

Determinants of Financial Performance of Nepalese Commercial Banks: Evidence from Panel Data Approach

Purna Man Shrestha *

Abstract

The impact of bank specific factors on the financial performance of Nepalese commercial banks is analyzed in this paper. The financial performance is measured by using return on assets (ROA). Similarly, managerial efficiency (ME), liquidity (LIQ), credit risk (CR), assets quality (AQ) and operational efficiency (OE) is used as proxy of bank specific factors. This study used panel data of 17 commercial banks for the period of 2010/11 to 2017/18. Breusch and Pagan Lagrangian multiplier test showed that Pooled Regression model is not appropriate and Hausman test concluded that Fixed Effect model is appropriate rather than Random Effect model. Using the Fixed Effect model; this study concludes that bank specific factors have significant impact on financial performance of Nepalese commercial banks. Finally, this study reveals that ME, AQ and OE have significant positive impact, and CR has negative impact on the financial performance of Nepalese commercial banks.

Key Words: Financial performance, Commercial banks, Bank specific factors, Panel data

JEL Classification: G2

* Associate Professor, Faculty of Management, Mid-Western University, Surkhet, Nepal. Email: purnaman.skt@gmail.com

I. INTRODUCTION

Banking sector plays a significant role for the development of the economy of any country. It mobilizes the unused fund of the economy to the productive sector. Thus, it is taken as the hurt of an economy and success and failure of the banking sector makes significant impact on the economic growth of the country. Commercial bank is one of the major components of banking sector and it is also the major component of financial sector of the Nepalese economy. There is no long history of banking sector in Nepal. It was started from the establishment of Nepal Bank Limited in 1937 A. D. As a central bank of Nepal; Nepal Rastra Bank was established in 1956 A. D., 19 years later after the establishment of the first bank of Nepal. Nepal Rastra Bank monitors and regulates all the banking sector of Nepal. Now there are 28 commercial banks in Nepal till mid-July 2018 and the total profit of Nepalese commercial banks are 53,633 million Nepalese rupees. How well a bank is performing its activities can be measured through the financial performance. Thus, the financial performance of the bank is the major parameter of its success and failure. Apart from the parameter of bank's success and failure a profitable banking system contributes to the financial stability of the nation. Therefore, the management of bank and regulatory authority must identify the factors affecting the financial performance of bank.

The financial performance of bank is the function of internal and external factors. The internal factors are the bank specific factors which are originated from the activity of bank and reflected in the balance sheets and profit and loss accounts. The external factors are not originated from the activity of bank but reflect the overall economic environment which affects the financial performance of banking sector. Thus, the financial performance of bank basically depends on its own activities (internal factors) and the overall performance of the economy (external factors).

Athanasoglou, Brissimis and Delis (2008) found that all bank-specific determinants, except the size of the bank significantly affect the profitability of bank. Similarly, the Anbar and Alper (2011) found a significant impact of assets size, non-interest and the real interest rate on the performance of bank. Furthermore, the empirical study conducted by Olweny and Shiphoh (2011), Ongore and Kusa (2013), Yesmine and Bhuiyah (2015) and Al-Homaidi, Tabash, Farhan and Almaqtari (2018), and Gwachha (2019) also concluded that various internal factors such as assets quality, liquidity, credit risk, operational efficiency, cash reserve ratio, assets size, and external factors such as gross domestic product, money supply, interest rate and inflation etc. makes significant impact on the financial performance of bank. If the bank management and regulatory authorities identifies the factors affecting the financial performance of bank and takes proper actions then they can achieve their goal and contribute to the economy of the

nation. Therefore, this paper aims to identify the factors affecting the financial performance of Nepalese commercial banks. Though the financial performance is affected by both internal and external factors, in this paper the effect of internal factors (bank specific factors) are only analyzed. This paper considered the effect of bank specific factors such as management efficiency, liquidity, credit risk, assets quality and operational efficiency only.

II. OBJECTIVES OF THE STUDY

The basic objective this paper is to identify the determinants of the financial performance of Nepalese commercial banks. This paper also aims to identify the factor that plays significant role for explaining the financial performance of Nepalese commercial banks.

III. LITERATURE REVIEW

In the context of Turkey, Anbar and Alper (2011) concluded that assets size and non-interest income have significant positive and credit portfolio and loans under follow-up have significant negative impact on profitability of bank. They further concluded that the macroeconomic variable, the real interest rate affects positively on performance of bank. Similarly, Al Karim and Alam (2013) concluded that bank size, credit risk, operational efficiency and asset management have significant impact on the financial performance of the commercial bank of Bangladesh. Ongore and Kusa (2013) analyzed the effect of bank specific factors and macroeconomic variables on the financial performance of commercial banks of Kenya. Using the linear multiple regression model and generalized least square model on panel data Ongore and Kusa identified that bank specific factors except liquidity variable affects significantly the financial performance of commercial banks of Kenya. Further Ongore and Kusa concluded that management efficiency has significant positive impact and assets quality has significant negative impact on the financial performance. Further they found significant negative impact of inflation and insignificant negative impact of GDP and liquidity on the financial performance of commercial banks of Kenya. Likewise, they found significant positive impact of capital ratio on ROA and NIM and significant negative impact on ROE.

Furthermore, in the context of Central and Eastern European Countries, Capraru and Ihnatov (2014) concluded that management efficiency and capital adequacy growth have significant impact on the return on assets, return on equity and net interest margin whereas credit risk and inflation determines the return on assets and return on equity only. Similarly, Yesmine and Bhuiyah (2015) have analyzed the determinants of the performance of national and local private commercial banks of Bangladesh. The study of Yesmine and Bhuiyah used ten local private commercial banks (PCB) and all nationalize commercial banks (NCB) for the

period of 2008 to 2014. Yesmine and Bhuiyah found that assets utilization and operating efficiency has significant positive impact on the financial performance of bank and credit risk has significant negative impact of the financial performance of bank. Further they concluded that assets utilization is the most critical factor for financial performance of PCB. Similarly, they concluded that 1 taka increase in credit risk decreases the return by 0.968 taka of NCB.

The financial performance of private commercial banks of Ethiopia, is analyzed by Teshome, Debela and Sultan (2018). Using the secondary data of 16 private commercial banks for the period of 2007 to 2016 Teshome et al. concluded that capital adequacy ratio, credit interest income, and size of the bank has significant positive impact non-performing loans, loan loss provision, leverage ratio and operational cost efficiency has significant negative impact on the financial performance of the private commercial bank of Ethiopia.

Similarly, the impact of bank specific factors and macroeconomic variables on the profitability of Indian commercial banks, is analyzed by Al-Homaidi, Tabash, Farhan and Almaqtari (2018). Al-Homaidi et al. used return on assets, return on equity and net interest margin as proxy of profitability, bank size, assets quality, capital adequacy, liquidity, operating efficiency, deposits, leverage, assets management and number of branches as proxy of bank specific factors and gross domestic product, inflation rate, interest rate and exchange rate as proxy of macroeconomic variables. Al-Homaidi et al. concluded that all bank specific factors except the number of branches has significant impact on profitability measured by net profit margin. Further they concluded that all the macroeconomic variables used in the study have significant negative impact on profitability. Finally, they concluded that bank size, number of branches, assets management ratio and leverage ratio have significant impact on profitability of Indian commercial banks measured by return on assets.

Similarly, Gwachha (2019) has analyzed bank-specific and macroeconomic determinants of the profitability of Nepalese banking sector over the time period from 2004 to 2013. Gwachha used return on assets (ROA), return on equity (ROE) and net interest margin (NIM) to measure the profitability of the bank and used total asset, ratio of equity capital to total assets, ratio of total loan to total assets, ratio of total deposit to total assets, ratio of total liquid assets to total assets as bank specific factors and used gross domestic product, consumer price index, real interest rate and stock market capitalization as macroeconomic factors. Gwachha concluded that asset size and deposit to asset have a significant positive effect, and loans portfolio have a significant negative impact on profitability of bank. Furthermore, Gwachha found a positive impact of real interest rate and stock market capitalization on the performance of banks.

All the above mentioned studies conclude that there is a significant impact of internal and external factors on the financial performance of commercial banks. It is, therefore, relevant to examine whether the bank specific factors make any impact or not on the financial performance of commercial banks in Nepalese context.

IV. METHODOLOGY

4.1 Research Design

This study is based on descriptive, correlation and causal comparative research design. The fact and behavior of the variables under the study has been analyzed using descriptive analysis. Similarly, the direction and magnitude of the relationship of the financial performance of the Nepalese commercial banks and factors affecting it is observed using correlation research design. Finally, the causal comparative research design is used to evaluate the explanatory power of bank specific factors for explaining financial performance of Nepalese commercial banks.

4.2 Population and Sample

The entire commercial banks of Nepal are the population of this study. There are all together 28 commercial banks till mid-July 2018. Those banks are selected as samples which are listed on Nepal Stock Exchange and that are operating regularly from financial year 2010/11 to 2017/18. Out of these 28 commercial banks; 17 commercial banks fulfilled these criterions. Therefore, this study is confined on the 17 Nepalese commercial banks.

4.3 Nature and sources of data

This study is solely based on secondary source of data. The required data for this study is collected from annual report of sample commercial banks. This study used balanced panel data of 17 commercial banks of Nepal from 2010/11 to 2017/18. The required data for return on assets (ROA), management efficiency (ME) and operational efficiency (OE) is collected using the balance sheet and income statement, and data related to liquidity (LIQ), credit risk (CR) and assets quality (AQ) is collected using the key indicator provided by the concern bank.

4.4 Model Specification

This study has used financial performance of Nepalese commercial banks measured by return on assets (ROA) as dependent variable. The aim of this study is to identify the impact of bank specific factors on the financial performance of Nepalese commercial banks. Thus, this study used bank specific variables as explanatory variables which are measured by management efficiency (ME),

liquidity (LIQ), credit risk (CR) and assets quality (AQ) and operational efficiency (OE). The basic model for multivariate regression analysis is specified as follows:

$$ROA_{it} = \beta_0 + \beta_1 ME_{it} + \beta_2 LIQ_{it} + \beta_3 CR_{it} + \beta_4 AQ_{it} + \beta_5 OE_{it} + \epsilon_{it} \quad \dots\dots\dots (1)$$

Where,

ROA_{it} = the return on assets of the bank i for year t ,

β_i = the coefficient of bank specific variable to be estimated,

ME_{it} = the management efficiency of the bank i for year t ,

LIQ_{it} = the liquidity of the bank i for year t ,

CR_{it} = the credit risk of the bank i for year t ,

AQ_{it} = the assets quality of the bank i for year t ,

OE_{it} = the operational efficiency, and

ϵ_{it} = the residual error term.

4.5 Methods of Analysis

The main aim of this study is to analyze the impact of bank specific factor on financial performance of Nepalese commercial banks. For this purpose the balance panel data of 17 commercial banks for the period of 2010/11 to 2017/18 is collected. The collected data has been analyzed using STATA 12.0 software. STATA 12.0 produced the result of descriptive statistics, correlation analysis and the result of multivariate regression analysis. Before running the multivariate regression analysis it is confirmed that whether the collected data is the best fit for Pooled Regression model, Random Effect model or Fixed Effect model. For this purpose Breusch and Pagan Lagrangian multiplier test for Pooled Regression model or Random Effect model and Hausman test for Random Effect model or Fixed Effect model is applied. Since, this study is based on panel data of 17 commercial banks for 8 years (2010/11 to 2017/18) stationarity testing is not an essential pre-requisite for very small T . Thus, this study has ignored unit root test for panel data.

4.6 Variables and Measures

This study has used financial performance of Nepalese commercial banks as dependent variable and bank specific variables as independent variables. The definitions of these variables are presented in the following paragraphs and table 1.

Table1
Variables and Measures

SN	Variables	Measurement	Type
1	Return on assets (ROA)	$ROA_{it} = \frac{NI_{it}}{TA_{it}}$	Dependent
2	Management efficiency (ME)	$ME_{it} = \frac{NI_{it}}{TR_{it}}$	Independent
3	Liquidity (LIQ)	$LIQ_{it} = \frac{TL_{it}}{TD_{it}}$	
4	Credit risk (CR)	$CR_{it} = \frac{LLP_{it}}{TL_{it}}$	
5	Assets quality (AQ)	$AQ_{it} = \frac{NPL_{it}}{TL_{it}}$	
6	Operational efficiency (OE)	$OE_{it} = \frac{TI_{it}}{TOE_{it}}$	

Dependent Variable

Return on Assets

This study has used return on assets (ROA) as proxy of financial performance of Nepalese commercial banks. ROA is the indicator of profitability of the enterprises and it is widely used variable to measure the financial performance of the enterprises. It simply compares the firm's profit relative to total assets. Thus, return on assets shows how efficiently the firm is able to use its resources to generate income. In other words it shows the efficiency of management for generating income using assets of the organization. The return on assets is obtained as:

$$ROA_{it} = \frac{NI_{it}}{TA_{it}} \dots\dots\dots (2)$$

Where, ROA_{it} is the return on assets of the bank i at year end t. NI_{it} is the net income of the bank i at year end t and TA_{it} is the total assets of the bank i at year end t.

Independent Variables

This study has used bank specific factors such as management efficiency (ME), liquidity (LIQ), credit risk (CR), capital adequacy (CA) and operational efficiency (OE) as explanatory variables. The definitions of these variables are presented in the following paragraphs.

Management Efficiency

How efficiently the management team of an organization has created output relative to capital, assets is management efficiency (ME). It is one of the major factors that affect the financial performance of the bank. It is generally observed through management system, organizational discipline, cost control system, quality of staff etc. Though it very complex and qualitative phenomenon, various parameters such as assets growth, earnings growth, profit growth etc. can also be used to measure the management efficiency of the organization. In this study the ratio of net income to total revenue is used to measure management efficiency, which is obtained as follows:

$$ME_{it} = \frac{NI_{it}}{TR_{it}} \dots\dots\dots (3)$$

Where, ME_{it} is the management efficiency of the bank i at year end t. NI_{it} is the net income of the bank i at year end t, TR_{it} is the total revenue of the bank i at year end t.

Liquidity

Another important bank specific variable that affects the financial performance of the bank is liquidity (LIQ) ratio. Generally, the ratio of loan to deposit is used to measure the liquidity of bank. Banks use the deposit collected from customers to grant loan. If the extensive amount of deposit is used by the bank to provide loan then it will make high liquidity ratio of the bank; which may not cover the future unexpected withdrawal by the customers. Thus high liquidity of the bank creates high credit risk which results high profitability of the bank. In this study liquidity of the bank is measured by the ratio of total loan to total deposit which is as follows:

$$LIQ_{it} = \frac{TL_{it}}{TD_{it}} \dots\dots\dots (4)$$

Where, LIQ_{it} is the liquidity of the bank i at year end t. TL_{it} is the total loan of the bank i at year end t, TD_{it} is the total deposit of the bank i at year end t.

Credit Risk

Bank maintains provisions to absorb the losses from non-performing loan. Credit risk (CR) is always associated with the loan sanctioned by the bank. Thus, to overcome such type of credit risk bank maintains provision which is known as loan loss provision. In this study the ratio of loan loss provision to total loan is used as proxy of credit risk. It is obtained as follows:

$$CR_{it} = \frac{LLP_{it}}{TL_{it}} \dots\dots\dots (5)$$

Where, CR_{it} is the credit risk of the bank *i* at year end *t*. LLP_{it} is the loan loss provision maintained by the bank *i* at year end *t*, and LT_{it} is the total loan of the bank *i* at year end *t*.

Assets Quality

The important variable that makes significant impact on financial performance of the bank is assets quality (AQ). The assets of bank comprised of fixed assets, current assets, investments and portfolio of loan. Out of these assets of bank loan the portfolio of loan is the major earning assets of bank. Thus, assets quality of the bank is considered as the quality of earning assets i.e. portfolio of loan. The bad quality of loan has higher probability of becoming non-performing loan. Therefore, the ratio non-performing loan total loan is the best measures of assets quality of bank. It is measured as follows:

$$AQ_{it} = \frac{NPL_{it}}{TL_{it}} \dots\dots\dots (6)$$

Where, AQ_{it} is the assets quality of the bank *i* at year end *t*. NPL_{it} is the non-performing loan of the bank *i* at year end *t*, and LT_{it} is the total loan of the bank *i* at year end *t*.

Operational Efficiency (OE)

Another bank specific variable that is used in this study to determine financial performance of Nepalese commercial banks is operational efficiency (OE). It is simply the comparison of total interest income relative to the operating expenses. If the bank is capable to generate more interest income with lower amount of operating expenses than it is taken as operationally efficient one. Thus, the ratio of total interest income to operating expenses is the best proxy of operational efficiency of bank. The operational efficiency of bank is measured as follows:

$$OE_{it} = \frac{TII_{it}}{TOE_{it}} \dots\dots\dots (7)$$

Where, OE_{it} is the operational efficiency of the bank *i* at year end *t*. TII_{it} is the total interest income of the bank *i* at year end *t*, and TOE_{it} is the total operating expenses of the bank *i* at year end *t*.

V. PRESENTATION AND ANALYSIS OF DATA

5.1 Descriptive Statistics

This study has analyzed the financial performance of Nepalese commercial banks and bank specific variables using the descriptive research design. For this purpose descriptive statistics i.e. mean, standard deviation, minimum and maximum values

of sample commercial bank is obtained using STATA 12.0 software. The result of descriptive statistics is presented in table 2.

Table 2
Descriptive Statistics

The table exhibits descriptive statistics (mean, standard deviation, minimum and maximum values) of the variable under the studied period of 2010/11 to 2017/18 for the 17 Nepalese commercial banks with 136 observations. ROA is calculated for a given year t by dividing net income by total assets. ME is the management efficiency which is calculated by dividing net income by total revenue. LIQ (liquidity) is the ratio of total loan to total deposit at the end of year t . CR (credit risk) is the ratio of loan loss provision to total loan at the end of year t . AQ (assets quality) is the ratio of non-performing loan to total loan at the end of year t . OE (operational efficiency) is the ratio of total interest income to operating expenses at the end of year t .

	Mean	Std. Deviation	Minimum	Maximum	N
ROA	1.8271	.8460	.05	8.15	136
ME	24.1741	10.3899	0.32	70.75	136
LIQ	79.4078	11.0929	48.92	117.38	136
CR	0.6946	0.9471	-2.22	7.26	136
AQ	1.7870	2.1383	0.00	17.99	136
OE	4.9280	1.5133	1.87	10.63	136

Table 2 depicts a wide range of dependent variables i. e. ROA and bank specific variable. Return on assets (ROA) ranges from minimum 0.05 percent to maximum 8.15 percent with mean value of 1.8271 percent.

Furthermore, table 2 also demonstrates a wide range of management efficiency i.e. the ratio of net income to total revenue. It ranges from minimum value of 0.32 percent and maximum value of 70.75 percent with mean value of 24.1741 percent. Likewise, another bank specific variable LIQ (liquidity) i.e. the ratio of total loan to total deposit shows a mean value of 79.4048 percent with minimum value of 48.92 percent and maximum value of 117.38 percent. On the other hand, another bank specific variable credit risk (the ratio of loan loss provision to total loan) shows mean value of 0.6946 percent. Similarly, assets quality (AQ), the ratio of non-performing loan to total loan and operational efficiency (OE) the ratio of total interest income to operating expenses shows mean value of 1.787 and 4.9280 respectively.

5.2 Correlation Analysis

To identify the relationship between financial performance of Nepalese commercial bank and bank specific factors correlation analysis has been performed. In this section correlation of ROA with bank specific factors such as ME, LIQ, CR, AQ and OE has been estimated. Table 3 presents the result of correlation analysis.

Table 3
Correlation Results

This table exhibits the correlation coefficients of financial performance i. e. return on assets (ROA) with bank specific factors such as management efficiency (ME), liquidity (LIQ), credit risk (CR), capital adequacy (CA) and operational efficiency (OE).

	ROA	ME	LIQ	CR	AQ	OE
ROA	1.0000					
ME	0.5241	1.0000				
LIQ	-0.0247	-0.2666	1.0000			
CR	0.1898	-0.1348	0.3111	1.0000		
AQ	0.5240	0.0299	0.2927	0.5819	1.0000	
OE	-0.2422	-0.2708	0.1608	-0.1885	-0.2369	1.0000

The result of correlation analysis presented in table 3 depicts that there exist positive correlation of ROA with ME, CR, AQ and negative correlation with LIQ and OE. Table 3 shows the value of correlation of ROA with ME is 5.241, with CR 0.1898, with AQ 0.5240, with LIQ - 0.0247 and -0.2422 with OE.

Similarly, Table 3 demonstrates the highest value of correlation 0.5819 (correlation with CR and AQ) and the lowest value of correlation – 0.2708 (correlation between ME and OE). These highest and lowest values of correlation show that there is no problem of multicollinearity.

5.3 Model Estimation

Before estimating the regression model this study has used Breusch and Pagan Lagrangian multiplier test for random effects to identify whether the data are fit for pooled or panel model. Table 4 shows the result of the Breusch and Pagan Lagrangian multiplier test for random effects.

Table 4
Result of Breusch and Pagan Lagrangian multiplier test for random effects

	Var	sd = sqrt(Var)
ROA	.7157157	.8459998
E	.1295383	.3599143
U	.2235972	.4728606
Test: Var(u) = 0	chibar2(01) = 126.09	Prob > chibar2 = 0.0000

Table 4 shows the significant chibar2 value of 126.09 (probability value of 0.000) which rejected the null hypothesis that the Pooled OLS model is appropriate. After identification that Pooled OLS model is not appropriate; Hausman test has been used to identify whether the data are fit for Fixed Effect model or Random Effect model. Table 5 shows the result of Hausman test.

Table 5
Result of Hausman Test

	(b) Fixed Effect	(B) Random Effect	(b-B) Difference	sqrt(diag (V_b-V_B))
ME	.0423809	.042666	-.0002851	.0009887
LIQ	.0228625	.0178006	.0050619	.0016298
CR	-.0763861	-.0751435	-.0012426	-
AQ	.2188257	0.2189424	-.0001167	-
OE	.1096524	.0833641	.0262884	.0179728
$\chi^2 (5) = 11.83$	Prob> $\chi^2 = 0.0371$			

As per the result depicted in Table 5 the value of χ^2 is 11.83 (probability value of 0.0371) which is significant at 5 percent level of significance rejects the null hypothesis that the Random Effects model is appropriate. In another word it indicates that the Fixed Effect model is appropriate.

Since the Hausman test for dependent variables rejects the null hypothesis that the Random Effects model is appropriate, this study finally has estimated the regression model using the Fixed Effect model for determining the effect of bank specific variables on financial performance of Nepalese commercial banks. The result of Fixed Effect model is presented in Table 6.

Table 6
Average Slope Coefficients and Corresponding t-Value from Fixed-effects (within) regression

This table shows the regression results based on Fixed Effect model of panel data of 17 commercial banks with 136 observations for the period of 2010/11 to 2017/18.

The basic model is: $ROA_{it} = \beta_0 + \beta_1 ME_{it} + \beta_2 LIQ_{it} + \beta_3 CR_{it} + \beta_4 AQ_{it} + \beta_5 OE_{it} + \epsilon_{it}$

Dependent variable is the return on assets denoted as (ROA)_{it} and independent variables are management efficiency (ME)_{it}, liquidity (LIQ)_{it}, credit risk (CR)_{it}, assets quality (AQ)_{it}, and operational efficiency (OE)_{it}.

Variable	Coefficient	Std. Error	t-statistics	p-value
ME	.0423809	.0046946	9.03	0.000
LIQ	.0228625	.0052057	4.39	0.000
CR	-.0763861	.0466168	-1.64	0.104
AQ	.2188257	.0215273	10.17	0.000
OE	.1096524	.0454846	2.41	0.018
Cons.	-1.891267	.4757218	-3.98	0.000
R2: within = 0.6884		F(5,114) = 50.36	Prob > F = 0.0000	
F test that all $u_i=0$:		F(16, 114) = 14.45	Prob > F = 0.0000	

Table 6 depicts that there is positive impact of managerial efficiency (ME), liquidity (LIQ), assets quality (AQ), and operational efficiency (OE) and negative impact of credit risk (CR) on return on assets (ROA) of Nepalese commercial banks. Further it is observed that the slope coefficient of ME, LIQ, and AQ are positive and significant at 1 percent level of significant and slope coefficient of OE is positive and significant at 5 percent level of significant. Similarly, the slope coefficient of CR is observed to be negative and significant at 10 percent level of significant. It can, therefore, be concluded that there is significant impact of these bank specific factors for explaining the financial performance of Nepalese commercial banks measured by return on assets. It is also concluded that there is significant positive impact of ME, LIQ, AQ and OE, and significant negative impact of CR on ROA.

Furthermore, the value of R2 (within) 0.6884 indicates that the selected bank specific factors of this study explain the financial performance of Nepalese

commercial banks (measured by return on assets) by 68.84 percent. Similarly, the value of $F(5,114)$ 50.36 with p-value of 0.000 indicates that the estimated Fixed Effect model is the best fitted model. Likewise, the value of F test that all u_i is equal to zero, i. e. $F(16,114)$, is 14.45 with p-value of 0.000 is observed. It indicates that there is significant difference between at least some individual banks.

VI. SUMMARY AND CONCLUSION

The financial performance of bank is affected by several internal and external factors. For better performance bank must know which factors make significant impact on its financial performance. In this study the effect of bank specific factors on financial performance of Nepalese commercial banks has been analyzed using panel data of 17 commercial banks from 2010/11 to 2017/18. The financial performance of bank is measured through return on assets (ROA) and managerial efficiency (ME), liquidity (LIQ), credit risk (CR), assets quality (AQ) and operational efficiency (OE) are used as the bank specific factors. For evaluating the effect of bank specific factors on financial performance on Nepalese commercial banks this study used Fixed Effect regression model. Since this study is based on panel data of 17 Nepalese commercial banks; before estimating the Fixed Effect regression model Breusch and Pagan Lagrangian Multiplier test for Random Effects and Hausman test for Fixed Effect is applied. Both tests concluded that Fixed Effect regression model is appropriate for identifying the effect of bank specific factors on dependent variables.

The Fixed Effect regression result on return on assets (ROA) finds that there is significant positive impact of ME, LIQ, AQ and OE on the financial performance of commercial banks measured by return on assets. On the other hand, this study finds significant negative impact of CR on ROA. It is, therefore, concluded that Nepalese commercial banks can increase their return on assets (ROA) by increasing managerial efficiency, liquidity, assets quality and operational efficiency, and decreasing their credit risk.

REFERENCES

- Al Karim, R. and T. Alam, 2013. An evaluation of financial performance of private commercial banks in Bangladesh: Ratio analysis. *Journal of Business Studies Quarterly*, 5(2), 65-77.
- Al-Homaidi, E. A., M. I. Tabash, N. H. Farhan, and F. A. Almaqtari. 2018. Bank-specific and macro-economic determinants of profitability of Indian commercial banks: A panel data approach. *Cogent Economics & Finance*, 6(1), 1-26.

- Anbar, A., & D. Alper. 2011. Bank specific and macroeconomic determinants of commercial bank profitability: Empirical evidence from Turkey. *Business and economics research journal*, 2(2), 139-152.
- Athanasoglou, P. P., Brissimis, S. N., & M. D. Delis. 2008. Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18(2), 121-136.
- Azam, M. and S. Siddiqui. 2012. Domestic and foreign banks' profitability: Differences and their determinants. *International Journal of Economics and Financial Issues*, 2(1), 33-40
- Capraru, B., & I. Ilnatov. 2014. Banks' profitability in selected Central and Eastern European countries. *Procedia Economics and Finance*, 16, 587-591.
- Gul, S., F. Irshad, and K. Zaman. 2011. Factors Affecting Bank Profitability in Pakistan. *Romanian Economic Journal*, 14(39), 61-87
- Gwachha, K. P. 2019. Bank specific and macroeconomic determinants of banking profitability in Nepal. *SEBON Journal*, 7, 120-129
- Olweny, T. and T. M. Shiphoh. 2011. Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.
- Ongore, V. O. and G. B. Kusa. 2013 Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Financial Issues*. 3(1), 237-252.
- Teshome, E., K. Debela and M. Sultan. 2018. Determinant of financial performance of commercial banks in Ethiopia: Special emphasis on private commercial banks. *African Journal of Business Management*, 12(1), 1-10.
- Tufan, E., B. Hamarat, M. Cristea and Vasilescu, 2008. Multicriterial evaluation of domestic and Foreign Banks in Turkey by using financial ratios. *Banks and Bank Systems International Research Journal*, 3(2), 69-77.
- Yesmine, S. and M. S. U. Bhuiyah. 2015. Determinants of banks' financial performance: A comparative study between nationalized and local private commercial banks of Bangladesh. *International Journal of Business and Management Invention*, 4(9), 33-39.