

Impact of Credit Risk and Macroeconomic Variables on the Profitability of Commercial Banks in Nepal

Damodar Niraula¹ and Sujita Maharjan²


Abstract

This study was conducted to examine the impact of credit risk and macroeconomic variables on the profitability of commercial banks in Nepal. Return on assets and earnings per share of the banks were taken as regressands. Whereas, as regressors, non-performing loan, capital adequacy ratio and credit to deposit ratio were taken as the proxies of credit risk, and GDP growth rate, consumer price index and base rate were studied as indicators of macroeconomic variables. Following simple random sampling techniques, 14 commercial banks were selected as sample for the study. The required quantitative data were retrieved from annual financial reports of the banks. Data were analyzed on Gretl software. The Pearson correlation and Ordinary Least Square model for regression resulted that the GDP growth rate was insignificant in defining the variation on return on assets. Likely, inflation and base rate were not significant in defining the variation on earning per share. Result of this study provided sufficient scope to bankers in developing their growth strategies.

Keywords: credit risk, macroeconomic variables, profitability, Nepalese commercial banks

Introduction

Banking profitability is the function of firm specific, industry specific and various macroeconomic factors. It is the capacity of generating sustainable earning and guaranting substantial growth of the banks. Lending is the key function of banks in order to generate their income. Credit risk is associate with credit function and thus holds a significant (Shahid et al., 2019) magnitude of effect on profit performance. On the other hand, macroeconomic factors also play significant role in determining the profitability of banks (Jeris, 2021). In this context, analyzing the effect of credit risk and macroeconomic factors on banking profitability has been a prime issue for researchers for a few decades.

¹ Correspondence concerning this article should be addressed to Damodar Niraula, Nesfield International College, Lagankhel, Lalitpur. Email: damodamiraula@gmail.com
Damodar Niraula  <https://orcid.org/0000-0002-6858-3893>

² Prabhu Mahalaxmi Life Insurance Limited, Kamaladi, Kathmandu.
Email: mhj.sujta3@gmail.com

Kanwal and Nadeem (2013) investigated the impact of macroeconomic variables on the profitability of listed commercial banks in Pakistan. Based on the secondary annual balanced panel descriptive statistics, Pearson correlation and Pooled Ordinary Least Squares Regression revealed a negligible impact of macroeconomic variables on earnings of commercial banks. They found a strong positive relationship of real interest rate with return on assets (ROA). Whereas, real gross domestic product (GDP) found to have insignificant positive effect on ROA. However, they found that the inflation had a negative link with profitability. By processing time series data of 22 years on co-integration test and an error correction model, Gwachha and Karmacharya (2023) found significant negative impact of inflation on bank stability in Nepal. Acharya and Vyas (2022) also found negative impact of inflation on Nepalese banks' profitability. However, the impact of GDP was found positive.

Noreen et al. (2018) found a significant relationship of real GDP with ROA and return on equity (ROE) of commercial banks of Jordan. Similarly, they revealed a positive but insignificant relationship of inflation with those profitability indicators. In case of commercial banks in Ghana, Yakabu (2016) also found an insignificant impact of macroeconomic factors on banking profitability. In the meantime, Islam (2023) found negative significant impact of GDP on profitability of commercial banks in UK. In contrast, Muslikhati (2023) found significant positive impact of economic growth on the profitability of Indonesian banks.

Similarly, Loto (2018) examined the impact of macroeconomic variables on the profitability of commercial banks in Nigeria. ROE, ROA and Equity Multiplier were used as dependent variables and inflation, Gross Domestic Product (GDP) and interest rate were used as independent variables. Secondary data for the year 1990 to 2016 were collected from the annual reports of the sample banks. Descriptive, correlation and regression techniques were used in the analysis. Result from GMM and the pooled regression model revealed that the real GDP and lending rate had a positive relationship with profitability. The real GDP's correlation is insignificant, while that of the lending rate is very significant. On the other hand, the correlation of the inflation rate is found negative with low significance. In addition, Kiganda (2014) analyzed the effect of macroeconomic variables including exchange rate on the ROA of commercial banks in Kenya. Based on the data of four years, the study found insignificant effect of macroeconomic variables which is in line with the findings of Yakabu (2016) but contrary to the findings of Loto.

Sheefeni (2015) analyzed the macroeconomic determinants; GDP, interest rate, and inflation for commercial bank's profitability; ROA, ROE, and net interest margin in

Namibia. Utilizing the technique of unit root, cointegration, impulse response functions and forecast error variance decomposition, secondary data resulted that there was no impact of macroeconomic variables on the commercial bank's profitability. Likewise, Bhattarai (2018) also did not found evidence of impact of external forces (GDP, exchange rate, and inflation) on profitability performance of commercial banks in Nepal. Islam (2023) also did not found significant impact of inflation on profitability of commercial banks in U.K. Similarly, Manandhar (2023) examined the role of interest and exchange rate on profitability of commercial banks in Nepal. With a quarterly balanced pool data of 13 commercial banks for the period of 5 years, Manandhar found significant negative impact of base rate on profitability performance of banks in Nepal.

Kasana et al. (2023) studied the relationship between policy interest rate and profitability of Indian commercial banks. They used balanced panel data of 50 banks for the period of 12 years. By running fixed effect and random effect model for regression, they found the positive impact of capital adequacy ratio (CAR) on profitability. On the other hand, they reported the significant negative impact of NPLR. Similarly, Kodithuwakku (2015) found an adverse impact of non-performing loans on profitability of commercial banks in Sri-Lanka. But in contrary to this, Bhattarai (2016) found negative effect of non-performing loan and capital adequacy ratio on Nepalese commercial banks performance. Pradhan and Parajuli (2017) did not find different results than them. By using regression model, they found negative relationship of CAR with ROA but positive with ROE.

Masindi and Singh (2022) investigated the impact of bank-specific and macroeconomic variables on the profitability of banks in selected countries in Africa, over the period 2009 to 2019. The study focused on 33 banks operating across 9 African countries i.e. South Africa, Uganda, Kenya, Tunisia, Egypt, Namibia, Zambia, Nigeria and Ghana, as representative of the continent. Based on dynamic panel data modelling approach, they revealed a positive and statistically significant relationship between profitability and macroeconomic-specific variables. On the other hand, they found statistically not significant relationship of non-performing loans and capital adequacy with the profitability which is consistent with the findings of Shrestha and Niraula (2021). By analyzing balanced panel data of 19 commercial banks in Nepal, Shrestha and Niraula found significant negative impact of credit to deposit ratio (CDR) and non-performing loan ratio (NPLR) on ROA. In case of NPLR, the similar result was drawn by Do et al. (2020) in case of commercial banks of Vietnam. But Maharjan (2023), Rana-Al-Mosharafa and Islam (2021) and Do et al. found positive impact of CDR on ROA. Similarly, as per the findings of Akahtar (2023), profitability of Nepalese commercial banks is significantly positively affected by CAR but significantly negatively affected by CDR. Taking consideration the fact that there is no uniformity in the findings of

researches, this study aimed to examine the impact of credit risk and macroeconomic factors on the profitability of commercial banks in Nepal.

Methods

To analyze the impact of credit risk and macroeconomic factors on the profitability of banks, this study took a balanced panel data of 14 commercial banks in Nepal. The sample were selected using random sampling method. The data period ranged for 5 fiscal years from the year 2017/18 to 2021/22. All the required data were collected from secondary sources; annual financial reports of the banks. The financial reports were accessed from websites of the respective banks. Return on assets and earnings per share were taken as the proxies of profitability indicators. On the other hand, non-performing loan ratio, credit to deposit ratio and capital adequacy ratio were considered representatives of credit risk indicators and gross domestic product in terms of its growth rate, consumer price index and base rate were used as macroeconomic variables of the study. Data was processed on Gretl Software. Based on the results calculated from Pearson correlation and Ordinary Least Square (OLS) for regression, the study drawn conclusion.

Study Variables and Hypothesis

Return on Assets (ROA). ROA is the return of the organization over an interval based on asset and costs of other factors of production (Gautam & Gautam, 2021). It is the ratio of net income and total assets of the company which measures the efficiency of banks management in generating profit out of its scare resources. In general, the literature on banks profitability has emphasized greatly on ROA as the best measure of profitability as it assesses the efficiency and effectiveness of the bank management in transforming assets into profits (Obamuyi, 2013).

Earnings per Share (EPS). EPS is the ratio of net income to number of common shares. It is the portion of a company's profit that is allocated to each outstanding share of common stock. Market players commonly use it as a tool to assess a company's profitability before purchasing its shares. Better profitability is indicated by a company's higher earnings per share.

Non-performing Loan Ratio (NPLR). NPLR is the ratio of non-performing loan to total loan. It represents how much of the bank's loans and advances are becoming non-performing which measures the extent of credit default risk that the bank sustained. Karim et al. (2023) examined the impact of non-performing loan on profitability of 25 banks of Bangladesh. With the data of 12 years, they found a significant negative impact

Capital Adequacy Ratio (CAR). CAR refers to the amount of equity and other reserves which the bank holds against its risky assets. With a 14 years' balanced panel data of 65 Indian commercial banks, Pervez et al. (2023) found banking profitability be negatively affected by CAR. Taking their finding as base, the following hypothesis have been developed:

H3: CAR has a negative impact on ROA of commercial banks in Nepal.

H4: CAR has a negative impact on EPS of commercial banks in Nepal.

Credit to Deposit Ratio (CDR). CDR is the ratio of how much a bank lends out of the deposits has mobilized. It is also known as the loan-to-deposit ratio. It is used to assess a bank's credit risk as well as liquidity by comparing a bank's total loans to its total deposits for the same period. Based on the balanced pooled data of 10 commercial banks for the 5 years period, Maharjan (2023) found the positive impact of CDR on ROA of commercial banks in Nepal. Accordingly, the following hypothesis have been developed in relation of CDR and profitability for the study:

H5: CDR has a positive impact on ROA of commercial banks in Nepal.

H6: CDR has a positive impact on EPS of commercial banks in Nepal.

Gross Domestic Product Growth Rate (GDPGR). GDP is the monetary value of all finished goods and services made within a country during a specific period. It is an important factor that will determine the level of the economy of a country with aggregate consumer spending on goods and services (Purwohandoko, 2021). Akahtar (2023) found insignificant and negative effects of real gross domestic product on bank profitability. Accordingly, the following hypotheses have been developed to examine:

H7: GDP growth rate has a negative impact on ROA of commercial banks in Nepal.

H8: GDP growth rate has a negative impact on EPS of commercial banks in Nepal.

Consumer Price Index (CPI). CPI is the rate of increase in prices over a given period. Inflation is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country. Inflation can arise unexpectedly and from diverse sources, making it difficult to exercise control over its occurrence (Ridwan, 2022). Likewise, Trihardianto and Hartanti (2022) defined inflation as the process of

continuous increase in the general prices of goods. Using fixed effect modeling of 57 commercial banks in Bangladesh, Mosharrafa and Islam (2021) found a significant positive impact of inflation on profitability indicator. Based on their finding, the following hypotheses have been developed for the study:

H9: CPI has a positive impact on ROA of commercial banks in Nepal.

H10: CPI has a positive impact on EPS of commercial banks in Nepal.

Base Rate (BR). Nepa Bankers' Association (n.d.) defined base rate as the minimum rate of interest on which bank can grant loans. Manandhar (2023) found significant negative impact on profitability of commercial banks in Nepal. In the same line, following statements have been hypothesized for the study:

H11: BR has a negative impact on ROA of commercial banks in Nepal.

H12: BR has a negative impact on EPS of commercial banks in Nepal.

Results

Correlation Between Variables

Correlation between the study variables is presented in Table 1. The result showed that both the profitability indicators; ROA and EPS are negatively correlated with NPLR, CDR, and CPI ($-0.289 < r < -0.063$). On the other hand, the correlation of base rate with EPS was found to be negligible positive ($r = 0.099$) whereas the association found to be weak ($r = 0.322$) with ROA. Similarly, relationship of both the profitability indicators with CAR and GDPGR positive but weak ($0.131 < r < 0.392$).

Table 1

Correlation Matrix

	ROA	EPS	NPLR	CAR	CDR	GDPGR	CPI	BR
ROA	1							
EPS	0.786	1						
NPLR	-0.096	-0.189	1					
CAR	0.392	0.246	0.359	1				
CDR	-0.063	-0.289	0.097	0.296	1			
GDPGR	0.291	0.131	-0.076	-0.119	0.202	1		
CPI	-0.243	-0.150	0.117	-0.027	0.028	-0.492	1	
BR	0.322	0.099	0.102	-0.023	-0.018	0.481	0.253	1

Regression Results

OLS method was used to examine the impact of credit risk constraints and macroeconomic factors on ROA and EPS. The regression result taking ROA and EPS as criterion variables are presented in Table 2 and Table 3 respectively. Highest value of variance inflation factors (VIF) is found 3.687 (<10) which suggested that there exists no multicollinearity problem among independent variables.

Table 2 revealed that the regressors jointly explain the substantial portion of variations on regressand; ROA ($R^2 = 0.469$, $Adjusted R^2 = 0.418$). Gujarati and Porter (2009) asserted that the higher the value of R^2 , the better the model to explain the behavior of the outcome variable. In the meantime, all the predictors are statistically important ($F(6, 63) = 9.260$, $P\text{-value}(F) = 0.000$) in estimating ROA. The estimated coefficients of predictors (except of GDPGR) are individually significant as p -values are low. The coefficient value denoted that the base rate has the greatest and positive impact on ROA followed by CAR. In contrast, non-performing loan rate has the greatest negative impact on ROA followed by consumer price index. Impact of rest variables are found negligible. On the other hand, GDP growth rate is found insignificant ($\beta = 0.007$, $p = 0.768$).

Table 2
Regression Coefficients Taking ROA as Criterion Variable

	coefficient	std. error	t-ratio	p-value	VIF
const	0.594	0.932	0.638	0.526	
NPLR	-0.146	0.051	-2.853	0.006***	1.181
CAR	0.143	0.028	5.150	0.000***	1.408
CDR	-0.019	0.010	-1.803	0.076*	1.418
GDPGR	0.007	0.022	0.296	0.768	3.687
CPI	-0.110	0.063	-1.743	0.086*	2.734
BR	0.148	0.055	2.689	0.009***	2.650

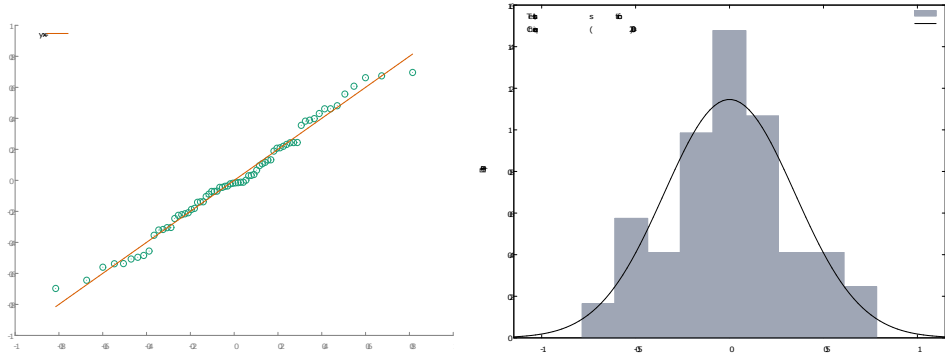
$R^2 = 0.469$, $Adjusted R^2 = 0.418$, $F(6, 63) = 9.260$, $P\text{-value}(F) = 0.000$

* $p < 0.10$. *** $p < 0.01$.

Further, Figure 1 depicted that the density of the mean value is the highest and the p -value of Chi-square is 0.860 (>0.05) which indicates that the data for the model is distributed normally.

Figure 1

Q-Q Plot for uhat3 and Test Statistic for Normality Taking ROA as Criterion Variable



Similarly, Figure 2 confirmed that the model taking EPS as criterion variable is normally distributed as the density of the mean value is the highest and the p -value is $0.085 > 0.05$.

Figure 2

Q-Q Plot for uhat3 and Test Statistic for Normality Taking EPS as Criterion Variable

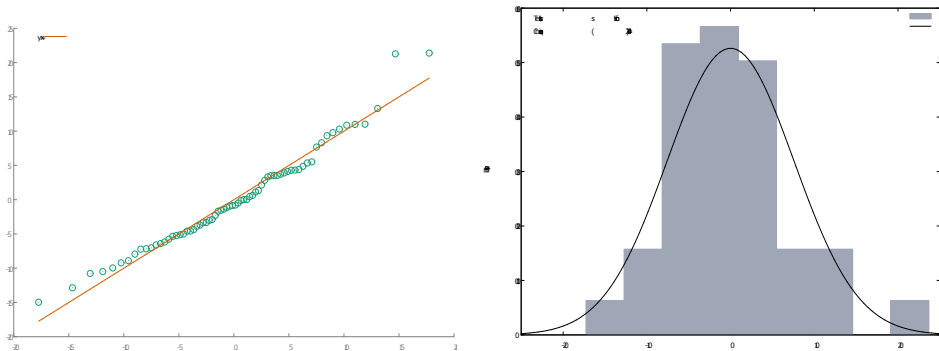


Table 3 exposed that the regressor variables together hold a significant power of defining variation on EPS ($R^2 = 0.363$, $Adjusted R^2 = 0.302$) and all of them are statistically important ($F(6, 63) = 5.987$, P -value (F) = 0.000). However, consumer price index and base rate are not individually significant as they did not reach the confidence threshold. Other four estimators are found individually significant (p -value less than 0.100). Among them, NPLR is the greatest estimator of EPS followed by CAR, CDR and GGP growth rate. The impact of NPLR and CDR is negative (coefficient values are -3.234 and

-0.945 respectively) while CAR and GDP growth rate have positive impact as their coefficient values are 2.793 and 0.898 respectively. Though having not significant impact, the magnitude of CPI and base rate are positive and adverse respectively.

Table 3
Regression Coefficients Taking EPS as Criterion Variable

	coefficient	std. error	t-ratio	p-value
const	68.356	20.302	3.367	0.001***
NPLR	-3.234	1.111	-2.910	0.005***
CAR	2.793	0.605	4.618	0.000***
CDR	-0.945	0.227	-4.151	0.000***
GDPGR	0.898	0.487	1.843	0.070*
CPI	0.892	1.380	0.646	0.521
BR	-0.459	1.195	0.384	0.702

$R^2 = 0.363$, $Adjusted R^2 = 0.302$, $F(6, 63) = 5.987$, $P\text{-value}(F) = 0.000$
* $p < 0.10$. *** $p < 0.01$.

The hypothesis testing along with the regression result is summarized in Table 4.

Table 4
Summary of Hypothesis Testing

Predictor Variables	ROA as Criterion Variable			EPS as Criterion Variable		
	Relationship		Sig. at	Relationship		Sig. at
Expected	Reported	Expected		Reported		
NPLR	Negative	Negative	0.01	Negative	Negative	0.01
CAR	Negative	Positive	0.01	Negative	Positive	0.01
CDR	Positive	Negative	0.10	Positive	Negative	0.01
GDPGR	Negative	Positive	Insignificant	Negative	Positive	0.10
CPI	Positive	Negative	0.10	Positive	Positive	Not Sig.
BR	Negative	Positive	0.01	Negative	Negative	Not Sig.

Discussion

This study revealed a negative impact of NPLR on the profitability of commercial banks in Nepal. This finding is consistent with the result of Karim et al. (2023) and Kodithuwakku (2015). Similarly, the study found positive impact of CAR and negative impact of CDR on profitability measure which is in line with the findings of Akahtar (2023). However, Pervez et al. (2023) had reported negative impact of CAR on profitability which is in contrast to the finding of this study. Similarly, finding of this study opposed to the findings of Rana-Al-Mosharrafa and Islam (2021) and Do et al.

(2020) as they had reported positive impact of CDR on profitability banking. Impact of all three credit risk measures found statistically significant and consistent with the finding of Shrestha and Niraula (2021). The result indicated that the increase in non-performing loan ratio and credit to deposit ratio leads to decrease in profitability whereas the increase in capital adequacy ratio surges banks' ROA in a small ratio ($\beta = 0.143$, $p = 0.000$) but multiplies EPS ($\beta = 2.793$, $p = 0.000$).

On the other hand, impact of GDP growth rate on profitability opposed the expectation of the study. The influence found positive which is in line with the finding of Loto (2018), Muslikhati (2023) and Kanwal and Nadeem (2013) but in contrast to the findings of Akahtar (2023) and Islam (2023). The impact is significant to the EPS but insignificant to the ROA. Though the study by Bhattarai (2018) did not found evidence of impact of inflation on profitability performance of banks in Nepal, and Masindi and Singh (2022) also did not found significant impact on profitability of banks in U.K., this study revealed that the effect of consumer price index is significant negative to ROA but not significant positive to EPS.

This research provided sufficient ground to the bankers in sketching their performance growth policies. Among the study variables, the finding suggested that the non-performing loan ratio, capital adequacy ratio and base rate are the major issues on which the policy makers and administrators should put emphasis. Additionally, the findings of this research can work as benchmark to conduct similar research in the days to come.

References

- Acharya, K. R., & Vyas, S. K. (2022). The impact of bank-specific and macroeconomic variables on commercial banks profitability in Nepal. *Patan Pragya*, 10(1), 74-85. doi:<https://doi.org/10.3126/pragya.v10i01.50592>
- Akahtar, N. (2023). Internal and External Variables and Profitability of Commercial Banks in Nepal. *International Journal of Scientific Research in Engineering and Management (IJSREM)*, 7(3), 1-14. doi:<https://doi.org/10.55041/IJSREM18150>
- Bhattarai, B. P. (2018). Impact of Bank Specific and Macroeconomic Variables on Performance of Nepalese Commercial Banks. *Global Review of Accounting and Finance*, 9(1), 35-53.
- Do, H. L., Ngo, T. X., & Phung, Q. A. (2020). The effect of non-performing loans on profitability of commercial banks: Case of Vietnam. *Accounting*, 6(3), 373-386. doi:<https://doi.org/10.5267/j.ac.2020.1.001>

- Gautam, P. K., & Gautam, T. (2021). Role of macroeconomic factors predicting financial performance of commercial banks in Nepal. *International Research Journal of Management Science*, 6(1), 39-52.
doi:<https://doi.org/10.3126/irjms.v6i1.42337>
- Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics* (5 ed.). New York, America: McGraw-Hill Irwin.
- Gwachha, K. P., & Karmacharya, S. (2023). Macroeconomics as the Basis of Commercial Banks Stability in Nepal. *Quest Journal of Management and Social Sciences*, 5(1), 1-13. doi:<https://doi.org/10.3126/qjmss.v5i1.56291>
- Islam, M. R. (2023). The Impact of Macroeconomic Factors on Profitability of Commercial Bank in the UK. *International Journal For Multidisciplinary Research*, 5(1), 1-19. doi:<https://doi.org/grpdp9>
- Jeris, S. S. (2021). Factors Influencing Bank Profitability in a Developing Economy: Panel Evidence From Bangladesh. *International Journal of Asian Business and Information Management*, 12(3), 333-346.
doi:<http://doi.org/10.4018/IJABIM.20210701.0a20>
- Kanwal, S., & Nadeem, M. (2013). The Impact of Macroeconomic Variables on the Profitability of Listed Commercial Banks in Pakistan. *European Journal of Business and Social Sciences*, 2(9), 186-201.
- Karim, R., Roshid, M. M., Shamme, F. B., & Hasan, M. M. (2023). Non-performing Loans and Bank Profitability: Evidence from Bangladesh. *International Journal of Finance & Banking Studies*, 11(4), 95-102.
doi:<https://doi.org/10.20525/ijfbs.v11i4.2314>
- Kasana, E., Chauhan, K., & Sahoo, B. P. (2023). Policy Interest Rate and bank Profitability-scheduled Commercial banks in India. *Finance: Theory and Practice*, 27(1), 138-149. doi:<https://doi.org/10.26794/2587-5671-2023-27-1-138-149>
- Kiganda, E. O. (2014). Effect of Macroeconomic Factors on Commercial Banks. *Journal of Economics and Sustainable Development*, 5(2), 47-56.
- Kodithuwakku, S. (2015). Impact of Credit Risk Management on the Performance of Commercial. *International Journal of Scientific Research and Innovative Technology*, 2(7), 24-29.
- Kutum, I. (2017). The Impact of Credit Risk on the Profitability of Banks Listed on. *Research Journal of Finance and Accounting*, 8(8), 136-141.
- Loto, M. A. (2018). The Impact of Macro-economic variables on the profitability of selected listed commercial banks in Nigeria. *Journal of Management & Administration*(1), 30-50.

- Maharjan, M. (2023). *Impact of Firm Specific Variables and Credit Risk on Profitability of Nepalese Commercial Banks*. Dissertation, Tribhuvan University, Faculty of Management, Kathmandu. Retrieved 2024
- Manandhar, R. (2023). *Role of Interest Rate and Exchange Rate on Banks' Profitability: Evidence From Nepalese Commercial Banks*. Dissertation, Tribhuvan University, Faculty of Management, Kathmandu. Retrieved 2024
- Masindi, N., & Singh, P. (2022). The Impact of bank-specific and macroeconomic variables on the. *International Journal of Scientific Research and Management (IJSRM)*, 10(2), 3097-3110. doi:<https://doi.org/10.18535/ijstrm/v10i2.em09>
- Muslikhati. (2023). The Effect of Macroeconomic Variables and Sukuk Issuance Value on Profitability of Sharia Commercial Banks in Indonesia. *Jurnal Muamalat Indonesia*, 3(2), 386-399. doi:<http://dx.doi.org/10.26418/jmi.v3i2>
- Nepa Bankers' Association. (n.d.). Retrieved December 16, 2023, from nepalbankers.com.np: <https://nepalbankers.com.np/glossary/>
- Noreen, S., Ranjha, N., Hafiz, A., & Saheer, N. (2018). Impact of Liquidity Management and Macroeconomic. *European Journal of Business and Management*, 10(33), 30-37. Retrieved from www.iiste.org
- Obamuyi, M. (2013). Determinants of Banks' Profitability in a developing economy: Evidence from Nigeria. *Organizations and market in emerging economies*, 4(2(8)), 97-111.
- Pervez, A., Naveenan, R. V., Alyamoor, A. H., Bansal, R., Gupta, A., & Titus, T. J. (2023). Impact of Capital Adequacy and Risk on Bank Performance: An Empirical Study. *AIP Conference Proceedings*. 2587. AIP Publishing. doi:<https://doi.org/10.1063/5.0150407>
- Pradhan, R. S., & Parajuli, P. (2017). Impact of Capital Adequacy and Cost Income. *International Journal of Management Research*, 8(1), 6-18.
- Purwohandoko, S. I. (2021). Effect of Gross Domestic Product, Liquidity, Size, Growth, Capital Adequacy Ratio, and Inflation on financial performance. *Equilibrium: Jurnal Ekonomi-Manajemen-Akuntansi*, 17(1), 46-53.
- Rana-Al-Mosharraf, & Islam, M. S. (2021). What Drives Bank Profitability? A Panel Data Analysis of Commercial Banks in Bangladesh. *International Journal of Finance & Banking Studies*, 10(2), 96-110. doi:<https://doi.org/10.20525/ijfbs.v10i2.1236>
- Ridwan, M. (2022). Determinants of Inflation: Monetary and Macroeconomic Perspectives. *Jurnal Manajemen Organisasi dan Industri*, 1(1), 1-10.
- Shahid, M. S., Ful, F., & Naheed, K. (2019). Credit Risk and Financial Performance of Banks: Evidence from Pakistan. *NUML International Journal of Business & Management*, 14(1), 144-155.

- Sheefeni, J. P. (2015). The Macroeconomic Determinants of Profitability among Commercial Banks in Namibia. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, 4(1), 1414-1431. Retrieved from www.globalbizresearch.org
- Shrestha, B. G., & Niraula, D. (2021). The consequences of Credit performane and Capital Adequacy Evidence from Commercial Banks in Nepal. *The Batuk: A Peer Reviewed Journal of Interdisciplinary Studies*, 7(1), 1-12. doi:<https://doi.org/10.3126/batuk.v7i1.35334>
- Trihardianto, Y. K., & Hartanti, N. D. (2022). Effect of Fee Based Income and Inflation Rate on Profitability. *East Asian Journal of Multidisciplinary Research (EAJMR)*, 1(3), 425-438. doi:<https://doi.org/10.55927>
- Yakubu, I. N. (2016). Bank-Specific and Macroeconomic Determinants of Commercial Banks Profitability in Ghana. *International Finance and Banking*, 3(2), 89-99. doi:<http://doi.org/10.5296/ifb.v3i2.9936>