Does the Staff Bonus Fund Decrease the Net Profit? Empirical Insights from Nepalese Commercial Banks

Arjun Kumar Dahal[1], Ganesh Bhattarai[2], Prem Bahadur Budhathoki[3]
[1]Principal author, Lecturer, Tribhuvan University, Mechi Multiple Campus, Jhapa, Nepal
Email: arjun.dahal@memc.tu.edu.np
ORCID: https://orcid.org/0000-0003-4816-4576
[2]Corresponding Author, Associate Professor, Tribhuvan University, Nepal Commerce Campus, Minbhawan, Kathmandu
Email: ganesh@ncc.edu.np
ORCID: https://orcid.org/0000-0001-9163-5172
[3]Co-author, Associate Professor, Tribhuvan University, Saraswati Multiple Campus, Kathmandu, Nepal
Email: prem.budhathoki@mahmc.tu.edu.np
ORCID: https://orcid.org/0000-0002-1249-7005

Abstract

This study investigates the impact of staff bonus funds, return on assets (ROA), and non-performing loans (NPLs) on Nepalese commercial banks' net profit. It also compares the individual effects of independent variables on the net profit of commercial banks. The unbalanced panel data of 11 commercial banks were gathered from various central bank reports and economic surveys of Nepal. It employs a descriptive and exploratory research design. To investigate the relationship between dependent and independent variables, statistical and econometric tools such as summary statistics, association analysis, Johnsen- Fisher and Kao co-integration test, Hausman, Breusch-Pagan, Chow test, and standardized panel fully modified ordinary least square (PFMOLS) are used. Non-performing loans hurt the calculation of net profit. The net profit of Nepal's commercial banks drops by 0.323 units for every one percent increase in non-performing loans. Similarly, a 0.234 unit increase in Nepalese commercial banks' net profit is linked to every unit increase in return on assets. The staff bonus fund is more responsible for increasing commercial banks' net profit than return on assets. This

study assists policymakers in determining that employee bonuses are not only an expense but also a profit-generating tool for motivating and attracting skilled individuals. It contributes to developing appropriate strategies to reduce non-performing loans and boost the ROA of Nepalese commercial banks.

Keywords: Remuneration, return on assets, non-performing loans, panel data, expenses preference hypothesis

JEL Classification: G_{20}, G_{21}, E_{41}

Introduction

Commercial banks are financial institutions that offer various financial services to individuals, businesses, and institutions. These services include accepting deposits, issuing loans, enabling payments, and submitting multiple financial products and services (Allen et al., 2015). Profit drives all aspects of commercial banking. Commercial banks' net profit is determined by numerous factors, including interest rate, loan portfolio quality, non-interest revenue, operating expenditures, competition, return on assets (ROA), innovation, creation of a staff bonus fund, and so on (Neupane, 2020).

Non-performing loans (NPLs) have been halted due to the debtor's failure to repay (Yuksel & Zengin, 2017). NPLs are loans on which the debtor has failed to pay or complete obligations under the credit agreement for ninety days or more before maturity. NPLs assess a bank's creditworthiness (Nyarko-Baasi, 2018). Profit and non-performing loans are inversely proportional. Bank profits decline when the number of NPLs increases because the smooth flow of funds is hampered (Wadhwa & Ramaswami, 2020).

Employee performance and contributions to the bank's success are often recognized and rewarded through staff bonus programs. Commercial banks frequently provide a variety of bonuses, incentives, and remuneration to their employees. These include stock options, profit-sharing programs, annual bonuses, and bonuses depending on performance. The particular effect of employee bonus money on net profit is contingent upon the policies of the bank, the bank's overall financial standing, and the state of the economy. Banks must carefully weigh the trade-off between protecting profitability and employee welfare (Al-Homaidi et al., 2018). A bank's net profit may be impacted by the staff bonus funds usually used to compensate workers for their achievements. There are two arguments regarding the benefits and drawbacks of staff incentive funds when calculating net profit (Bhattarai, 2020).

When a commercial bank allocates a portion of its earnings to the staff bonus fund, it is considered an operating expense. As a result, this allocation reduces the bank's net profit for the specific period. The allocation of funds and staff bonuses may be viewed differently by shareholders and other stakeholders. The bank needs to strike a balance between regarding employees and meeting the expectations of investors and regulators.

The staff bonus funds reduce the net profit in the short run. Staff bonus funds positively impact the bank's long-term performance by motivating employees to work efficiently and

attracting a capable workforce (Gibbs et al., 2004). Some banks use a performance-based bonus structure, aligning bonuses with the bank's financial goals and shareholder's interests.

The financial ratio, known as return on assets (ROA), gauges how profitable and effectively an organization uses its assets to produce earnings (Awaluddin, et al., 2023). It is the ratio between net income and total assets. Net income (also known as earning or profit), is the profit made by a commercial bank after all costs, such as interest, taxes, and operational expenditures, have been subtracted. Total assets are the entire worth of all the assets the bank possesses and employs to run its operations. It comprises investments, cash, property, plant, equipment, inventory, and accounts receivable. ROA measures a company's efficiency in making money or using its resources. A greater ROA indicates that the business generates shareholder value by efficiently using its resources. Assuming total assets stay mostly the same, the ROA increases with net profit. ROA metrics that indicate profitability and efficiency (Sawitri, 2018). Because net profit is the product of ROA and total assets, or net profit = ROA × total assets, there is a positive correlation between ROA and net profit.

A bank with a higher ROA is more adept at profiting most from its assets. Therefore, if all other parameters stay the same, an increase in ROA is typically linked to a more significant net profit. Non-performing loans (NPLs) have defaulted, signaling credit risk. A bank's profitability may suffer from high NPL levels if reserves for loan losses are necessary. Lower provisions and higher net profit might result from reducing non-performing loans (NPLs) through efficient risk management and loan recovery initiatives. How a staff bonus fund is distributed may directly impact net profit. Since a higher bonus fund is an expense to the bank, it lowers net profit. Banks save a percentage of their profits for employee incentives and other benefits. Nonetheless, a well-designed bonus program can spur workers to increase their output, which could eventually result in increased profitability. Banks must find a way to reward employees while ensuring their financial stability.

This research aims to determine the impact of returns on assets (ROA), non-performing loans (NPLs), and employee bonus funds on the net profit of Nepalese commercial banks. It focuses on the staff bonus fund in determining commercial banks' net earnings. It either boosts or diminishes profit or is just operating expenses or staff motivational tools.

The study is divided into five sections. The following constitutes the residual portion of this article: Segment two provides a synopsis of the pertinent empirical and theoretical literature. In the final paragraph, a mention of the research cavity is provided. Materials and methods utilized in the investigation are detailed in the third section. In segment four, the research findings are presented and discussed. The study's limitations, policy implications, and conclusions are described in the final section.

Review of Literature

Various arguments exist about the staff expenses and net profit of commercial banks. Most entrepreneurs assume a negative relationship exists between staff expenses and the net profit of commercial banks. The Expenses Preference Hypothesis (EPH) believes the firm can achieve its targets by increasing salaries and other facilities. However, Agency Theory (AT)

assumes that more wages and benefits are provided to the staff, increasing commercial banks' operating costs and decreasing the net profit (Budathoki & Rai, 2018).

Molyneux (1993) observed a positive relationship between staff expenses and total profit. The high payroll motivated the employees to do work in a better way.

Neupane (2020) found the ROA positively impacts Nepalese commercial banks' net profit but weakens net interest margin (NIM). Awaluddin et al. (2023) found the positive and significant impact of ROA on bank profit in Indonesia. They further observed that NPL and loan-to-deposit ratio significantly affect the banking companies' ROA.

Martiningtiyas and Nitinegeri (2020) examined the effect of non-performing loans on banks' profitability in the context of Indonesian banks. They found that non-performing loans (NPL) significantly negatively influence banks' net profits. Ranabhat and Subedi (2022) observed the impact of NPL and macroeconomic variables on the financial performance of Nepalese commercial banks. They found that NPL has a negative and ROA has a positive effect on the financial performance of commercial banks.

Koten (2021) examined the relationship between NPL and the profitability of Turkish commercial banks. He found that NPL has a significant but negative effect on the net profit. ROA has a positive impact on the net profit of the banking system. Louzis et al. (2012), Bhattarai (2015), Panta (2018), and Psaila et al. (2019) found a negative and significant impact of NPLs on the profit of commercial banks in many countries. But Erdinc and Abazi (2014) and Charisma et al., 2022) found the insignificant effect of NPL on the commercial banks' net profit. Collaku and Aliu (2021) examined that with a one percent increase in NPL, the profit decreased by 0.19 percent.

Ojeleye (2017) observed the positive relationship between commercial banks' net profit and remuneration and employees' performance and that salary/wages and bonuses/incentives also motivate employees. Pril and Godfroid (2020) found a positive impact on the financial performance of microfinance companies.

There are various studies about the multiple determinants of net profit of commercial banks. Most studies emphasize interest income, non-interest income, operating expenses, ROA, staff expenses on wages and salaries, and NPLs in determining commercial banks' net profit. However, this study emphasizes the provision of staff bonus funds to determine Nepalese commercial banks' net profit. It searches whether it is motivational tools or only operating expenses. So, there is a vast research gap between previous and present studies.

Materials and Methods

Research Design

This study employs a descriptive and exploratory research design to explore the impact of staff bonus funds, ROA, and NPLs on the net profit of commercial banks. Various econometric tools are used to interpret the results to investigate the associations and impact between predictor variables and response variables. The results are described and analyzed to derive the conclusions.

Source of Data and Data Analysis Technique

Secondary data was used in this study. It is collected from bank supervision reports of the central bank, annual reports of respective banks, and various economic surveys of Nepal. The unbalanced panel data of 11 Nepalese commercial banks are included. The concerned data was chosen from 2003/04 to 2021/22. They were leading 191 observations. Table 1 summarizes the number of commercial banks, time durations, and number of observations.

Table 1

Sampled banks, duration, and number of observations

S.N.	Name of Bank	Crossed	Duration	Data Points
1	Nepal Bank Limited	1	2003/04-2021/22	19
2	Rastriya Banijya Bank	2	2003/04-2021/22	19
3	Nabil Bank	3	2003/04-2021/22	19
4	Himalayan Bank	4	2003/04-2021/22	19
5	Nepal SBI Bank	5	2003/04-2021/22	19
6	Kumari Bank	6	2003/04-2021/22	19
7	Siddhartha Bank Limited	7	2003/04-2021/22	19
8	Agricultural Development Bank	8	2005/06-2021/22	17
9	Prime Commercial Bank	9	2007/08-2021/22	15
10	NIC Asia Bank	10	2011/12-2021/22	11
11	Global IME Bank	11	2007/08-2021/22	15
	Total	11		191

The data is analyzed with the help of EViews12 data processing software. The simple statistical and econometric tools like descriptive statistics, correlation analysis, Johnsen Fisher panel Co-integration test, Kao Co-integration test, Standardized fixed effect model, Hausman test, Breusch-Pagen test, Chow test, and Standardized Panel Fully Modified Ordinary Least Square (PFMOLS) model is used to explore the long-run impact of independent variables on the dependent variable.

Variables and Model Specification

This study has four variables: net profit, non-performing loans (NPLs), staff bonus fund, and return on assets (ROA). The net profit of commercial banks is taken as dependent variables, and NPLs, ROA, and staff bonus funds are taken as independent variables.

Net profit = f(NPLs, ROA, Staff Bonus Fund)   (1)

In symbol,

NP = f(NPLs, ROA, BONS)   (2)

All variables are converted into a standardized form. It helps to compare the effect of independent variables on dependent variables. The variables are converted into standardized form by using:

$$\text{Standardized Value} = \frac{\text{Variable} - \text{Its mean}}{\text{Standard Deviation}} \qquad (3)$$

For example, the standardized value of net profit can be calculated:

$$\text{Standardized Net Profit (STNP)} = \frac{Net\ profit\ (NP) - Mean\ of\ NP}{Standard\ Deviation\ of\ NP} \qquad (4)$$

The equation (2) is expressed in standardized equation form as:

$$\text{STNP} = f(\text{STNPL, STROA, STBONS}) \qquad (5)$$

The general regression model is specified as follows:

$$\text{STNP} = \alpha + \beta_1{}^*\text{STNPL} + \beta_2{}^*\text{STROA} + \beta_3{}^*\text{STBONS} + \mu_t \qquad (6)$$

In panel data, the simple regression model is defined as:

$$\text{STNP}_{it} = \alpha + \beta_1{}^*\text{STNPL}_{it} + \beta_2{}^*\text{STROA}_{it} + \beta_3{}^*\text{STBONS}_{it} + \mu_{it} \qquad (7)$$

The equation (7) is the standardized panel regression model. This equation i indicates several commercial banks involved in the investigation. And t represents the period. STNP_{it} is a response variable observed for all cross sections over time t. STNPL_{it}, STROA_{it}, and STBONS_{it} are explanatory variables of various entities and units over a time t., and μ_{it} is the error term.

The standardized panel fully modified ordinary least square regression model is developed as follows:

$$\text{STNP}_{it} = \beta_1{}^*\text{STNPL}_{it} + \beta_2{}^*\text{STROA}_{it} + \beta_3{}^*\text{STBONS}_{it} + \mu_{it} \qquad (8)$$

When you standardize variables, the coefficients represent the change in the outcome variable regarding standard deviations. Including an intercept in this context would imply a hypothetical situation where all predictors are at their mean values, leading to an intercept term that might not have a meaningful interpretation (Cohen et al., 2003).

Presentation and Analysis

Descriptive Statistics

Descriptive statistics are a set of numerical or graphical tools used to summarize and describe essential features of a dataset, providing a concise overview of its main characteristics. These statistics include measures like mean (average), median (middle value), mode (most frequent value), range (difference between the maximum and minimum values), and measures of variability like variance and standard deviation. The descriptive statistics of accurate data are presented in Table 1.

Table 1

Essential information of study variables.

Base	Net profit	NPL	Staff bonus	ROA
Mean	Rs 1528636	4.433	Rs 98126.260	1.749
Median	1138571	2.000	59879.000	1.600
Maximum	5328370	57.640	559478.900	6.230
Minimum	1564.689	0.000	0.000	0.000
Std. Dev.	1293666	8.473	116676.200	0.826
Skewness	0.834	4.451	1.551	1.247
Kurtosis	2.795	24.305	5.165	7.093
Coefficient of variation	84.620%	191.130%	118.900%	47.200%
Jarque-Bera	22.501	4243.042	113.909	182.902

Probability	0.001	0.001	0.001	0.001
Observations	191	191	191	191

Note: Net profit and staff bonus funds are measured in Millions of rupees, and non-performing loans (NPL) and returns on assets (ROA) are expressed in percentages.

Descriptive statistics summarize the four variables' central tendency, variability, skewness, kurtosis, and normality. They can be used to gain insights into the characteristics and distributions of the data. The net profit of commercial banks ranges from Rs 5328370 to 1564.689 million rupees, non-performing loans from 57.640 to 0.000, return on assets from 6.230 to 0.000, and staff bonus fund from Rs 559478.9 to 0.000. The returns on assets (ROA) have the lowest standard deviation value, so its mean is more representative. Based on variation analysis, the returns on assets (ROA) are more consistent, and non-performing loans are more variable. The skewness value of all variables is positive, so the distributions of all variables are positively skewed. The data of net profit of commercial banks are platykurtic ($K < 3$), but the rest are leptokurtic ($K > 3$). The Jarque-Bera test indicates a departure from normality ($p < 0.050$).

Correlation Analysis

Correlation analysis is a statistical method that measures the strength and direction of the relationship between two or more variables. It quantifies how changes in one variable are associated with changes in another, helping identify patterns and connections in data. The pairwise association between variables is listed in Table 2.

Table 2

Pairwise correlation coefficients of variables.

Probability	STNP	STBONS	STNPL	STROA
STNP	1.000	0.363	-0.039	0.282
	-----	0.000	0.588	0.0001
STBONS	0.363	1.000	0.002	0.255
	0.000	-----	0.977	0.0004
STNPL	-0.039	0.002	1.000	0.088
	0.588	0.977	-----	0.228
STROA	0.282	0.255	0.088	1.000
	0.0001	0.0004	0.228	-----

Note: STNP, STBONS, STNPL, and STROA represent the net profit, staff bonus fund, non-performing loans, and return on assets in a standardized form, respectively.

The correlation analysis table shows the pairwise correlations between four variables: STNP (Commercial bank's net profit), STNPL (Non-Performing Loans), STROA (Return on Assets), and STBNS (Staff bonus fund). The correlation between net profit and non-performing loans is approximately -0.039, close to zero. In other words, changes in net profit are not strongly associated with changes in non-performing loans, as the correlation is weak and negative. The correlation between net profit and staff bonus is approximately 0.363. This positive correlation suggests a positive linear relationship between net profit and staff bonus.

It implies that a higher yield is associated with a higher bonus and vice versa. Returns on assets and commercial banks' net profit have a low degree of positive correlation.

Johnsen Fisher Panel and Kao Cointegration test

The Johnsen-Fisher and the Kao Panel Cointegration Tests are statistical tests used to examine a long-run relationship or cointegration between variables in panel data settings. Cointegration suggests a long-term relationship between variables, meaning they move together in the long run, even if they exhibit short-term deviations. The results of the cointegration tests are presented in Table 3.

Table 3

Outcomes of Johnsen Fisher and Kao Panel Cointegration Tests

Johnsen Fisher Panel Cointegration Test				Kao Residual Cointegration Test
Hypothesized: No of CE(S)	Trace test		Max-eigen test		Null Hypothesis: No cointegration
	Fisher stat.	Prob	Fisher stat	Prob	
None	285.900	0.001	218.700	0.001	ADF, t- stat= 2.078
At most 1	99.070	0.001	69.620	0.001	Prob = 0.012
At most 2	51.490	0.001	33.060	0.033	
At most 3	55.430	0.001	55.430	0.001	

Source: Authors calculation by using Eviews12

The Johansen-Fisher Panel Cointegration Test is used to determine the presence of cointegration among a set of time series variables. The Unrestricted Cointegration Rank Test examines different hypothesized numbers of cointegrating equations to determine the most appropriate number. The test provides two statistics: one from the trace test and one from the maximum eigenvalue test. Both tests are used to determine the number of cointegrating equations. Based on the Johansen Fisher Panel Cointegration Test, there is strong evidence of cointegration among the variables net profit of commercial banks, return on assets, non-performing loans, and funds formed for staff bonuses. The exact number of cointegrating equations is not entirely clear from the results, but there are likely at least two or more cointegrating equations among these variables.

The Kao Residual Cointegration Test tests for cointegration among time series variables. Cointegration implies a long-term relationship between the variables, meaning they move together in the long run. The test's null hypothesis is that the variables have no cointegration. Since the p-value (0.012) is less than the typical significance level of 0.05, we can reject the null hypothesis. This suggests cointegration among the variables Net profit, returns on assets (ROA), non-performing loan (NPL), and staff bonus fund at the 5 percent significance level. The Kao Residual Cointegration Test suggests a long-term relationship (cointegration) among the mentioned time series variables, indicating that they move together in the long run.

Amalgamation of Pooled, Fixed, and Random Effect Model

Three regression analysis models, pooled, fixed, and random effect, can be used per the panel data's character. Pooled ordinary regression (POLS) denies the heterogeneity or that all entities have the same intercept. The fixed effect model (FEM) assumes that companies are heterogeneous or intercepts of all entities may be different due to the difference in investment, business structure, efficiency, production, etc. The random effect model believes intercepts are other due to the random selection of data and companies. The summary of all models is displayed in Table 4.

Table 4

Results of Pooled, Fixed, and Random Effect Model.

Variables	Pooled			Fixed Effect Model			Random Effect Model		
	Coefficient	t-stat	Prob	Coefficient	t-stat	Prob	Coefficient	t-stat	Prob
STBONS	0.310	4.510	0.001	0.122	1.565	0.120	0.291	4.378	0.001
STNPL	-0.606	-8.87	0.380	0.093	-2.765	0.200	-0.195	2.945	0.004
STROA	0.207	3.010	0.003	-0.224	1.280	0.010	-0.074	-1.102	0.272
Root MSE	0.907			0.837			0.899		
R-squared	0.174			0.296			0.153		
Adj. R-squared	0.160			0.245			0.139		
SE of regression	0.916			0.869			0.908		
Mean dependent var	2.040			2.040			0.001		
	1.000			1.000			0.979		
SD dependent var	0.312			0.356			0.313		
Durbin-Watson stat	0.001			0.001			0.001		
Prob(F-stat.)									

Source: Authors calculation by using Eviews12

Table 4 displays the statistical analysis results, which are likely a regression analysis in panel data. In pooled regression, the staff bonus is significant in determining the net profit of commercial banks in Nepal. In the fixed effect model, the return on assets, non-performing loans, and staff bonuses are not individually significant in determining the net profit of commercial banks in Nepal. Still, in random effect regression analysis, staff bonus positively impacts net profit, and NPL negatively impacts the determination of the net profit of Nepalese commercial banks. A detailed explanation of the regression model is made after the model selection.

Synthesis of Method Selection

The summary of method selection criteria is listed in Table 5.

Table 5

Summary of methods selection criteria

Methods	Base and Information		
Hausman test (Correlated Random Effect)	Null hypothesis	Chi-square stat	Prob
	The random effect model is more appropriate than the fixed effect model	20.056	0.001

Breusch-Pagan Test (LM test for Random Effect)	Test Hypothesis			
	Null hypothesis	Cross-section	Time	Both
	POLS is more appropriate than REM	3.314 (0.068)	338.187 (0.001)	341.501 (0.001)
Chow-Test (Redundant Fixed Effect Test)	Null hypothesis	Cross section Chi-square		Prob
	Common effect (POLS) is more appropriate than FEM	30.718		0.001

Source: Authors calculation by using Eviews12

The Hausman test determines whether the random or fixed effect models are better suited to your data. The rejection of the null hypothesis (P < 0.05) shows that the fixed effect model is more appropriate than the random effect model. The p-value in this situation is 0.001, which is relatively modest, indicating that the fixed effect model is probably more accurate. The Breusch-Pagan test determines whether the random effect model (REM) or the Pooled ordinary least squares (POLS) model is better suited for cross-section and time dimensions. A low P-value indicates that the random effect model is preferable. The Chow Test determines whether a common effect (POLS) model or a fixed effect model (FEM) is more suited. The fact that the null hypothesis was rejected (P < 0.05) shows that the fixed effect model is more appropriate. With a P-value of 0.001, the fixed effect model is likely more relevant than the expected effect model. In summary, these tests assist in determining which statistical model (fixed effect or random effect) is best for panel data analysis. Based on the p-values supplied, the results indicate that the fixed effect model is frequently favored.

Fixed Effect Model of Regression Analysis

A fixed effect model is a statistical analysis method that accounts for and controls individual-specific characteristics in panel data. It helps isolate the impact of time-varying independent variables on the dependent variable by removing the influence of individual-specific factors. This allows us to study the relationship between variables while holding constant the individual-specific effects. The results of the standardized fixed effect model are displayed in Table 6.

Table 6

Results of Fixed effect model of panel regression analysis

Dependent Variable: STNP

Periods included: 19, cross-sections included:11

Total panel (unbalanced) observations: 191

Variable	Coefficient	Std. Error	t-Statistic	Prob.
STBONS	0.122	0.078	1.565	0.119
STNPL	-0.224	0.081	-2.765	0.006
STROA	0.093	0.072	1.28	0.199
Root MSE	0.837	R-squared		0.296
Mean dependent var	2.041	Adjusted R-squared		0.245

S.D. dependent var	1.000	S.E. of regression	0.869
Hannan-Quinn criteria.	2.724	F-statistic	5.732
Durbin-Watson stat	0.356	Prob(F-statistic)	0.001

Source: Authors calculation by using Eviews12

According to the fixed effect model outcomes, only non-performing loans are negatively significant in determining the net profit of Nepalese commercial banks. The standardized fixed effect model shows that the staff bonus fund and returns on assets are not individually substantial enough to explain the net profit. It shows that a 29.6 percent variation in the net profit of Nepalese commercial banks depends upon NPL, ROA, and staff bonus funds. The root mean squared error (MSE) shows the overall goodness of fit because it has a lower value. The model as a whole is statistically significant. Still, it only explains a moderate proportion of commercial banks' net profit variation due to the study variables. The standardization fixed effect regression model is:

$$STNP = 0122S*TBONS + 0.093*STROA – 0.224*STNPL \tag{9}$$

Panel Fully Modified Ordinary Least Square (FMOLS) Model in Standardized Form

Fully Modified Ordinary Least Squares (FMOLS) is a panel data regression technique used to estimate the long-run relationships between variables while addressing endogeneity and heterogeneity issues in panel datasets. It accounts for both serial correlation and endogeneity in the error term. FMOLS is particularly useful for estimating cointegrating relationships in panel data, which can help identify long-term economic relationships. The results of FMOLS are listed in Table 7.

Table 7

Outcomes of Panel Fully Modified Least Square (PFMOLS) in Standardized form

Dependent Variable: STNP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
STBONS	0.417	0.101	4.164	0.000
STROA	0.234	0.107	2.192	0.029
STNPL	-0.3230	0.132	-2.455	0.018
R-squared	0.522	Mean dependent var		0.055
Adjusted R-squared	0.512	S.D. dependent var		1.001
S.E. of regression	0.943	Sum squared residual		157.575
Long-run variance	1.736			

Source: Authors calculation by using Eviews12

In Table 7, the panel fully modified ordinary least squares (PFMOLS) in a standardized form to address issues related to endogeneity in the panel data. The provision of staff bonuses, returns on assets, and non-performing loans are individually significant to determine the long-term net profit of commercial banks. The standardized coefficient of staff bonuses is 0.417, which indicates that a one-unit increase in staff bonuses is associated with a 0.417 unit increase in the net profit of commercial banks in Nepal. The same type of conclusion was derived by Budathoki and Rai (2018), Molyneux (1993), Ojeleye (2017), and Pril and Godfroid (2019) in

their studies. There is a negative impact of non-performing loans on determining the net profit. A one percent increase in non-performing loans results in a decrease of 0.323 units of net profit for commercial banks in Nepal. Martiningtiyas and Nitinegeri (2020), Koten (2021), and Bhattarai (2015) supported this conclusion, but Charisma et al. (2022) found the insignificant impact of NPLs on net profit. Similarly, one unit increase in return on assets is associated with a 0.234 unit increase in net profit of Nepalese commercial banks. The staff bonus fund is more responsible for increasing commercial banks' net profit than return on assets. This conclusion was supported by the findings of Neupane (2020), Awaluddin et al. (2023), and Ranabhat and Subedi (2022).

The R-squared and adjusted R-squared values are 0.522 and 0.512, respectively; these values indicate the model's goodness of fit. It means that a 52.2 percent variation in the net profit of commercial banks depends upon NPL, ROA, and staff bonus funds. The standard error of regression is 0.943, which measures the accuracy of the model's prediction. The sum of squared residuals shows the sum of differences between actual values and predicted values. The standardized panel fully modified ordinary least square regression equation is found:

$$STNP = 0.417*STBONS + 0.234*STROA - 0.323*STNPL$$
(10)

Conclusion, Policy Implication, and Limitations

This study has searched the impact of staff bonus funds, returns on assets (ROA), and conditions of non-performing loans on determining the net profit of Nepalese commercial banks. A negative but weak association exists between NPL and Commercial Bank's net profit. Still, there is a low degree of positive relationship between net profit and staff bonus fund or net profit and return on assets. There is strong evidence of co-integration between independent and dependent variables. They move together in the long run. One unit increase in staff bonus funds and return on assets resulted in 0.417 and 0.234 units in net profit of Nepalese commercial banks in Nepal. However, a unit increase in non-performing loans results in a 0.323 unit decrease in the net profit of commercial banks in Nepal. The impact of the staff bonus fund is more than ROA in determining commercial banks' net profit.

The staff bonus fund and ROA positively impact the net profit of commercial banks in Nepal. Offering bonuses is a way to motivate employees to perform better and achieve specific financial targets, which can lead to higher revenue for the bank. Providing attractive bonuses can also help in retaining and attracting skilled employees. A highly qualified workforce can improve the banks' profitability through efficient operations and better customer services. So, it allows policymakers to analyze that staff bonus funds are not only expenditures but also driving forces for profit utilizing the motivation and attraction of capable employees. It helps to make a proper policy for reducing non-performing loans and increasing the return on assets of commercial banks.

This study uses four variables: net profit, staff bonus fund, return on assets, and non-performing loans. It only includes 191 observations of 11 commercial banks. Simple statistical and econometric tools like descriptive statistics, correlation analysis, co-integration test, and standardized panel fully modified ordinary least square method of regression analysis are used.

So, many variables, commercial banks, data points, and methods are out of the study. Therefore, further study is necessary for a more comprehensive analysis.

References

Al-Homaidi, E. A., Tabash, M. I., Najib H. S., Farhan, N. H. S., & Almaqtari, F. A. (2018). Bank-specific and macro-economic determinants of profitability of Indian commercial banks: A panel data approach. *Cogent Economics & Finance, 6(1),* https://doi.org/10.1080/23322039.2018.1548072

Allen, F., Carletti, E., Goldstein, I., & Leonello, A. (2015). Moral hazard and government guarantees in the banking industry. *Journal of Financial Regulation, 1(1)*, 1-21. https://doi.org/10.1093/jfr/fju003

Awaluddin, M. R., Haliah, H., & Kusumawati, A. (2023). The effects of non-performing loan and loan to deposit ratio toward return on asset. *International Journal of Humanities Education and Social Sciences*, *2*(6). https://doi.org/10.55227/ijhess.v2i6.501

Bhattarai, S. (2015). Determinants of non-performing loan in Nepalese commercial banks. *Economic Journal of Development Issues, 19,* 1-2. https://doi.org/10.3126/ejdi.v19i1-2.17700

Bhattarai, B. (2020). Effects of non-performing loan on profitability of commercial banks in Nepal. *European Business & Management, 6*, 164, https://doi.org/10.11648/j.ebm.20200606.15

Budhathoki, P. B., & Rai, C. K. (2018). Staff expenses and its effect on the bank's net profit. *Researcher: A Research Journal of Culture and Society*, *3*(3), 63–71. https://doi.org/10.3126/researcher.v3i3.21550

Charisma, D., Bramasto, A., & Nisa, E. A. S. (2022). Analysis of the effect of capital adequacy ratio and non-performing loans on return on assets in 4 state-owned banks listed on the IDX for the 2017-2021 period. *Almana: Jurnal Manajemen dan Bisnis 6(3)*, 512-520. https://doi.org/10.36555/almana.v6i3.1953

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Lawrence Erlbaum Associates Publishers. https://psycnet.apa.org/record/2002-18109-000

Collaku, B., & Aliu, M. (2021). Impact of non-performing loans on bank's profitability: Empirical evidence from commercial banks in Kosovo. *Journal of Accounting, Finance and Auditing Studies, 7(3),* 226-242. http://dx.doi.org/10.32602/jafas.2021.027

Erdinc, D., & Abazi, E. (2014). The determinants of NPLs in emerging Europe. *Journal of Economics and Political Economy, 1(2),* 112-125. https://doi.org/10.1453/jepe.v1i2.59

Goh, T. S., Erika, E., Henry, H. & Syawaluddin, S. (2022). The effect of capital adequacy ratio and loan to deposit ratio on return on asset with non-performing loan as moderating variable in banking companies listed in BEI. *Jurnal Penelitian Pendidikan Indonesia. 8(2),* 710-718. http://dx.doi.org/10.29210/020221514

Gibbs, M., Merchant, K. A., Van der Stede, W. A., & Vargus, M. E. (2004). Determinants and effects of subjectivity in incentives. *The Accounting Review*, *79*(2), 409–436. http://www.jstor.org/stable/3203250

Koten, A. B. (2021). Determination of the relationship between non-performing loans and profitability in the Turkish banking system with panel regression analysis. *Press Academia Procedia (PAP), 14,* 14-19. http://doi.org/10.17261/Pressacademia.2021.1478

Louzis, D. P., Vouldis, A. T., & Metaxas, V. L. (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business, and consumer loan portfolios. *Journal of Banking and Finance, 36(4),* 1012-1027. https://doi.org/10.1016/j.j bankfin.2011.10.012

Martiningtiyas, C. R., & Nitinegeri, W. T. (2020). The effect of non-performing loans on profitability in banking sector in Indonesia. Advances in Economics, *Business and Management Research, 151,* 64-67. https://shorturl.at/uzFL1

Molyneux, P. (1993). *Market structure and profitability in European banking.* Institute of European Finance, University College of North Wales, Research Paper 9. https://shorturl.at/sDEMS

Nyarko-Baasi, M. (2018). Effects of non-performing loans on the profitability of commercial banks- A study of some selected banks on the Ghana Stock Exchange. *Global Journal of Management and Business Research, 18(2),* 38-47.

Neupane, B. P. (2020). Profitability determinants of Nepalese commercial banks. *Press Academia Procedia (PAP), 12*, 40-45. http://doi.org/10.17261/Pressacademia.2020.1345

Ojeleye, Y. (2017). The impact of remuneration on employees' performance: A study of Abdul Gusau Polytechnic, Talata-Mafara and State College of Education Maru, Zamfara State. *Nigerian Chapter of Arabian Journal of Business and Management Review, 4(2),* 34-43. https://doi.org/10.12816/0037554.

Panta, B. (2018). Non-performing loans and bank profitability: Study of joint venture banks in Nepal. *International Journal of Sciences: Basic and Applied Research, 42(1)*, 151-165. https://ssrn.com/abstract=3304961

Pril, J. D., & Cécile Godfroid, C. (2020). Avoiding the crowding-out of prosocial motivation in microfinance. *The Quarterly Review of Economics and Finance, 77,* 108-117. https://doi.org/10.1016/j.qref.2019.09.016.

Psaila, A., Spiteri, J., & Grima, S. (2019). The impact of non-performing loans on the profitability of listed Euro-Mediterranean commercial banks. *International Journal of Economics and Business Administration, 6(4),* 166-196. https://doi.org/10.35808/ijeba/338

Ranabhat, S., & Subedi, R., K. (2022). Impact of non-performing loan and macro-economic variables on financial performance of commercial banks in Nepal. *Journal of Interdisciplinary Studies*, *11*(1), 47–66. https://doi.org/10.3126/jis.v11i1.58680

Sawitri, N., N. (2018). The prediction of third-party funds, interest rates, and non-performing loans toward loan to deposit ratios and its impact on return on assets on commercial banks in Indonesia. *Jurnal Manajemen, 22(2),* 409-420. https://doi.org/10.24912/jm.v22i3.430

Wadhwa, R., & Ramaswamy, K. (2020). Impact of NPA on Profitability of Banks. *International Journal of Engineering Technology and Management Sciences, 4(1*), 1-8. https://doi.org/10.46647/ijetms.2020.v04i03.00

Yuksel, S., & Zengin, S. (2017). Influencing Factors of Net Interest Margin in Turkish Banking Sector. *International Journal of Economics and Financial Issues*, 7(1), 178–191. https://www.econjournals.com/index.php/ijefi/article/view/3235