank age can be defined in terms of year of formation, or incorporation or listing. In this stud, it is measured as the number of years since the establishment of the bank(Singh & Davidson 2003).

Under plausible assumptions, older firms enjoy higher profits and value (Sanders 1999) Different things have to be considered while evaluating the performance of an older firm. These assumptions put forward by the author under the fulfillment of which an older firm is able to enjoy higher profits and value and based on which the following hypotheses has been developed. Based on it, this study develops the following hypothesis:

H10: Year of operation is positively related to share price.
H11: Year of operation is positively related to change in share price.
H12: Year of operation is positively related to percentage change share price.

Therefore, the model assumes the following priori hypothesis for market price per share, change in MPS and percentage change in MPS models:

$\beta 1, \beta_2 < 0$ and $\beta_3, \beta_4 < 0$

1. **Descriptive statistics**

Table 2 contains the descriptive statistics. Clearly, market price per share range from Rs.0 to Rs.4351, leading the average market price per share to Rs.679.41. Change in market price per share range from Rs.-1983 to Rs.2926, leading the average market price per share to Rs.75.44, leading percentage change in market price per share range from Rs.-70.85 to Rs.581.42, leading the average market price per share to Rs.31.033.

Table 2: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MPS (Rs.)	100	0	4351	679.41	779.95838
MPSchange (Rs.)	100	-1983	2926	75.44	525.52112
PCMPS (%)	100	-70.85	581.42	31.033	96.77203
TobinQ (times)	100	0.12	98	2.203	9.8465
BS (No.)	100	5	12	7.25	1.46594
BC (No.)	100	0	4	1.26	1.00121
FA (years)	100	4	47	17.27	9.23416

The Tobin's Q varies from 0.12 times to 98 times, leading to the average of 2.203 times.

Likewise, board size ranges from 5 person to 12 person, leading to the average of 7.25 person. In the same way, the number of outside director ranges from 0 person to 4 persons, leading to the average of 1.26 persons. Similarly, firm age ranges from 4 years to 42 years, leading to the average of 17.27 years.

Correlation analysis

Having indicated the descriptive statistics, the Pearson's correlation coefficients have been computed and the results are presented in Table 3. The market price per share is negatively related to board size and board composition. The result also indicate that market price per share is positively related to firm age, change in market price per share and percentage change in market price per share. Similarly, percentage change in market price per share is positively related to change in market price per share. The result also indicated that board size is positively related to board composition and firm age. The negative correlation between market price per share and board size indicate that larger the board size, lower would be the market price per share. Likewise, the negative correlation between market price per share and board composition indicate that larger the number of outside directors, lower would be the market price per share.

Table 3: Correlation matrix for the dependent and independent variable

	MPS	MPSchange	PCMPS	TobinQ	BS	BC	FA
MPS	1						
MPSchange	.518**	1					
PCMPS	.268**	.622**	1				
TobinQ	-0.042	0.052	0.037	1			
BS	-.320**	-0.089	-0.016	0.091	1		
BC	-.239*	-0.019	0.004	0.186	.478**	1	
FA	.260**	0.017	0.021	-0.135	.272**	0.01	1

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

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

Regression analysis

The regression of corporate governance and control variables on market valuation has been analyzed by defining market valuation in terms of market price per share, change in market price per share and percentage change in market price per share. The regression of corporate governance and control variables on market price per share produced the results as indicated in Table 4. The table indicates that the beta coefficients are negative for board size and board composition. Thus the results indicate that lager the board size, lower would be the market price per share. Likewise, the result also indicates that higher the number of outside directors, lower would be the market price per share. And the beta coefficient for two independent variables is significant at 1 percent and 5 percent level of significance respectively. The beta coefficient is positive for firm age. Thus the result shows that longer the firm's operation period, higher would be the market price per share, where beta coefficient is significant at 1 percent level of significance.

The table indicates that the beta coefficients are negative for Tobin's Q. Thus, the result indicates that higher the value of Tobin's Q, lower would be the market price per share but beta coefficient is not significant.

Table 5: Regression analysis of corporate governance variables on market price per share

The results are based on pooled cross sectional data of 10 commercial banks, 5 development bank and 5 insurance companies with 100 observations for the period 2009/10-2013/14 by using linear regression model. The model is, $MPS = \beta_0 + \beta 1\ BS + \beta_2\ BC + \beta_3\ FA + e_{ij}$. *Where, MPS = market price per share, BS = board size, BC = board composition and FA = firm age. Results for various subsets of independent variables are presented as well.*

Model	Intercept	Regression Coefficient of MPS					SEE	F
		BS	BC	FA	Tobin's Q			
1	1912.651	-0.320				0.093	742.78	11.157
	(5.079)	(-3.340**)						
2	913.885		-0.239			0.047	761.23	5.931
	(7.446)		(-2.435*)					
3	300.057			0.26		0.058	756.95	7.109
	(1.862)			(2.666**)				
4	686.671				-0.42	0.008	783.248	0.170
	(8.553)				(-0.412)			
5	1816.411	-0.266	-0.111			0.093	742.608	6.105
	(4.680)	(-2.445)	(-1.023*)					
6	533.603		-0.241	0.262		0.108	736.68	6.987
	2.936		(-2.543)	(2.764**)				
7	302.49			0.259	-0.007	0.048	760.83	3.520
	(1.821)			(2.619)	(-0.066)			
8	1910.42	-0.319			-0.013	0.084	746.53	5.53
	(5.042)	(-3.298)			(-0.132)			
9	913.91		-0.239		0.003	0.038	765.14	2.94
	(7.408)		(-2.386)		(0.029			
10	1758.951	-0.422		0.375		0.216	690.44	14.67
	(4.995)	(-4.560)		(4.052)				
11	1713.53	-0.397	-0.063	0.376	0.057	0.205	695.27	7.397
	(4.704)	-3.701	(-0.609)	(3.957)	(0.618)			

Notes: 1. Figures in parentheses are t-values.
2. The asterisk (**) sign indicates that the results are significant at 1 percent level of significance.
3. The asterisk (*) sign indicates that the results are significant at 5 percent level of significance.
4. Dependent variable is market price per share.

The regression of corporate governance and control variables on change in market price per share produced the results as indicated in Table 5. The table indicates the beta coefficients are negative for board size and change in market price per share. And the beta coefficient for board size is significant at 1 percent. The positive coefficients have been observed for board composition, firm age and Tobin's Q. However, coefficients are not significant for board composition, firm age and Tobin's Q. The results hence indicate that lager the board size, lower would be the change in market price per share.

Table 5: Regression analysis of corporate governance variables on change in market price per share

The results are based on pooled cross sectional data of 10 commercial banks, 5 development bank and 5 insurance companies with 100 observations for the period 2009/10-2013/14 by using linear regression model. The model is, Change in MPS= $\beta_0 + \beta 1$ BS+ β_2 BC + β_3 FA + e_{ij} Where, change in MPS = change in market price per share, BS = board size, BC = board composition and FA = firm age. Results for various subsets of independent variables are presented as well.

Model	Intercept	Regression Coefficient of MPS					SEE	F
		BS	BC	FA	Tobin's Q			
1	306.32	-0.089				0.002	526.11	0.779
	(1.148)	(-0.883**)						
2	88.079		-0.019			0.010	528.1	0.036
	(1.034)		(-0.189)					
3	58.920			0.017		0.010	528.12	0.028
	(0.524)			(0.166)				
4	69.288				0.052	0.007	527.47	0.269
	(1.282)				0.519)			
5	323.95	-0.103	0.030			0.012	528.62	0.421
	(1.173)	(-0.898)	0.263					
6	71.483		-0.019	0.017		0.020	530.74	0.032
	0.546		0.019)	(0.167)				
7	44.991			0.024	0.056	0.017	530.02	0.161
	(0.389)			(0.238)	(0.544)			
8	313.48	-0.094			0.061	0.009	527.83	0.567
	(1.170)	(-0.931)			(0.60)			
9	88.39		-0.030		0.058	0.017	529.95	0.175
	(1.034)		(-0.290)		(0.561)			
10	294.09	-0.101		0.044		0.011	528.32	0.475
	(1.092)	(-0.961)		(0.421)				
11	313.618	-0.124	0.027	0.059	0.066	0.027	532.44	0.361
	(1.124)	(-1.017)	(0.230)	(0.548)	(0.635)			

Notes:
1. Figures in parentheses are t-values.
2. The asterisk (**) sign indicates that the results are significant at 1 percent level of significance.
3. The asterisk (*) sign indicates that the results are significant at 5 percent level of significance.
4. Dependent variable is change in market price per share.

The next aspect of the study is concerned with the regression of corporate governance and control variable on percentage change in market price per share. The regression results are presented in Table 6.

The table indicates that the beta coefficients are negative for board size and percentage change in market price per share. And the beta coefficient for board size is significant at 1 percent. The positive coefficients have been observed for board composition, firm age and Tobin's Q. However, coefficients are not significant for board composition, firm age and Tobin's Q. The results hence indicate that lager the board size, lower would be the percentage change in market price per share.

Table 6: Regression analysis of corporate governance variables on percentage change in market price per share

The results are based on pooled cross sectional data of 10 commercial banks, 5 development bank and 5 insurance companies with 100 observations for the period 2009/10-2013/14 by using linear regression model. The model is, % change in MPS= $\beta_0 + \beta 1\ BS + \beta_2\ BC + \beta_3\ FA + e_{ij}$. Where, % change in MPS = percentage change in market price per share, BS = board size, BC = board composition and FA = firm age. Results for various subsets of independent variables are presented as well.

Model	Intercept	Regression Coefficient of MPS					SEE	F
		BS	BC	FA	Tobin's Q			
1	38.631	-0.016				0.010	97.25	0.025
	(0.783)	(-0.157**)						
2	30.533		0.004			0.101	97.26	0.002
	(1.947)		(0.041)					
3	27.182			0.021		0.010	97.243	0.044
	(1.313)			(0.211)				
4	25.313				0.041	0.019	97.67	0.10
	(1.187)				(0.396)			
5	39.23	-0.034	0.020			0.030	98.21	0.040
	(0.762)	(-0.276)	(0.169)					
6	26.714		0.004	0.021		0.020	97.74	0.023
	(1.108)		(0.038)	(0.209)				
7	25.313			0.027	0.041	0.019	97.66	0.10
	(1.187)			(0.261)	(0.396)			
8	37.797	-0.029			0.044	0.028	98.13	0.092
	(0.755)	(-0.276)			(0.427)			
9	25.739		-0.004		0.041	0.029	98.17	0.067
	(1.057)		(-0.037)		(0.394)			
10	37.225	-0.023		0.028		0.020	97.72	0.047
	(0.747)	(-0.0222)		(0.262)				
11	39.081	-0.036	0.013	0.037	0.043	0.039	98.641	0.071
	(0.756)	(-0.293)	(0.109)	(0.337)	(0.405)			

Notes:
1. Figures in parentheses are t-values.
2. The asterisk (**) sign indicates that the results are significant at 1 percent level of significance.
3. The asterisk (*) sign indicates that the results are significant at 5 percent level of significance.
4. Dependent variable is percentage change in market price per share.

IV. Summary and conclusion

The problems of corporate world have a lot to do with the failure to safeguard the interests of shareholders. In the past few years, corporate looting have become so frequent. The existing regulatory framework seemed to be inadequate to deal with the corporate fraud. A need have been felt for taking measures in erring corporations and for initiating preventive steps to avoid corporate frauds in future. Corporate governance is the process which facilitates the creation of shareholder's value, protection of the individual and collective interests of all stakeholders in an establishment are achieved through. Corporate governance is generally associated with the existence of agency problem and its roots can be traced back to separation of ownership and control of the firm. Better corporate governance leads to

better firm performance which helps to increase market valuation of firm. Therefore, now a day's corporate governance has given more importance in any type of business firms.

The major objective of the study is to examine whether corporate governance decision taken by firms affect the market valuation of commercial bank, development bank and insurance companies. The study has used 100 observations from the year 2009/10 to 2013/14 of 20 sample firms out of which are 10 commercial banks, 5 development banks and 5 insurance companies.

The study revealed that average market price per share is Rs.679.41. The average Tobin's Q is observed to be 2.20. Likewise, average board size has been observed to 7.25 persons. While, average number of outside directors is 1.26 persons. And the average firm operation period is 17.27 years.

The study revealed that beta coefficient for board size is negative with market price per share, change in market price per share and percentage change in market price per share. It indicates that increase in board size leads to decrease in market valuation as indicated by market price per share, change in market price per share and percentage change in market price per share. Similarly, the study also indicates that beta coefficient for board composition is negative with market price per share. It indicates that higher the number of outside directors, lower would be market price per share. However, the beta coefficient for firm age is positive with market price per share which shows that larger the operation period, higher would be market price per share. However, firm age does not explain the variation in change in market price per share and percentage change in market price per share. The beta coefficients are observed to be significant for board size, board composition and firm age at 1 percent and 5 percent level of significance respectively.

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Impact of training and motivation on employees' performance in Nepalese commercial banks

Narmada Thapa

Abstract

This study examines the impact and importance of training and motivation on employees' performance. Employees' job satisfaction and employees' performance are taken as dependent variables. Workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary are independent variables. The primary sources of data are used to assess the opinion of respondents with respect to employees' performance from training and motivation in Nepalese commercial banks. The survey is based on 190 respondents from 20 commercial banks in Nepal. To achieve the purpose of the study, structured questionnaires are prepared. The regression models are estimated to test the significance and importance of employees' performance from training and motivation in Nepalese commercial banks.

The result shows that there is a positive impact of training and motivation factors (workplace environment, trainee characteristics, on the job and off the job training, reward system) on employees' performance. It indicates that better the workplace environment, higher would be the employees' performance. Similarly, increase in trainee characteristics leads to increase in employees' performance. Likewise, increase in on the job and off the job training leads to better employees' performance. The result reveals that better the reward system, higher would be the employees' performance. The study also indicates that empowerment and salary is positively related with employees' performance which implies that higher the empowerment and salary, higher would be the employees' performance. The beta coefficient is positive for workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary with employees' performance. The beta coefficient is significant for workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary.

Keywords: Workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary

I. Introduction

The commercial bank plays important role in worldwide economies and their employees' are the best sources of delivering good services to their customers. For the development of any organization, money, material and equipment play a vital role. Without skilled employees' these all sources cannot be used efficiently. Not any organization can progress by one or two individual factors; it is combined effort of all the stakeholder of the organization. In competitive environment every organization wants to provide better product and services to their customers. New technology boosts up the level of satisfaction of consumers. In every field of life technology has changed the modes of working. Automatic machines have taken the place of men power. The productivity of machine has become double after installation of latest machinery. This also reduces direct and indirect cost (Khan et al., 2015). One of the

important resources of an organization is human resource who plays fairly significant role in the success of any organization in both public and private sector. Successful organizations emphasize the importance of human element in the organizational effectiveness because it enhances the knowledge, skills, attitudes and development of employees' in order to achieve desired objectives. Another study indicates that in an organization human potential has become a major competitive factor which provides the organization with mid to long term success (Wahab et al., 2014).

Employees' performance is a function of training, motivation and person job fit. It is established that training provides necessary knowledge, skills and abilities to perform a job properly. Recent studies on this subject claim that organizations that are concentrating more on training produce improved financial results and net sales, their profit margins get increased also their employees' can grow their skills and knowledge to better perform their jobs. According to performance model of Blanchard no matter how much a person is enabled with skill, knowledge and abilities, so motivation is as important as training and appropriate environment is also important to achieve desired job performance (Saeed and Asghar, 2012).

Training is described as the grade of trainees who apply the knowledge, skills, behaviors and attitudes they obtained from training program into their work context which may improve their job performance (Velada et al., 2007). Besides, Motivation Theory is a foundational topic in psychological and organizational studies because it drives the actions and performs particular task successfully. In general, motivation theory contains intrinsic and extrinsic motivation constructs that can be used to predict achievement and achievement related behaviors. Nevertheless, intrinsic motivation originates from within the individual and results in enjoyment of the process of the particular task (Ryan and Deci, 2000).

On the other hand motivation is such a factor that exerts a driving force on our actions and work. Danish and Usman (2010) examined motivation as an accumulation of different processes which influence and direct our behavior to achieve some specific goal. It is such a dynamic in today's environment that explicitly creates and encompasses a positive impact on job. Within an organization, the best performance is feasible with most committed employees' that can only be achieved through employees' motivation. The performance of employees' in any organization is vital, not only for the growth of the organization, but also for the growth of individual employees' (Meyer and Peng 2005). An organization must know who are its outstanding workers, those who need additional training and those not contributing to the efficiency and welfare of the company or organization. Also, performance on the job can be assessed at all levels of employment such as: Personnel decision relating to promotion, job rotation, job enrichments etc (Aidis, 2005). Muogbo (2014) examined motivation as extrinsic or intrinsic. Extrinsic motivations are those that are external to the task of the job, such as pay, work condition, fringe benefits, security, and promotion, contract of service, the work environment and conditions of work. While Intrinsic motivation on the other hand are those rewards that can be termed psychological motivations and examples are opportunity to use one‘s ability, a sense of challenge and achievement, receiving appreciation, positive recognition, and being treated in a caring and considerate manner.

There are various factors that affect the employees' performance in any economy. It was examined the main challenges for the companies was to create and promote the best human resource management practices and to enhance the employees' performance by implementing different strategies. In addition to these approaches were; training, promotions, compensation to employees', motivation, salary increment and bonus, team empowerment and performance related pay. Job satisfaction formulates the employees' more considerate and concerned for the organization. The multinational organizations always take considerable actions to improve the employees' performance in every stage of their profession. On the other hand, it should be borne in mind that motivation is not a magic show that can perform miracles. There is no secret or trick to motivate people to do good work. It took just few things in consideration to create motivation like spending fair time with staff, advice people what ought to be done, what standards you expect, work on their problems and help them to succeed. Motivation can only be improve if the particular member of staff is trained to obtain vital skills and ability such as training could be both on the job and off the job. But with the condition the training components are designed in such a way which helps in achieving their motivational learning objectives of work (Saleem et al., 2010).

Shahzadi et al. (2014) examined employees' motivation as very important for organizations as every concern requires physical, financial and human resources to accomplish the goals. t is through motivation that the human resources can be utilized by making full use of it. This can be done by building willingness in employees to work. This will help the enterprise in securing best possible utilization of resources. It results into increase in productivity, reducing cost of operations, and improving overall efficiency.

The only way to get people to like working hard is to motivate them. Today, people must understand why they're working hard. Every individual in an organization is motivated by something different. When talking in term of employees' motivation it can be simply defined as "Employees' motivation is a reflection of the level of energy, commitment, and creativity that a company's workers bring to their jobs." The job of a manager in the workplace is to get things done through employees'. To do this the manager should be able to motivate employees. But that's easier said than done! Motivation practice and theory are difficult subjects, touching on several disciplines. (Rizwan and Tariq, 2014).

Asim (2013) the management scenario most popular explanation is based on the need of the individual. In the modern world of today some and every organization wants to successful through continuous process. Every organization compete with each other to handle the customer among the organization size is considered more with the proper constant format. Human resource is the creating and maintaining positive relationship among the organization. They face different challenges' to achieve the targets.

All organization is concerned with what should be done to achieve sustained high level of performance though people. A lot of theoretical concept, principles and techniques of management have evolved in response to these challenges. In general management authors have tended to view motivation as a key component of the managerial function of leading or directing. However, leading or leadership style, although an important factors in determining the attitude of employees' towards assigned job responsibilities is not the only determinant,

other managerial function such as planning, controlling, staffing and organizing also play a role. Training and development means different things to different organizations. It is considered as an unnecessary and underused function. Some organizations see is it as a waste of money and time. Many organizations fail to understand that manpower training and development can contribute in improving the overall organizational performance or profitability (Bature et al., 2013).

In context of Nepal, Baniya (2004) revealed that the positive consequences of providing development opportunities to employees' are improved performance, increased productivity, enhanced loyalty towards organization, and increased motivation among employees' and negative consequences are demand for increment in salary, additional incentives and facilities, promotion, and demonstration of over confidence in work, and tendency to leave job. Chapagain (2011) revealed that employees' participation is an important determinant of job satisfaction. Increased employees' participation makes a positive effect on job satisfaction of Nepalese banking employees.

Gautam (2011) showed a positive improvement in building cooperation and trust between employers and employees'. The result showed that increase in incentive systems; increase the commitment of employees' in the competitive society and productivity. The result also showed that the understanding between employers and employees' is positively improving. Overall the result showed that people management practices can enhance motivation and encourage employees' to work both harder and smarter which support to influence firm performance. Rayamajhi et al. (2012) revealed that the positive and significant relationship between customers' satisfaction and five service quality dimensions. Higher variability in overall employees' satisfaction is contributed by reliability, responsiveness, assurance and empathy. The result also showed a positive relationship between training and motivation of the employees'. The empirical result revealed that there is a positive relationship between formalization and job satisfaction. The result also revealed that the degree of formalization is positively correlated to employees' satisfaction and role clarity, task clarity, process clarity and organization structure as the major determinants of formalization are more likely to lead to higher job satisfaction (Raju and Jha, 2013).

The main purpose of the study is to examine the impact of training and motivation on employees' job performance. More specifically, it examines the effect of workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary, on employees' job satisfaction and job performance in Nepalese commercial Banks.

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

II. Methodological aspects

The study is based on the primary data which were gathered from the respondents of 20 commercial banks in Nepal. The respondents' views were collected on workplace

environment, trainee characteristics, on the job and off the job training, reward system, empowerment, salary and employees' performance from training and motivation. The study has employed descriptive and causal comparative research design to deal with the fundamental issues associated with employees' performance from training and motivation of the commercial banks in context of Nepal. More specifically, the study examines the effect of workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary in employees' performance. The perception about employees' performance from training and motivation was gathered from the 190 respondents of the 20 commercial banks of Nepal.

Table 1 shows the number of commercial banks along with the number of the respondents selected for the study.

Table 1: Name of commercial banks along with the number of respondents

Strata	Name of banks	No. of Respondents
Public Bank	Nepal Bank Limited	7
	Rastriya Banijya Bank Limited	8
	Agricultural Development Bank Limited	8
Joint Venture Bank	Standard Chartered Bank Limited	9
	Everest Bank Limited	9
	Himalayan Bank Limited	9
	Nabil Bank Limited	10
	Nepal SBI Bank Limited	10
	Nepal Bangladesh Bank Limited	10
Non- Joint Venture Bank	NIC Asia Bank Limited	10
	Nepal Investment Bank Limited	10
	Machhapuchre Bank Limited	10
	Laxmi Bank limited	10
	Global IME Bank Limited	10
	Kumari Bank Limited	10
	Prime Bank Limited	10
	Citizens Bank Limited	10
	Siddharth Bank Limited	10
	Prabhu Bank Limited	10
	Bank of Kathmandu Limited	10
Total		190

Thus, the study is based on 190 observations.

The Model

As the first approximation the model estimated in this study assumes that the employees' performance depends on the several training and motivation factors. The several training and motivation factors are workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary. Therefore the model takes the following form:

Employees' performance =f (WE, TC, ONF, RS, EMR, SAL)

More specifically,

$$EJS_{it} = a + \beta_1 WE_{it} + \beta_2 TC_{it} + \beta_3 ONF_{it} + \beta_4 RS_{it} + \beta_5 EMR_{it} + \beta_6 SAL_{it} + \varepsilon_{it} \quad (1)$$

$$EMP_{it} = a + \beta_1 WE_{it} + \beta_2 TC_{it} + \beta_3 ONF_{it} + \beta_4 RS_{it} + \beta_5 EMR_{it} + \beta_6 SAL_{it} + \varepsilon_{it} \quad (2)$$

Where,

EJS= Employees' job satisfaction

EMP= Employees' performance

WE= Workplace environment

TC= Trainee characteristics

ONF= On the job and off the job training

RS= Reward system

EMR= Empowerment

SAL= Salary

Workplace environment

Workplace environment includes factors such as managerial support, peer encouragement, adequate resources, opportunities to apply learned skills, technical support, and consequences for using training on-the-job (Burke and Hutchins, 2008). The study revealed that removing barriers from the work environment is so important that training opportunities should be turned down by employees's if proper follow-up support is not available (Rossett, 1997). A supervisor who does not view the training as useful or relevant can easily undermine application in a variety of direct and covert ways. A supportive organizational climate is also communicated by how the work is designed and skill application rewarded. Gelade and Ivery (2003), Aisha et al. (2013) and Jayaweera (2015) revealed positive and significant correlations between work climate, human resource practices, and business performance. Based on it, this study develops the following hypothesis:

H_1: There is positive relationship of workplace environment with employees' job satisfaction and employees' performance.

Trainee characteristics

A variety of learner characteristics have been studied in relation to transfer of learning. Two related characteristics that figure prominently in the literature are self-efficacy and employees' motivation. Self-efficacy is concerned with the learner's self-confidence and belief in his or her ability to successfully acquire and transfer the target skill (Gist et al., 1991). Related to self-efficacy is the motivation or desire of the learner to change behavior (Mathieu et al., 1992). Therefore, studies have looked for ways to improve the confidence and motivation of trainees through activities before, during, and after the training. Trainees with a high degree of self-efficacy tend to be more motivated learners and accomplish more (Chiaburu and Marinova, 2005).Salas and Cannon (2001), Madagamage et al. (2015) and

Kagona et al. (2015) found that trainees' self-efficacy and awareness of strategic linkages have a significant impact on the employees' performance. Based on it, this study develops the following hypothesis:

H_2: There is positive relationship of trainee characteristics with employees' job satisfaction and employees' performance.

On the job and off the job training

Management education normally takes place off the job, but a great deal of learning takes place on the job. According to Smith (1997), there have been several recent studies on managerial learning and skills development in South Africa that result from on-the-job experience. Training has been proved to generate performance improvement related benefits for the employees' as well as for the organization by positively influencing employees' performance through the development of employees' knowledge, skills, ability, competencies and behavior. Through training the employees' competencies are developed and enable them to implement the job related work efficiently, and achieve firm objectives in a competitive manner. Singh (2014) planned training is the deliberate intervention aimed at achieving the learning necessary for improved job performance. Singh (2014) and Hanif (2013) stated that on the job and off the job training have positive and significant relationship with performance of the employees' and showed that training makes employees' more effective so that they can perform their work in effective way. Based on it, this study develops the following hypothesis:

H_3: There is positive relationship of on the job and off the job training with employees' job satisfaction and employees' performance.

Reward system

Reward management is one of the strategies used by human resource managers for attracting and retaining suitable employees' as well as facilitating them to improve their performance through motivation and to comply with employment legislation and regulation. As a result of these pressures, human resource managers seek to design reward structures that facilitate the organizations strategic goals and the goals of individual employees' (Njanja et al., 2013). Rewards include systems, programs and practices that influence the actions of people. Aktar et al. (2012) stated that there are many factors that affect employees' performance like working conditions, worker and employer relationship, training and development opportunities, job security, and company's overall policies and procedures for rewarding employees'. Among all those factors which affect employees' performance, motivation that comes with rewards is of utmost importance. Aktar et al. (2012), Njanja et al. (2013) and Yusuf (2013) indicated that there exist a positive relationship among extrinsic rewards, intrinsic rewards and employees' performance and strongly supported the hypothesis between extrinsic rewards and intrinsic rewards. Based on it, this study develops the following hypothesis:
H_4: There is positive relationship of reward system with employees' job satisfaction and employees' performance.

Empowerment

Employee empowerment has been defined in many ways but generally it means the process of allowing employees' to have input and control over their work, and the ability to openly share suggestions and ideas about their work and the organization as a whole. Empowered employees' are committed, loyal and conscientious (Honold, 1997). Employees' empowerment has widely been recognized as an essential contributor to organizational success with many authors observing a direct relationship between the level of employees' empowerment and employees' performance, employees' job satisfaction and employees' commitment. Empowering employees' enables organizations to be more flexible and responsive and can lead to improvements in both individual and organizational performance. Employees' empowerment is more relevant in today's competitive environment where knowledge workers are more prevalent and organizations are moving towards decentralized, organic type organizational structures (Baird and Wang, 2010). Meyerson and Dewettinck (2012), Chebat and Kollias (2000) and Kirkman et al. (2004) showed that there is significant difference between rate of employees' performance and empowerment implementing. Based on it, this study develops the following hypothesis:

H_5: There is positive relationship of empowerment with employees' job satisfaction and employees' performance.

Salary

Salary is the most obvious reward that employees' receive at work. Many organization use surveys to determine the amount of salary to be given to the employees' of a specific rank. Executives pay is a special case within the topic of compensation. Salary is as the pay in terms of hourly wage, a rate of wage for each unit produced, rate of wage per month or year is called a salary. Salary includes cash and non cash payment. In non cash payment an employees' can receive house and transport facility and some other non monetary benefits. Richardson (2008) believed that the salary should include the financial compensation, various substantial services and welfare within the employment relationship. Salary refers to a reward system including base salary, bonus and welfare, which are what the employees' paid for their labor. Konovsky and Pugh (1994), Richardson (2008) and VanScotter, (2000) showed that there is significant difference between rate of employees' performance and salary. Based on it, this study develops the following hypothesis:

H_6: There is positive relationship of salary with employees' job satisfaction and employees' performance.

Reliability

Cronbach's alpha is a statistic. It is generally used as a measure of internal consistency or reliability. For the purpose of reliability test through Cronbach's alpha, only Likert scale type questions are considered. Table 2 shows the validity and reliability of the question of the study.

Table 2: Coefficient of Cronbach's alpha

Cronbach's Alpha based on standardized items	No. of items
0.938	42

Reliability test for all the component of questionnaire regarding the factors affecting employees' satisfaction and performance in Nepalese commercial banks were computed through SPSS. The reliability and validity result in above table shows that the instrument was both reliable and valid with Cronobach's alpha of 0.938 as obtained Cronbach's alpha was greater than 0.7. It means that the data were 93.8 percent of the data taken for the study is reliable and remaining 6.2 percent is error. Hence further test can be done from these data.

III. Presentation and analysis of data

Correlation analysis

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

Table 3: Pearson's correlation matrix for the dependent and independent variables

This table reveals the Pearson correlation coefficients between dependent and independent variables. EJS refers to employees' job satisfaction, EMP refers to employees' performance, WE refers to workplace environment, TC refers to trainee characteristics, ONF refers to on the job and off the job training, RS refers to reward system, EMR refers to empowerment, SAL refers to salary are defined in table 3. The correlation coefficient is based on the data from 20 sample firms listed in NEPSE with 190 observations.

Variables	EJS	EMP	WE	TC	ONF	RS	EMR	SAL
EJS	1							
EMP	0.810**	1						
WE	0.625**	0.573**	1					
TC	0.566**	0.574**	0.882**	1				
ONF	0.575**	0.659**	0.824**	0.842**	1			
RS	0.569**	0.615**	0.841**	0.853**	0.852**	1		
EMR	0.521**	0.657**	0.827**	0.827**	0.840**	0.904**	1	
SAL	0.535**	0.618**	0.646**	0.606**	0.692**	0.681**	0.709**	1

**sign indicates that correlation is significant at 1 percent level.

*sign indicates that correlation is significant at 5 percent level.

The result shows that there is positive relationship of employees' job satisfaction with trainee characteristics and on the job and off the job training which indicates that better the trainee characteristics and on the job and off the job training, higher would be the employees' job satisfaction. Similarly, the study observed positive relationship of employees' job satisfaction with workplace environment which revealed that better the workplace environment, higher would be the employees' job satisfaction. Similarly, the positive relationship between reward system and employees' job satisfaction reveals that an increase in the reward system leads to an increase in the employees' job satisfaction. The result shows that empowerment and employees' job satisfaction are positively correlated, which indicates that higher the empowerment, higher would be employees' job satisfaction. Likewise, salary has positive

relationship with employees' job satisfaction which indicates that an increase in salary leads to an increase in the employees' job satisfaction.

The result shows that there is positive relationship of workplace environment with employees' performance which indicates higher the workplace environment, higher would be the employees' performance. Likewise, trainee characteristics and on the job and off the job training have positive relationship with employees' performance. It indicates that an increase in trainee characteristics and on the job and off the job training leads to an increase in the employees' performance. The result shows that reward system and empowerment are negatively correlated with employees' performance which indicates that higher the reward system and empowerment, higher would be employees' performance. Likewise, salary has positive relationship with employees' performance. It indicates that an increase in salary leads to an increase in the employees' performance.

Regression analysis

The regression of bank specific and macroeconomic factors on employees' performance has been analyzed by defining employees' job satisfaction and employees' performance. Table 4 reveals regression of workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary

Table 4: Regression of training and motivation on employees' job satisfaction

The results are based on panel data of 20 commercial banks with 190 observations by using linear regression model. The model is, $EJS_{it} = a + \beta_1 WE_{it} + \beta_2 TC_{it} + \beta_3 ONF_{it} + \beta_4 RS_{it} + \beta_5 EMR_{it} + \beta_6 SAL_{it} + \varepsilon_{it}$*, where, dependent variable is EJS (employees' job satisfaction) and independent variables are WE (workplace environment), TC (trainee characteristics), ONF (on the job and off the job training), RS (reward system), EMR (empowerment) and SAL (salary). The reported results also include the values of F-statistics (F) and coefficient of determinants (R2).*

Model	Intercept	WE	TC	ONF	RS	EMR	SAL	R^2	SEE	F-value
1	1.766 (6.57)**	0.769 (10.99)**						0.39	0.655	120.76
2	2.149 (7.87)**		0.641 (9.40)**					0.32	0.682	88.54
3	1.879 (6.38)**			0.722 (9.64)**				0.33	0.676	92.96
4	1.876 (6.27)**				0.717 (9.48)**			0.32	0.680	89.90
5	2.17 (7.14)**					0.624 (8.37)**		0.27	0.705	70.07
6	2.418 (9.11)**						0.606 (8.66)**	0.29	0.699	75.26
7	1.744 (6.39)**	0.700 (4.70)**	0.072 (.522)					0.39	0.647	60.28
8	1.961 (6.61)**		0.484 (4.01)**			0.201 (1.58)		0.33	0.679	45.86
9	1.637 (5.47)**				0.481 (4.79)**		0.311 (3.45)**	0.36	0.661	53.50
10	1.543 (5.26)**	0.547 (3.93)**		0.196 (1.34)	0.078 (0.51)			0.40	0.642	41.88
11	1.433 (4.98)**	0.522 (4.24)**		0.109 (0.822)			0.227 (2.55)*	0.42	0.632	45.36
12	1.43 (4.88)**	0.518 (3.76)**		0.105 (0.71)	0.009 (0.059)		0.226 (2.49)*	0.42	0.634	33.84

Note:

1. Figures in parentheses are t-values.
2. the asterisk (**), (*) sign indicates that the results are significant at 0.01 and 0.05 level of significance respectively.
3. Dependent variable is employees' job satisfaction

Table 4 shows that the beta coefficient is positive for workplace environment which shows that there is a positive impact of workplace environment on employees' job satisfaction. The beta coefficient for trainee characteristics is positive with the employees' job satisfaction which shows that higher the trainee characteristics of the bank, higher would be the employees' job satisfaction. The result also indicates that the on the job and off the job training has a positive impact on employees' job satisfaction. Similarly, the result shows that the beta coefficients for reward system, empowerment and salary have positive impact on employees' job satisfaction. The beta coefficients of all the independent variables are positive and significant. This indicates that the improvement in the workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary helps to increase the employees' job satisfaction level.

Table 5 reveals regression of workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary.

Table 5: Regression of training and motivation on employees' performance

The results are based on panel data of 20 commercial banks with 190 observations by using linear regression model. The model is, $EMP_{it} = a + \beta_1 WE_{it} + \beta_2 TC_{it} + \beta_3 ONF_{it} + \beta_4 RS_{it} + \beta_5 EMR_{it} + \beta_6 SAL_{it} + \varepsilon_{it}$*, where, dependent variable is EMP (employees' performance) and independent variables are WE (workplace environment), TC (trainee characteristics), ONF (on the job and off the job training), RS (reward system), EMR (empowerment) and SAL (salary). The reported results also include the values of F-statistics (F) and coefficient of determinants (R2).*

Model	Intercept	WE	TC	ONF	RS	EMR	SAL	R^2	SEE	F-value
1	2.452 (9.35)**	0.653 (9.58)**						0.33	0.639	91.77
2	92.546 (10.11)**		0.603 (9.61)**					0.33	0.629	92.27
3	1.951 (7.77)**			0.767 (12.01)**				0.43	0.577	144.17
4	2.12 (7.94)**				0.720 (10.70)**			0.38	0.605	114.39
5	1.99 (8.00)**					0.730 (11.94)**		0.43	0.579	142.65
6	2.504 (10.93)**						0.650 (10.77)**	0.38	0.604	115.92
7	2.348 (8.96)**	0.342 (2.39)*	0.325 (2.47)*					0.35	0.621	50.16
8	1.946 (7.81)**		0.331 (4.60)**				0.449 (6.22)**	0.44	0.574	74.74
9	1.762 (7.17)**					0.489 (5.87)**	0.321 (4.07)**	0.48	0.556	85.53
10	1.895 (7.33)**	0.101 (.72)	0.009 (.064)	0.674 (5.38)**				0.44	0.579	48.09
11	1.739 (6.86)**				0.058 (0.40)	0.442 (3.06)**	0.317 (3.98)**	0.48	0.557	56.82
12	1.588 (6.38)**			0.328 (2.85)*		0.270 (2.40)*	0.264 (3.30)**	0.50	0.546	61.91

Note:

1. Figures in parentheses are t-values.

2. the asterisk (**), (*) sign indicates that the results are significant at 0.01 and 0.05 level of significance respectively.

3. Dependent variable is employees' performance

The beta coefficients are positive for workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary. The result shows that banks having better workplace environment have higher employees' performance. Similarly, higher the trainee characteristics and on the job and off the job training, higher would be the employees' performance. In the same way, the result shows that empowerment and salary have a positive impact on employees' performance. Likewise, beta coefficient is positive for reward system with employees' performance which indicates that better the reward system, higher would be the employees' performance. The beta coefficients of all the independent variables are positive and significant at 1 percent level of significance. This indicates that the improvement in the workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary helps to increase the employees' performance level.

IV. Summary and conclusion

Employees' performance is a function of training, motivation and person job fit. It is established that training provides necessary knowledge, skills and abilities to perform a job properly. An organization that are concentrating more on training and motivation produce improved financial results and net sales, their profit margins get increased also their employees' can grow their skills and knowledge to better perform their jobs. An organization must know who are its outstanding workers, those who need additional training and those not contributing to the efficiency and welfare of the company or organization. Also, performance on the job can be assessed at all levels of employment such as: Personnel decision relating to promotion, job rotation, job enrichments etc.

The major purpose of this study is to identify the impact of training and motivation on employees' performance of Nepalese commercial banks. This study is based on the primary sources of data which were collected from the 190 respondents of 20 commercial banks of Nepal.

The result shows that there is a positive impact of training and motivation factors (workplace environment, trainee characteristics, on the job and off the job training, reward system) on employees' performance. It indicates that better the workplace environment, higher would be the employees' performance. Similarly, increase in trainee characteristics leads to increase in employees' performance. Likewise, increase in on the job and off the job training leads to better employees' performance. The result reveals that higher the reward system, higher would be the employees' performance. The study also indicates that empowerment and salary is positively related with employees' performance which implies that higher the empowerment and salary, higher would be the employees' performance. The beta coefficient is positive for workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary with employees' performance. The beta coefficient is significant for workplace environment, trainee characteristics, on the job and off the job training, reward system, empowerment and salary at 1 percent level of significance.

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ATM service quality and customer satisfaction in Nepalese commercial banks

Anjana Thapa

Abstract

This study examines the impact and importance of customer satisfaction from ATM services. Convenience, reliability, ease of use, security and cost effectiveness are selected as ATM service dimensionswhich arealso the independent variables. Customer satisfaction is taken as dependent variable. The primary source of data is used to assess the opinion of respondents with respect to customer satisfaction from ATM services in Nepalese commercial banks. The survey is based on 200respondents from 20 commercial banks in Nepal. To achieve the purpose of the study, structured questionnaire is administered. The regression models are estimated to test the significance and importance of customer satisfaction from ATM services in Nepalese commercial banks.

The result shows that there is a positive impact of ATM service dimensions (Convenience, reliability, ease of use and cost effectiveness) on customer satisfaction. It indicates that greater the convenience of ATM service and higher the reliability of ATM service, higher would be the customer satisfaction. Likewise, higher thecost effectiveness of services and ease of use, better would be customer satisfaction. The study also indicates that there is a positive relationship between security and customer satisfaction which implies that higher the security, higher would be the customer satisfaction. The coefficient of beta is positive and significant for convenience, reliability, security, ease of use, cost effectiveness and customer satisfaction.

Keywords: conveniences, reliability, ease of use, security, cost effectiveness, and customer satisfaction

I. Introduction

Bank is a customer oriented services industry. A bank depends upon the customers for their survival in the market. The customers are the focus and customer service is the differentiating factors (Guo et al., 2008). A bank can differentiate itself from competitors by providing high quality customer service (Naeem & Saif, 2009). Customer satisfaction has been highly considered and used in marketing texts and activities during previous decades. Customer satisfaction has been a subject of great interest in any organizations and institutions. The principal objective of organizations is to maximize profits and minimize cost. Profit maximization can be achieved through maximizing customer satisfaction (Wilson et al., 2008). The private commercial banks do already have the advantage of good automation experience in several banking applications. In this competitive and ever changing environment, banks can ensure their survival and gain a competitive edge through the emphasis on using service quality as a means of differentiation (Khalid et al., 2000).

Laderman (1990) revealed that ATMs help to increase profitability and efficiency of operations.Transaction cost is less when performed through an automated teller machine. The

ATM solely works with the employment of the ATM card or a debit card.These cards are issued by the respective commercial banks for the operation of the ATM. This little card is usually about eighty six mm times fifty four mm in size with a magnetic stripe. The card size is a universal size as it can be used in all ATMs across boundaries. The plastic card replaces the cheque book after banking hours.

The ATM is an electronic computerized telecommunications device that allows financial institutions (bank or other financial institutions) customers to directly use a safe means of communication to access their bank accounts. The ATM permits transaction such as dispense cash, accept deposits, transfer funds, and provide information on account balances. Commercial banks have formed integrated online system with nationwide networks so that a customer of one bank can use an ATM of another for cash access. Birch and Young (1997) found that the internet may be exploited as a new delivery channel by the financial services industry to completely reorganize the structure of banks. It means that conducting e-banking in country leads more usage of ATM.The active ATM in banking sectors will cause decrease in cash circulation which will increase the efficiency of banking sector leading to decrease in service provider costs and bank costs. There is belief that the lack of enough information on e-banking in country may cause less efficiency of commercial banks.

According to Saha& Zhao (2005),customer satisfaction is defined as a collection of outcome of perception, evaluation and psychological reactions to the consumption experience with a product andservice. Customer satisfaction is a result of a cognitive and affective evaluation where some comparison standard is compared to the actually perceived performance. Customer satisfaction holds the potential for increasing an organization customer base, the use of more volatile customer mix and increase in the firm's reputation (Alabar, 2012). Competitive advantage is secured through intelligent identification and satisfaction of customer needs.

Casaló et al., (2008) revealed that higher levels of website usability might lead to higher levels of consumer affective commitment to the website. It also leads to direct, positive and significant relationship between satisfaction in previous interactions and the consumer commitment to a financial services website.Technology is then essential in providing faster and more efficient services to customers. Technology acquisition must be based on actual needs and the proven ability to deliver customer friendly solutions.

Ovia (2002) revealed that electronic banking usage has a considerable effect on customer satisfaction among the electronic banking users. It was concluded that customer care and customer retention should be taken into consideration. Customer perception is linkedwith convenient, easy and fast banking services, its delivery process.After the introduction of ATMs, there is no need to carry so much of cash when travelling. ATMs can be found in many locations even intercity bank branches and other bank branches at shopping malls and supermarkets (Singh,2009).Automated teller machines (ATM) are scattered throughout the cities so as to enable customers' easy access to their accounts.

The automated teller machine of a bank is connected to a platform of the commercial banks through ATM switches. Inter-bank ATM networks are created by setting up apex level switches to communicate between the ATM switches of different banks. Singh(2009)

revealed that the inter-bank ATM networks facilitate the use of ATM cards of one bank at the ATMoutlets of other banks for basic services like cash withdrawal and balance enquiry. Commercial banks charge ATM fee for providing the ATM facility to the customers of other banks. The essential units solely enable the shoppers to withdraw money and receive a report of the account balance. Some automated tellermachines can accept deposits, utilities payments, dispense foreign exchange, payment of bills and report on their account.

The first benefits for the banks offering internet banking services are better branding and better responsiveness to the market. Those banks that would offer such services would be perceived as leaders in technology implementation. Therefore, they would enjoy a better brand image (Lustsik, 2003). The second benefits to banks are cost savings, reaching new segments of the population, efficiency, enhancement of the banks reputation and better customer service and satisfaction. The online banking strengthens the relationship between the service provider and the customer (Karjaluoto, 2002). The third benefits that online channel enables banks to offer are low-cost, high value-added financial services and also benefit from the promotional opportunity to cross sell products such as credit cards and loans (Hawkins, 2001). The other benefits are possible to measure in monetary terms. The main goal of every company is to maximize profits for its owners and banks are not any exception. Automated e-banking services offer a perfect opportunity for maximizing profits (Lustsik, 2003).

The main benefit from automated banking service is to save customer time. ATMis introduction of an easy maintenance tools for managing customer money. It reduced costs in accessing and using the banking services. Increased comfort and timesaving transactions can be made 24 hours a day without requiring the physical interaction with the bank. Corporations will have easier access to information as, they can check on multiple accounts at the click of a button. E-banking facilities speed up cash cycle and increase efficiency of business processes as large variety of cash management instruments is available on internet sites. The response of the medium is very fast, customers can actually wait till the last minute before concluding a fund transfer. Customers can download their history of different accounts. They can do a what-if analysis on their own PC before affecting any transaction on the web. This will lead to better funds management.

The main benefit from the customer point of view is introduction of automated banking processsave the time. It is an easy maintenance tools for managing customers money by reducing costs in accessing and using the banking services. Increased comfort and timesaving transactions can be made 24 hours a day, without requiring the physical interaction with the bank. Corporations will have easier access to information as, they can check on multiple accounts at the click of a button. Automated teller machine helps in better cash management.

In Nepalese context, Dhungel and Acharya (2011) undertook a study on perception of bank customers towards automated teller machine service quality and identified the problems and prospects regarding the use of ATM. The study revealed that majority of the customer preferred ATM service over branch banking. Younger and educated generations felt comfortable to use ATM service but older and uneducated generations were insecure to use it. They preferred to go for branch banking. Most of the respondents faced several problems while using ATM. The main problems faced in using ATM service are trapping of card and no back up during load shedding. Number of ATM cardholders is increasing and is expected

to increase much more in Nepal (Bhatta, 2011).

Nepalese Commercial banks have adopted the use of ATMs as a way of providing efficient and effective services to their customers. Despite the good intention of efficient and effective services, customers who have resistant technology or cannot organize their transaction do not use ATM. They routinely kick and punch ATMs when their push button selections do not give them what they expect. Commercial banks operating in Nepal are consequently put into lot of pressures due to increase in competition. Various strategies are formulated to retain the customers and the key of it is to increase the service quality level (Pradhananga, 2014).

Banstola (2012) found that some banks are lacking regular back up of website information and E-banking policy. Nepalese banks are using E-banking for their own convenience and for the purpose of retaining exiting customers. The cost analysis of most of the banks in Nepal seems to be either inadequate or not applied due to their narrow space of business transaction or lack of sufficient tools. No significant correlation was found between use of E-banking and gender, marital status or salary of customer. The study also found that the most important factor which influenced customer to use the E-banking service were reliability and ease of use.

Similarly, Poudel (2011) found that there has been a very modest move away from cash. Payments are now being automated and absolute volume of cash transaction have declined. The study revealed that tele-banking was capable of broadening the customer relationship, retaining customer loyalty and enable banks to gain commanding height of market share.

The main purpose of the study is to examine the relationship between ATM services quality and customer satisfaction in Nepalese commercial banks. Specifically, it examines the factors affecting the customer satisfaction level from convenience, ease of use, reliability, cost effectiveness and security.

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

II. Methodological aspects

The study is based on primary source of data, which is gathered from 200 customers of commercial banks in Nepal. The structured questionnaire consists of multiple choice and 5 point Likert scale questions. The study is based on primary data which is based on questionnaires received from 200 respondents of 20 commercial banks taken from the Kathmandu.

Table 1 shows the number of commercial banks selected for the study along with the number of respondents.

Table 1: Number of respondents selected for the study

S.N	Types of the banks	Total	Name of the banks	No. of observations
A.	Public banks	3	Nepal Bank Limited	10
			RastriyaBanijya Bank	10
			Agriculture Development Bank	10
B.	Joint venture banks	5	Nabil Bank Limited	10
			Standard Chartered Bank Limited	10
			Everest Bank Limited	10
			Nepal SBI Bank Limited	10
			Himalayan Bank Limited	10
C.	Private banks	12	Nepal Investment Bank Limited	10
			Sanima bank Limited	10
			Kumari Bank Limited	10
			Laxmi Bank Limited	10
			Century Commercial Bank Limited	10
			Global IME Bank Limited	10
			Prabhu Bank Limited	10
			Prime Commercial Bank Limited	10
			Citizen Bank Limited	10
			NIC Asia Bank Limited	10
			Macchapuchre Bank Limited	10
			Megha Bank Limited	10
	Total		20	200

Thus the study is based on 200 observations.

The regression models are estimated to analyze the relationship between ATM service quality and customer satisfaction in Nepalese commercial banks. ATM service dimensions (convenience, security, ease of use, reliability and cost effectiveness) are used as independent variables. Customer satisfaction is taken as dependent variable. The multiple regression model used in this study is:

The Model

Customer satisfaction is dependent variable and ATM service dimensions are inde-

pendent variables. The model is specified as under:

$CS= \beta_0 + \beta_1 Conv+ \beta_2 Eou + \beta_3 Rel + \beta_4 Secu + \beta_5 C\text{- } eff+ e$

Where, CS= Customer Satisfaction, Conv= Convenience, Eou= Ease of Use, Rel= Reliability, Secu= Security, C-eff= Cost Effectiveness, β_0 = Intercept of the dependent variable, e= error term and β_1, β_2, β_3, β_4 and β_5 are the beta coefficients of the explanatory variables to be estimated.

Customer Satisfaction:

Satisfaction is a state felt by a person who has experienced performance or an outcome that fulfill their expectation. It is a function of relative level of expectations and perceived performance (Kotler &Clarke, 1987). In another way, satisfaction is a positive or affective state resulting from the appraisal of all aspects of a party working with another (Boeselie&Wiele, 2002). While customer satisfaction is an individual feeling of pleasure or disappointment resulting from comparing a productperceived performance (or outcome) in relation to his or her expectations (Brady & Robertson, 2001).

Security:

Joseph and Stone (2003) foundthat easy access to location, user-friendly ATM, and security are important factors that influence majority of bank customerperception of ATM service quality. Security and privacy are important to shoppers and individual bank customers. Schlichter (2007) revealed that easy access to location, user-friendly ATM, and security are important factors that influence majority of bank customers' perception of ATM service quality. Based on this, the study develops following hypothesis:

H1: Security is positively related to customer satisfaction.

Reliability:

Reliability has been identified as a key determinant of service quality each in interpersonal and self service (Zeithaml et al, 2002; Dale, 2001). Therefore, clients have high reliability on ATM as a result of a lot of convenience when compared to a teller person. For ATMs, reliability means that the transaction is quick enough; it consumes less time compared to a teller. According to Babbie (2009),reliability is a matter of whether a particular technique, applied repeatedly to the same object, yields the same result each time. Gravetter and Wallnau (2005) found that reliability as the extent to which a measurement procedure is stable and consistent. In other words, a reliable measurement procedure will produce the same scores when the same individuals are measured under the same conditions. Based on this, the study develops following hypothesis:

H2: Reliability is positively related to customer satisfaction.

Convenience:

Online banking is a highly profitable channel for financial institutions. It provides customers convenience and flexibility and can be provided at a lower cost than traditional branch banking (Beer, 2006). Acquiring new customers may cost five times as much compared to generating repeat business from existing customers(Bhattacherjee, 2001). Traditional service is restricted by distance and opening hours, whereas e-service substantially circumvents these barriers (Surjadjaja et al., 2003). This provides the customer with convenience and control(Rowley, 2006). Numerous studies have demonstrated that consumer benefits of using SST include convenience, saving time and money (Meuter et al., 2000) and being in control (Dabholkar, 1996). Based on this, the study develops following hypothesis:

H3: Convenience is positively related to customer satisfaction.

Cost effectiveness:

Basic expectation of improving customer service is increasing market reach and reducing costs. Consumers are using new technologies; the technologies must be reasonably priced relative to alternatives. Otherwise, the acceptance of the new technology may not be viable from the standpoint of the consumer (Al-Sukhar, 2005). Internet banking model offers advantages for both banks and customers. The internet provides the banks with the ability to deliver products and services to customers at a lower cost. Another factor that would stand in the way of consumer adoption of e-banking is the cost factor. Merely low prices and web presence were thought to be the key drivers of success. Service quality issues soon became pivotal (Parasuraman, 2005). Based on this, the study develops following hypothesis:

H4:Cost effectiveness is positively related to customer satisfaction.

Easy to use:

Ease of use is an important determinant for the customer preferring the internet banking (Beer, 2006). In a study conducted by Karjaluoto et al., (2002) revealed that ease of use of innovative product or service is one of the three important characteristics for adoption from the customer's perspective. The user friendliness of domain names as well as the navigation tools available in the web-sites is an important determinant for ease of use. Chong et al., (2010) found that if users feel that online banking is easy to use and free of hustle, then the chances of them using the system will be greater. This study used the concept to mean the degree to which ATMs systems offer a hassle free transaction for the customer. Research shows that ease of use is a major factor in determining the adoption and use of various corporate information technologies such as online banking (Gounaris & Koritos, 2008). Based on this, the study develops following hypothesis:

H5: Ease of use is positively related to customer satisfaction.

Reliability

Cronbach's alpha is a statistic which is generally used as a measure of internal consistency or reliability. For the purpose of reliability test through Cronbach's alpha, only Likert scale type questions are considered. Table 2 shows the validity and reliability of the question of the study.

Table 2: Coefficient of Cronbach's Alpha

This table shows the validity and reliability of the question under this study.

Cronbach's Alpha	No. of items
0.931	47

Reliability test for all the component of questionnaire regarding the ATM service quality and customer satisfaction in Nepalese commercial banks were computed through SPSS. The reliability and validity result in above table shows that the instrument was both reliable and valid with Cronobach's alpha of 0.931 was greater than 0.7. It means that 93.1 percent of the data taken for the study is reliable.

III. Presentation and analysis of data

Descriptive Statistics

The descriptive statistics of dependent variable (customer satisfaction) and independent variables **(**convenience, ease of use, reliability, security and cost effectiveness) of the study is shown in table 3.

Table 3: Descriptive statistics

This table summarizes the descriptive statistics of variables used in this study based on likert scale 1 to 5 where 1 indicate strongly disagree and 5 indicate strongly agree. It shows descriptive statistics –mean values and standard deviation of different variables associated with 200 sample. Customer satisfaction is denoted by CS. ATM service quality includes Convenience, Security, Ease of use, Reliability and Cost effectiveness.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Convenience	200	1	5	3.01	1.06
Ease of use	200	1	5	3.70	1.066
Security	200	1	5	3.43	.904
Reliability	200	1	5	3.31	.794
Cost effectiveness	200	1	5	3.337	.89
Customer satisfaction	200	1	5	3.256	.908

Source: Field survey 2015

The average value of convenience is noticed to be 3.01 with a minimum of 1 to maximum of 5. Ease of use ranges from 1 to 5, leading to the average value of 3.70. The average value of security is noticed to be3.43, which ranges from 1 to 5. Reliability ranges from 1 to 5 leading to the average assurance of 3.31. The average cost effectiveness is 3.337, which ranges from minimum of 1 to maximum of 5.

Similarly, the descriptive statistics for the dependent variable i.e. customer satisfaction ranges from minimum of 1 to maximum of 5, leading to the average customer satisfaction of 3.256 with lowest standard deviation of 0.908.

Correlation analysis

The Pearson's correlation coefficients have been computed and the results are presented in table 4.

Table 4:Pearson's correlation coefficient of customer satisfaction with service quality dimension

This table reveals Kendall's correlation coefficient between ATM service quality and customer satisfaction in Nepalese commercial banks. ATM service quality consists, Conv as convenience, Eou as ease of use, Secu as security, Rel as reliability, C-eff as cost effectiveness and CS as customer satisfaction.

	CS	Conv	Eou	Secu	Rel	C-eff
CS	1					
Conv	.566**	1				
Eou	.558**	.365**	1			
Secu	.485**	.426**	.672**	1		
Rel	.634**	.419**	.637**	.596**	1	
C-eff	.452**	.331**	.606**	.561**	.585**	1

Source Field Survey, 2015

Notes:

*1. **. Correlation is significant at the 0.01 level.*

*2. *. Correlation is significant at the 0.05 level.*

The results imply that all the ATM service quality variables have positive relationship with customer satisfaction. The correlation coefficient of reliability and convenience with customer satisfaction is positive which indicates that an increase in reliability and convenience will lead to an increase in customer satisfaction. Similarly, the correlation coefficient of ease of use and security with customer satisfaction is

positive. It means an increase in ease of use and security will lead to an increase in customer satisfaction. Likewise, the correlation coefficient between cost effectiveness and customer satisfaction is positive which means that an increase in cost effectiveness factors will lead to an increase in customer satisfaction.

Regression analysis

Table 5 shows the regression of independent variables (convenience, security, ease of use, reliability and cost effectiveness) on dependent variable (customer satisfaction).

Table 5:Regression analysis of customer satisfaction and ATM service quality dimensions

The results are based on 200 observations by using linear regression model. The model CS= $\beta_0 + \beta_1 Conv + \beta_2 Eou + \beta_3 Rel + \beta_4 Secu + \beta_5 C\text{-}Eff + e$, where, Conv=convenience, Eou=ease of use, Sec=security, Rel=reliability, C-eff=cost effectiveness, CS=customer satisfaction and e=error term.

Model	Constant	Conv	Eou	Secu	Rel	C-eff	Adj. R^2	SEE	F
1	1.799	0.566					0.32	.75	93.48
	(11.26)**	(9.67)**							
2	1.496		0.56				0.31	0.76	89.34
	(7.73)**		(9.45)**						
3	1.585			0.485			0.23	0.79	60.88
	(7.16)**			(7.80)**					
4	0.855				0.634		0.39	0.70	133.3
	(4.003)**				(11.54)**				
5	1.72					0.452	0.20	0.81	50.69
	(7.69)**					(7.12)**			
6	0.902	0.418	0.41				0.46	0.67	84.82
	(4.78)**	(7.56)**	(7.22)**						
7	0.658		0.17	0.535			0.41	0.69	71.34
	2.92		2.46	(7.92)**					
8	0.597			0.141	0.506	0.077	0.42	0.69	47.99
	(2.57)**			(1.97)*	(6.93)**	1.08			
9	0.833	0.404	0.37	0.067			0.46	0.67	56.78
	(4.096)**	(6.95)**	(5.13)**	0.92					
10.	0.387	0.34	0.215		0.369		0.53	0.63	56.30
	1.87	(6.22)**	2.987		(5.46)**				
11.	0.379	0.344	0.211		0.366	0.011	0.52	0.63	44.83
	1.78	(6.19)**	(2.83)**		(5.22) **	0.172			

Source Field Survey, 2015

Notes:

*1. **. Regression is significant at the 0.01 level.*

*2. *. Regression is significant at the 0.05 level.*

The beta coefficients for convenience and reliability are positive with customer satisfaction. It reveals that higher the convenience and reliability, higher would be the customer satisfaction where beta coefficients are significant at 1 percent level of significance. This finding is consistent with the finding of Mohammad and Alhamadani (2011).
Similarly, the finding shows that ease of use and cost effectiveness is positively related to customer satisfaction. It reveals that higher the ease of use and cost effectiveness, higher would be the customer satisfaction where beta coefficient is significant at 1 percent level of significance. This finding is consistent with the findings of Quinn, and Mathur (2004).

The regression result shows that security and customer satisfaction is also positively related with each other. It reveals that higher the security, higher would be the customer satisfaction. Here, beta coefficient is significant at 1 percent in two models. The result shows that the beta coefficient for security is positive with customer satisfaction.

Of all the factors affecting customer satisfaction from ATM service, the most important factor has been identified as reliability followed by convenience, ease of use, cost effectiveness and security.

The result that there is a positive and significant relationship between ATM service quality variables and customer satisfaction is similar to Osman and Sentosa (2014), Al Karim and Chowdhury (2014) and Siddiqi (2011), which concludes positive relation between service quality and customer satisfaction.

IV. Summary and conclusion

Customer satisfaction will vary from person to person, depending on a whole host of variables which may be both psychological and physical. It is a measure of how products and services supplied by a company meet or surpasses customer expectation. ATM is one of the best services offered by banks which offer a convenient way to customers to avoid queues in banks. Today all commercial banks are offering ATM services which are not only enhancing bank customers' satisfaction, but also expanding the banking business. Due to increasing competition, it is essential for banks to know about ATM service quality and customer satisfaction level for the same. Hence, this study focuses on examining the impact and importance of customer satisfaction from ATM services. Convenience, reliability, ease of use, security and cost effectiveness are chosen as independent variables while customer satisfaction is chosen as dependent variable. The study is based on 200 respondents from 20 commercial banks in Nepal.

The study reveals that ATM service quality and its dimensions such convenience, security, ease of use, reliability and cost effectiveness have positive relation with customer satisfaction in Nepalese commercial banks. Likewise, it is found that reliability has higher impact on customer satisfaction. Similarly, cost effectiveness has lower impact as correlation between cost effectiveness and customer satisfaction is lower.

The regression of ATM service quality variables on customer satisfaction shows that all the dimensions of ATM service have positive beta coefficients. The positive beta coefficients

for convenience and reliability reveals that higher the convenience and reliability of ATM service, higher would be the customer satisfaction. Similarly, the positive beta coefficients for ease of use and cost effectiveness reveals that higher the ease of use and cost effectiveness, higher would be the customer satisfaction. Likewise, the beta coefficients for security is also positive which reveals that higher the security, higher would be the customer satisfaction.

The study concludes that the most important factor affecting customer satisfaction from ATM service has been turned out to be the reliability followed by convenience, ease of use, cost effectiveness and security.

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Board characteristics and firm performance: A case of Nepalese commercial banks

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Abstract

This study examines the impact and importance of corporate governance on bank performance in context of Nepal. The return on assets and return on equity are selected as bank's performance variables for this study and these two are the dependent variables. Board size, firm size, firm age, female director, CEO duality and public ownership are the independent variables. The regression models are estimated to examine the relationship between board characteristics and firm performance in Nepalese commercial banks.

The result shows that there is a positive and significant impact of corporate governance on ROA as well as ROE in Nepalese commercial banks. The firm size, firm age, female directors, CEO duality, and public ownership have positive and significant impact on return on assets but board size have insignificant impact on ROA. In the same way, firm size, board size, firm age, female directors and public ownership have negative impact on ROE but CEO duality has positive and significant impact on ROE. The regression analysis shows that the beta coefficient is negative for board size which reveals that higher the members on board, lower would be the performance and vice versa. However, the results are not significant at 5 percent level of significance. Similarly, the beta coefficient for CEO duality is positively significant which indicates that higher the CEO duality, higher would be the performance of Nepalese commercial banks.

Keywords: Corporate governance, return on equity, board size, firm size, firm age, female directors, public ownership and CEO duality

I.Introduction

Corporate governance has been defined as the relationship among shareholders, board of directors and the top management in determining the direction and performance of the corporation(Jensen, 1993).Corporate governance is considered to be one of the most critical factors influencing firm performance in banking sector. It is particularly important as banks play specific role in the economic system through the way it facilitates capital allocation and helps minimize risk for business.Corporate governance essentially involves balancing the interests of the many stakeholders in a company - these include its shareholders, management, customers, suppliers, financiers, government and the community. Since corporate governance also provides the framework for attaining a company's objectives, it encompasses practically every sphere of management, from action plans and internal controls to performance measurement and corporate disclosure(Binh & Giang,2012).

Corporate governance includes relationships between, and accountability of the organization's stakeholders, as well as the laws, policies, procedures, practices, standards,

and principles which may affect the organization's direction and control (Cadbury, 1992). Corporate-governance mechanisms assure investors in corporations that they will receive adequate returns on their investments. If these mechanisms did not exist or did not function properly, outside investors would not lend to firms or buy their equity securities(Shleifer & Vishny, 1997). As thus, businesses would be forced to rely entirely on their own internally generated cash flows and accumulated financial resources to finance ongoing operations as well as profitable investment opportunities. Therefore the overall economic performance likely would suffer because many good business opportunities would be missed and financial distress at individual firms would spread quickly to other firms, employees, and consumers. Few studies examined corporate governance in emerging markets (Rose, 1993).

The contemporary business environment is characterized by uncertainty and risk, making it increasingly difficult to forecast and control the tangible and intangible factor which influence firm performance (Bettis & Hitt, 1997).Customers are becoming more demanding, necessitating increased focus on managerial professionalism and quality of service delivery (Lai & Cheng, 2003). In a dynamic environment, boards become very important for smooth functioning of organizations. Boards are expected to perform different functions ,for example, monitoring of management to mitigate agency costs hiring and firing of management provide and give access to resources grooming CEO and providing strategic direction for the firm(Hermalin & Weisbach, 1988).

Corporate governance is an emerging concept these days (Jensen, 1993). Many developing countries are constantly increasing their focus and concentration on the improvement of corporate management and administration in order to develop better governance structure. Initially the business and corporations run on the grounds of faith, transparency and accountability. However, a tremendous increase in the size of corporations, growing complexities, bankruptcy, crises and frauds in different organizational system and arrangements stimulated the need to develop and transform the corporate culture. This has also led to the development of different set of rules, laws and principles to create better corporate structure and functioning to avoid financial crises and regulation of financial sector (Cheung & Chan, 2004).

According to Wen &Rwegasira(2002), good corporate governance is important as it supports effective decision making based on a well balance framework of accountability that is based on clear communication and understanding of roles and responsibilities across the organization a robust performance, financial, risk and information management systems, high standard of conduct of members of the organization. Organizations with consistent corporate governance have the ability to maintain high quality services and improve their performance as well (Colmen&Kyeereboah, 2007).

Corporate governance is about the way in which boards oversee the running of a company by its managers and how board members are in turn accountable to shareholders and the company. This has implications for company behavior towards employees, shareholders, customers and the banks. Good corporate governance plays a vital role in underpinning the integrity and efficiency of financial markets. Poor corporate governance weakens a company's potential and at worst can pave the way for financial difficulties and even fraud.

If companies are well governed, they will usually outperform other companies and will be able to attract investors whose support can help to finance further growth (OECD, 2014).

Boards also have a responsibility to initiate organizational change and facilitate processes that support the organizational mission (Bart & Bontis, 2003). Further, the boards seek to protect the shareholder's interest in an increasingly competitive environment while maintaining managerial professionalism and accountability in pursuit of good firm performance (Ingley & Van der Walt, 2001). The role of board is, therefore, quite daunting as it seeks to discharge diverse and challenging responsibilities. The board should not only prevent negative management practices that may lead to corporate failures or scandals but also ensure that firms act on opportunities that enhance the value to all stakeholders (Yermack, 1996). To understand the role of board, it should be recognized that boards consists of a team of individuals, who combine their competencies and capabilities that collectively represent the pool of social capital for their firm that is contributed towards executing the governance function(Carpenter & Westphal, 2001).As a strategic resource, the board is responsible to develop and select creative options in advancement of the firm. Given the increasing importance of boards, it is important to identify the board characteristics that make one board more effective from another. This dissertation seeks to identify and examine the board characteristics that make it effective and contribute towards firm performance (Hermalin & Weisbach, 1988).

In brief, good governance helps to develop a brand name for the company and it improves the confidence of investors and stakeholders of the company. Corporate governance has been a central issue in developing countries long before the recent spate of corporate scandals in advanced economies made headlines. Indeed corporate governance and economic development are intrinsically linked. Effective corporate governance systems promote the development of strong financial systems –irrespective of whether they are largely bank-based or market-based – which, in turn, have an unmistakably positive effect on economic growth and poverty reduction (Chakrabarti, 2004).

In the context of Nepal, Thagunna&Poudel (2013) reveals that there is no significant relationship with efficiency level and board structure of banks and there were no notable differences in the efficiency levels of banks according to their asset size. Corporate governance refers to a set of rules and incentives by which the management of a company is directed and controlled. Recent days more importance is given to corporate governance; hence there is great number of researchers to carry out the researches in "corporate governance" (Prajapati, *et. al*., 2014). Corporate governance is a system used to direct and control an organization (Pradhan, 2009). Good corporate governance contributes sustainable economic development by enhancing performance of companies and increasing their access to outside capital (Niraula, 2007). The fundamental objective of corporate governance reforms is to enhance transparency and transparency enhances accountability (Thapa, 2008).

The above discussion shows that the studies dealing with impact of board characteristics variables on firm performance are of greater significance. Though there are these findings in the context of different countries, no such findings using more recent data exist in the

context of Nepal. Hence, this study attempts to analyze the relationship between board characteristics variables and firm performance in the context of Nepalese commercial banks. The major purpose of this study is to investigate the relationship between the corporate governance and firm performance in Nepalese banking sector. Specifically, it examines the impact of firm size, board size, female director, firm age, public ownership and CEO duality on the bank performance of Nepalese commercial banks.

The remainder of this study is organized as follows. Section two describes the sample, data, and methodology. Section three presents the empirical result and the final section draws conclusion and discuss the implication of the study findings.

II. Methodological aspects

The study is based on the secondary data which were gathered from 20 commercial banks of Nepal. The major sources of data are banking and financial statistics published by Nepal Rastra bank. The data were collected on ROA, ROE, board size, firm size, firm age, CEO duality, public ownership and female directors of last five years at the time of gathering data. Table 1 shows the list of sample banks along with the study period and number of observations.

Table1: List of sample banks along with study period and number of observation

S.N	Name of Banks	Study period	No. of observation
1	Nepal Bank limited	2010-2014	5
2	RastriyaBanijya bank limited	2010-2014	5
3	Agriculture Development bank limited	2010-2014	5
4	Nabil Bank Limited	2010-2014	5
5	Nepal Investment Bank Limited	2010-2014	5
6	Standard Chartered Bank	2010-2014	5
7	Himalayan Bank Limited	2010-2014	5
8	Nepal SBI Bank Limited	2010-2014	5
9	Nepal Bangladesh Bank	2010-2014	5
10	Everest Bank Limited	2010-2014	5
11	Bank Of Kathmandu Limited	2010-2014	5
12	Nepal Credit and Commerce Bank Limited	2010-2014	5
13	Kumari Bank Limited	2010-2014	5
14	Laxmi Bank Limited	2010-2014	5
15	Siddhartha Bank Limited	2010-2014	5
16	Global IME Bank Limited	2010-2014	5
17	Citizens Bank International Limited	2010-2014	5
18	Prime Commercial Bank Limited	2010-2014	5
19	Sunrise Bank Limited	2010-2014	5
20	NMB Bank Limited	2010-2014	5
	Total observations		**100**

Thus, the study is based on 100 observations.

Model specification

The study considered bank performance variables as dependent (ROE and ROA) while corporate governance variables (board size, firm size, firm age, public ownership, CEO duality and female directors) are independent variables. To investigate the effect of corporate governance variables on financial performance of Nepalese listed banking companies, this study uses the following regression model:

Yit=a+ B1 FSIZE +B2 FAGE +B3 CEODUA +B4 FDIRCT +B5 BSIZE +B6 POWNRSHP +Eit

Where,

ROA=Return on assets
ROE= Return on equity
CEODUA= CEO duality
POWNRSHP= Public ownership
BSIZE= Board size
FMDIR= Female directors
FSIZE= Firm size
FAGE= Firm age

Board size

The number of board of directors is assumed to have an influence on performance. Several studies show an inverse relationship between board size and firm performance. Eisenberg (1998) &Martin (2003) prove that board size has negative relation with firm performance. Based on it, this study develops the following hypothesis:

H1: Board size is negatively related to bank performance.

Public ownership

Public ownership is the ownership, i.e. the right of disposal, by a public body representing society, by government, state power or some other political body. The property rights theory claims that such rights in the private sector are more clearly defined than in the public sector, and thus, the incentive for seeking profits by private owners leads to more effective monitoring of management performance (Rowthorn,2000). Based on it, this study develops the following hypothesis:

H2: Public ownership is positively related to bank performance.

CEO duality

Cadbury (1992) states that the role of chairman should in principle be separate from that of the chief executive; if the two roles are combined in one person, it represents a considerable concentration of power within the decision making process.Based on it, this study develops the following hypothesis:

H3: CEO duality is negatively related to bank performance.

Female director

In corporate world, women representation on boards is very limited.Smith& Verner (2006) found that women on board of directors have significant positive effect on firm performance. With most of them having non-corporate background, women are far more likely to hold

valuable, unique, and rare information because they have been excluded from the traditional development paths of corporate directorships. Based on it, this study develops the following hypothesis:
H4: Presence of female directors is positively related to firm performance.

Firm age
As firms grow older, their performance deteriorates. Among other things, ROA goes down, costs go up and market size shrinks. Firm age is consequently the number of years (plus one) elapsed since the year of the company's IPO age is the economically most meaningful measure of firm age, since listing is a defining moment in a company's life it affects ownership and capital structure, multiplies growth opportunities, increases media exposure, and demands different corporate governance structures. Firm age is the difference of the year of the establishment up to the observation year date. Several studies show that there is a positive relationship between firm age and bank performance(Adnan,2011). Based on it, this study develops the following hypothesis:
H5: Firm age is positively related to firm performance.

Firm size
In developing countries such as Nepal, a good governance of banks is crucial for the survival of its economy, to better efficiency in the commercial banks. Lee (2009)showed that the greater total assets of the firm, the higher profitability. The reason is that large firms are likely to be more efficient in operating and producing by exploiting the advantage of economies of scale than small firms. The bigger the firm is the higher risk it faces, thus, more corporate governance mechanisms should be implemented in order to provide higher investor protection. Firm size has significant effect on capital structure. Based on it, this study develops the following hypothesis:
H6: Firm size is positively related to firm performance.

III. Results and discussion

Descriptive statistics
Table 3 shows the descriptive statistics. Clearly, return on equity ranges from negative 82.09percent to 153 percent, leading to the average return on equity to 20.55 percent while the return on assets ranges from 0 to 8.29 percent leading to the average return on assets of 1.83 percent.

Table 3: Descriptive statistics
The table shows the descriptive statistics of dependent and independent variables. The ROA and ROE are dependent variables whereas BSIZE, FSIZE, FAGE, CEODUA, FDIRCT, BSIZE and POWNRSHP are independent variables.Where, ROE=Return on Equity,

CEODUA= CEO duality, POWNRSHP = public ownership, BSIZE= board size, FDIRCT= Female director, FSIZE= firm size, FAGE= firm age.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA (%)	100	.00	8.29	1.8265	1.0115
ROE (%)	100	-82.09	153.00	20.5542	27.281
FSIZE(RS)	100	7.54	11.77	10.5437	.644
FAGE(YEARS)	100	1.00	77.00	20.2500	17.328
CEODUA (%)	100	.00	1.00	.4000	.4923
FDIRCT (%)	100	.00	1.00	.1800	.386
BSIZE(DIRECTOR)	100	5.00	10.00	7.6200	.962
POWNRSHP (%)	100	.00	5.00	2.0900	.842

Table 3 clearly shows that board size of selected banks ranges from a minimum of 5directors to maximum of 10directors with an average of 7.62 directors. The firm size has a minimum value of Rs. 7.54million to a maximum of Rs. 11.77million with an average of 10.54million. The firm age has minimum value of 1years and a maximum of 77years leading to the mean of 20.25years. CEO duality varies from aminimum of 0 percent to a maximum of 1 percent with an average of 0.40 percent. Similarly, average female director is observed to be 0.18 percent with a minimum value of 0 percent and maximum value of 1 percent. Likewise, public ownership varies from a minimum of 0 percent to a maximum of 5 percent leading to an average of 2.09 percent.

Correlation analysis

Having indicated the descriptive statistics, Pearson correlation coefficients are calculated and the results are presented in table 4.

The result shows that there is positive relationship of firm age, firm size, female directors, public ownership and CEO duality with return on assets which indicates that older the firm and higher the firm size, higher would be the return on assets. Similarly, the study observed positive relationship between CEO duality and return on assets which revealed that higher the person having joint title of both chairman and CEO, higher would be the return on assets. Similarly, female director has positive relationship with return on assets which reveal that higher the female representatives on board, higher would be the return on assets. The result shows thatboard size is negatively correlated with the return on assets, which indicates that larger the member on board, lower would be the return on assets.

The result shows that there is positive relationship between CEO duality and return on equity this indicates that higher the person having joint title of chairman and CEO, higher would be the return on equity. However, firm size, firm age, public ownership, board size and female directors are negatively correlated with return on equity which indicates that higher the firm size and board size, lower would be the return on equity. Likewise, firm age has negative relationship with return on equity. It indicates that an increase in firm age leads to a decrease in the return on equity. Similarly, there is negative relationship between public ownership and return on equity which reveals that higher the public ownership, lower would be the return on equity.

Table 4: Correlation matrix for the dependent and independent variables

This table reveals the bivariate Pearson correlation coefficients between different pairs of corporate governance variables and control variables. The ROA and ROE are dependent variables and BSIZE, FSIZE, FAGE, CEODUA, FDIRCT, BSIZE and POWNRSHP are independent variables. Where, ROE=Return on Equity, CEODUA= CEO duality, POWNRSHP = public ownership, BSIZE= board size, FDIRCT= Female director, FSIZE= firm size, FAGE= firm age. The correlation coefficients are based on 100 observations for the period 2009/10 through 2013/14.

Variables	ROA	ROE	FSIZE	FAGE	CEODUA	FDIRCT	BSIZE	POWNRSHP
ROA (%)	1							
ROE (%)	0.324***	1						
	0.001							
FSIZE (RS)	0.097	-0.012	1					
	0.336	0.904						
FAGE (YEARS)	0.130	-0.126	0.640***	1				
	0.198	0.210	0.000					
CEODUA (%)	0.363***	0.323***	0.227**	-0.036	1			
	0.000	0.001	0.023	0.726				
FDIRCT (%)	0.202**	-0.016	0.179	0.097	0.096	1		
	0.044	0.878	0.074	0.335	0.344			
BSIZE(DIRECTORS)	-0.143	-0.197**	-0.153	-0.298***	-0.294***	0.322***	1	
	0.155	0.049	0.128	0.003	0.003	0.001		
POWNRSHP(%)	0.035	-0.043	-0.185	-0.159	-0.258***	0.198**	0.429***	1
	0.727	0.671	0.065	0.113	0.009	0.048	0.000	

**** Correlation is significant at the 0.01 level (2-tailed).*
** *Correlation is significant at the 0.05 level (2-tailed).*

Regression analysis

The regression of corporate governance and control variables on bank performance has been analyzed by defining bank performance in terms of return on equity and return on assets. The regression of corporate governance and control variables on return on assets produced the results as indicated in table 5. The table indicates that a beta coefficient is negative for board size. Thus, higher the number of members on board, lower would be the return on assets. However, the beta coefficient is not significant at 5percent level of significance.

The beta coefficients are positive for firm size, firm age, female directors, public ownership and CEO duality. The result shows that higher the size of firm, higher would be the return on assets. However, beta coefficients are significant at 5percent level of significance for female directors and CEO duality. Similarly, older the firm, higher would be the return on assets where beta coefficient is not significant at 5percent level of significance. The results also show that presence of female directors, CEO duality and public ownership on a firm leads to the higher return on assets.

Table 5: Regression of board characteristics and control variables on return on asset

The results are based on pooled cross-sectional data of 20 banks with 100 observations for the period 2010 to 2014 by using linear regression model. The model is, ROAit=a+ B1 FSIZE +B2 FAGE +B3 CEODUA +B4 FDIRCT+B5 BSIZE +B6 POWNRSHP +Eit. Where, ROE=Return on Equity, CEODUA= CEO duality, POWNRSHP = public ownership, BSIZE= board size, FDIRCT= Female director, FSIZE= firm size, FAGE= firm age.

Model	Intercept	Regression coefficient of ROA						Adj. R^2	SEE	F
		FSIZE	FAGE	CEODUA	FDIRCT	BSIZE	POWN RSHP			
1	0.215	0.153						0.001	1.01185	0.937
	(0.129)	(0.968)								
2	1.673		0.008					0.007	1.00807	1.679
	(10.76)***		(1.296)							
3	1.528			0.747				0.123	0.94715	14.915
	(12.495)***			(3.862)***						
4	1.731				0.528			0.031	0.99581	4.149
	(15.745)***				(2.037)**					
5	2.976					-0.151		0.011	1.00616	2.058
	(3.685)***					(1.435)				
6	1.738						0.042	0.009	1.01603	0.123
	(6.364)***						(0.35)			
7	1.292	0.038	0.007					0.003	1.01308	0.848
	(0.622)	(0.184)	(0.873)							
8	3.648		0.14	0.833				0.138	0.93926	6.273
	(1.815)**		(1.904)**	(4.104)***						
9	4.07		0.014	0.813	0.451			0.158	0.92793	5.66
	(2.037)**		(1.944)**	(4.051)***	(1.833)**					
10	4.426		0.013	0.768	0.507	-0.061		0.152	0.93159	4.543
	(2.081)**		(1.603)	(3.486)***	(1.871)**	(-0.504)				
11	4.105			0.815	0.454		0.188	0.163	0.92548	4.211
	(1.933)**			(3.687)***	(1.67)**		(1.499)			

Notes:

1. Figures in parentheses are t-values
2. The signs ** and *** denote that the results are significant at 5 percent and 1 percent level of significance respectively
3. Dependent variable is return on asset

The regression of corporate governance and control variables on return on equity produced the results as indicated in table 6. The table indicates that beta coefficients are negative for firm size, firm age, female directors, public ownership and board size. Thus, higher the number of members on board, lower would be the return on equity. However, the beta coefficient is not significant at 5percent level of significance. Similarly, older the firm, lower would be the return on equity where beta coefficient is not significant at 5percent level of significance. The results also show that presence of female directors and public ownership on a firm leads to the lower return on equity.

The beta coefficient is positive for CEO duality. The result shows that higher the CEO duality, higher would be the return on equity which signifies that a person having the joint title of both chairman and CEO leads to the higher return on equity where beta coefficients are also significant.

Table 6: Regression of board characteristics and control variables on return on equity
The results are based on pooled cross-sectional data of 20 banks with 100 observations for the period 2010 to 2014 by using linear regression model. The model is, ROAit=a+ B1 FSIZE +B2 FAGE +B3 CEODUA +B4 FDIRCT+B5 BSIZE +B6 POWNRSHP +Eit. Where, ROE=Return on Equity, CEODUA= CEO duality, POWNRSHP = public ownership, BSIZE= board size, FDIRCT= Female director, FSIZE= firm size, FAGE= firm age.

Model	Intercept	Regression coefficient of ROE						Adj. R^2	SEE	F
		FSIZE	FAGE	CEODUA	FDIRCT	BSIZE	POWNRSHP			
1	26.018	-0.518						0.01	27.41783	0.015
	(0.575)	(-0.121)								
2	24.584		-0.199					0.006	27.1994	1.591
	(5.859)***		(-1.261)							
3	13.393			17.902				0.095	25.94924	11.423
	(3.998)***			(3.380)***						
4	20.752				-1.099			0.01	27.41656	0.024
	(6.854)***				(-0.154)					
5	63.219					-5.599		0.029	26.88049	3.972
	(2.930)***					(-1.993)				
6	23.463						-1.392	0.008	27.39457	0.181
	(3.187)***						(-0.426)			
7	-25.01		-0.316					0.004	27.2286	1.191
	(-0.448)		(-1.538)							
8	25.815	-0.873	-0.16	17.961				0.09	26.02054	4.275
	(0.464)	(-.156)	(-0.791)	(3.196)***						
9	23.553	-0.62	-0.161	18.066	-2.414			0.082	26.14043	3.207
	(0.418)	(-0.109)	(-0.791)	(3.196)***	(-0.349)					
10	54.792		-0.291	14.131		-5.303		0.096	25.93376	3.111
	(0.925)		(-1.338)	(2.304)**		(-1.587)				
11	49.858		-0.291	14.855		-6.126		0.093	25.97903	2.695
	(0.836)		(-1.335)	(2.394)**		(1.754)**				

Notes:

1. Figures in parentheses are t-values
2. The signs ** and *** denote that the results are significant at 5 percent and 1 percent level of significance respectively
3. Dependent variable is return on equity

IV. Summary and conclusions

Corporate governance is a system used to direct and control an organization. It includes relationships between, and accountability of the organization's stakeholders, as well as the laws, policies, procedures, practices, standards, and principles which may affect the organization's direction and control. Corporate-governance mechanisms assure investors in corporations that they will receive adequate returns on their investments. If these mechanisms did not exist or did not function properly, outside investors would not lend to firms or buy their equity securities. As thus, businesses would be forced to rely entirely on their own internally generated cash flows and accumulated financial resources to finance ongoing operations as well as profitable investment opportunities. Therefore the overall economic performance likely would suffer because many good business opportunities would be missed and financial distress at individual firms would spread quickly to other firms, employees, and consumers. Few studies examined corporate governance in emerging

markets.

This study examines the impact of board size, firm size, firm age, CEO duality, female directors and public ownership on firm performance of Nepalese commercial banks. The data are collected from bank supervision reports published by Nepal Rastra Bank and annual reports of selected commercial banks. The survey is based on 100 observations from 20 commercial banks of Nepal. The regression models are estimated to test the significance and importance of profitability in Nepalese commercial banks.

The result shows that the profitability of Nepalese commercial banks is highly influenced by the return on assets and return on equity. Clearly, return on equity ranges from negative 82.09percent to 153 percent, leading to the average return on equity to 20.55 percent while the return on assets ranges from 0 to 8.29 percent leading to the average return on assets of 1.83 percent.

The overall data analysis concludes that there is a there is a positive relationship between firm size and return on assets is positive which shows that higher the size of the firm, higher would be return on assets. The public ownership and return on assets have the positive relationship which indicates that with an increase in public ownership there is an increase in return on assets and vice versa. There is a positive relationship between female directors and return on assets, which indicates that when there is a presence or absence of female directors on a board, it impacts on return on assets. Similarly, it is found that there is a positive relationship between ROE and CEO duality, which signifies that higher the person having the joint title of CEO and chairman would lead to the higher return on equity. However, there is a negative relationship between board size and return on equity, which indicates that higher the number of members on board, lower would be the return on equity. The relationship between firm size and return on equity is negative which shows that higher the size of the firm, lower would be return on equity. The public ownership and return on equity have negative relationship, which indicates that with an increase in public ownership there is a decrease in return on equity and vice versa.

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Determinants of commercial banks' interest margin in Nepal

Ritesh Shrestha

Abstract

This study examines the determinants of interest margin of Nepalese commercial banks. The interest margin in terms of net interest income to average earning assets and net interest income to total assets is selected as dependent variables. Capital adequacy ratio, credit risk, efficiency ratio, liquidity ratio, assets growth ratio, return on assets, assets growth ratio, GDP growth rate, inflation and interest rate are taken as independent variables. The data are collected from bank supervision reports published by Nepal Rastra Bank and annual reports of selected commercial banks. The survey is based on 126 observations from 18 commercial banks in Nepal. The regression models are estimated to test the significance and importance of net interest margin in Nepalese commercial banks.

The result shows that capital adequacy ratio, liquidity ratio, credit risk, return on asset and interest rate is positively related with net interest margin. It indicates that higher the capital adequacy ratio and liquidity ratio, higher would be the net interest margin. Similarly, increase in credit risk leads to an increase in net interest margin. Likewise, higher the return on assets and interest rate, higher would be the net interest margin. The results also shows that efficiency ratio, assets growth ratio, GDP growth rate and inflation is negatively related with net interest margin which reveals that increase in efficiency ratio and assets growth ratio leads to decrease in net interest margin. Similarly, higher the GDP growth rate, lower will be the net interest margin. Likewise, increase in inflation leads to a decrease in net interest margin. The beta coefficient is positive for capital adequacy ratio, liquidity ratio, credit risk, return on assets, interest rate and net interest margin whereas the beta coefficient is negative for efficiency ratio, assets growth ratio, GDP growth rate, inflation and net interest margin. The beta coefficient is significant for capital adequacy ratio, credit risk, liquidity ratio and interest rate at 5 percent level of significance.

Keywords: Capital adequacy ratios, credit risk, efficiency ratio, liquidity ratio, return on assets, assets growth ratio, GDP growth rate, inflation and interest rate.

I. Introduction

Financial liberalization was started in the 1980's in many developing countries and it involved reduction and removal of in interest rate control. It also entailed new laws, institutional reforms and regulations that are governing the financial sector, as well as restructuring and privatization of banks (Chirwa and Mlachila, 2004). Efficient financial intermediation is important because it mobilizes resources required for growth and development. Ghasemi and Rostami (2015) concluded that the economic activities including productive and unproductive, value adding or non-value adding, socially useful or useless are need to access to loan and credit from banks, to be successful.

The net interest margin is treated as an important indicator of intermediation efficiency. Mujeri and Younus (2009) stated that that net interest margin would decline when banking industry mature and competition strengthen. Banks' interest rate spread or net interest margin represents a vital component of profitability. Interest rate margins are of significant importance for efficient mobilization of resources for economic and productive activities. A wide spread in interest rate makes borrowing costly, constraining economic activity and lowering the returns on savings.

Aryeetey et al. (1997) examined the various factors that affect the interest margin in an economy such as high operating costs. Akinlo and Owoyemi (2012) stated that high interest rate spreads are likely to discourage potential savers and thus limit the stable availability of funds to potential investors. Higher net interest margins usually imply lower banking sector efficiency and have a negative impact on financial developments, resulting with lower investments and slower economic activity. Azeez and Gamage (2013) concluded that high margins are often associated with a low degree of efficiency and noncompetitive market conditions. On the other hand, high net interest margins may be a reflection of an inadequate regulatory banking environment and a high degree of information asymmetry.

In an economy, the net interest margin is significantly influenced by a number of factors which include macroeconomic environment, control for real output, inflation, and the policy interest rate (Treasury bill rate). Bernanke and Gertler (1989) argued that creditworthiness is countercyclical where slowdown in economic activity affects borrowers' fortunes and hence their creditworthiness. The change in creditworthiness would affect the lending rate and hence the spread. Inflation is included because if inflation shocks are not passed on in equal measure to deposit and lending rates then this would have an impact on the spread. Claeys and Vennet (2008) identified uncertainty and asymmetric information as a strong influence on interest margin and as a matter of fact leads to high risk premium.

Barajas et al. (2000) analyzed net interest margin in Latin America and Caribbean countries and indicated that interest rate spreads remained high relative to those in developing countries, despite financial liberalization. However, there was some evidence of decline in Colombia (Chirwa and Mlachila, 2004). Allen (1988) argued that credit risk is important in setting interest margin. McShane and Sharpe (1985) related the interest rate risk of the money market with the interest margin. Maudos and Guevara (2004) identified a number of determinants on interest margins and show that the degree of competition and operational costs are both important to the interest margin. Drakos (2003) found that a fall in interest rate margins represents a success of the market-oriented reforms implemented in transition countries. While the former may have policy implications for bank supervision, such as how different market structures affect financial intermediation, the latter may convey useful information on how macroeconomic policies in general may contribute to the stability of the banking industry.

Ho and Saunders (1981) concluded that the degree of competition of the market and the interest rate risk to which the bank is exposed are two basic components of the interest margin. Angbazo (1997) considered both credit risk and interest rate risk as factors affecting interest rate risk. Peria and Mody (2004) included both market concentration and operational cost in their econometric model to examine interest spreads for Latin American countries.

Ngetich and Wanjau (2011) noted that depending on the market structure and risk management, the banking industry is assumed to maximize either the expected utility of profit or the expected profit. They also assert that the interest rate spread component varies depending on the market structure. For instance, assuming a deposit rate and market power in the loan market, the interest rate spread is traced using the variation in loan rate.

Interest rate spread has always been one of the most important and significant economic issues in different countries of the world. The provisions related to the legal reserves, market structure and bank performance are the major factors affecting the interest margin (Nazarian and Nejad, 2010). Efficient banks with better performance reduce their costs and thus can allocate more market share for themselves. According to this view, the competitive environment may create more efficient and focused banking system. The existence of legal institutions prevents monopoly in the banking system thus; it can improve the spread rate (Afanasieff et al., 2002). This index with multiple definitions in the banking literature generally equals to the difference between the average interest earned from interest earning assets and average interest paid for resources (Demirgucunt et al., 1999).

In context of Nepal, Maskay and Pandit (2009) suggested that there is a significant long run elasticity coefficient between the policy rates (bank rate) with interest margin. Kharel and Pokhrel (2012) showed a positive relationship between financial sector development and economic growth. Moreover, the role of capital market seems to be insignificant. It may be either the size of market is too small to seek the relationship or it is weakly linked to real economic activities. The main implication of the findings is that the policy should focus on banking sector development by enhancing products and service quality.

Neupane (2013) revealed that the decline in efficiency change is due to decline in both pure efficiency change and scale efficiency change and positive relationship between debt to equity ratio and efficiency as well as between capital adequacy and efficiency. Further, profitable banks with lower leverage and higher capital adequacy ratio are found to be more efficient and bank loans seem to be more highly valued than alternative bank outputs. Thagunna and Poudel (2013) stated that both the ownership type and the asset size of a bank do not affect its efficiency ratio. This study shows that foreign banks do not necessarily mean better efficiency ratio; however, further inspection is required to know if the change in policy of foreign investments in banking would yield different results.

Financial performance of commercial banks gets affected by two factors namely bank specific factors and macroeconomic factors. Capital adequacy ratio, credit risk, efficiency ratio, liquidity ratio, return on assets and assets growth rate are bank specific factors while GDP growth rate, inflation and interest rate are macroeconomic factors. Though literature suggests various factors affecting the interest margin of commercial banks very little is known in the context of Nepal while Nepalese banking sector has undergone rapid changes at present. This study is devoted to examine the factors affecting the interest margin of commercial banks of Nepal.

The remainder of this study is organized as follows. Section two describes the sample data and methodology, section three presents the empirical results and final section draws conclusions and discusses the implications of the study findings.

II. Methodological aspects

This study is based on the secondary data. Data were pooled for 7 years from 2007/08 to 2013/14 for 18 commercial banks in Nepal leading to a total of 126 observations. The secondary data have been obtained from annual reports of respective sample banks, supervision report published by Nepal Rastra Bank, website of respective banks, World Bank sites and various economic surveys published by Ministry of Finance of Nepal.

The pooled least square method has been used to measure the relationship between net interest margin and bank specific variables as well as macroeconomic variables. The research design adopted in the study is descriptive and causal comparative.

Table 1 shows the number of commercial banks selected for the study along with the study period and number of observations.

Table 1: **Selection of banks, period of study and number of observations**

S.N.	Name of Organization	Sample Period	No. of Observation
1	Bank of Kathmandu Limited	2007/08-2013/14	7
2	Citizens Bank Limited	2007/08-2013/15	7
3	Everest Bank Limited	2007/08-2013/16	7
4	Grand Bank Limited	2007/08-2013/17	7
5	Himalayan bank limited	2007/08-2013/18	7
6	Kumari Bank Limited	2007/08-2013/19	7
7	Lumbini Bank Limited	2007/08-2013/20	7
8	Machhapuchre Bank Limited	2007/08-2013/21	7
9	Nabil Bank Limited	2007/08-2013/22	7
10	Nepal Bangladesh Bank Limited	2007/08-2013/23	7
11	Nepal investment bank limited	2007/08-2013/24	7
12	Nepal SBI Bank Limited	2007/08-2013/25	7
13	NIC Asia Bank Limited	2007/08-2013/26	7
14	NMB Bank Limited	2007/08-2013/27	7
15	Prime Bank Limited	2007/08-2013/28	7
16	Siddharth Bank Limited	2007/08-2013/29	7
17	Standard Chartered Bank Limited(SCB)	2007/08-2013/30	7
18	Sunrise Bank Limited	2007/08-2013/31	7
	Total Observations		126

Thus, the study is based on 126 observations.

The Model

The theoritical statement of the model is that net interest margin (NIM) is regarded as subject to the constraints of capital adequacy ratio (CAR), credit risk (CR), efficiency ratio (EFF), liquidity ratio (LR), return on assets (ROA), assets growth ratio (AGR), gross do-

mestic product growth rate (GDP), inflation (INF) and interest rate (IR). Therefore, the model takes the following form: NIM =f (CAR, CR, EFF, LR, ROA, AGR, GDP, INF, IR)

More specifically,

$NIM1_{it} = \beta_0+\beta_1 CAR_{it}+\beta_2 CR_{it}+\beta_3 EFF_{it}+\beta_4 LR_{it}+\beta_5 ROA_{it}+\beta_6 AGR_{it}+\beta_7 GDP_t+ \beta_8 INF_t+\beta_9 IR_t +\varepsilon_{it}$ (1)

$NIM2_{it} = \beta_0+\beta_1 CAR_{it}+\beta_2 CR_{it}+\beta_3 EFF_{it}+\beta_4 LR_{it}+\beta_5 ROA_{it}+\beta_6 AGR_{it}+\beta_7 GDP_t+ \beta_8 INF_t+\beta_9 IR_t +\varepsilon_{it}$ (2)

Where,

NIM1= Net interest margin to average earning assets

NIM2= Net interest margin to total assets

CAR= Capital adequacy ratio

CR= Credit risk

EFF= Efficiency ratio

LR= Liquidity ratio

ROA= Return on assets

AGR= Assets growth ratio

GDP= Gross domestic product growth rate

INF= Annual inflation

IR= Interest rate.

Capital adequacy ratio

Capital adequacy ratio is a ratio used to measure a bank's capital adequacy to cover all the potential inherent risk in the bank earning assets, mostly in the form of loans. Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Moreover, greater bank capital reduces the chance of distress (Diamond and Rajan, 2000). Capital adequacy ratio is based on the principle that any assets owned by the bank carries the risk that banks should provide capital for a certain percentage of total earning assets. In accordance with the conditions set by bank Nepal to adopt international banking regulations relating to minimum capital adequacy set by the Basel committee on banking supervision, currently all commercial banks in Nepal. Ho and Saunders (1981), Hawtrey and Liang (2008), Hughes and Mester (1998) and Athanasoglou et al. (2008) found a positive relationship between interest margin and capitalization. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship between capital ratio and net interest margin.

Credit risk

Risk measures the risk faced by individual banks. Banks that invest in riskier projects will have a higher rate of return to compensate the higher percentage of bad loans written-off

(Angbazo, 1997). The banking industry is also called a risky industry considering each bank's business activities which cannot be separated from risk. With its primary function as an intermediary institution, the biggest risk faced by banks is credit risk. Financial ratios are used as a proxy for the amount of credit risk which is the ratio of non-performing loans (NPLs). NPL is a large amount of nonperforming loans on a bank compared with the total loans. Brock and Suarez (2000), Ho and Saunders (1981), Maudos and Guevara (2004) and Kasman et al. (2010) showed positive and statistically significant relation between credit risk and interest margin but for the other countries the coefficient is negative. Based on it, this study develops the following hypothesis:

$H_{2:}$ There is a positive relationship between credit risk and net interest margin.

Efficiency ratio

Efficiency ratio is one of the key internal factors that determine the bank profitability. It is represented by different financial ratios like total asset growth, loan growth rare and earnings growth rate. The ratio of operating expenses to operating income is often called the efficiency ratio is used to measure the ability of bank management to control operating expenses to operating income. ROA ratio reflects the increasing lack of ability of banks to reduce operating costs and increase operating income which may result in losses as banks are less efficient in managing its business. Bektas (2014), Maudos and Solis (2009), Altunbas et al. (2001) and Athanasoglou et al. (2008) revealed negative relationship is expected since high levels of inefficiency may imply that banks select less profitable assets and high cost liabilities (increasing the interest rate margins). Based on it, this study develops the following hypothesis:

$H_{3:}$ There is a negative relationship between efficiency ratio and net interest margin.

Liquidity ratio

Liquidity is measured as ratio of total loan to total assets (sometimes defined as liquid assets relative to short-term liabilities). Loan to deposit ratio is the ratio of loans to third parties in rupiah and foreign currency, excluding loans to other banks, to the third party deposits that include checking accounts, saving accounts, and time deposits. Loan to deposit ratio reflects how much the bank's ability to repay the withdrawal of funds by depositors to rely on loans as a source of liquidity. This ratio is an indicator of vulnerability and the ability of a bank. The higher the ratio means the low capacity of the concerned bank liquidity. This is because the amount of funds required to finance the loan becomes larger. Brock and Suarez (2000), Manurung and Anugrah (2013), Raharjo et al. (2014) and Berger and Bouwman (2009) showed the positive relationship between the liquidity ratio and net interest margin. Based on it, this study develops the following hypothesis:

$H_{4:}$ There is a positive relationship between liquidity ratio and net interest margin.

Return on assets

The term profitability refers to the ability of the business organization to maintain its profit year after year (Ayanda et al., 2013). Profitability apart from ensuring the sustainability of

the companies it has also wider implications of the economy as a whole. So, one of the important factor that is used to measure the profitability in Nepalese commercial bank is ROA. Return on assets is used to measure the revenue generated from the banks use of the bank's assets. It is a ratio of income to its total assets. It measures the ability of the bank management to generate income by utilizing company assets at their disposal. Raharjo et al. (2014), Were and Wambua (2014) and Ongore and Kusa (2013) showed positive relationship between ROA and net interest margin. Based on it, this study develops the following hypothesis:

$H_{5:}$ There is a positive relationship between return on assets and net interest margin.

Assets growth ratio

Bank assets growth ratio is a variable that is used to measure the economic scale. In most of the studies on banking, the bank's total assets are used as a proxy. Bank assets growth ratio has a positive relationship with the bank's revenue to a certain extent, and will have a negative impact if the assets growth ratio of very large banks, because of bureaucratic or other reasons. This study uses log total assets (AGR) as a proxy of the assets growth ratio of the bank as used Demirguc-Kunt et al. (2004) and Athanasoglou et al. (2008).Kosmidou (2007), Goddard et al. (2004), Micco et al. (2007) and Nasseriniaa and Ariff (2014) revealed a negative relationship between growth ratio and net interest margin. Based on it, this study develops the following hypothesis:

$H_{6:}$ There is a negative relationship between assets growth ratio and net interest margin.

GDP growth rate

GDP is the real gross domestic product growth rate (GDP growth) which is a measure of the total economic activity and it is adjusted for inflation. It is expected to have an impact on numerous factors related to the demand and supply for banks deposits and loan. It is also one of the primary indicators that is used to measure health of a country's economic condition. Demirgucunt et al. (2004), Bernanke (1990) et al. (1999), Sufian (2009) and Liu and Wilson (2010) found a negative relationship with net interest margin thus an increase in economic activity increases the net worth of borrowers, thus, reducing the interest rate spreads. Based on it, this study develops the following hypothesis:

$H_{7:}$ There is a negative relationship between GDP growth and net interest margin.

Inflation

Inflation is a process of rising prices in general and constantly associated with the market mechanism that can be caused by various factors, including increased private consumption, excess liquidity in the market that triggered the consumption or even speculation, as well as due to the distribution of disfluencies goods. Demirgucunt et al. (2004), Raharjo et al. (2014) and Perry (1992) revealed that inflation is positively significant with the interest margins and suggested that the effect of inflation on bank performance is positive if the rate of inflation is fully anticipated. Based on it, this study develops the following hypothesis:

$H_{8:}$ There is a positive relationship between inflation and net interest margin.

Interest rate

The central bank's tool known as the discount rate is the interest rate that commercial banks

pay to borrow funds from Reserve Banks. By raising or lowering the discount rate, the central bank can promote or discourage borrowing and thus alter the amount of revenue available to banks for making loans. Commercial banks usually respond to changes in the Discount Rate with proportionate changes in their Prime Lending Rate. Eita (2012), Raharjo et al. (2014) and Niyimbanira et al. (2015) showed positive significant relationship between the interest rate spread and interest rate.

$H_{9:}$ There is a positive relationship between interest rate and net interest margin.

III. Presentation and analysis of data

Descriptive Statistics

The descriptive statistics of dependent variable (net interest margin) and independent variables (capital adequacy ratio, credit risk, efficiency ratio, liquidity ratio, return on assets, assets growth ratio, GDP growth rate, inflation and interest rate) of the study is shown in table 2.

Table 2: Descriptive statistics

Table 2 shows descriptive statistics - mean, standard deviation, minimum and maximum values variables associated with 18 sample banks for the period 2007/08 to 2013/14. NIM1 refers to net interest income to average earning assets, NIM2 refers to net interest income to total assets, CAR refers to capital adequacy ratio, CR refers to credit risk, EFF refers to efficiency ratio, LR refers to liquidity ratio, ROA refers to return on assets, AGR refers to assets growth ratio, GDP refers to gross domestic product growth rate, INF refers to inflation, IR refers to interest rate and N is the number of observations.

Variable	N	Minimum	Maximum	Mean	Std. Deviation
NIM1 (%)	126	2.27	8.09	4.08	0.85
NIM2 (%)	126	0.94	7.75	3.25	0.95
CAR (%)	126	-18.17	33.96	12.70	4.67
CR (%)	126	0.00	31.73	2.41	4.16
EFF (%)	126	20.85	170.31	42.28	24.78
LR (%)	126	38.14	134.53	78.94	16.27
ROA (%)	126	-0.99	18.04	1.87	1.91
AGR (%)	126	-35.62	225.82	23.73	28.49
GDP (%)	126	3.42	6.10	4.71	0.86
INF (%)	126	8.37	11.08	9.49	0.78
IR (%)	126	1.15	8.52	4.81	2.93

Source: SPSS output result outcome

Table clearly shows that net interest income to average earning assets has minimum value of 2.27 percent and a maximum of 8.09 percent leading to the mean value of 4.08 percent. The average net interest income to total assets of selected banks during the study period is noticed to be 3.25 percent with minimum value of 0.94 percent and a maximum of 7.75 per-

cent. The capital adequacy ratio of selected banks ranges from a minimum value of -18.17 percent to maximum value of 33.96 percent with average of 12.70 percent. The credit risk has a minimum value of 0 percent and a maximum of 31.73 percent leading to the mean value of 2.41 percent. The efficiency ratio has a minimum value of 20.85 percent and a maximum of 170.31 percent with an average of 42.28 percent. Liquidity ratio varies from a minimum of 38.14 percent to a maximum of 134.53 percent with an average of 78.94 percent. Similarly, average return on assets is observed to be 1.87 percent with a minimum value of -0.99 percent and a maximum value of 18.04 percent. Likewise, the assets growth ratio varies from a minimum of -35.62 percent to a maximum of 225.82 percent leading to an average of 23.73 percent. Similarly, average GDP growth is observed to be 4.71 percent with a minimum value of 3.42 percent and a maximum of 6.10 percent. Inflation ranges from a minimum of 8.37 percent to a maximum of 11.08 percent with an average of 9.49 percent. The average interest rate of selected banks during the study period is noticed to be 4.81 percent with minimum of 1.15 percent to a maximum of 8.52 percent.

Correlation analysis

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

Table 3: Pearson's correlation matrix for the dependent and independent variables

This table reveals the Pearson correlation coefficients between dependent and independent variables. NIM1 refers to net interest income to average earning assets, NIM2 refers to net interest income to total assets, CAR refers to capital adequacy ratio, CR refers to credit risk, EFF refers to efficiency ratio, LR refers to liquidity ratio, ROA refers to return on assets, AGR refers to assets growth ratio, GDP refers to gross domestic product growth rate, INF refers to inflation and IR refers to interest rate are defined in table 3. The correlation coefficient is based on the data from 18 sample firms listed in NEPSE with 126 observations for the period 2007/08 through 2013/14.

	NIM1	NIM2	CAR	CR	EFF	LR	ROA	AGR	GDP	INF	IR
NIM1	1										
NIM2	.564**	1									
CAR	.291**	.188*	1								
CR	.228*	.338**	-.532**	1							
EFF	-.241**	-.335**	.008	-.081	1						
LR	.193*	.203*	.391**	-.163	.099	1					
ROA	.516**	.686**	-.240**	.437**	-.237**	-.223*	1				
AGR	-.109	-.409**	.091	.001	.147	.041	-.109	1			
GDP	-.04	-.238**	-.099	.076	-.06	-.053	.017	.119	1		
INF	-.131	-.124	.017	.044	.047	.03	.111	.390**	.015	1	
IR	.178*	.171*	.118	-.061	.104	.068	-.012	-.113	-.334**	.265**	1

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

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

The result shows that there is a positive relationship of net interest income to average earning assets with capital adequacy ratio and liquidity ratio which indicates that higher the capital adequacy ratio and liquidity ratio, higher would be the net interest income to average earning assets. Similarly, the study observed positive relationship of net interest income to average earning assets with credit risk and return on assets which revealed that higher the credit risk and return on assets, higher would be the net interest income to average earning assets. Similarly, the positive relationship between interest rate and net interest income to average earning assets reveals that an increase in the interest rate leads to an increase in the net interest income to average earning assets. The result shows that efficiency ratio and assets growth ratio is negatively correlated with net interest income to average earning assets, which indicates that higher the efficiency ratio and assets growth ratio, lower would be the net interest income to average earning assets. Likewise, GDP growth and inflation have negative relationship with net interest income to average earning assets which indicates that an increase in the GDP growth and inflation leads to a decrease in the net interest income to average earning assets.

The result shows that there is positive relationship of credit risk with net interest income to total assets which indicates higher the credit risk, higher would bet the net interest income to total assets. Similarly, the study observed positive relationship of capital adequacy ratio and liquidity ratio with net interest income to total assets which revealed higher the capital adequacy ratio and liquidity ratio, higher would be the net interest income to total assets. Likewise, return on assets and interest also have positive relationship with net interest income to total assets. It indicates that an increase in the return on assets and interest rate leads to an increase in the net interest income to total assets. The result shows that efficiency ratio and assets growth ratio is negatively correlated with net interest income to total assets, which indicates that higher the efficiency ratio and assets growth ratio, lower would be the net interest income to total assets. Likewise, GDP growth and inflation also have negative relationship with net interest income to total assets. It indicates that an increase in the GDP growth and inflation leads to a decrease in the net interest income to total assets.

Regression analysis

In order to test the statistical significance and robustness of the results, this study relies on secondary data analysis based on the regression models. It basically deals with regression results from various specifications of the model to examine the estimated relationship of banks specific variables and macroeconomic variables with net interest margin.

Regression result of net interest income to average earning assets and its determinants

Table 4: Estimated regression results of net interest income to average earning assets and its determinants

The results are based on panel data of 18 commercial banks with 126 observations for the period of 2007/08 to 2013/14 by using linear regression model. Dependent variable is net interest income to average earning assets and independent variables are CAR=Capital

adequacy ratio, CR=Credit risk, EFF=Efficiency ratio, LR=Liquidity ratio, ROA=Return on assets, AGR=Assets growth ratio, GDP=Gross domestic product, INF=Inflation and IR=Interest rate. The reported results also include the values of F-statistics (F) and coefficient of determinants (R^2). The model is, $NIM1_{it} = \beta_0+\beta_1 CAR_{it}+\beta_2 CR_{it}+\beta_3 ME_{it}+\beta_4 LP_{it}+\beta_5 ROA_{it}+\beta_6 SIZE_{it}+\beta_7 GDP_t+ \beta_8 INF_t+\beta_9 IR_t +\varepsilon_{it.}$

Models	Intercept	CAR	CR	EFF	LR	ROA	AGR	GDP	INF	IR	R20	SEE	F-value
1	0.047	0.053									0.084	0.00813	11.445
	(22.51)**	(3.38)**											
2	0.04		0.046								0.052	0.00827	6.827
	(46.46)**		(2.61)**										
3	0.044			-0.008							0.058	0.00825	7.659
	(30.35)**			(-2.77)**									
4	0.049				0.01						0.037	0.00834	4.819
	(13.18)**				(2.20)*								
5	0.036					0.228					0.267	0.00728	45.102
	(40.17)**					(6.72)**							
6	0.042						-0.003				0.012	0.00845	1.478
	(42.30)**						(-1.22)						
7	0.043							-0.039			0.002	0.00849	0.196
	(10.05)**							(-.44)					
8	0.054								-0.143		0.017	0.00843	2.174
	(5.90)**								(-1.47)				
9	0.043									0.051	0.032	0.00836	4.035
	(30.05)**									(2.00)*			
10	0.046	0.043	0.021								0.092	0.00813	6.237
	(16.71)**	(2.33)*	-1.01										
11	0.049	0.045	0.016	-0.008							0.146	0.00792	6.946
	(16.55)**	(2.50)*	-0.785	(-2.77)									
12	0.047		0.041		0.008		-0.003				0.088	0.00818	3.905
	(12.36)**		(2.32)*		-1.78		(-3.18)**						
13	0.056							-0.101	-0.086	0.055	0.048	0.00836	2.063
	(5.65)**							(-1.08)	(-.859)	-1.95			
14	0.064	0.031		-0.004		0.205		-0.116	-0.146	0.143	0.365	0.00691	11.39
	(7.51)**	(2.25)*		(-1.53)		-5.92		(-1.50)	(-1.75)	-1.76			

1. *Figures in parentheses are t-values.*
2. *the asterisk (**), (*) sign indicates that the results are significant at 0.01 and 0.05 level of significance respectively.*
3. *Dependent variable is net interest income to total assets*

Table 4 reveals the results of regression of capital adequacy ratio, credit risk, efficiency ratio, liquidity ratio, return on assets, assets growth ratio, GDP growth rate, inflation and interest rate on net interest income to average earning assets. The regression of independent variables on net interest income to average earning assets shows that beta coefficient for

efficiency ratio, assets growth ratio, GDP growth rate and inflation are negative as indicated in table. The result shows that banks having higher efficiency ratio have lower will be net interest income to average earning assets. Similarly, increase in assets growth ratio leads to a decrease in net interest income to average earning assets. In the same way, higher the GDP growth, lower will be net interest income to average earning assets. Likewise,

increase in inflation leads to decrease in net interest income to average earning assets. However, beta coefficients are significant for efficiency ratio and assets growth ratio only at 1 percent level of significance.

The study also reveals that the beta coefficient are positive for capital adequacy, credit risk, liquidity ratio, return on assets and interest rate on the regression of net interest income to average earning assets. The results hence indicate that increase in capital adequacy ratio leads to increase in net interest income to average earning assets. Likewise, higher the credit risk, higher will be net interest income to average earning assets. However, higher the liquidity ratio and return on assets, higher will be net interest income to average earning assets. Similarly, increase in interest rate leads to increase in net interest income to average earning assets. The beta coefficient is significant for capital adequacy, credit risk, liquidity, and interest rate is significant at 5% level of significance. However, beta coefficient is not significant for GDP growth and inflation.

IV. Summary and conclusion

Interest rate margins are of significant importance for efficient mobilization of resources for economic and productive activities. A wide spread makes borrowing costly, constraining economic activity and lowering the returns on savings. For instance, assuming a deposit rate and market power in the loan market, the interest rate spread is traced using the variation in loan rate. In the economy market, the net interest margin is significantly influenced by a number of factors which include macroeconomic environment, control for real output, inflation, and the policy interest rate (Treasury bill rate).

This study examines the determinants of commercial banks' interest margin of Nepalese commercial banks. The interest margin in terms of net interest income to average earning assets and net interest income to total assets is selected as dependent variables. Capital adequacy ratio, credit risk, efficiency ratio, liquidity ratio, assets growth ratio, return on assets, assets growth ratio, GDP growth rate, inflation and interest rate are taken as independent variables. The data are collected from bank supervision reports published by Nepal Rastra Bank and annual reports of selected commercial banks. The survey is based on 126 observations from 18 commercial banks in Nepal. The regression models are estimated to test the significance and importance of net interest margin in Nepalese commercial banks.

The result shows that capital adequacy ratio, liquidity ratio, credit risk, return on asset and interest rate is positively related with net interest margin. It indicates that higher the capital adequacy ratio and liquidity ratio, higher would be the net interest margin. Similarly, increase in credit risk leads to an increase in net interest margin. Likewise, higher the return

on assets and interest rate, higher would be the net interest margin. The results also shows that efficiency ratio, assets growth ratio, GDP growth rate and inflation is negatively related with net interest margin which reveals that increase in efficiency ratio and assets growth ratio leads to decrease in net interest margin. Similarly, higher the GDP growth rate, lower will be the net interest margin. Likewise, increase in inflation leads to a decrease in net interest margin. The beta coefficient is positive for capital adequacy ratio, liquidity ratio, credit risk, return on assets, interest rate and net interest margin whereas the beta coefficient is negative for efficiency ratio, assets growth ratio, GDP growth rate, inflation and net interest margin. The beta coefficient is significant for capital adequacy ratio, credit risk, liquidity ratio and interest rate at 5 percent level of significance.

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Firm specific and macroeconomic determinants of share prices of Nepalese commercial banks

Arun Kumar Sapkota

Abstract

This study examines the determinants of share price of Nepalese commercial banks. The share price in terms of market price per share, stock return and excess return are selected as dependent variables. Earnings per share, dividend per share, price earnings ratio, leverage, return on assets, gross domestic product, inflation and interest rate are taken as independent variables. The data are collected from annual reports of selected commercial banks and bank supervision reports published by Nepal Rastra Bank. The survey is based on 133 observations from 19 commercial banks in Nepal. The regression models are estimated to test the significance and importance of share price in Nepalese commercial banks.

The result shows that there is positive relationship of market price per share with earning per share, dividend per share, returns on assets, price earning ratio and gross domestic product. It indicates that an increase in earning per share, dividend per share, returns on assets, price earning ratio, gross domestic product leads to an increase in the market price per share. Similarly, the result states that there is negative relationship of market price per share with leverage, inflation and interest rate which reveals that an increase in leverage decreases the market price of share. The result also shows that stock return and excess are positively related earning per share, dividend per share, price earning ratio and gross domestic product. It shows that an increase in price earning ratio and gross domestic product leads to an increase in stock return and excess return. Similarly, there is negative relationship of leverage, return on assets, inflation and interest rate with stock return and excess return which reveals that higher the inflation and interest rate, lower would be the stock return and excess return.

The beta coefficient is positively significant for earning per share, dividend per share, return on assets, price earning ratio, gross domestic product and market price of share whereas the beta coefficient is negatively significant for leverage only.

Keywords: Earning per share, dividend per share, price earning ratio, leverage, return on assets, gross domestic product, inflation, interest rate

I. Introduction

Stock market is an important part of the economy of a country. The stock market plays a pivotal role in the growth of the industry and commerce of the country that eventually affects the economy of the country to a great extent (Fama and French, 2007). It works as the channel through which the public savings are channelized to industrial and business enterprises. Mobilization of such resources for investment is certainly a necessary condition for economic take off, but quality of their allocation to various investment projects is an important factor for growth. This is precisely what an efficient stock market does to the economy. Delcoure (2012) insists that even in less developed countries, capital markets are

able to mobilize domestic savings and allocate funds more efficiently. The factors affecting the price of an equity share can be viewed from the macro and micro economic perspectives. Macro economic factors include politics, general economic conditions, how the economy is performing and government regulations. Then there may be other factors like demand and supply conditions which can be influenced by the performance of the company and the other players in the industry (Alshubiri, 2010).

In the securities market, whether the primary or the secondary market, the price of equity is significantly influenced by a number of factors which include book value of the firm, dividend per share, earnings per share, price earnings ratio and dividend cover (Gompers, Ishii & Metrick, 2003). Corwin (2003) identifies uncertainty and asymmetric information as a strong factor influencing the firm's equity price.

Leviene and Zervos (1998) found that various measures of stock market activity are positively correlated with measures of real economic growth across countries, and that the relationship is particularly strong for developing countries. Many of the studies on the determinants of stock price shows significant impact of macroeconomic variables such as GDP, inflation, market interest rate, money supply, and foreign exchange on the share price. According to Udegbunam and Eriki (2001), inflation is inversely correlated to market price of stock in context of Nigerian capital market. Alqenae and Carmen (2002) in their study of the effects of earning, inflation and interest rate (macro-economic factors) on the stock prices of Kuwait Stock Exchange, found that the macro-economic factors affect stock prices negatively.

Ibrahim (1999) measured the influence of macroeconomic indicator on the stock market and found that the GDP has a significant correlation with the stock price where unemployment and inflation have insignificant correlation with the stock price. Altamimi (2007) revealed very strong correlation between gross domestic product and crude oil price, foreign exchange rate, lending interest rate, and inflation rate. All the variables had strong positive correlation with stock prices apart from the interest rate and foreign exchange rate, which had strong negative correlation with stock prices.

The change in stock price is not only affected by macro-economic factors but it is also affected by firm-specific variables like dividend per share, earning price per share, return on asset, leverage, size of the firm and many others. Collins (1957) used data from US banks and found that dividend per share and book value per share influence share prices. Hartone (2004) found that a significantly positive impact is made on equity prices if positive earnings information occurs after negative dividend information and vice-versa. Docking and Koch (2005) revealed that there is a direct relationship between dividend announcement and equity price behavior. Altamimi (2007) identified that the EPS was found to be the most influencing factors over the market.

Nirmala et al. (2011) revealed that dividend, price-earning ratio and leverage are significant determinants of share prices for all sectors under consideration where dividend and price-earning ratio has a positive relation to share price while leverage has a negative relation. Profitability was found to be positively related to share prices in the auto sector alone. Sharma (2011) revealed that EPS, DPS and BVP had significant impact on the market price

of shares where EPS and DPS being the strongest determinants. Uwuigbe, Olusegun & Godswill (2012) concluded that financial performance and dividend payout had a significant positive relation with share prices while financial leverage had significant negative impact on the market value of share prices in Nigeria. Naveed and Ramzan (2013) stated that size has a positively significant relationship with the share price, while the other variables (dividend yield, asset growth, return on assets) have insignificant relationship.

In the context of Nepal, Gurung (2004) stated that there is no synchronization among different securities market performance indicators. It does not have sufficient capacity to handle risk relative to the volume of trading (K.C., 2010). Baral and Shrestha (2006) revealed that the Nepalese stock market is inefficient in pricing the shares. K.C. (2004) found that the stock market in Nepal is underdeveloped and has failed to show impact on the overall national economy. Pradhan and Upadhyay (2006) indicated that the company information, lack of profitability of the company, market operation system and government policy regarding investment are appeared to be the major causes of deficiency in the Nepalese stock market.

The major purpose of this study is to identify the firm-specific and macroeconomic determinants of share price in Nepalese commercial banks. Specifically, it examines the impact of earning per share, dividend per share, price earning ratio, leverage, return on assets, gross domestic product, inflation and interest rate on share price of commercial banks of Nepal.

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 section draw conclusions and discuss the implications of the study findings.

II. Methodological aspects

This study is based on the secondary data which were gathered for 19 commercial banks in Nepal. The main sources of data are supervision reports of NRB and various annual reports of different commercial banks. The data were collected for earning per share, dividend per share, price earning ratio, leverage, return on asset, gross domestic product, inflation and interest rate. These data were collected for the period 2007/08- 2013/14.

Table 1 shows the number of commercial banks selected for the study along with the study period and number of observations.

The Model

As a first approximation, the model estimated in this study assumes that the banks' share price depends on several independent variables. The independent variables considered are earning per share, dividend per share, price earning ratio, leverage, return on asset, gross domestic product, inflation and interest rate. Therefore the model takes the following forms:

Table 1: Selection of commercial banks along with study period and number of observations.

S.N	Name of organization	Period	Observation
1	Standard chartered bank (SCB)	2007/08-2013/14	7
2	Nabil bank (NABIL)	2007/08-2013/14	7
3	Everest bank (EBL)	2007/08-2013/14	7
4	Nepal SBI bank (SBI)	2007/08-2013/14	7
5	Himalayan bank (HBL)	2007/08-2013/14	7
6	Agriculture bank (ADBL)	2007/08-2013/14	7
7	NIBL bank (NIBL)	2007/08-2013/14	7
8	Bank of Kathmandu (BOK)	2007/08-2013/14	7
9	NMB bank (NMB)	2007/08-2013/14	7
10	NCC bank (NCC)	2007/08-2013/14	7
11	Global bank (GIBL)	2007/08-2013/14	7
12	NIC Asia (NIC)	2007/08-2013/14	7
13	Lumbini bank (LBL)	2007/08-2013/14	7
14	Machhapuchhre bank (MBL) (KBL)	2007/08-2013/14	7
15	Kumari bank (KBL)	2007/08-2013/14	7
16	Laxmi bank(LXBL)	2007/08-2013/14	7
17	Citizen investment bank limited(CIBL)	2007/08-2013/14	7
18	Prime commercial bank limited (PCBL)	2007/08-2013/14	7
19	Sunrise bank limited (SBL)	2007/08-2013/14	7
	Total observation		133

Thus, the study is based on 133 observations.

Share price =f (GDP, INF, IR, EPS, P/E, DPS, ROA, LEV)

More specifically,

Model 1

$$MPS_{it} = \alpha + \beta 1\ GDP_{it} + \beta 2\ INF_{it} + \beta 3\ IR_{it} + \beta 4\ EPS_{it} + \beta 5\ DPS_{it} + \beta 6\ ROA_{it} + \beta 7\ P/E_{it} + \beta 8\ LEV_{it} + e_{it}$$

Model 2

$$SR_{it} = \alpha + \beta 1\ GDP_{it} + \beta 2\ INF_{it} + \beta 3\ IR_{it} + \beta 4\ EPS_{it} + \beta 5\ DPS_{it} + \beta 6\ ROA_{it} + \beta 7\ P/E_{it} + \beta 8\ LEV_{it} + e_{it}$$

Model 3

$$ER_{it} = \alpha + \beta 1\ GDP_{it} + \beta 2\ INF_{it} + \beta 3\ IR_{it} + \beta 4\ EPS_{it} + \beta 5\ DPS_{it} + \beta 6\ ROA_{it} + \beta 7\ P/E_{it} + \beta 8\ LEV_{it} + e_{it}$$

Where, MPS = Market price of share (Beginning mps + Ending mps)/2, SR = Stock return (Capital gain yield + Dividend yield), ER = Excess return (Stock return – 91 days Treasury bill rate), GDP = Gross domestic product, INF = Inflation, IR = Interest rate, EPS = Earnings per share, DPS = Dividend per share, ROA = Return on asset, P/E = Price earnings ratio, LEV = Leverage

Market price of share

The price of a share at a particular moment represents the balance struck between the buyers and sellers. On a long term perspective, the empirical study has proved that the share price is directly related to the earnings of the firm as well as to the dividends declared by the firm (Naveed and Ramzan, 2013). Daily price fluctuations arise because of changes in the buying and selling pressure. Due to these fluctuations it becomes difficult to decide as to which market price should be taken as a measure of dependent variable.

Stock return

Stock return is the appreciation in the price plus any dividends paid, divided by the original price of the stock. The market price of the share is mainly determined by the forces of demand and supply of a particular security in the market (Malhotra, 1987; Joseph et al., 2004; and Zahir & Khanna, 1982). The market price reflects the collective wisdom and knowledge of the market. The study derived the annual stock returns of the enterprises using cash dividend and the capital gain. But, it does not consider the bonus and right share adjustment while determining the capital gain.

Excess return

Excess return is abnormal rate of return, the portion of a security's or portfolio's return not explained by the overall market's rate of return. The existence of excess return is controversial because those who believe in the efficient market hypothesis believe that it is attributable to luck rather than skill. They support this idea with the fact that many active portfolio managers do not make much more for their clients than those managers who simply follow passive indexing strategies in the long run (Chen, 1991). The study derived the excess return of the banks by deducting risk free rate (91 days Treasury bill rate) from stock return.

Gross domestic product

GDP is the standard measure of the value of final goods and services produced by a country during a period minus the value of imports. GDP is the single most important indicator to capture the economic activities. GDP is adopted to see how growth in the economy will affect the performance of the stock market. A higher GDP is an indication of increase in purchasing power and for that matter the ability of investors increase to invest in stocks. Udegbunam and Eriki (2001), Ibrahim (2003), and Mukherjee and Naka (1995) found positive and significant relationship between GDP and share price. Based on it, the study develops the following hypothesis:

H 1: There is positive relationship between gross domestic product and market price of share.

Inflation

Inflation is a sustained increase in the general price level of goods and services in an economy over a period of time. The nominal interest rate can be expressed as the sum of expected real return and expected inflation rate. A negative relationship between inflation and stock prices is concluded in literature because an increase in the rate of inflation is accompanied by both lower expected earnings growth and higher required real returns. In the US, there is substantial empirical evidence that high inflation is associated with a high equity risk premium and declining stock prices (Hoguet, 2008). Based on it, the study develops the following hypothesis:

H 2: There is negative relationship between inflation and market price of share.

Interest rate

The central bank's tool known as the discount rate is the interest rate that commercial banks pay to borrow funds from reserve banks. By raising or lowering the discount rate, the central bank can promote or discourage borrowing and thus alter the amount of revenue available to banks for making loans. Commercial banks usually respond to changes in the discount rate with proportionate changes in their prime lending rate. Somoye et al. (2009) and Alshubiri (2010) found negative relationship between interest rate and share price. Based on it, the study develops the following hypothesis:

H 3: There is negative relationship between interest rate and market price of share.

Earnings per share

It refers to the ratio of the profit after tax of the company for any financial year after payment of preference dividend. The equity shareholders are the sole claimants to the net earnings of the corporation after making payment of dividend to the preference shareholders. EPS serves as an indicator of a company's profitability. Ball & Brown (1968) and Baskin (1989) found that the earning per share has a positive relationship with market price which indicates higher the earning per share, higher will be the market price. Based on it, the study develops the following hypothesis:

H 4: There is a positive relationship between earning per share and market price of share.

Dividend per share

Dividend is the portion of the profit after tax which is distributed to the shareholders for their investment bearing risk in the company. The dividend rate of a company has a significant influence on the market price of a share. The dividends generally influence the share price in a positive direction as depicted in earlier empirical works such as Desai (1965) and Irfan and Nishat (2000). Based on it, the study develops the following hypothesis:

H5: There is a positive relationship between dividend per share and market price of share.

Price earnings ratio

Price earning ratio expresses the relationship between the market price of a company's share and its earnings per share. It indicates the extent to which the earnings of each share are covered by its price. Molodovsky (1953) found that the price earnings ratio has gained enormous popularity for evaluating individual stocks and stock markets as potential investments. Malhotra and Tandon (2013) indicated that firms' book value, earnings per share, and price earnings ratio have a significant positive impact on firm's stock price. Based on it, the study develops the following hypothesis:

H6: There is a positive relationship between price earning ratio and market price of share.

Return on assets

The return on assets ratio is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. Some of the investors keep concern in the profitability of the firm. If the firms are constantly earning high profitability, investors feel good to invest. In this study profitability is measured by return on asset. Nirmala et al (2011) used return on assets to measure the impact of profitability on the share price and found positive relationship between them. Based on it, the study develops the following hypothesis:

H7: There is positive relationship between return on assets and market price of share.

Leverage

A leverage ratio is any one of several financial measurements that look at how much capital comes in the form of debt or assesses the ability of a company to meet financial obligations. Nirmala, Sanju and Ramachandran (2011) found that leverage is significant determinant of share prices. Uwuigbe, Olowe, Olusegun, and Godswill (2012), and Irfan and Nishat (2002) also conclude that leverage is the influencing factor for share price changes. Leverage, in general, had a negative influence on the share prices (Kumar and Hundal, 1986). Based on it, the study develops the following hypothesis:

H 8: There is negative relationship between leverage and market price of share.

III. Presentation and Analysis of data

Descriptive Statistics

The descriptive statistics of dependent variable (market price of share, stock return and excess return) and independent variables **(**earning per share, dividend per share, price earning ratio, leverage, return on asset, gross domestic product, inflation and interest rate) of the study is shown in table 2.

Table 2: Descriptive statistics

This table shows descriptive statistics - mean, standard deviation, minimum and maximum values for the variables associated with 19 sample banks for the period 2007/08 to 2013/14.

MPS refers to market price of share, SR refers to stock return, ER refers to excess return, GDP refers to gross domestic product, INF refers to inflation, IR refers to interest rate, EPS refers to earnings per share, DPS refers to dividend per share, ROA refers to return on asset, P/E refers to price earnings ratio, LEV refers to leverage. N is the number of observations.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
MPS (Rs)	125	120	6420	993.11	1161.83
SR (%)	133	-67.32	258.69	11.12	52.99
ER (%)	133	-72.45	257.50	6.82	54.85
EPS (Rs)	133	-3.89	131.92	35.61	29.02
P/E (times)	133	0	241.82	29.53	32.90
LEV (%)	133	74.89	100	90.74	3.43
DPS (Rs)	126	0	130	21.40	22.99
ROA (%)	133	-0.53	6.05	1.73	1.07
GDP (in Billion)	133	686.12	1793.80	1222.78	377.05
INF (%)	133	5.70	11.10	9.11	1.54
IR (%)	133	1.15	8.52	4.81	2.93

Source: SPSS output result outcome

Table clearly shows that earning per share has minimum value of Rs. -3.89 and a maximum of Rs. 131.92 leading to the mean value of 35.61 percent. The average price earning ratio of selected banks during the study period is noticed to be 29.53 times with minimum ratio of 0 and a maximum of 241.82 times. The leverage ratio of selected banks ranges from a minimum of 74.89 percent to maximum of 100 percent with an average of 90.74 percent. The dividend per share has a minimum value of 0 to a maximum of Rs. 130 with an average of Rs. 21.40. The return on asset has a minimum value of -0.53 percent and a maximum of 6.05 percent leading to the mean of 1.73 percent. Gross domestic product varies from a minimum of Rs. 686.12 billion to a maximum of Rs. 1793.80 billion with an average of Rs. 1222.78 billion. Similarly, average inflation is observed to be 9.11 percent with a minimum value of 5.70 percent and maximum value of 11.10 percent. Likewise, the interest rate varies from a minimum of 1.15 percent to a maximum of 8.52 percent leading to an average of 4.81 percent. Similarly, average market price of share is observed to be Rs. 993.11 with a minimum value of Rs. 120 and maximum value of Rs. 6420. Stock return ranges from a minimum of negative 67.32 percent to 258.69 percent with an average of 11.12 percent. The average excess return of selected banks during the study period is noticed to be 6.82 percent with minimum of negative 72.45 percent to maximum 257.50 percent.

Correlation analysis

Having indicated the descriptive statistics, the Pearson Correlation Coefficients have been computed and the results are presented in Table 3.

Table 3: Pearson's correlation matrix for dependent and independent variables

This table presents the bivariate Pearson correlation coefficients between share price and bank specific and macroeconomic variables. The correlation coefficients are based on the data from 19

sample banks with 133 observations for the period 2007/08 through 2013/14. SR refers to stock return, ER refers to excess return, GDP refers to gross domestic product, INF refers to inflation, IR refers to interest rate, EPS refers to earnings per share, DPS refers to dividend per share, ROA refers to return on asset, P/E refers to price earnings ratio, LEV refers to leverage.

	MPS	SR	ER	EPS	P/E	LEV	DPS	ROA	GDP	INF	IR
MPS	1										
SR	0.11	1									
ER	0.10	0.89**	1								
EPS	0.78**	0.009	0.008	1							
P/E	0.06	0.21	0.22	-0.203*	1						
LEV	-0.24**	-0.05	-0.05	0.029	0.11	1					
DPS	0.85**	0.02	0.02	0.749**	-0.05	0.18*	1				
ROA	0.24**	-0.06	-0.07	0.51**	-0.33	-0.02	0.25**	1			
GDP	0.36**	0.49**	0.49	-0.07	-0.17*	-0.14	-0.07	-0.06	1		
INF	-0.32**	-0.21*	-0.19*	-0.06	-0.12	-0.14	-0.08	-0.03	0.83**	1	
IR	-0.07**	-0.65**	-0.68**	-0.03	-0.01	-0.11	-0.06	-0.01	-0.34**	-0.02	1

Source: SPSS results outcome

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

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

The result shows that there is positive relationship of market price per share with earning per share and dividend per share which indicates that higher the earning per share and dividend per share, higher would be the market price of share. Similarly, the study observed positive relationship of market price per share with price earning ratio and gross domestic product with market price of share which reveals that higher the price earning ratio and gross domestic product, higher would be the market price of share. Similarly, the positive relationship between return on assets and market price of share reveals that an increase in the return on assets leads to an increase in the market price of share. The result shows that leverage and market price of share are negatively correlated, which indicates that higher the leverage ratio, lower would be the market price of share. Likewise, inflation and interest rate have negative relationship with market price of share which indicates that an increase in the inflation and interest rate leads to a decrease in the market price of share.

The result shows that there is positive relationship of stock return with earning per share and dividend per share which indicates that higher the earning per share and dividend per share, higher would be the stock return. Likewise, stock return has positive relationship with price earning ratio and gross domestic product. It indicates that an increase in price earning ratio and gross domestic product leads to an increase in the stock return. The result shows that stock return is negatively correlated with leverage and return on assets which indicates that higher the leverage ratio and return on assets, lower would be the stock return. Similarly, there is negative relationship of stock return with interest rate and inflation which reveals that higher the interest rate and inflation, lower would be the stock return.

The result shows that there is positive relationship of excess return with earning per share and dividend per share which indicates higher the earning per share and dividend per share, higher would be the excess return. Similarly, the study observed positive relationship of excess return with price earning ratio and gross domestic product which reveals higher the price earning ratio and gross domestic product, higher would be the excess return. The result shows that excess return is negatively correlated with leverage and return on asset which indicates that higher the leverage ratio and return on asset, lower would be the excess return. Likewise, excess return has negative relationship with inflation and interest rate. It indicates that an increase in the inflation and interest rate leads to a decrease in the excess return.

Regression analysis

In order to test the statistical significance and robustness of the results, this study relies on secondary data analysis based on the regression models. It basically deals with regression results from various specifications of the model to examine the estimated relationship of banks specific variables and macroeconomic variables with share price.

Regression results of market price of share and its determinants

The regressions of bank specific and macroeconomic variables on market price of share are presented in the table 4.

The regression of independent variables on market price of share shows that beta coefficient for leverage, inflation and interest rate are negative as indicated in Table 4. It indicates that higher the leverage and inflation, lower will be the market price of share. This finding is similar to Kumar and Hundal (1986), and Hoguet (2008). The result also indicates that an increase in the interest rate leads to a decrease in the market price of share. This finding supports the findings of Adam and Tweneboah (2008). However, beta coefficients are significant for leverage and inflation only at 5 percent level of significance. The study also reveals that the beta coefficients are positive for earning per share, dividend per share, return on assets, price earning ratio and gross domestic product with market price of share. Thus, the result indicates that higher the earning per share and dividend per share, higher would be the market price of share. The findings are consistent with the finding of Ball and Brown (1968), Gordon (1959) and Desai (1965). The positive relation between return on assets and market price of share indicates that an increase in the return on assets leads to an increase in the market price of share. This finding is consistent with the finding of Nirmala et al. (2011) and contradicts with the finding of Olowoniyi & Ojenike (2012). Likewise, higher the price earning ratio and gross domestic product, higher would be the market price of share. The beta coefficients are statistically significant at 5 percent level of significance. The findings are consistent with Malhotra & Tandon (2013), Ibrahim (2003) and Mukherjee & Naka (1995).

Table 4: Estimated regression results of market price of share and its determinants

The results are based on panel data of 19 commercial banks with 133 observations for the period of 2007/08 to 2013/14 by using linear regression model: $MPS_{it} = \alpha + \beta 1\ GDP_{it} + \beta 2\ INF_{it} + \beta 3\ IR_{it} + \beta 4\ EPS_{it} + \beta 5\ DPS_{it} + \beta 6\ ROA_{it} + \beta 7\ P/E_{it} + \beta 8\ LEV_{it} + e_{it}$*., where, MPS refers to market price of share, GDP refers to gross domestic product, INF refers to inflation, IR refers to*

interest rate, EPS refers to earnings per share, DPS refers to dividend per share, ROA refers to return on asset, P/E refers to price earnings ratio, LEV refers to leverage.

		Regression Coefficients of Market Price of Share										
Model	**Intercept**	**EPS**	**P/E**	**LEV**	**DPS**	**ROA**	**GDP**	**INF**	**IR**	**R2**	**SEE**	**F-VALUE**
1	-142.173	31.168								.615	724.0838	196.25
	-1.370	14.009**										
2	929.075		2.038							.032	1164.583	5.42
	6.453**		2.644**									
3	-6850.282			-86.255						.058	1132.290	7.56
	-2.399*			-2.749**								
4	36.290				43.686					.729	618.5819	314.47
	0.457				17.733**							
5	525.725					266.858				.058	1132.369	7.54
	2.654**					2.745**						
6	2405.416						1.128			.129	1088.825	18.19
	6.968**						4.265**					
7	3406.496							-260.873		.012	1105.212	14.03
	5.226**							-1.746				
8	1119.750								-25.985	.004	1163.942	0.55
	5.602**								-0.742			
9	-155.331	12.467	31.509							.769	572.8174	193.58
	-1.830	4.521**	8.927**									
10	-3766.220		4.407	-40.311	43.505					.759	588.2548	120.71
	-2.500*		2.724**	-2.420	18.291**							
11	-6671.271		5.311	-76.364		316.028				.128	1098.065	5.94
	-2.408*		2.640**	-2.492*		3.090**						
12	-4556.441	17.483	6.435	-46.253	27.301	58.065				.825	505.4023	106.67
	-3.505**	6.381**	4.258**	-3.218**	8.501**	1.098						
13	2821.236						1.813	-105.343	-109.602	.184	1062.211	9.12
	3.972**						3.28**	-1.796	-1.825			

Source: Appendix B

Notes: 1. Figures in parentheses are t-values.
2. The signs * and ** denote that the results are significant at 5% and 1% level of significance respectively.

The regression of independent variables on market price of share shows that beta coefficient for leverage, inflation and interest rate are negative as indicated in Table 4. It indicates that higher the leverage and inflation, lower will be the market price of share. This finding is similar to Kumar and Hundal (1986), and Hoguet (2008). The result also indicates that an increase in the interest rate leads to a decrease in the market price of share. This finding supports the findings of Adam and Tweneboah (2008). However, beta coefficients are significant for leverage and inflation only at 5 percent level of significance. The study also reveals that the beta coefficients are positive for earning per share, dividend per share, return on assets, price earning ratio and gross domestic product with market price of share. Thus, the result indicates that higher the earning per share and dividend per share, higher would be the market price of share. The findings are consistent

with the finding of Ball and Brown (1968), Gordon (1959) and Desai (1965). The positive relation between return on assets and market price of share indicates that an increase in the return on assets leads to an increase in the market price of share. This finding is consistent with the finding of Nirmala et al. (2011) and contradicts with the finding of Olowoniyi & Ojenike (2012). Likewise, higher the price earning ratio and gross domestic product, higher would be the market price of share. The beta coefficients are statistically significant at 5 percent level of significance. The findings are consistent with Malhotra & Tandon (2013), Ibrahim (2003) and Mukherjee & Naka (1995).

Regression results of stock return and its determinants

The regression result of bank specific and macroeconomic variables on stock return are presented in Table 5.

Table 5: Estimated regression results on determinants of stock return

The results are based on panel data of 19 commercial banks with 133 observations for the period of 2007/08 to 2013/14 by using linear regression model: $SR_{it} = \alpha + \beta 1\ GDP_{it} + \beta 2\ INF_{it} + \beta 3\ IR_{it} + \beta 4\ EPS_{it} + \beta 5\ DPS_{it} + \beta 6\ ROA_{it} + \beta 7\ P/E_{it} + \beta 8\ LEV_{it} + e_{it}$*., where, SR refers to stock return, GDP refers to gross domestic product, INF refers to inflation, IR refers to interest rate, EPS refers to earnings per share, DPS refers to dividend per share, ROA refers to return on asset, P/E refers to price earnings ratio, LEV refers to leverage.*

		Regression Coefficients of Stock Return										
Model	**Intercept**	**EPS**	**P/E**	**LEV**	**DPS**	**ROA**	**GDP**	**INF**	**IR**	**R2**	**SEE**	**F-VALUE**
1	11.651	0.015								0.030	53.2876	0.091
	1.592	0.093										
2	12.122		0.034							0.360	32.1776	2.058
	1.953		2.041*									
3	85.297			-0.817						0.101	53.1146	0.369
	0.698			-0.607								
4	12.356				0.044					0.052	53.5977	0.045
	1.89				0.211							
5	16.937					-3.352				0.056	53.0668	0.606
	1.93					-0.778						
6	-74.647						0.07			0.249	46.0899	23.465
	-5.485**						6.593**					
7	-54.508							-7.201		0.044	52.0135	5.99
	-2.005*							-2.447*				
8	68.075								-11.833	0.427	40.2553	47.704
	10.105**								-9.885**			
9	83.68	0.019	0.028	-0.783						0.243	33.5158	3.135
	0.677	0.114	2.193*	-0.573								
10	114.742			-0.065	0.036	-4.241				0.110	53.7391	0.464
	0.904			-0.761	0.163	-0.929						
11	40.79					-1.323	6.147	-22.709		0.386	42.013	26.918
	1.616					-0.387	8.424**	-5.321**				
12	31.919			0.071			6.147	-22.759		0.385	42.0367	26.918
	0.309			0.066			8.453**	-5.329**				
13	40.384						0.08	-9.5	-8.481	0.534	36.6072	39.186
	1.887						4.357**	-2.233*	-6.412**			

Source: Appendix B

Notes: 1. Figures in parentheses are t-values.

2. The signs * and ** denote that the results are significant at 5% and 1% level of significance respectively.

The regression of independent variables on stock return shows that beta coefficient for leverage, return on assets, inflation and interest rate are negative as indicated in Table 5. It indicates that higher the leverage and return on assets, lower will be the stock return. These findings are similar to Kumar and Hundal (1986), and Olowoniyi & Ojenike (2012). Similarly, an increase in the inflation and interest rate leads to decrease in the stock return. These findings are similar to the finding of Hoguet (2008) and Alshubiri (2010). However, beta coefficients are significant for inflation and interest rate at 5 percent level of significance. The study shows that the beta coefficients are positive for earning per share, dividend per share, price earning ratio and gross domestic product with stock return. Thus, the result indicates that higher the earning per share and dividend per share, higher would be the stock return. The findings are consistent with the findings of Baskin (1989), Irfan & Nishat (2000) and Gitmon & Lowrence (2004). Likewise, an increase in the price earning ratio and gross domestic product leads to an increase in the stock return. However, coefficients are not significant for earning per share and dividend per share. These findings are consistent with Malhotra & Tandon (2013), Chaudhuri & Smiles (2004).

Regression results of excess return and its determinants

The regression result of bank specific and macroeconomic variables on excess return are presented Table 6.

Table 6: Estimated regression results on determinants of excess return

The results are based on panel data of 19 commercial banks with 133 observations for the period of 2007/08 to 2013/14 by using linear regression model: $ER_{it} = \alpha + \beta 1\ GDP_{it} + \beta 2\ INF_{it} + \beta 3\ IR_{it} + \beta 4\ EPS_{it} + \beta 5\ DPS_{it} + \beta 6\ ROA_{it} + \beta 7\ P/E_{it} + \beta 8\ LEV_{it} + e_{it}$*., where, ER refers to excess return, GDP refers to gross domestic product, INF refers to inflation, IR refers to interest rate, EPS refers to earnings per share, DPS refers to dividend per share, ROA refers to return on asset, P/E refers to price earnings ratio, LEV refers to leverage.*

		Regression Coefficients of Excess Return										
Model	**Intercept**	**EPS**	**P/E**	**LEV**	**DPS**	**ROA**	**GDP**	**INF**	**IR**	**R2**	**SEE**	**F-VALUE**
1	7.372 0.973	0.015 0.094								0.03	55.0647	0.091
2	7.882 1.227		0.036 2.247*							0.221	35.0538	3.261
3	83.515 0.66			-0.845 -0.606						0.019	54.9894	0.668
4	8.192 1.211				0.052 0.241					0.027	55.4701	0.58
5	12.655 1.393					-3.363 -0.754				0.034	54.9474	0.569
6	-80.744 -5.705						0.072 6.472**			0.42	47.9342	24.885
7	-57.898 -2.052*							-7.101 -2.326*		0.44	53.9633	5.411
8	68.385 10.153**								-12.791 -10.686**	0.466	40.2501	54.196
9	8.894 0.94	0.025 0.146	0.04 2.27*							0.217	41.2606	4.41
10	111.121 0.842		0.084 2.528*	-1.027 -0.704	0.032 0.138	-5.099 -1.013				0.023	55.7968	0.742
11	40.903 1.899						0.078 4.19**	-9.116 -2.13*	-9.547 -7.173**	0.559	36.835	54.59
12	175.048 1.803			-1.697 -1.696		-3.492 -1.108		-5.935 -2.673*	-12.945 -11.139**	0.515	38.8122	33.925

Source: Appendix B

Notes: 1. Figures in parentheses are t-values.
2. The signs * and ** denote that the results are significant at 5% and 1% level of significance respectively.

The beta coefficients are negative for return on assets, leverage, inflation and interest rate. The result indicates that higher the leverage and return on assets, lower will be the excess return. The beta coefficient for inflation, interest rate and excess return are significant at 5 percent level of significance. Thus, it shows that higher the inflation and interest rate, lower would be the excess return.

The study also shows that beta coefficients of earning per share and dividend per share are positive with excess return which indicates that an increase in earning per share and dividend leads to an increase in excess return. The result indicates that there is positive relationship between price earning ratio and excess return which shows higher the price earning ratio, higher would be the excess return. The result is significant at 5 percent level of significance. Gross domestic product is also positively related with stock return. Thus, increase in gross domestic product leads to increase the excess return.

IV. Summary and conclusion

The stock market plays a pivotal role in the growth of the industry and commerce of the country that eventually affects the economy of the country to a great extent. It works as the channel through which the public savings are channelized to industrial and business enterprises. Stock market indices have become an indication of the health of the economy of a country which indicates the importance of stock markets. There are various factors that affect the share prices in the stock market in any economy. The most basic factors that influence price of equity share are demand and supply factors.

This study examines the determinants of share price of Nepalese commercial banks. The share price in terms of market price per share, stock return and excess return are selected as dependent variables. Earnings per share, dividend per share, price earnings ratio, leverage, return on asset, gross domestic product, inflation and interest rate are taken as independent variables. The data are collected from bank supervision reports published by Nepal Rastra Bank and annual reports of selected commercial banks. The survey is based on 133 observations from 19 commercial banks of Nepal. The regression models are estimated to test the significance and importance of share price in Nepalese commercial banks.

The result shows that there is positive relationship of market price per share with earning per share, dividend per share, price earning ratio, return on assets and gross domestic product. Likewise, the result shows that there is negative relationship of market price per share with leverage, inflation and interest rate. The result also shows that there is positive relationship of stock return and excess return with earning per share, dividend per share, price earning ratio and gross domestic product whereas there is negative relationship of stock return and excess return with leverage, return on assets, inflation and interest rate. The study reveals that earning per, dividend per share, price earning ratio, leverage, return on assets and gross domestic product are among the significant variables that affect the market price per share in the context of Nepalese commercial banks.

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Effect of board size, board independence, firm size, firm age and debt equity ratio on performance of Nepalese commercial banks

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Abstract

This study examines the effect of firm size, board size, board independent, firm age, and debt- equity on firm performance. The return on equity and return on assets are selected as banks' performance variables for this study and these two are the dependent variables. Board size, board independent, firm age, firm size and debt equity are the independent corporate governance variables. The data are collected from the banking and financial statistics published by Nepal Rastra Bank and annual reports of the sample banks. The regression models are applied to test the significance and importance of effect of board size, board independence, firm size, firm age and debt equity on bank performance in the Nepalese commercial banks.

The result shows that there is a significant impact of corporate governance mechanism on ROA as well as ROE in the commercial banks. The effect of board size and firm size are positively significant with return on assets. It shows that larger the board size, higher would be ROA. Similarly, it indicates that greater the firm size higher would be ROA. The study results also reveal that board independence has negatively insignificant impact on ROA which indicates that independent directors in the board do not help to increase ROA. The beta coefficient for board size has been revealed to be negative which shows that larger the board size, lower would ROE. Similarly, firm size has positively significant impact on ROE indicating that larger the firm size, higher would be ROE.

Keywords: Corporate Governance, firm size, board size, and board independent, firm age, and debt-equity, ROA and ROE.

I. Introduction

Corporate governance has been defined as a system of law and sound approaches by which corporations are directed and controlled focusing on the internal and external corporate structure with the intension of monitoring action of management and directors and thereby mitigating agency risks which may stem from the misdeeds of corporate officers (Sifuna, 2012).The governance structure specifies the distributions of rights and responsibilities among the different participant in the corporation (such as the board of directors, managers, shareholders, creditors, auditors, regulators, and other stakeholders) and specifies the rules and procedures for making decisions in corporate affairs. Government provides the structures through which corporations set and pursue their objectives, while reflecting the context of the social, regulatory and market environment. Corporate governance is the mechanism that protects the interests of the shareholders from agency problems and managers of that firm's benefit if they have poor governance mechanism (Core and Larcker, 1999).Corporate governance is considered to be one of the most critical factors influencing firm performance in banking sector. It is particularly important as banks play specific role

in the economic system through the way it facilitates capital allocation and helps minimize risk for business. Corporate governance essentially involves balancing the interests of the many stakeholders in a company - these include its shareholders, management, customers, suppliers, financiers, government and the community. Since corporate governance also provides the framework for attaining a company's objectives, it encompasses practically every sphere of management, from action plans and internal controls to performance measurement and corporate disclosure(Binh & Giang,2012).

It is difficult to define the concept of corporate governance in a universally acceptable way because definitions vary from country to country. Moreover, countries differ from each other in terms of culture, legal systems and historical developments (Ramon, 2001). This explains why there is a wide range of definitions of the concept of corporate governance. Setting a good corporate governance policy will lead to a lot of benefits to different level of management and helps the organization to avoid management level corruption and helps in enhancing the firm values, shareholders 'value creation reducing the investment and financial risks. Therefore a good sound and healthy corporate governance policy is very important criterion while investing in a company (Shen, Shu, & Chen, 2006). Corporate governance is the way in which suppliers of finance to corporation ensures themselves of getting a return on their investments (Shleifer, 1997). The contemporary business environment is characterized by uncertainty and risk, making it increasingly difficult to forecast and control the tangible and intangible factor which influence firm performance (Bettis & Hitt, 1997).Customers are becoming more demanding, necessitating increased focus on managerial professionalism and quality of service delivery (Lai & Cheng, 2003).

Corporate collapse was the predominant driver for change to corporate governance codes. As more corporate entities in different parts of the world collapsed in 1980s, there was a change of attitude with much higher performance expectations being placed on management boards of firms. There was also a growing realization that managers are to run firms while boards are to ensure that firms are run effectively and in the right direction (Adams, 2002). Directors and managers require different sets of skills and managers do not necessarily make good directors. Prevention of corporate failure was not the only reason that led to adoption of the corporate governance ideals. On a positive note, there was a growing acknowledgement that improved corporate governance was crucial for the growth and development of the whole economy of a country.

Chiang and Lin (2011) shows that results of the influence of board structure documented that, the more outsider independent directors of a company, the better performance the company had. The board of directors is known as one of the most essential tool to resolve the corporate governance problem since it is the organ primarily used by other stakeholders to monitor management (Jensen, 1993).The board should not only prevent negative management practices that may lead to corporate failures or scandals but also ensure that firms act on opportunities that enhance the value to all stakeholders (Yermack, 1996). Corporate governance (CG) is define as the way in which stake holders of the organization have an influence over the management of an organization (Shah, Butt, & Saeed, 2011).

In Nepalese context, the corporate governance structure specifies the distribution of the rights and responsibilities among different participants in the corporations, such as, the board, managers, shareholders, and other stakeholders and spells out the rules and procedures for decision on corporate affairs (Pradhan & Adhikari, 2009). They found that there is existence of relationship between corporate governance practices and firm performance in Nepalese enterprises.

The purpose of this study is to investigate the relationship between corporate governance and firm performance in Nepal's banking sectors. Specifically, it examines the effect of board size,board independent, firm size, firm age and debt equity on bank performance .

The remainder of this study is organized as follows.Sections two describes the sample,data, and methodology.Section 3 present the emperical results and the final section draws conclusions and discusses the implications of the study findings.

II. Methodological aspects

The study is based on the secondary data which were gathered for 22 banks in Nepal. The data were collected on return on asset, return on equity, board size, board independent, firm size, firm age and debt equity.The research design adopted in this study is causal comparative type as it deals with relationship of corporate governance mechanism and controls variables with bank performance.

These data were collected for the period 2009/2010-2013/2014. Table 1 shows the number of commercial banks selected for the study along with the study period and number of observation.

The Model

As a first approximation, the model estimated in this study assumes that the bank performance depends on several corporate governance mechanisms and control variables.The corporate governance variables considered are board size, board independent and firm age. The control variable considered is the i.e., firm size and debt equity. Therefore, the model takes the following form:

Model 1

Performance ROA = $\beta_0 + \beta_1 *BSIZE + \beta_2 *FA + \beta_3 *BSIZE + \beta_4 *BI + \beta_5 *DE + Ɛ$…. (1)

Model 2

ROE= $\beta_0 + \beta_1 *BSIZE + \beta_2 *FA + \beta_3 *BSIZE + \beta_4 *BI + \beta_5 *DE + Ɛ$…. (2)

Where,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = coefficient of BSIZE, FA, FSIZE, IO, and DE

BSIZE = Board Size

FA= Firm Age

BI = Board Independence

FSIZE = total assets of company

DE = percentage of total liabilities to total assets

Ɛ= Error term
There are various measures of bank performance. In this study, bank performance has been measured as bank profitability in terms of return on asset and return on equity.The independent variable consist of corporate governance variables and control variables as under:
Corporate governance variables
Board Size =BSIZE
Board Independent = BI
Firm Age =FA
Total assets of company= FSIZE
Percentage of total liabilities to total assets=DE

Table 1: Collection of Data and number of observation used in the study

(The table shows the list of sample of the commercial bank, study period and number of observation)

S.N.	Name	Operation Date (A.D.)	Sample period	Observations
1	Nabil Bank	1984	2010-2014	5
2	Nepal Investment Bank	1986	2010-2014	5
3	Standard Chartered Bank	1987	2010-2014	5
4	Himalayan Bank Limited	1993	2010-2014	5
5	Nepal SBI Bank	1993	2010-2014	5
6	Nepal Bangladesh Bank	1994	2010-2014	5
7	Everest Bank Limited	1994	2010-2014	5
8	Bank Of Kathmandu	1995	2010-2014	5
9	Nepal Credit & Commerce	1996	2010-2014	5
10	Lumbini Bank	1998	2010-2014	5
11	NIC Asia Bank	1998	2010-2014	5
12	Machhapuchhre Bank	2000	2010-2014	5
13	Kumari Bank	2001	2010-2014	5
14	Laxmi Bank	2002	2010-2014	5
15	Siddhartha Bank	2002	2010-2014	5
16	Agriculture Development Bank	1968	2010-2014	5
17	Global IME Bank	2007	2010-2014	5
18	Citizen Bank International	2007	2010-2014	5
19	Prime Commercial Bank	1995	2010-2014	5
20	Sunrise Bank	2007	2010-2014	5
21	NMB Bank	2008	2010-2014	5
22	Janata Bank Nepal Limited	2010	2010-2014	5
	Total number of observations			110

Thus, the study is based on 110 observations.

Board of directors

The Board of Directors can be described in terms of size, structure, tenure, and voting mechanisms. Yermack (1996), Eisenberg et al. (1998) and Singh and Davidson (2003) prove that board size has a negative relation with firm performance. Based on it, this study develops the following hypotheses:

H_1: Board size is negatively related to bank performance.

Board independence

Every board of directors should at least have three independent non-executives directors andmust have appropriate professional qualifications or accounting related financial management expertise. The Code on Corporate Governance Practices issued by the Hong Kong Stock Exchange also recommends that the board should include a balanced composition of executive and non-(including independent non-executive directors).Based on it, this study develops the following hypotheses:

H_2: Board independence is negatively related to bank performance.

Firm age

This study is focused on finding out whether firms also weaken and lose their ability to compete over time, and if it happens what are the reasons that leads to it. Age has been used as a proxy for the time a bank has been in business. A bank that has been in business for long period should perform better than a new because of learning effect. Visibility of an experienced bank's quality to its customers as the visibility of its creditworthiness to suppliers of debt and equity should give some operational advantage over its inexperience counterparts. Petersen&Rajan(1997) stated that firm age is positively related with the performance of the bank. Based on it, this study develops the following hypotheses:

H_3: Firm age is positively related to bank performance.

Control Variables

Firm size

Firm size refers to the speed and extent of growth that is idle for a specific business. It is expected that larger banks will perform better, because they may have more diversified investment opportunities, better management, and employ better technology. Pervan&Visic (2012) revealed firm size has a significant positive (although weak) influence on firm profitability. Additionally, results showed that assets turnover and debt ratio also statistically significantly influence firms' performance while current ratio didn't prove to be an important explanatory variable of firms' profitability. Based on it, this study develops the following hypotheses:

H_4: Firm size is positively related to bank performance.

Debt equity

Debt/Equity ratio is a debt ratio used to measure a company's financial leverage, calculated by dividing a company's total liabilities by its stockholders' equity. The D/E ratio indicates how much debt a company is using to finance its assets relative to the amount of value represented in shareholders' equity. /equity ratio measures a company's debt relative to the total value of its stock it is most often used to gauge the extent to which a company is taking on debts as a means of leveraging (attempting to increase its value by using borrowed money to fund various projects).Based on it, this study develops the following hypotheses:

H_5: Debt-equity is positively related to bank performance.

III. Results and discussion

Descriptive statistics

Table 2 shows the descriptive statistics of dependent and independent variables.

Table 2: Descriptive Statistics

This table shows descriptive statistics- mean, standard deviation, minimum and maximum values- of independent This table shows descriptive statistics- mean, standard deviation, minimum and maximum values- of independent variables firm size, firm age, board size, board independence and the dependent variables return on assets, return on equity 110 observations for the period of 2009/10 to 2013/14.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ROA (%)	110	0.05	4.41	1.64	0.87
ROE(%)	110	-6.14	47.87	16.73	8.92
BS(num)	110	5	10	7.66	1.00
FS(year)	110	2337.87	91376.54	35286	20252.74
BI(num)	110	0	4	2.22	0.68
FA(Rs.)	110	0	56	15.13	11.36
DE(%)	110	3.49	17.15	9.77	2.97

The table shows that average firm size is noticed to be Rs. 35,286 million having maximum value of Rs. 91,376.54 million and minimum value of Rs. 2,337.87 million. The average board size is observed to be7.66members with minimum members of 5 and maximum members of 10. Similarly, the board independence ranges from 0 to 4 members leading to the average of 2.22 members. The average firm age is 15.13 years with minimum of 0and maximum of 56 years. The average debt-equity ratio is observed to9.77 percent having maximum and minimum value of 17.15 percent and 3.49 percent respectively. The ROA ranges from 0.05 percent to 4.41 percent leading to the average of 1.644 percent. The average ROE is noticed to be16.73 percent with minimum value of -6.14 percent and maximum value of 47.87 percent.

Correlation analysis

This section of the study presents the results and discussion of the correlation analysis.The correlation coefficients show the extent and direction of the linear relationship between firm size, firm age, board size, board independence and debt-equity ratio affecting the bank performance Table 3 presents the results of correlation analysis.

Table 3: Correlation matrix for the dependent and independent variables

This table reveals the bivariate Pearson correlation coefficients between different pairs of corporate governance variables and control variables, ROA, ROE, BS, FS, BI, FA, and DE. The correlation coefficients are based on 110 observations for the period 2009/10 through 2013/14.

	ROA	ROE	BS	FS	BI	FA	DE
ROA	1						
ROE	.660**	1					
BS	-.384**	-.343**	1				
FS	.305**	.455**	-0.024	1			
BI	-0.073	-.212*	.284**	-0.009	1		
FA	.334**	.489**	-.314**	.296**	-0.055	1	
DE	-0.135	.219*	-0.122	0.149	-0.055	.246**	1

**. Correlation is significant at the 0.01 level
*. Correlation is significant at the 0.05 level

Table shows that board size is negatively correlated to ROA and ROE. It indicates that increase in board size leads to decrease the ROA and ROE. However, firm size is positively related to ROA and ROE indicating that increase in firm size leads to increase the ROA and ROE. Whereas, board independence is negatively related with ROA and ROE which indicates that increase in board independence leads to decrease ROA and ROE. Firm age is positively to ROA and ROE, it indicates that increase in firm age leads to increase the ROA and ROE. However, debt equity is positively related to ROE and negatively related with ROA. It indicates that higher the debt equity higher would be ROA. Whereas, higher the debt equity lower would be ROE.

Regression Analysis:

The regression of corporate governance and control variables on bank performance has been analyzed by defining bank performance in terms of return on equity and return on asset. The regression of corporate governance variables and control variables on return on assets produced the result is indicated in Table 4.

Table 4: Regression of corporate governance variables and control variables on ROA
The regression results consist of various specifications of the model in the form of regressions with ROA as dependent variables. Dependent variables return on assets (ROA) and in-

dependent variables are firm size (FS), firm age (FA), board size (BS), board independence (BI), and debt- equity ratio (DE).The correlation coefficient are based on 110 observation through 2009/2010 to 2013/2014.

Model	Intercept	Regression Coefficient of ROA					adj.R2	SEE	F
		BS	FS	BI	FA	DE			
1	4.199	-0.333					0.139	0.812	18.624
	7.034	(-4.318)*							
2	1.18		1.3116				0.084	0.837	11.046
	7.33		(3.324)*						
3	1.853			-0.094			0.004	0.876	0.586
	6.498			(-0.765)**					
4	1.255				0.026		0.103	0.828	13.587
	9.509				(3.683)*				
5	2.033					0.04	0.009	0.871	2.011
	7.096					(1.418)*			
6	3.7	-0.327	1.277				0.22	0.773	16.37
	6.315	(-4.447)*	(3.491)*						
7	3.663	-0.337	1.277	0.05			0.214	0.775	10.897
	6.165	(-4.374)*	(3.479)	(0.445)**					
8	3.237	-0.294	1.083	0.043	0.012		0.227	0.769	9.009
	5.043	(-3.646)*	(2.835)*	(0.380)**	(1.671)*				
9	4.018	-0.305	1.185	0.032	0.016	-0.079	0.29	0.737	9.914
	6.075	(-3.943)*	(3.224)*	(0.302)**	(2.315)*	(-3.214)*			

Notes:

1. *Figures in the parenthesis are t-values.*
2. *The asterisk (**) and (*) indicates that the results are significant at 1 percent and 5 percent.*
3. *Dependent variables is return on assets*

The table 4 indicates that a beta coefficient for firm size is positive and significant at 5 percent level of significance. It indicates that larger the firm size, higher would be ROA. This finding is consistent with the findings of Pervan&Visic (2012). Likewise, the beta coefficient for debt equity is negative and significant. It indicates that higher the debt-equity, lower would be ROA. Similarly, the beta coefficient for firm size and firm age is positive and significant. It shows that higher the number of firm size and firm age, higher would be ROA. Likewise, the beta coefficients for board size and board independence are negatively significant. The result thus indicates that the higher number of board size, lower would be ROA.

The regression of corporate governance variables and control variables on return on equity produced the result is indicated in Table 5.

Table 5: Regression of corporate governance variables and control variables on ROE

The regression results consist of various specifications of the model in the form of regressions with ROE as dependent variables. Dependent variables return on assets (ROA) and independent variables are firm size (FS), firm age (FA), board size (BS), board independence (BI), and debt- equity ratio (DE). The correlation coefficient are based on 110 observation through 2009/2010 to 2013/2014.

Model	Inter-cept	Regression Coefficient of ROE					adj.R2	SEE	F
		BS	FS	BI	FA	DE			
1	40.052	-3.043					0.11	8.418	14.44
	6.472	(-3.8)*							
2	9.665		0.009				0.199	7.985	28.12
	6.298		5.303						
3	22.875			-2.758			0.036	8.760	5.087
	8.03			(-2.256)*					
4	10.918				0.384		0.232	7.818	3.99
	8.77				5.83				
5	10.32					0.656	0.039	8.747	5.423
	3.588					(2.329)*			
6	32.37	-2.946	0				0.304	7.442	24.84
	5.738	(-4.161)*	5.586						
7	33.568	-2.635	0	-1.605			0.312	7.4	17.489
	5.924	(-3.589)*	5.614	(-1.49)*					
8	24.788	-1.748	0	-1.763	0.247		0.39	6.971	18.401
	4.263	(-2.395)*	(4.524)*	(-1.735)*	(3.804)*				
9	22.976	-1.723	0	-1.739	0.237	0.184	0.388	6.93	14.792
	3.668	(-2.353)*	(4.431)*	(-1.708)*	(3.583)*	(0.787)**			

Notes:

1. *Figures in the parenthesis are t-values.*
2. *The asterisk (**) and (*) indicates that the results are significant at 1 percent and 5 percent respectively.*
3. *Dependent variables are return on equity.*

The table 5 indicates that a beta coefficient for firm size is positive and significant at 5 percent level of significance. It indicates that larger the firm size, higher would be ROE. Likewise, the beta coefficient for debt equity is positive and significant. It indicates that

higher the debt-equity ratio, higher would be ROE. Similarly, the beta coefficient for firm size and firm age is positive and significant. It shows that higher the number of firm size and firm age, higher would be ROE. Likewise, the beta coefficients for board size and board independence are negatively significant. The result thus indicates that the higher number of board size, lower would be ROE.

The table 5 shows that the beta coefficient are postitive for firm size, firm age and debt-equity and significant 5 percent level of significance. The result shows that larger the firm size, firm age and debt-equity, higher would be ROE.

Similarly, the beta coefficients are negative for board independence and board size. It indicates that higher the board independence and board size, lower would be ROE. Board independence is significant at 5 percent level of significance.

IV. Summary and conclusion

Corporate governance is a system by which companies are directed and controlled. Corporate governance is the way in which the suppliers of finance to corporation ensure themselves of getting a return on their investments. Corporate governance is concerned which the ways and means by which the government of a company (the directors) is made responsible to its electorate (the shareholders).

This study aims at examining the relationship between corporate governance and firm performance in Nepal's banking sector. It determines the effects of board size, board independent, firm size, firm age and debt-equity on bank performance. The study is based on pooled cross-sectional analysis of secondary data of 22 banks for the period 2009/2010-2013/2014.

The study reveals that average return on equity is 16.73 percent while the average return on assets is 1.64 percent. Likewise, average board size has been observed 7.66 persons while the average firm size is 35286 and board independent is 2.23 persons, firm age is 15.14 years and debt equity is 9.77 times.

The results show that board size is negatively correlated to ROA and ROE. It indicates that increase in board size leads to decrease in ROA and ROE. However, firm size is positively related with ROA and ROE indicating that increase in firm size leads to increase the ROA and ROE. Whereas, board independence is negatively related with ROA and ROE which indicates that increase in board independence leads to decrease ROA and ROE. Firm age is positively with ROA and ROE, it indicates that increase in firm age leads to increase the ROA and ROE. However, debt equity ratio is positively related with ROE and negatively related with ROA. It indicates that higher the debt equity ratio higher would be ROA. Whereas, higher the debt equity ratio, lower would be ROE.

The study shows that beta coefficients are positive for firm size and firm age with bank performance. It indicates that increase in firm age and firm size leads to increase bank performance. However, the beta coefficients are negative for board size and board independence with bank performance. It indicates that increase in board size and board independence leads to decrease bank performance.

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Corporate culture and organizational performance in Nepalese commercial banks

Basanta Ghimire

Abstract

This study examines the impact and importance of corporate culture on organizational performance. Corporate culture variables involvement, consistency, mission and adaptability are taken as independent variable whereas return on assets and Tobin's are taken as the dependent variables. The primary and secondary sources of data are used to assess the opinion of respondents with respect to corporate culture of Nepalese commercial banks. The survey is based on 213 respondents from 20 commercial banks of Nepal and secondary data consists of 20 commercial banks listed in NRB for the period of 2013/2014. The regression models are estimated to test the significance and importance of corporate culture on organizational performance of Nepalese commercial banks.

The result shows that there is a positive and significant positive impact of corporate culture on return on assets and Tobin's 'q' respectively. It shows that clearer the organization's sense of vision, strategic direction, goals and objectives, higher would be the return on assets and Tobin's 'q'. Similarly, greater the employee's involvement in the management process, higher would be the increase on return on assets and Tobin's 'q'. Likewise, better the core values, agreement, coordination & integration consistency, higher would be the return on assets and Tobin's 'q'. The positive correlation coefficient between adaptability culture, return on assets and Tobin's 'indicates that greater the adaptability, higher would be the return on assets and Tobin's 'q'. Thus, this study concludes that the mission is the major factor affecting the financial performance of commercial banks in the context of Nepal

Keywords: Corporate cultures, firm performance, return on assets, Tobin's q, involvement, consistency, mission and adaptability.

I. Introduction

Organizations in many industries, such as energy, banking and electronics, have faced increasingly complex and changing environments brought about by deregulation, technological revolution, foreign competition and unpredictable markets. Key to the success of these organizations is the development of a particular culture for the organization (Philip & McKeown, 2004).

Culture can be defined as a combination of values, sets, beliefs, communications and simplification of behavior which gives direction to peoples (Ahmed and Shafiq, 2014). Organizational culture is defined as the set of shared, taken for granted implicit assumptions that a group holds and that determines how it perceives, thinks about, and reacts to its various environments (Zang and Li, 2013). Corporate culture has received much attention in organizational behavior. Cultural factors play a key role in determining levels of organizational outcomes and effectively promote or inhibit cooperation, exchange of knowledge, experience and ideas (Schein, 1986).

Dennison (1984) argued that if an organization possesses strong culture by exhibiting a well-integrated and effective set of specific values, beliefs, and behavior patterns, then it will perform at a higher level of productivity. Baker (1980) found that cultural values will create excitement, high morale, and intense commitment to a company and its objectives; clarify the behaviors expected of employees; galvanize their potential productivity and through these activities, ultimately improve the financial effectiveness of the organization.

Ansah and Zakari (2013) identified factors influencing organizational performance and their importance on improving the performance. The empirical reseacrh focuses on investigating the major factors that influence the performance of the organization. It help in assessing the power of the cultural factors in the context of improving performance and would, therefore, help the bank management not only in improving the performance but also strengthening the bond between the banks and their customers, employees and staleholders, thereby helping them to retain. Culture provides sustainable competitive advantage for the organizations. Barney (1991) introduced three conditions; first, the culture must be viable, second the culture must be rare and have attributes and third culture must be imperfectly imitable. These can provide assistance to superior organizational performance that can be temporary or continue for long term. Long term increase in organizational performance may cause to get the competitive advantage under long run.

Organizational performance is widely influenced by organizational culture. Organizational culture helps to build shared values and unified efforts among employees, hence contributing to achieving the organization's objectives. Employees would know the objectives of the organization, how to reach them, what tasks and responsibilities and how they should be executed and they behave accordingly. Hence, the organization would achieve performance targets (Yildiz, 2014).

Pettigrew (1979) argued that bright image rendered by the good culture accelerates its pace to success. Likewise, a healthy corporate culture in the business world guarantees vibrant and robust business activities contributing to national or global economy. Schlechter (2001) found that corporate culture impacts on organizations' long-term financial performance and will probably be an important factor in determining the success or failure of organizations'.

Tidball (1988) analyzed the linkages between the elements of organizational culture and outcomes, such as profitability, turnover and commitment and indicated that congruence of beliefs appeared to create a unifying force that boosts organizational performance. The study found that culture is a force that affects employee behavior and the success of a company.
Organizational culture is equally significant to all types of organizational institution. Furthermore, it is very crucial and essential element for the banking system because bank and financial institutions depends on the public deposit. A very limited people have a right to access in resources and decision making. Due to the lack of good corporate culture, there may raise the chance of vested interest and moral hazard problems. It is a universal fact that the higher degree of culture contributes towards the maximization of shareholders value and ensuring the fairness to rest of the shareholders (Olanipekun and Falemu, 2012). Shahzad & Luqman (2012) argued that all institutional managers need to understand the underlying values of their institutions because these factors directly influence the institutional

performance and how much work will ultimately be required to ensure successful outcomes for the institution.

Organizational culture plays an imperative role of a backbone in any organization. Organization are bringing a dramatic change in their traditional set up of autocratic nature and now they are moving towards and adopting more democratic organizational norms by delegating responsibilities to lower level as well as by encouraging involvement from all sectors and departments(Hussain and Yousaf, 2011). Raut (2011) found a positive relationship between organizational culture and privatization in Nepal. Stronger the Private enterprises culture it will be able to increase the production with diversification, improve technology, reduces losses, reduce the fiscal burden of the government, increase private sector investment, increase the quality of goods and services.

Corporate culture is an important component in the field of organizational behavior, particularly in trying to better understand the context of organizations and the people managing the organization. This implies that corporate culture could affect the success of organizations in trying to achieve its goals and objectives. The commitment of the people in the organization is also essential to ensure the successful implementation of the organizational policies and plans (Adhikari and Gautam, 2011).

The main purpose of this study is to examine the relationship between corporate culture and organizational performance in commercial banks of Nepal. Specifically, it examines the impact of corporate culture on organizational performance and assesses the view of employees and managers regarding the improvement of corporate culture in Nepalese commercial banks.

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

II. Methodological aspects

The primary and secondary sources of data are used to assess the opinion of respondents with respects to corporate culture of Nepalese commercial banks. The primary data is based on 213 respondents and secondary data from 20 commercial banks listed in NRB for the period of 2013/2014. The main source of primary data is the structured questionnaire obtained from 205 respondents. The questionnaires contained total of 38 questions of mixed type such as personal information, closed-end multiple choices, five point Likert scale items and open-ended options.

The research designs undertaken in the study consists of descriptive and causal comparative research design to deal with the fundamental issues associated with factors affecting the organizational performance in the context of Nepal.

Table 1 shows the number of commercial banks along with the number of the respondent selected for the study.

Table 1: Number of commercial banks along with the number of respondents

S. No	Name of commercial bank	No. of respondents
1	Agricultural Development Bank	12
2	Nepal Bank Limited	13
3	Standard Chartered Bank Limited	10
4	Nabil Bank Limited	14
5	Himalayan Bank Limited	13
6	Everest Bank Limited	12
7	Nepal SBI Bank Limited	10
8	Nepal Bangladesh Bank	7
9	Bank of Kathmandu	13
10	NIC Asia Bank	11
11	Machhapuchre Bank Limited	9
12	Global IME Bank Limited	12
13	Laxmi Bank limited	12
14	Siddharth Bank Limited	11
15	Nepal Investment bank	10
16	Lumbini Bank	7
17	NMB Bank limited	9
18	Kumari Bank	7
19	Citizens Bank	8
20	NCC Bank	13
	Total	213

Thus the study is based on 213 observations.

The model

As a first approximation, the model estimated in this study assumes that the return on assets depends on corporate culture variables (involvement, consistency, mission and adaptability).

$$ROA = \beta 0 + \beta 1INV + \beta 2CONS + \beta 3MIS + \beta 4ADAP + e$$

Where, ROA= Return on assets is dependent variables and INV= Involvement, CONS= Consistency**,** MIS = Mission**,** ADAP = Adaptability are independent variables.

The second model estimated in this study assumes the Tobin's q depends on corporate culture variables (involvement, consistency, mission and adaptability).

$$TQ = \beta 0 + \beta 1INV + \beta 2CONS + \beta 3MIS + \beta 4ADAP + e$$

Where, TQ=Tobin's Q is dependent variable and INV= Involvement, CONS= Consistency**,** MIS = Mission**,** ADAP = Adaptability are independent variables

1. Involvement

Involvement is the degree to which individuals at all levels of the organization are engaged in pursuit of the mission and work in a collaborative manner to fulfill organizational objectives (Randolph, 2000). Employee participation has become an important part of corporate decision-making because it is an integral component of knowledge management (Ongori, 2009). An organization with a high level of employee involvement will develop the employee's capability at all levels and create a sense of ownership, responsibility and loyalty toward the organization. Executives, managers, and employees are committed to their work and feel that they own a piece of the organization. People at all levels feel that they have at least some input into decisions that will affect their work and that their work is directly connected to the goals of the organization (Katzenberg, 1993 and Spreitzer, 1995). Based on it, this study formulates the following hypothesis.

H1: There is a positive relationship between involvement culture and ROA (Return on assets).
H2: There is a positive relationship between involvement culture and Tobin's q.

2) Consistency

Consistency is the organization's core values and the internal systems that support problem solving, efficiency, and effectiveness at every level and across organizational boundaries (Ansah and Zakari, 2013). Organizational values are values that are widely and deeply shared by people within the organization (Agle & Caldwell, 1999). Employees whose values are consistent with the organization's values are easier to manage. Shared Values tend to represent the unseen magnet that pulls employees in the same direction. Shared Values foster a common bond and help ensure that organization members pull in the same direction, irrespective of their tasks and ranks (Begley, 2000). Based on it, this study formulates the following hypothesis.
H3: There is a positive relationship between consistency culture and ROA (Return on assets).
H4: There is a positive relationship between consistency culture and Tobin's q.

3) Mission

Bateman and Sandsnell (1999) defined mission as an organization's basic purpose and scope of operations. This means that the mission expresses the reason for the existence of the organization and the range of activities it intends to embark upon; what it hopes to achieve. Daft (2003) defined mission, as the overall goal for an organization. To him, the mission describes the organization's vision, its shared values and beliefs and its reasons for being. Goals are broad, long-term accomplishments an organization wishes to attain (Nickle et al., 2010). They are very important and need to be mutually agreed upon by workers and management. They have a powerful impact on the organization. Being able to internalize and identify with an organizations mission contributes to both short and long-term commitment to the organization (Denison, 1990). Based on it, this study formulates the following hypothesis.

H5: There is a positive relationship between mission culture and ROA (Return on assets).
H6: There is a positive relationship between mission culture and Tobin's q.

4) Adaptability

Adaptability focuses on the organization's ability to adapt quickly to signals from the external environment, such as the demands of customers. An organization with strong adaptability can translate those signals into internal behavioral changes, which will increase its chances of survival and development (Liu, Killey and Ballard, 2009). Denison (2007) identified three aspects of adaptability that impact an organization's effectiveness. . These include first, ability to perceive and respond to the external environment. Second is the ability to respond to internal customers, regardless of their department or function and third is the capacity to restructure and re-institutionalize a set of behaviors and processes that allow the organization adapted? Without the ability to implement adaptive response, an organization cannot be effective
Based on it, this study formulates the following hypothesis.

H7: There is a positive relationship between adaptability culture and ROA (Return on assets).
H8: There is a positive relationship between adaptability culture and Tobin's q.

5) Return on assets (ROA)
ROA is a major ratio that indicates the profitability of a bank. It is a ratio of income to its total asset. It measures the ability of the bank management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2011).Wen and Wen (2010) stated that the higher ROA shows the company is more efficient in using its resources.

6) Tobin's q
The Tobin's Q ratio is a measure of firm assets in relation to a firm's market value. Economics theory of investment behavior where 'q' represents the ratio of the market value of a firm's existing shares (share capital) to the replacement cost of the firm's physical assets (thus, replacement cost of the share capital). It states that if q (representing equilibrium) is greater than one ($q > 1$), additional investment in the firm would make sense because the profits generated would exceed the cost of firm's assets. If q is less than one ($q < 1$), the firm would be better off selling its assets instead of trying to put them to use. The ideal state is where q is approximately equal to one denoting that the firm is in equilibrium.

Reliability
Cronbach's alpha is a statistic. It is generally used as a measure of internal consistency or reliability. For the purpose of reliability test through Cronbach's alpha, only Likert scale type questions are considered. Table 2 shows the validity and reliability of the question of the study.

Table 2 : Coefficient of Cronbach's Alpha
This table shows the validity and reliability of the question under this study.

Cronbach's Alpha based on standardized items	No. of items
0.821	24

Reliability test for all the components of questionnaire regarding corporate culture in Nepalese commercial banks were computed through SPPS. As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and is a good indication of construct reliability. Cronbach's alpha for the data is .821 which reveals that there consists of internal consistency and the data are reliable.

III. Presentation and analysis of data

Descriptive statistics
The descriptive statistics of dependent variable firm performance (ROA and TQ) and independent variable corporate culture **(**involvement, consistency, mission and adaptability) of the study is shown in table 3.

Table 3: Descriptive statistics
This table provides descriptive statistics for dependent variables return on assets as ROA and Tobin's q as TQ. The independent variables are involvement as INV, consistency as CONS, mission as MIS and adaptability as ADAP.N is the number of observations.

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	213	0.70	2.90	1.69	0.57
TQ	213	0.17	1.07	0.43	0.22
INV	213	2.10	5.00	3.79	0.49
CONS	213	2.50	5.00	3.82	0.46
MIS	213	2.20	5.00	3.66	0.64
ADAP	213	2.40	5.00	3.78	0.44

The average ROA of the banks during the study period is noticed to be 1.69 percent with a minimum return of 0.7 percent to a maximum return of 2.9 percent while Tobin's q ranges from 0.17 to 1.07, leading to the average of 0.43. The involvement culture varies from minimum of 2.1 to a maximum of 5 leading to the average of 3.79. Likewise, consistency culture ranges from minimum of 2.5 to a maximum of 5 having an average of 3.82. Similarly, the mean of mission culture is noticed to be 3.66, where the minimum and maximum values are observed to be 2.2 and 5 respectively. The adaptability culture ranges from minimum of 2.4 to a maximum of 5, leading to the average of 3.78. The variation as indicated by SD is largest for mission and lowest for Tobin's q.

Correlation analysis

Table 4 shows the correlation matrix between corporate culture variables (involvement, consistency, mission and adaptability) and organizational performance (ROA) of Nepalese commercial banks.

Table: 4 Kendall's correlation matrix for the dependent and independent variables

This table reveals the Kendall's correlation coefficient between corporate culture and firm performance (ROA) of Nepalese commercial banks. Corporate culture consists of involvement culture as INV, consistency culture as CONS, mission culture as MIS and adaptability culture as ADAP.

	ROA	Involvement	Consistency	Mission	Adaptability
ROA	1				
Involvement	0.122	1			
Consistency	0.084	0.607**	1		
Mission	0.199**	0.627**	0.489**	1	
Adaptability	0.132	0.841**	0.779**	0.865**	1

*** indicates that correlation is significant at the 1 percent level (2-tailed).*

** indicates that correlation is significant at the 5 percent level (2-tailed).*

There is positive relationship between ROA and involvement which indicates that higher the involvement, higher would be return on assets. Similarly, ROA is positively related to consistency and adaptability. Likewise, ROA has positive and significant relationship with mission.

Table 5 shows the correlation matrix between corporate culture variables (involvement, consistency, mission and adaptability) and organizational performance (TQ) of Nepalese commercial banks.

Table: 5 Kendall's correlation matrix for the dependent and independent variables

This table reveals the Kendall's correlation coefficient between corporate culture and firm performance (Tobin's q) of Nepalese commercial banks. Corporate culture consists of involvement culture as INV, consistency culture as CONS, mission culture as MIS and adaptability culture as ADAP.

	Tobin's q	Involvement	Consistency	Mission	Adaptability
Tobin's q	1				
Involvement	0.166*	1			
Consistency	0.167*	0.607**	1		
Mission	0.194*	0.627**	0.489**	1	
Adaptability	0.183*	0.841**	0.779**	0.865**	1

*** indicates that correlation is significant at the 1 percent level (2-tailed).*

** indicates that correlation is significant at the 5 percent level (2-tailed).*

There is positive and significant relationship between Tobin's 'q' and involvement which indicates that higher the involvement, higher would be Tobin's Q. Similarly, Tobin's 'q' is significantly positively related to consistency. Likewise, Tobin's 'q' has positive and significant relationship with mission and adaptability.

Regression analysis

Table 6 shows the regression of corporate culture (involvement, consistency, mission and adaptability) on firm performance (ROA).

Table 6: Regression of involvement culture, consistency culture, mission culture and adaptability culture on return on assets (ROA)

The results are based on 213 observations by using linear regression model. The model is ROA = β0+ β1INV + β2CONS + β3MIS + β4ADAP + e where ROA= Return on assets, INV= Involvement, CONS= Consistency, MIS = Mission, ADAP = Adaptability and e = Error term.

Model	Intercept	Regression Coefficient of				A R bar²	SEE	F
		INV	CONS	MIS	ADA			
1	0.935 (2.855)**	0.153 (1.788)***				0.01	0.61395	3.195
2	1.086 (3.058)**		0.112 (1.217)			0.002	0.61642	1.482
3	0.810 (3.329)**			0.193 (2.945)**		0.035	0.60625	8.671
4	0.820 (2.260)*				0.184 (1.929)***	0.013	0.61320	3.721
5	0.902 (2.363)*	0.142 (1.313)	0.020 (0.172)			0.006	0.61537	1.605
6	0.808 (2.209)*	0.049 (0.308)			0.138 (0.782)	0.008	0.61452	1.9
7	1.102 (2.892)**	0.424 (2.237)*	0.443 (2.194)*	0.693 (3.575)**	1.435 (2.831)**	0.058	0.59909	4.239

Notes:

(1) Figures in parentheses are t-values.
(2) **denotes that the results are significant at 1% level of significance.
(3) *denotes that the results are significant at 5% level of significance.
(4) ***denotes that the results are significant at 10% level of significance.
(5) ROA as dependent variable.

It indicates that beta coefficient is positive for involvement culture, which shows greater the employee's involvement in the management process, higher would be the return on assets. Similarly, the positive beta coefficient for consistency culture indicates that better the core values, agreement, coordination & integration consistency, higher would be the return on assets. The mission has positive and significant beta coefficient which reveals that clearer the organization's sense of vision, strategic direction, goals and objectives, higher would be the return on assets. Likewise, greater the adaptability culture, higher would be the return on assets.

Table 7 shows the regression of corporate culture (involvement, consistency, mission and adaptability) on firm performance (TQ).

Table 4.7 Regression of involvement culture, consistency culture, mission culture and adaptability culture on Tobin's q (TQ)

The results are based on 213 observations by using linear regression model. The model is ROA = β0+ β1INV + β2CONS + β3MIS + β4ADAP + e where TQ= Tobin's q, INV= Involvement, CONS= Consistency, MIS = Mission, ADAP = Adaptability and e = Error term.

Model	Intercept	Regression Coefficient of				A R bar²	SEE	F
		INV	CONS	MIS	ADA			
1	0.152	0.073				0.023	0.21316	5.987
	(1.335)	(2.447)*						
2	0.129		0.078			0.023	0.21315	6.019
	(1.046)		(2.453)*					
3	0.187			0.066		0.033	0.21206	8.257
	(2.195)*			(2.874)**				
4	0.091				0.089	0.029	0.21253	7.278
	(0.721)				(2.698)**			
5	0.070	0.045	0.049			0.025	0.21292	3.744
	(0.529)	(1.207)	(1.220)					
6	0.142			0.049	0.029	0.029	0.21247	4.207
	(1.052)			(1.064)	(0.435)			
7	0.061	0.014	0.038	0.045		0.031	0.21226	3.278
	(0.465)	(0.342)	(0.939)	(1.516)				
8	0.119	0.115	0.152	0.165	0.347	0.044	0.21086	3.436
	(0.886)	(1.726)***	(2.137)*	(2.415)*	(1.944)***			

Notes:

(1) Figures in parentheses are t-values.

(2) **denotes that the results are significant at 1% level of significance.

(3) *denotes that the results are significant at 5% level of significance.

(4) ***denotes that the results are significant at 10% level of significance.

(5) Tobin's q (TQ) as dependent variable.

It indicates that beta coefficient is positive for involvement culture, which shows greater the employee's involvement in the management process, higher would be the Tobin's 'q'. Similarly, the positive and significant beta coefficient for consistency culture indicates that better the core values, agreement, coordination & integration consistency, higher would be the Tobin's 'q'. The mission has positive and significant beta coefficient which reveals that clearer the organization's sense of vision, strategic direction, goals and objectives, higher would be the Tobin's 'q'. Likewise, greater the adaptability culture, higher would be the Tobin's 'q'.

IV. Summary and conclusion

Organizational culture plays a vital role to shape how the organization conducts its business, treats its employees, customers, and the wider community. It also can hinder change in an organization. To survive, organizations and their cultures undergo continuous change (Amsa, 1986). Tseng (2010) argued that organizational culture has a strong bond with the competitive performance of a company. Similarly, in the Nepalese banking industry, the importance of corporate culture and organizational performance is paramount. In order to ensure better performance, the commercial banks must be able to anticipate the culture of the organization. They need to develop a better understanding of corporate culture concepts and should try to build a stronger corporate culture, which, in turn, would improve firm performance and create a competitive advantage for their organization.

The study revealed that organizational performance is affected by corporate culture variables. Four different variables like involvement, consistency, mission and adaptability were considered to study the existence of factors influencing organizational performance in Nepalese commercial banks. Hence, banks willing to improve their performance should focus on implementing different corporate culture traits in the organization.

The study also found that mission appears to be the major factor for the better performance of the organization. Without clear organization's sense of vision, strategic direction, goals and objectives, better performance of the organization is not possible. Similarly, greater the employee's involvement in the management process better would be the performance of the organizations. Likewise, better the core values, agreement, coordination & integration consistency, better would be the performance of the organizations and greater the adaptability, better would be the performance of the organizations. Regarding the improvement of corporate culture in Nepalese commercial banks, majority of the employees' and manager think that the banks should support their employees' health and well-being, training and development, promote teamwork and should encourage a healthy work life balance.

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Corporate social responsibility (CSR) and firm value: A case study of Nepalese Commercial Bank.

Saroj Rajbahak

Abstract

Corporate social responsibility refers to some kind of obligation towards the society in which they function and contribute more than just economic services. This study examines the impact of corporate social responsibility on firm value of banking sector in the context of Nepal. Specifically, the study attempts to analyze the influence of corporate social responsibility activities on Tobin's 'q' and firm size of Nepalese commercial bank. Corporate social responsibility dimensions i.e. economic responsibility represented by CSReco , legal responsibility represented by CSRleg , ethical responsibility represented by CSReth , discretionary responsibility represented by CSRdis and environmental responsibility represented by CSRenv are independent variables. Firm value represented by Tobin's 'q' and firm size are the dependent variables. The data for Tobin's 'q' and firm size are collected from the annual reports of selected banks, and banking and financial statistics published by Nepal Rastra Bank. The data for corporate social responsibility variables have been collected through well –structured questionnaire. The regression models are estimated based on the survey data to test the significance and importance of CSR in Nepalese commercial banks.

The study reveals that all the corporate social responsibility variables have strong impact on Tobin's q of the selected commercial banks. The impact of economic responsibility, legal responsibility, ethical responsibility, discretionary responsibility and environmental responsibility are positively significant with Tobin's q. The impact of ethical responsibility, discretionary responsibility and environmental responsibility are positively significant with firm size whereas economic responsibility and legal responsibility has negative and insignificant effect on firm size.

Keywords: economic responsibility, legal responsibility, ethical responsibility, ethical responsibility, discretionary responsibility, environmental responsibility, Tobin's q.

I. Introduction

Importance and significance of the concept of corporate social responsibility (CSR) has been continuously growing in the recent decades. It has been the subject of considerable debate, commentary, theory building and research. In spite of the ongoing deliberations as to what it means and what it embraces, it has developed and evolved in both academic as well as practitioner communities worldwide. The idea that business enterprises have some responsibilities to society beyond that of making profits for the shareholders has been around for centuries. For all practical purposes, however, it is largely a post World War II phenomenon and actually did not surge in importance until the 1960s and beyond (Carroll & Shabana, 2010).

Carroll (1979) attempted to bring a more precise definition in view of what constitutes social responsibility of business by providing four levels of CSR: economic responsibilities, legal responsibilities, ethical responsibilities, and voluntary/ discretionary responsibilities. The

multi-dimensional model of CSR has proved among the most widely referenced frameworks since it makes important principles, but studies have not yet empirically examined the dimensionality of CSR from operational perspectives.

The concept of corporate social responsibility (CSR) has a long history associated with how this affects the behaviour of organizations. In order to understand the impact of CSR on the organization behaviour, it is necessary to understand its development. In 1950, the main focus was on the responsibility of business to society, and to do good for society. In the 1960s, key events, people and ideas have played an important role in characterizing the social changes. In the 1970s, business leaders on traditional management functions in matters of corporate social responsibility, while in 1980, the business and social interests of the company came closer and become more responsive to their members. In the 1990s, the idea of CSR has become almost universally accepted. CSR also has been associated with the strategy literature, and finally, in the 2000s, CSR has become an important strategic issue.

Edmondson & Carroll (1999) analyzed a test of Carroll's CSR pyramid on a sample of 503 large, black-owned business in the USA, suggesting the importance of culture. The survey found that the economic component was rated as most important, ethical responsibilities were prioritized above legal responsibilities, and the differential between philanthropic and legal responsibilities was relatively small. Another issue closely related to the interaction between CSR and financial performance is the causality between the two. One view is that good financial performance makes available the funds with which firms can invest in ways that improve their environmental and social performance. The other option is that environmental and social performance will result in good financial performance due to the efficient use of resources and stakeholder commitment. Scholtens (2008) found that financial performance in general terms leads to social performance much more often than the other way around, while Waddock and Graves (1997) argued the presence of a simultaneous relationship in a kind of "virtuous circle".

Simpson and Kohers (2002) revealed that corporate social performance is positively related to firm performance. The study supported the idea of having a positive link of corporate social responsibility and firm performance which was considered to be a natural phenomenon in the banking industry. The study also recommended that the future study on CSR efforts should concentrate on a theoretical explanation for a positive Corporate social performance – firm performance (CSP-FP) link. Simultaneously, empirical investigation of the CSP-FP link in other unique operational contexts appeared to be a valuable direction for future study. The study supported the assumption that there is a positive link between CSR and firm value of banking sector.

Ali et al. (2010) showed that there is significantly positive relationship between CSR actions and employee organisational commitment, CSR and organisational performance and employee organisational commitment and organisational performance. The study found that organisation could enhance their employee commitment through involving themselves in social activities for instance, identifying needs of the community and fulfilling them, working for the better environment, involving in employee welfare, producing quality products for customers and complying with government rules and regulations and working within legal ambiance.

Uadianle and Fagbemi (2012) examined the study on corporate social responsibility and financial performance in developing countries and on Nigeria specifically. The study showed that CSR had a positive and significant relationship with the financial performance measures i.e. ROA and ROE. The study also recommended that corporate entities should invest in CSR activities in its entire ramification in order to boost their image and reputation thereby increasing their returns.

Akanbi and Ofoegbu (2012) analyzed the impact of corporate social responsibility on bank performance in Nigeria with a particular reference to United Bank for Africa, Lagos. The study employed primary data with questionnaire as an instrument to do a research work. The study revealed that the dimensions of CSR i.e. economic CSR, legal CSR, ethical CSR and philanthropic CSR have positive effect on organizational performance and can play important role in predicting the organizational performance.

Soliman et al. (2012) examined the study on the ownership structure and corporate social responsibility of the listed companies in Egypt. The study revealed a positive relationship between CSR ratings and ownership by institutions and foreign investors but negative association of top level managerial ownership with firm's CSR rating. The study found that different owners have different impact on the firm's CSR engagement and enhanced the understanding of the relationship between ownership and CSR.

Okwemba et al. (2014) analyzed the effect of CSR on firm performance. The study showed that philanthropic responsibility of bank has a positive impact on bank performance. Increase of philanthropic activities of the bank increases the bank performance. Good philanthropic responsibility of a bank towards its different stakeholders such as employees, customers, suppliers, society, media and government motivates them to perform their best in order to increase the firm's value and also enhances the good image in the market.

In Nepalese context, Upadhya and Dhungel (2011) argued that CSR is not mandatory in Nepal and all the disclosure made by the banks was in voluntary basis. Among the disclosed information, education and training; welfare of underprivileged groups; art, heritage and culture protection, supporting different clubs, associations etc were the most commonly reported CSR activities. The disclosure seemed to be public driven in the sense that their presence would enhance a company image.

Chapagain (2013) examined the study on the corporate social responsibility: a review of managers' attitude in Nepal. The study showed that both manufacturing and banking sector managers of Nepal have positive attitudes towards CSR. However, the degree of positive attitudes on different prepositions significantly differs. The study also revealed that besides corporate efforts, the role of government, pressure groups, and other stakeholders are also crucial to promote CSR in Nepal. Thus, it has become imperative to make necessary efforts by all the concerned authorities including the government to promote socially responsible corporate behaviour for creating a more equitable and just society in Nepal.

Though there are above mentioned studies, no such studies using the more recent data are available in the context of Nepal and hence the significance of the present study.

The purpose of this study is to examine the impact of corporate social responsibility (CSR) on firm value of Nepalese commercial banks. Specifically, it examines the impact of CSR variables i.e. economic responsibility, legal responsibility, ethical responsibility, discretionary responsibility and environmental responsibility on Tobin's 'q' and firm size value of Nepalese commercial banks.

The remainder of the paper is organized as follows. Section two describes the sample, data, and methodology. Section three presents the empirical results and final section draws conclusions and discusses the implications of the study findings.

II. Methodological aspects

The study is based on both secondary and primary data and the population of this study includes 20 Nepalese commercial banks. The main sources of primary data is the structured questionnaire that was developed and used for survey opinions of employees with respect to corporate social responsibility in Nepalese commercial banks. The questionnaires contained total of 19 questions of mixed type options such as personal information, closed-end multiple choice, open-end options, ranking and five point likert scale items. The relevant secondary data were calculated using their respective formulas which were gathered from the annual reports of respective commercial banks and NRB Directives for the current year (2013/14).

Table 1 shows the list of commercial banks selected along with the number of respondents.

Table1: Selection of the commercial banks, study period and number of respondents

S.N	Name of Commercial Banks	No. of Respondents
1	NCC Bank	10
2	Nabil Bank Limited	10
3	Agriculture Development Bank Limited	10
4	Nepal Investment Bank Limited	9
5	Nepal Bank Limited	10
6	Himalayan Bank Limited	11
7	Everest Bank Limited	11
8	Nepal SBI Bank Limited	10
9	Global IME Bank Limited	10
10	Standard Chartered Bank Limited	10
11	NIC-Asia Bank Limited	9
12	Machhapuchhre Bank Limited	10
13	Siddhartha Bank Limited	10
14	Bank of Kathmandu	10
15	Lumbini Bank Limited	14
16	NMB Bank Limited	10
17	Laxmi Bank Limited	11
18	Citizen Bank Limited	12
19	Kumari Bank Limited	10
20	Nepal Bangladesh Bank Limited	8
Total		205

Thus, the study is based on 205 respondents.

Research Hypothesis

Based on the objectives of the study, the following hypothesis have been formulated and tested:

1: There is a positive relationship between economic CSR and Tobin's q.

2: There is a positive relationship between economic CSR and firm size.

3: There is a positive relationship between legal CSR and Tobin's q.

4: There is a positive relationship between legal CSR and firm size.

5: There is a positive relationship between ethical CSR and Tobin's q.

6: There is a positive relationship between ethical CSR and firm size.

7: There is a positive relationship between discretionary CSR and Tobin's q.

8: There is a positive relationship between discretionary CSR and firm size.

9: There is a positive relationship between environmental CSR and Tobin's q.

10: There is a positive relationship between environmental CSR and firm size.

The model

Corporate social responsibility variables i.e. economic CSR, legal CSR, ethical CSR, discretionary CSR and environmental CSR are regarded as independent variables, whereas Tobin's 'q' and firm size which represent firm value are considered as dependent variable. The theoretical statement may be stated as under:

Model 1:

$TQ = f(CSR_{eco,}\ CSR_{leg,}\ CSR_{eth,}\ CSR_{dis,}\ CSR_{env})$

The following equation can be developed, from the above function, for the estimation of the coefficient of variables.

$$TQ = a_0 + a_1 CSR_{eco}it + a_2 CSR_{leg}it + a_3 CSR_{eth}it + a_4 CSR_{dis}it + a_5 CSR_{env}it + eit$$

Where,

TQ	=	Tobin's q (Total market value of firm/ total asset value)
CSR_{eco}	=	Economic corporate social responsibility
CSR_{leg}	=	Legal corporate social responsibility
CSR_{eth}	=	Ethical corporate social responsibility
CSR_{dis}	=	Discretionary corporate social responsibility
CSR_{env}	=	Environmental corporate social responsibility
E	=	error

Model 2:

$FS = f(CSR_{eco,}\ CSR_{leg,}\ CSR_{eth,}\ CSR_{dis,}\ CSR_{env})$

The following equation can be developed, from the above function, for the estimation of the coefficient of variables.

$FS = a_0 + a_1 CSR_{eco}it + a_2 CSR_{leg}it + a_3 CSR_{eth}it + a_4 CSR_{dis}it + a_5 CSR_{env}it + eit$

Where,

FS	=	Firm size
CSR_{eco}	=	Economic corporate social responsibility
CSR_{leg}	=	Legal corporate social responsibility
CSR_{eth}	=	Ethical corporate social responsibility
CSR_{dis}	=	Discretionary corporate social responsibility
CSR_{env}	=	Environmental corporate social responsibility
E	=	error

III. Presentation and analysis of data

This section reports the results of questionnaire survey conducted among employees of selected Nepalese commercial banks. Questionnaire was designed to evaluate the view of respondents in relation to corporate social responsibility variables and its impact on firm value of Nepalese commercial banks.

Correlation analysis

Table 2 presents the Kendall's correlation coefficients between corporate social responsibility and Tobin's q value of Nepalese commercial banks. Tobin's q is positively related to economic CSR, legal CSR, ethical CSR, discretionary CSR and environmental CSR. This result indicates that higher the economic CSR activities, higher would be Tobin's q of the commercial banks. Likewise, higher the legal and ethical CSR activities, higher would be Tobin's q of commercial banks. Similarly, higher the discretionary and environmental CSR activities, higher would be Tobin's q of commercial banks.

Table 2: Computation of Kendall's correlations coefficient of social responsibility and Tobin's q value of Nepalese commercial banks.

The table presents Kendall's correlation coefficients between corporate social responsibility and Tobin's q value of Nepalese commercial banks. Corporate social responsibility consists, $_{CSReco}$ as economic CSR, CSR_{leg} as legal CSR, CSR_{eth} as ethical CSR, CSR_{dis} as discretionary CSR, CSR_{env} as environmental CSR, whereas TQ as Tobin's q which represent firm value. Kendall's correlation coefficient of independent variables economic CSR, legal CSR, ethical CSR, discretionary CSR and environmental CSR are based on the primary data of 205 respondents collected through the questionnaires surveyed in 20 Nepalese commercial banks whereas Tobin's q are based on the secondary data from 205 observations of 20 Nepalese commercial banks for the period of 2014.

	CSR_{eco}	CSR_{leg}	CSR_{eth}	CSR_{dis}	CSR_{env}	TQ
CSR_{eco}	1.000					
CSR_{leg}	.390**	1.000				
CSR_{eth}	.400**	.463**	1.000			
CSR_{dis}	.291**	.362**	.405**	1.000		
CSR_{env}	.112*	.262**	.367**	.501**	1.000	
TQ	.184**	.140**	.193**	.235**	.257**	1.000
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Table 3 presents the Kendall's correlation coefficients between corporate social responsibility and firm size of Nepalese commercial banks. Firm size is positively related to ethical CSR, discretionary CSR and environmental CSR. This result indicates that higher the economic CSR activities, higher would be firm size value of the commercial banks. Likewise, higher the discretionary and environmental CSR activities, higher would be firm size value of commercial banks. However, firm size has negative relation with economic CSR and legal CSR. This result indicates that higher the economic CSR activities, lower would be firm size value of commercial banks. Similarly, higher the legal CSR activities, lower would be the firm size value of commercial banks.

Table 3: Computation of Kendall's correlations coefficient of social responsibility and firm size of Nepalese commercial banks.

The table presents Kendall's correlation coefficients between corporate social responsibility and firm size of Nepalese commercial banks. Corporate social responsibility consists, $_{CSReco}$ as economic CSR, CSR_{leg} as legal CSR, CSR_{eth} as ethical CSR, CSR_{dis} as discretionary CSR, CSR_{env} as environmental CSR, whereas TQ as Tobin's q which represent firm value. Kendall's correlation coefficient of independent variables economic CSR, legal CSR, ethical CSR, discretionary CSR and environmental CSR are based on the primary data of 205 respondents collected through the questionnaires surveyed in 20 Nepalese commercial banks whereas firm sizeis based on the secondary data from 205 observations of 20 Nepalese commercial banks for the period of 2014.

	CSR_{eco}	CSR_{leg}	CSR_{eth}	CSR_{dis}	CSR_{env}	TQ
CSR_{eco}	1.000					
CSR_{leg}	.390**	1.000				
CSR_{eth}	.400**	.463**	1.000			
CSR_{dis}	.291**	.362**	.405**	1.000		
CSR_{env}	.112*	.262**	.367**	.501**	1.000	
FS	-.116*	-.009	.013	.109*	.045	1.000
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Regression analysis

The regression of of CSR variables i.e. economic CSR, legal CSR, ethical CSR, discretionary CSR, environmental CSR on Tobin's q revealed the results as indicated in table 4. The table indicates that beta coefficient for economic CSR, legal CSR, ethical CSR, discretionary CSR and environmental CSR are positive in all the equations. The results indicate that higher the economic responsibilities, higher would be the Tobin's q of commercial banks.

The beta coefficients are positive for legal CSR which reveals that higher legal responsibilities lead to better Tobin's 'q' of commercial banks. It also shows that higher the ethical CSR better would be Tobin's q. Likewise, discretionary CSR is positively related with Tobin's 'q'. It implies that higher the discretionary responsibilities better would be Tobin's 'q' of commercial banks. It also shows that beta coefficients are positive for environmental CSR which reveals that higher environmental responsibilities lead better Tobin's 'q' of commercial banks.

Table 4: Regression of economic CSR, legal CSR, ethical CSR, discretionary CSR, and environmental CSR on Tobin's q.

The results are based on 205 observations by using linear regression model. The model is $TQ_i = a_0 + a_1 CSR_{eco}it + a_2 CSR_{leg}it + a_3 CSR_{eth}it + a_4 CSR_{dis}it + a_5 CSR_{env}it + eit$, *where economic corporate social responsibility* (CSR_{eco}), *legal corporate social responsibility* (CSR_{leg}), *ethical corporate social responsibility (CSReth) discretionary corporate social responsibility* (CSR_{dis}) *and environmental corporate social responsibility* (CSR_{env}) *are independent variables and Tobin's q (TQ) is dependent variable. error term is represented by it.*

		Regression coefficient of							
Models	**Intercept**	**Eco**	**Leg**	**Eth**	**Dis**	**Env**	**R^2**	**SEE**	**F**
1	0.35	0.05					0.02	0.21	3.81
	(7.25)* *	(1.95)							
2	0.36		0.04				0.01	0.21	2.19
	(6.65)* *		(1.48)						
3	0.25			0.10			0.09	0.19	20.03
	(5.90)* *			(4.47)**					
4	0.14				0.14		0.13	0.20	29.25
	(2.55)*				(5.41) **				
5	0.18					0.115	0.12	0.19	28.64
	(3.56)* *					(5.35)* *			
6	0.33	0.04	0.018				0.02	0.21	2.02
	(5.52)* *	(1.36)	(0.51)						
7	0.25	0.01		0.10			0.09	0.20	9.99
	(4.68)* *	(0.24)		(3.98) **					
8	0.13	0.04				0.11	0.13	0.19	15.31
	(2.06)*	(0.04)				(5.13)* *			
9	0.13			0.05	0.11		0.14	0.19	15.97
	(2.29)*			(1.57)	(3.31) **				
10	0.16			0.04		0.09	0.13	0.19	15.31
	(3.19) **			(1.38)		(3.13) **			
11	0.11				0.08	0.07	0.15	0.19	17.67
	(1.86)				(2.45) *	(2.34) **			
12	0.13	0.02		0.03		0.09	0.13	0.21	10.45
	(2.13)	(0.86)		(0.88)		(3.23) **			
13	0.11			0.02	0.07	0.06	0.15	0.19	11.90
	(1.83)			(0.67)	(0.19)	(0.18)			
14	0.09	0.01			0.08	0.07	0.15	0.19	11.78
	(1.53)	(0.37)			(2.05) *	(2.35) *			
15	0.10	0.00		0.02	0.07	0.06	0.15	0.20	8.89
	(1.58)	(0.15)		(0.57)	(1.94)	(1.78)			

Notes: *1. Figures in parentheses are t-values.*

2. The asterisk (*) sign indicates that the results are significant at 5 percent level of significance.

3. Dependent variable is Tobin's q

The regression of of CSR variables i.e. economic CSR, legal CSR, ethical CSR, discretionary CSR, environmental CSR on firm size gave the results as indicated in table 5. The table indicates that beta coefficient for ethical CSR, discretionary CSR and environmental CSR are positive in all the equations. However, the beta coefficient for economic CSR and legal CSR are negative in all equations. The results indicate that higher the economic responsibilities, lower would be the firm size value of commercial banks.

The beta coefficients are also negative for legal CSR which reveals that higher the legal responsibilities, lower would be firm size value of commercial banks. Likewise, ethical CSR is positively related with firm size. It implies that higher the ethical responsibilities better would be firm size value of commercial banks. It also shows that beta coefficients are positive for discretionary and environmental CSR which reveals that higher discretionary and environmental responsibilities lead better firm size value of commercial banks.

Table 5: Regression of economic CSR, legal CSR, ethical CSR, discretionary CSR, and environmental CSR on firm size.

The results are based on 205 observations by using linear regression model. The model is $FS_i = a_0 + a_1 CSR_{eco}it + a_2 CSR_{leg}it + a_3 CSR_{eth}it + a_4 CSR_{dis}it + a_5 CSR_{env}it + eit$, *where economic corporate social responsibility (*CSR_{eco}*), legal corporate social responsibility (*CSR_{leg}*), ethical corporate social responsibility (CSReth) discretionary corporate social responsibility (*CSR_{dis}*) and environmental corporate social responsibility (*CSR_{env}*) are independent variables and firm size(FS) is dependent variable. Error term is represented by it.*

		Regression coefficient of							
Model	**Intercept**	**Eco**	**Leg**	**Eth**	**Dis**	**Env**	**R^2**	**SEE**	**F**
1	24.60	-0.22					0.05	0.50	11.43
	(209.57)*	(-3.38)**							
2	24.38		-0.08				0.01	0.51	1.48
	(180.57)*		(-1.22)						
3	24.07			0.09			0.01	0.52	2.17
	(214.71)*			(1.47)					
4	23.96				0.12		0.02	0.51	3.35
	(161.67)*				(1.83)				
5	24.03					0.08	0.01	0.52	2.23
	(181.14)*					(1.51)*			
6	24.62		-0.16		0.15		0.03	0.51	3.24
	(167.56)*		(-2.06) *		(2.23) *				
7	24.20		-0.13			0.12	0.03	0.51	2.72
	(148.76)*		(-1.77)			(1.98) *			
8	23.95			0.03	0.10		0.02	0.52	1.76
	(159.53)*			(0.44)	(1.17)				
9	24.01			0.05		0.05	0.01	0.51	1.34
	(176.50)*			(0.63)		(0.71)			
10	23.94				0.10	0.30	0.02	0.52	.74
	(155.41)*				(1.09)	(0.37)			
11	24.37	-0.24	-0.01			0.11	0.07	0.50	5.22
	(144.85)*	(-3.16)**	(0.14)			(1.90)			
12	24.12		-0.20	0.07	0.16		0.05	0.51	3.30
	(148.12)*		(-2.50) *	(0.95)	(1.83)				
13	24.20		-0.16	0.11		0.10	0.03	0.51	2.36
	(148.99)*		(-2.08)*	(1.27)		(0.78)			
14	23.94			0.03	0.09	0.02	0.02	0.52	1.19
	(154.96)*			(0.32)	(0.94)	(0.20)			

Notes: 1. Figures in parentheses are t-values.

2. The asterisk (*) sign indicates that the results are significant at 5 percent level of significance.

3. Dependent variable is firm size.

IV. Summary and conclusion

Corporate social responsibility plays a prominent role in determination of Tobin's q value and firm size of commercial banks. This study aims at analyzing the relationship between corporate social responsibility and its impact on firm value of Nepalese commercial banks. The study reveals that all the variables of corporate social responsibility have positive impact on the Tobin's q value. It shows that higher the CSR variables better will be Tobin's q of Nepalese commercial banks. Similarly, ethical CSR, discretionary CSR and environmental CSR have positive impact on firm size which reveals that higher the ethical, discretionary and environmental CSR, higher will be the firm size value of Nepalese commercial banks. However, economic CSR and legal CSR have negative impact on firm size. Higher the economic and legal CSR, lower will be firm size value of Nepalese commercial banks.

The study also reveals that employee of the commercial bank gives highest ranking to proxies of corporate social responsibility such as economic CSR, legal CSR, ethical CSR, discretionary CSR, and environmental CSR. Corporate social responsibility has strong and deep impact on the firm performance, which can help to determine and enhance firm's current and future value in the banking market. Hence, the study reveals that there is positive and significant relation among impact of corporate social responsibility on firm value.

Hence, if the Nepalese commercial banks have good corporate social responsibilities policies and performing mechanism in the form of economic CSR, legal CSR, ethical CSR, discretionary CSR and environmental CSR, it will tend to increase the firm performance. It will also increase the firm outcomes in the form of increment in market value of firm assets, impressive goodwill, employee's positive determination and commitment towards the firm which directly enhance the firm value of commercial banks.

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Capital structure and corporate performance: A case of Nepalese commercial banks

Kabindra Pokharel

Abstract

The objective of this study is to analyze the capital structure factors affecting the financial performance of commercial banks in Nepal. This study is based on pooled cross sectional data analysis of 19 commercial banks listed in NEPSE for the period of 2007/8-2013/2014 with 133 observations. The sample includes all sorts of commercial banks operating in Nepal like public sector, joint venture and privately owned banks. The performance measures in terms of return on assets, earnings per share and net interest margin are selected as dependent variables. Total debt to total assets ratio, long term debt to total debt ratio, short term debt to total debt ratio, size and credit risk are taken as independent variables.

The study revealed that total debt to total assets ratio, long term debt to total assets ratio, short term debt to total assets ratio and size are negatively related to returns on assets whereas credit risk is positively related to returns on assets. It indicates that higher the debt in capital mix, lower would be return on assets. Similarly, increase in credit risk leads to an increase in returns on assets. The result also shows that the total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio are negatively related to earning per share whereas size and credit risk is positively related to earnings per share which reveals that increase in debt decreases in earnings per share. Likewise, total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio are negatively related to net interest margin which indicates higher the debt in capital mix lower would be net interest margin. The result shows that there is positive relationship between bank size and net interest margin which reveals that increase in bank size will increase the net interest margin. The beta coefficients for total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio were negative, while beta coefficients were positive for size and credit risk. However, the coefficients were significant for size and credit risk only at 5 percent level of significance. Thus, this study concludes that size and credit risk are the major factors affecting the financial performance of commercial banks in the context of Nepal.

Keywords: Return on assets, earning per share, net interest margin, total debt to total assets ratio, long term debt to total assets ratio, short term debt to total assets ratio, bank size and credit risk.

I. Introduction

Financial sector is the backbone for economic development of the country. It works as a facilitator for achieving sustained economic growth through efficient monetary intermediation. A strong financial system promotes investment by financing productive business opportunities, mobilizing savings, efficiently allocating resources and makes easy trade of goods and services. Levine (1997) revealed that the efficacy of a financial system to reduce information and transaction costs plays an important role in determining the rate of savings, investment decisions, technological innovations and hence the rate of economic growth. On the other hand, poor banking performance can lead to banking failure and crisis which have

negative repercussions on the economic growth (Kusa, 2013). A profitable and sound banking sector is a better point to endure adverse upsets and adds performance in the financial system (Athanasoglou et al., 2008).

One of the most perplexing issue facing financial managers is the relationship between capital structure and performance. That is why there are various theories of capital structure that try to explain this cross-sectional variation. According to Modigliani and Miller (1958), the distribution of dividends does not change the firm's market value. Pecking order theory of capital structure states that firms have a preferred hierarchy for financing decisions. The preference is to follow a certain order of financing sources: debt, convertible securities, preferred stock, and common stock. The theory assumed that a firm's managers know more about the company's current earnings and future growth opportunities than outside investors. Also, managers will act in the best interests of the company's existing shareholders (Myers & Majluf, 1984). The agency costs theory posits that firm's capital structure is determined by agency costs, which includes the costs for both debt and equity issue. Since, both equity and debt incur agency costs, the optimal debt-equity ratio involves a trade-off between the two types of cost (Hunsaker, 1999). Ross (1977) argued that the firm's asset value increases with increase in leverage (debt). Leland and Pyle (1977) argued that the firm's value increases by reducing it leverage (debt).

The empirical studies pointed out many inconsistencies in the capital structure variables that impact the firm performance. Zeitun and Tian (2007) gave empirical evidence on the impact of financing decisions on firm performance from Jordan. Return on assets, return on equity and Tobin's Q were used to evaluate the performance of the firms. The results showed that all the capital structure variables including total debt to assets, long term debt to total assets and total equity have a significantly negative impact on firm performance in all performance variables except that short term debt has a positive impact on the Tobin's Q. SIZE of the firm was positively related to firm performance which means large size firms outperform than the small size firms.

Ebaid (2009) examined the capital structure and performance of firms, by using the three accounting based measure of performance return on assets (ROA), return on equity (ROE) and profit margin. This study found that there is negative significant impact of short term debt (STD) and the total debt (TD) on the financial performance measured by the return on asset (ROA) but no significant relationship found between long term debt (LTD) and this ROA.

Ahmad, Abdullah and Roslan (2012) investigated the impact of capital structure on firm performance using the ROA (Return on assets) and ROE (return on equity) as dependent variables. The control variables used are firm size (SIZE), sales growth (SG) and growth (AG) and the independent variables are long-term debt (LTD), short term debt (STD) and total debt (TD). The study found that short term debt and total debt have negatively significant relationship with return on asset (ROA).

Aburub (2012) investigated the impact of capital structure on the firm performance where return on Equity (ROE), return on assets (ROA), earnings per share (EPS), market value to book value of equity ratio (MVBR) and Tobin's Q ratio as the measures of accounting and

market of firm performance evaluation are taken as dependent variables whereas short-term debt to total assets ratio (SDTA), long-term debt to total assets ratio (LDTA), total debt to total assets ratio (TDTA) and total debt to total equity ratio (TDTQ) as the measures of capital structure are taken as the independent variables. The study found that the capital structure has a positive effect on firm performance evaluation measures.

San and Heng (2011) examined the relationship of capital structure and corporate performance of firms taking capital structure as independent variables. Independent variables are total debt to total assets ratio (TDR), long term debt to total assets (LTDR) and short term debt to total assets (STDR). Dependent variables are return on asset (ROA), earnings per share (EPS), operating margin (OM) and net interest margin (NIM). The result shows that, there is significant negative relation between long term debt ratio, and insignificant relation between other capital structure variable.

Saeed and Badar (2013) examined the impact of capital structure on firm performance by analyzing the return on assets (ROA) and assets turnover ratio (ATR) against different levels of debt. The results found were different from most of the previous studies. According to the results, long term debt has a significantly positive impact on the return on assets. On the other hand, total debt and short term debt were found to have a negatively significant effect on the return on assets.

Saeed, Gull and Rasheed (2013) reveled that short term debt has a positive and significant impact on return on assets, return on equity and earnings per share while, long term debt was found to be negatively related to all the performance variables. On the other hand, total debt showed an optimistic impact of return on assets, return on equity and earnings per share. Likewise, Size of the firm also affected the performance positively and significantly. AG (Assets Growth) affected return on assets and return on equity negatively whereas significantly negative relationship has been observed with earnings per share.

In Nepalese context, Shrestha (1985) observed that there were low capital gearing and even unbalanced pattern of capital structure in Nepalese PEs. Pradhan and Ang (1994) revealed that working capital function was most important, followed by capital structure decision function, whereas, the agency relation function was least important. Jha and Hu (2012) revealed that ROA of public sector banks were higher than those of joint venture banks.

Financial performance of commercial banks gets affected by different capital structure factors and bank specific factors. Total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio are generally taken as capital structure variables. Bank size and asset growth are bank specific variables. Moreover, Nepalese banking sector has undergone rapid changes at present. Accordingly, this study is devoted to examine the capital structure factors affecting the financial performance of commercial banks of Nepal.

The remainder of this study is organized as follows; Section two describes the sample, data and methodology, section three presents the empirical results and final section draws conclusions and discusses the implications of the study findings.

II. Methodological aspects

This study is based on secondary data which were gathered from 19 commercial banks listed in NEPSE for the period of 2007/8-2013/2014.This sample includes all sorts of commercial banks operating in Nepal like public sector, joint venture and privately owned banks. The data are obtained mainly from the recent bank supervision reports issued by NRB and annual reports of the concerned banks.

Table 1 shows the number of commercial banks selected for the study along with study period and number of observations.

Table 1: Number of commercial banks selected for the study along with the study period and number of observation

S.No.	Name of companies	Study period	Observations
1	Agricultural Development Bank Limited	2007/8-2013/14	7
2	Nabil Bank Limited	2007/8-2013/14	7
3	Nepal Investment Bank Limited	2007/8-2013/14	7
4	Nepal Bank Limited	2007/8-2013/14	7
5	Himalayan Bank Limited	2007/8-2013/14	7
6	Everest Bank Limited	2007/8-2013/14	7
7	Nepal SBI Bank Limited	2007/8-2013/14	7
8	Global IME Bank ltd.	2007/8-2013/14	7
9	Standard Chartered Bank Limited	2007/8-2013/14	7
10	Nepal Industrial and Commercial Bank Limited	2007/8-2013/14	7
11	Machhapuchre Bank Limited	2007/8-2013/14	7
12	Siddharth Bank Limited	2007/8-2013/14	7
13	Bank of Kathmandu	2007/8-2013/14	7
14	Prime Commercial Bank Limited	2007/8-2013/14	7
15	Laxmi Bank Limited	2007/8-2013/14	7
16	Citizens Bank International Limited	2007/8-2013/14	7
17	Kumari Bank Limited	2007/8-2013/14	7
18	Nepal Bangladesh Bank Limited	2007/8-2013/14	7
19	NMB Bank Limited	2007/8-2013/14	7
	Total numbers of observations		133

Thus, the study is based on 133 observations.

The model

The theoretical statements of the models are that financial performance of commercial banks (R) may be regarded as subject to constraints of total debt to total assets ratio (TDR), long term debt to total assets ratio (LTDR), short term debt to total assets ratio (STDR), firm

size (SIZE) and credit risk (CR). The theoretical statement may be stated as under.
R=f (TDR, LTDR, STDR, SIZE, CR)

The study examines the relationship of performance variable (ROA, EPS and NIM) with the fundamental variables such as TDR, LTDR, STDR, SIZE and CR by estimating various models. The equation to be estimated has been specified as under:

$$ROA = \beta 0_{+} \beta_1 TDR_{it} + \beta_2 LTDR_{it} + \beta_3 STDR_{it} + \beta_4 SIZEit + \beta_5 CRit + e_{it}$$

$$EPS = \beta 0_{+} \beta_1 TDR_{it} + \beta_2 LTDR_{it} + \beta_3 STDR_{it} + \beta_4 SIZEit + \beta_5 CRit + e_{it}$$

$$NIM = \beta 0_{+} \beta_1 TDR_{it} + \beta_2 LTDR_{it} + \beta_3 STDR_{it} + \beta_4 SIZEit + \beta_5 CRit + e_{it}$$

Where, ROA= Return on assets, EPS= Earnings per share, NIM= Net interest margin, TDR= total debt to total assets ratio, LTDR= long term debt to total assets ratio, STDR= short term debt to total assets ratio, SIZE= firm size, CR= credit risk and e= Disturbance or error Term.

III. The results

Descriptive Statistics

The descriptive statistics of dependent variable (return on assets, earning per share and net interest margin) and independent variables (total debt to total assets ratio, long term debt to total assets ratio, short term debt to total assets ratio, size and credit risk) of the study are shown in table 2.

Table 2: Descriptive statistics for the selected commercial banks of Nepal

Table 2 shows descriptive statistics - mean, standard deviation, minimum and maximum values variables associated with 19 sample banks for the period 2007/08 to 2013/14. ROA refers to return on assets, EPS refers to earnings per share, NIM refers net interest margin, TDR refers to Total debt to the assets ratio, LTDR refers to long term debt to assets ratio, STDR refers to short term debt to assets ratio, SIZE refers to bank size in terms of natural logarithm of total assets and credit risk refers to nonperforming loan to total loan.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA (%)	133	-0.98	18.04	1.80	1.76
EPS(Rs.)	133	-18.17	235.09	39.67	4.08
NIM (%)	133	0.22	7.75	3.32	1.11
TDR (%)	133	74.89	123.33	91.51	5.611
LTDR (%)	133	21.72	116.21	87.33	9.43
STDR (%)	133	0.66	15.54	3.33	3.07
SIZE (Rs.in billion)	133	22.57	25.23	24.14	0.58
CR(%)	133	0.00	31.37	2.41	4.16

The average ROA of the banks during the study period is noticed to be 1.8 percent with a minimum return of -0.98 percent and maximum return of 18.04 percent while, the average earning per share ranges from Rs. -18.17 to Rs.235.09, leading to the average of Rs.39.67. The net interest margin of selected bank varies from minimum of 0.22 percent to maximum of 7.75 percent with an average of 3.32 percent. The total debt to total asset ratio has a minimum value of 74.89 percent and maximum value of 123.33 percent, with a mean of 91.51 percent. Long term debt to total assets ratio ranges from 21.72 percent to 116.21 percent leading to the average of 87.33 percent. Likewise, short term debt to total assets has a minimum value of 0.66 percent and maximum value of 15.54 percent leading to the average of 3.33 percent. Similarly, average size of the bank is noticed to be Rs. 24.14 billion with a minimum of Rs. 22.57 billion and maximum value of Rs. 25.23billion. The credit risk of the banks ranges from 0.00 percent to 31.37 percent leading to the average of 2.41 percent.

Correlation analysis

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

Table 3: Computation of correlation coefficients for the selected commercial banks of Nepal

This table presents the Pearson correlation coefficients between dependent and independent variables. The correlation coefficients are based on the data from 19 sample banks with 133 observations for the period 2007/08 through 2013/14. ROA refers to return on assets, EPS refers to earnings per share, NIM refers net interest margin, TDR refers to Total debt to the assets ratio, LTDR refers to long term debt to assets ratio, STDR refers to short term debt to assets ratio, SIZE refers to bank size in terms of natural logarithm of total assets and credit risk (CR) refers to non performing loan to total loan ratio.

Variables		EPS	NIM	TDR	LTD	STDR	Size	CR
ROA	1							
EPS	0.082	1						
NIM	0.464**	0.367**	1					
TDR	-0.067	-0.223**	-0.122*	1				
LTD	-0.052	-0.144*	-0.089	0.624**	1			
STDR	-0.227**	-0.339**	-0.588**	0.045	-0.331**	1		
Size	-0.012	0.518**	0.417**	0.014	0.074	0.35**	1	
CR	0.114*	0.168*	0.416**	0.009	0.165	0.15	0.39**	1

*** indicates that correlation is significant at the 1 percent level (2-tailed).*

** indicates that correlation is significant at the 5 percent level (2-tailed).*

There is a negative relation between total debt to total assets ratio and return on assets which indicates that higher the total debt to total asset ratio, lower would be the return on assets. This finding indicates that Nepalese banks follow pecking order hypothesis (Myers, 1984) and is consistent with the findings of Ebaid (2009). Similarly, there is negative relationship

between long term debt to total assets ratio and return on assets which revealed that higher the long term debt to total assets ratio, lower would be the return on assets. This finding also indicates that Nepalese banks follow pecking order Hypothesis (Myers, 1984) and the finding is consistent with the finding of Ebaid (2009) while it is inconsistent with the finding of Saeed and Badar (2013). Likewise, short term debt to total asset ratio has negative relationship with return on assets. It indicates that higher the short term debt to total assets, lower would be the return on assets. The finding follows pecking order hypothesis (Myers, 1984) and is consistent with the finding of Ebaid (2009). Likewise, size has negative relationship with return on assets showing that larger the size of banks, lower would be return on assets. Again, the increase in fixed expenses for assets leads to lower returns on assets. The study reveals that there is a positive relation between credit risk and returns on assets which shows that higher the credit risk, higher would be the return on assets. This finding is consistent with the finding of Boahene et.al (2012).

The result shows that, total debt to total asset ratio and earnings per share are negatively correlated, which indicates that higher the total debt to total assets ratio, lower would be the earning per share. This finding indicates that Nepalese banks follow pecking order hypothesis (Myers, 1984) and is consistent with the findings of Khanam et al. (2014) and not consistent with the finding of Aburub (2012). Similarly, the negative relationship between long term debt to total asset ratio and earnings per share reveals that higher the long term debt to total asset ratio, lower would be the earning per share. This finding also indicates that Nepalese banks follow pecking order Hypothesis (Myers, 1984) and the finding is consistent with the finding of Saeed et al. (2013). Likewise, short term debt to total asset ratio has negative relationship with earnings per share. It indicates that higher the short term debt to total assets, lower would be the return on assets. The finding follows pecking order hypothesis (Myers, 1984) and is consistent with the finding of Saeed et al. (2013). Likewise, size has positive relationship with earnings per share showing that larger the size of banks, higher would be earnings per share. The finding is consistent with the finding of Zeitun and Tian (2007). The positive relation between credit risk and earnings per share reveals that higher the credit risk, higher would be the earning per share. This finding is consistent with the finding of Boahene et.al (2012).

The negative relationship between total debt to total asset ratio and net interest margin shows that higher the total debt to total asset ratio, lower would be the net interest margin. This finding indicates that Nepalease banks follow pecking order hypothesis (Myers, 1984) and is consistent with the findings of Taani (2013). Similarly, there is negative relationship between long term debt to total asset ratio and net interest margin which revealed that higher the long term debt to total asset ratio, lower would be the net interest margin. This finding also indicates that Nepalese banks follow pecking order hypothesis (Myers, 1984) and is consistent with the findings of Taani (2013). Likewise, net interest margin has negative relationship with short term debt to total asset. It indicates that higher the short term debt to total asset, lower would be the net interest margin. This finding indicates that Nepalese banks follow pecking order hypothesis (Myers, 1984) and is consistent with the findings of Ebaid (2009). The positive relation between credit risk and net interest margin shows that higher the credit risk, higher would be the net interest margin. This finding is consistent with the finding of Gounder and Sharma (2012). The result shows the positive relationship between size and net interest margin that indicates bigger the size of the company higher would be the net interest margin. The

finding is consistent with the finding of Zeitun and Tian (2007).

Regressions results

The regression of bank specific and capital structure factors on bank performance has been analyzed by defining bank performance in terms of return on assets, earnings per share and net interest margin. In order to analyze the effect of total debt to total assets ratio, long term debt to total assets ratio, short term debt to total assets ratio, size and credit risk on return on assets, the regression equations specified earlier are estimated and the results are presented in table 4.

Table 4: Regression result of TDR, LTDR, STDR, SIZE and CR on return on assets

The results are based on panel data of 19 commercial banks with 133 observations for the period of 2008 to 2014 by using linear regression model. Return on assets is the dependent variable while, total debt ratio, long term debt ratio, short term debt ratio, size, and growth are the independent variables. The model is: $ROA = \beta 0 + \beta_1 STDR_{it} + \beta_2 LTDR_{it} + \beta_3 TDR_{it} + \beta_4 SIZEit + \beta_5 CRit + Error$

Models	Intercept	Regression Coefficients of ROA					Adj R^2	SEE	F
		TDR	LTDR	STDR	SIZE	CR			
1	3.71 (1.47)	-0.021 (-0.76)					0.003	1.77	0.582
2	2.65 (1.84)		-0.10 (-0.59)				0.005	1.77	0.355
3	1.36 (6.16)			-0.13 (-2.66)*			0.44	1.72	7.102
4	0.94 (0.14)				-0.035 (-0.13)		0.007	1.77	0.018
5	1.989 (9.18)					0.18 (1.23)	0.004	1.76	1.517
6	3.691 (1.45)	-0.018 (-0.49)	-0.003 (-0.15)				0.011	1.77	0.301
7	3.18 (2.142)		-0.013 (-0.81)			0.9 (1.34)	0.001	1.76	1.085
8	4.188 (0.613)				-0.09 (-0.32)	0.9 (1.26)	0.003	1.77	0.805
9	3.866 (1.536)	-0.021 (-0.74)				0.08 (1.21)	0.001	1.76	1.036
10	5.281 (0.758)		-0.013 (-0.80)		-0.87 (-0.31)	0.19 (1.36)	0.017	1.77	0.75
11	6.724 (1.02)		-0.008 (-0.42)	-0.156 (-2.74)*	-0.255 (-0.91)		0.036	1.73	2.651
12	2.12 (0.16)	-0.12 (-0.14)	-2.19 (-.078)	-7.87 (-0.82)		0.28 (0.77)	0.029	1.76	1.652

Notes

1. *Figures in parenthesis are t-values.*
2. **denotes that the results are significant at 5% level of significance.*
3. *Dependent variable is return on assets.*

The table indicates that beta coefficients are negative for total debt to total assets ratio, long term debt to total assets ratio and short term debt to total asset ratio which reveals that high-

er the total debt to total asset ratio, lower would be the return on assets. This finding is consistent with the finding of Zeitun and Tian (2007). It also revealed that higher the long term debt to total assets ratio, lower would be the return on assets. This finding is consistent with the finding of Ebaid (2009) but the finding is inconsistent with the finding of Saeed and Badar (2013). Likewise, higher the short term debt to total assets, lower would be the return on assets. This finding is consistent with the finding of Ahmad et al. (2012) and Ebaid (2009).

The beta coefficients are negative for size with ROA indicating that the increase in fixed expenses for assets leads to lower return on assets. The beta coefficient for credit risk is positive with return on assets which shows that higher the credit risk, higher would be the return on assets. This finding is consistent with the finding of Boahene et al., (2012). The result of regressions shows that the coefficient of beta is insignificant and does not explain variation of return on assets.

The regression of bank specific variable and capital structure variable on performance has been analyzed by defining bank performance in terms of earning per share. The regression results are presented in table 5.

Table 5: Regression result of TDR, LTDR, STDR, SIZE and CR on earning per share

The results are based on panel data of 19 commercial banks with 133 observations for the period of 2008 to 2014 by using linear regression model. Earnings per share is the dependent variable while, total debt ratio, long term debt ratio, short term debt ratio, size, and growth are the independent variables. The model is: $EPS = \beta 0 + \beta_1 STDR_{it} + \beta_2 LTDR_{it} + \beta_3 TDR_{it} + \beta_4 SIZEit + \beta_5 CRit + Error$

Models	Intercept	Regression Coefficients of EPS					Adj R2	SEE	F
		TDR	LTD	STDR	Size	CR			
1	7.4 (1.83)	-1.45 (-2.14)					0.044	25.91	6.84
2	4.83 (1.71)		-2.52 (-1.26)				0.016	24.25	2.58
3	5.25 (7.74)			-2.33 (-1.26)			0.003	26.41	0.31
4	-52.24 (-6.43)				5.41 (6.88)*		0.321	21.83	4.36
5	45.48 (10.23)					0.242 (3.847)*	0.018	26.20	3.41
6	9.90 (1.81)	-1.42 (-1.99)	-0.29 (0.069)				0.035	25.88	3.40
7	85.99 (7.37)	-1.43 (2.97)*			3.94 (7.08)*		0.304	25.48	9.81
8	88.52 (1.75)		-1.46 (2.66)			0.246 (1.92)	0.062	25.38	5.34
9	76.40 (6.73)		-0.411 (-1.42)		31.65 (6.80)*		0.26	21.25	15.18
10	7.52 (6.19)				32.76 (6.57)*	0.43 (4.35)*	0.25	21.48	13.88
11	86.12 (7.36)	-1.59 (-2.62)*	-0.183 (-0.505)		12.13 (7.08)*		0.3	20.56	9.84
12	8.96 (1.77)	-1.63 (-2.28)	-0.156 (-0.363)	-0.21 (-0.31)		0.257 (2.95)*	0.56	25.50	13.58

Notes

1. *Figures in parenthesis are t-values.*
2. **. Correlation is significant at the 0.05 level (2-tailed).*
3. *Dependent variable is earnings per share.*

The table indicates that beta coefficients are negative for total debt to total asset ratio, long

term debt to total asset ratio and short term debt to total assets. It reveals that higher the total debt to total assets ratio, lower would be the earning per share. This finding is consistent with the finding of Khanam et al. (2014) but the finding is inconsistent with the finding of Aburub (2012). Similarly, higher the long term debt to total asset ratio, lower would be the earning per share. This finding is consistent with the finding of Saeed et al. (2013). Likewise, higher the short term debt to total assets, lower would be the earning per share. This finding is consistent with the finding of Saeed et al. (2013). These finding follows the pecking order hypothesis (Myers, 1984).

However, the beta coefficients positive for size and credit risk. The result indicates that bigger the size of the company higher would be the earning per share. The finding is consistent with the finding of Zeitun and Tian (2007). It also shows that higher the credit risk higher would be the earning per share. This finding is consistent with the finding of Zhou and Wong (2008). The beta coefficients for size and credit risk are only significant at 5 percent level of significance.

The regression of bank specific variable and capital structure variable on performance has been analyzed by defining bank performance in terms of net interest margin. The regression results are presented in table 6.

Table 6: Regression result of TDR, LTDR, STDR, SIZE and CR on net interest margin
The results are based on panel data of 19 commercial banks with 133 observations for the period of 2008 to 2014 by using linear regression model. Net interest margin is the dependent variable while, total debt ratio, long term debt ratio, short term debt ratio, size, and growth are the independent variables. The model is: $NIM = \beta_0 + \beta_1 STDR_{it} + \beta_2 LTDR_{it} + \beta_3 TDR_{it} + \beta_4 SIZEit + \beta_5 CRit + Error$

Models	Intercept	Regression Coefficients of NIM					Adj R^2	SEE	F
		TDR	LTD	STDR	Size	CR			
1	5.56 (3.507)	-0.024 (-1.412)					0.007	1.11	1.99
2	4.251 (4.68)		-0.011 (-1.023)				0.001	1.11	1.047
3	2.215 (8.44)			-0.214 (1.32)			0.34	0.90	9.23
4	15.84 (4.342)				0.794 (5.25)*		0.168	1.02	17.62
5	3.774 (19.83)					0.019 (4.984)*	0.153	1.03	14.84
6	5.543 (3.47)	-0.022 (-0.984)	-0.002 (-0.186)				0.001	1.11	1.007
7	-13.57 (-3.497)	-0.026 (-1.628)			0.79 (5.312)*		0.178	1.01	15.31
8	5.91 (4.070	-0.023 (-1.469)				0.018 (4.986)*	0.16	1.02	13.61
9	-14.99 (-4.08)		-0.014 (-1.52)		0.81 (5.38)*		0.176	1.01	15.106
10	5.451 (6.365)		-0.019 (-1.97)			0.02 (5.29)*	0.171	1.01	14.65
11	-10.82 (-2.86)				0.6 (3.86)*	0.013 (3.52)*	0.235	0.97	11.22
12	-13.83 (-3.53)	-0.017 (-0.86)	-0.008 (-0.64)		0.86 (5.33)*	0.020 (5.17)*	0.17	1.01	10.301

Notes

1. *Figures in parenthesis are t-values.*

2. **Correlation is significant at the 0.05 level (2-tailed).*
3. *Dependent variable is net interest margin.*

The table indicates that beta coefficients are negative for total debt to total asset ratio, long term debt to total asset ratio and short term debt to total assets. It reveals that higher the total debt to total assets ratio, lower would be the net interest margin. This finding is consistent with the finding of Taani (2013). Similarly, higher the long term debt to total asset ratio, lower would be the net interest margin. This finding is consistent with the finding of Saeed et al. (2013). Likewise, higher the short term debt to total assets, lower would be the net interest margin. This finding is consistent with the finding of Ebaid (2009). These finding follows the pecking order hypothesis (Myers, 1984).

However, the beta coefficients positive for size and credit risk. The result indicates that bigger the size of the company higher would be the net interest margin. The finding is consistent with the finding of Zeitun and Tian (2007). It also shows that higher the credit risk higher would be the net interest margin. This finding is consistent with the finding of Zhou and Wong (2008). The beta coefficients for size and credit risk are only significant at 5 percent level of significance.

IV. Summary and conclusion

Sound financial health of a bank is the guarantee not only to its depositors but is equally significant for the shareholders, employees and whole economy as well. The capital mix should be managed in optimum level so that the performance can be high. Lack of proper and prompt understanding about the capital structure factors and its effect on the financial performance of commercial banks can lead to bank failure which can be a significant cause of economic degradation.

The major purpose of this study is to find out the effect of capital structure on firm performance. The study is based on pooled cross sectional analysis of secondary data of 19 banks with 133 observations for the period 2007/08 to 20013/14. It specifically assesses bank specific and capital structure factors affecting performance of Nepalese commercial banks of Nepal. It determines the effect of TDR, LTDR, STDR, Size and CR on performance of commercial banks of Nepal.

The results shows that beta coefficients for total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio are negative with return on assets. This indicates that when there is high portion of debt in capital mix then the performance of banks decreases. The results indicate that Nepalese banks prefer pecking order hypothesis (Myers, 1984). The finding for earnings per share shows that regression coefficients for total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio are negative. The results indicate that Nepalese banks prefer pecking order hypothesis (Myers, 1984). On the other hand regression coefficients for size and credit risk are positive and significant at 5 percent level of significance whereas total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio are not significant in explaining the earning per share. The results for net interest margin revealed that regression coefficients for total debt to total assets ratio, long term debt to total assets ratio and short term debt to total assets ratio are negative. The results indicate that Nepalese banks prefer pecking order hypothesis (Myers, 1984). Thus, this study concludes

that capital structure has no significant influence on corporate performance. The beta coefficients for size and credit risk were significant at 5 percent level of significance. Thus, the study also concludes that size and credit risk are the major influencing factor for the bank performance.

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INTERNATIONAL CONFERENCE

CALL FOR PAPERS

Uniglobe College organizes international conference every year on one of the themes related to management. The College invites papers from corporate executives, academicians, research scholars, business entrepreneurs and students for the presentation in International Conference.

The topic may relate to any area of management such as marketing, finance, human resource management, organizational behavior, technology, and accountancy. The paper should preferably be of about 4000 words and preceded by an abstract of around 150 words along with references.

The paper should be original and should not have been submitted anywhere else for any purpose. The participants are requested to send the soft copy of their paper in the standardized format as an attachment.

The paper submitted may be published in conference proceedings or the journals of the college. The acceptance of the paper will be informed at earliest. The abstract should first be submitted at earliest.

More specifically, the research paper may explore any one of the following areas:

1. International business & trade	2. Marketing innovations and ethics	3. Marketing strategies
4. Management information system	5. Entrepreneurship	6. Human resource management
7. Strategic management	8. Operation management	9. Customer relation management
10. Financial management	11. Corporate finance	12. Investment management
13. Financial institutions and markets	14. Business society and ethics	15. International fin. Mgmt..
16. Global recessions	17. Corporate reporting practice	18. Int'l Act. Standards
19. Corporate governance	20. Sustainability of fin. Systems	21. Supply chain management
22. E-business	23. Municipal finance	24. Derivatives
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28. Management education	29. Banking	

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MBA (FINANCE)
MASTER OF BUSINESS ADMINISTRATION (FINANCE)

MBA (Finance)

Uniglobe College affiliated to Pokhara University is the only college in Nepal that offers internationally renowned MBA (Finance) program. With new batch of MBA (Finance), Uniglobe College has established itself as one of the prestigious institutions for MBA (Finance). Within a short span of time, it has proved MBA (Finance) as highly competent and highly regarded program. Its uniqueness, among others, in relation to building human capital, is categorically crafted that ensures much needed highly competent human resources in Nepalese and global job markets.

Throughout the past one hundred years' of modern financial history, sudden economic distresses & financial crises of varying magnitudes have occurred in practically every continent touching practically every nation, and affecting the lives of practically every generation leaving the following questions unanswered:
- Why do some organizations fail while others are very successful?
- How efficient management leads to success of an organization?
- Why do financial crises occur?
- Where do financial crises occur & where will they strike next?
- What do we do when financial crises happen?
- Can financial crisis happen in Nepal?

MBA (Finance) is here to develop the capable manpower who can address not only the above mentioned issues but also many other issues at national and international levels. MBA (Finance) is especially designed realizing the greater needs of finance focused MBA program.

MBA (Finance) is the only program offered by Pokhara University in Nepal through this Uniglobe College. This academic program is termed as highly competent and popular at the international level is now available in Nepal. Its uniqueness, among others, in relation to building human capital, is categorically crafted that ensures much needed highly competent human resources in Nepalese and global job markets.

Highly competent faculties

Faculties at Uniglobe College are trained in Florida State University, USA; Rikkyo University, Japan; Warsaw University, Poland; Asian Institute of Technology, Bangkok; Cambridge College, New Land University, USA; University of Southampton, UK; University of Hong Kong, Hong Kong; Indian Institute of Management, Ahmedabad; University of Delhi, India; Indian Institute of Mass Communication, India; University of Rajasthan, India; Tribhuvan University; Kathmandu University; and Pokhara University, Nepal.
Faculties at Uniglobe College also include foreign faculties from India, Thailand, USA and UK.

Invitation

Placement: Uniglobe College invites HR Managers to visit our college for sourcing management trainees.
Adjunct Faculties: Adjunct faculties are invited to Uniglobe College to share their experiences and knowledge with our students as Guest Speaker or Visiting Faculty.
Corporate training: Organizations requiring short term corporate trainings programs for mid to senior industry professionals are invited at Uniglobe College.
Curricula: Academicians are invited at Uniglobe College to provide inputs on latest industry trends to enrich our programs.

Duration of the Course

MBA (Finance) program is a two-year program stretched over six terms of full-time study, with every academic year having three terms (trimesters).
Total credit hours: 69 (more than other MBA program).

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Scholarship is available as per the rule of Pokhara University

BBA
BACHELOR OF BUSINESS ADMINISTRATION

BBA

Uniglobe College runs BBA Program of Pokhara University. It is the most modern and advanced program now offered in Nepal which goes much more beyond the traditional BBA. This four– year rigorous and intensive program is for those who wants to take up the challenging task of becoming middle level managers and entrepreneurs. It also prepares the students for higher level of education.

Pokhara University's BBA at Uniglobe College realizes the greater needs of business community and prepares the students accordingly. This academic program is, therefore, termed as highly competent and popular at the national level. Its uniqueness, among others, in relation to building human capital, is categorically crafted that ensures much needed highly competent middle level human resources in Nepalese and global job markets.

Highly competent faculties

Faculties at Uniglobe College are trained in Florida State University, USA; Rikkyo University, Japan; Warsaw University, Poland; Asian Institute of Technology, Bangkok; Cambridge College, New Land University, USA; University of Southampton, UK; University of Hong Kong, Hong Kong; Indian Institute of Management, Ahmedabad; University of Delhi, India; Indian Institute of Mass Communication, India; University of Rajasthan, India; Tribhuvan University; Kathmandu University; and Pokhara University, Nepal.

Duration of the Course

BBA program is a four-year program stretched over eight semesters of full-time study, with every academic year having two semesters.
Total credit hours 120.

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Pokhara University's BBA-BI at Uniglobe College realizes the greater needs of financial community and prepares the students accordingly. This academic program is, therefore, termed as highly competent and popular at the national level. Its uniqueness, among others, in relation to building finance focused human capital, is categorically crafted that ensures much needed highly competent finance focused middle level human resources in Nepalese and global job markets.

Highly competent faculties

Faculties at Uniglobe College are trained in Florida State University, USA; Rikkyo University, Japan; Warsaw University, Poland; Asian Institute of Technology, Bangkok; Cambridge College, New Land University, USA; University of Southampton, UK; University of Hong Kong, Hong Kong; Indian Institute of Management, Ahmedabad; University of Delhi, India; Indian Institute of Mass Communication, India; University of Rajasthan, India; Tribhuvan University; Kathmandu University; and Pokhara University, Nepal.

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2. Papers for publication should be sent in quadruplicate to:
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   References, tables, and legends for figures should be printed on separate pages.
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   Pradhan and Shrestha, 1994. Seasoned equity offerings: The case of all-equity firms, Nepalese Journal of Corporate Governance 1(1), 32-43.
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