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Employee Compensation and Financial Performance: Evidence from Commercial Banks of Nepal

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Abstract

Background: The role of employee pay in financial performance is misty, with plenty of space to explore. Human resources have been discarded from the mainstream arena despite being a strategic partner.

Objective: The study aims to investigate the association between employee compensation and financial performance.

Methodology: The study uses econometric analysis, descriptive analysis, correlational analysis, and trend analysis to disclose the relationship between employee compensation and financial performance. Employee compensation is measured in terms of staff expenses, and ROE and ROA measure financial performance.

Results: Employee compensation positively impacts the financial performance of BFIs. Quantitatively, a 1 percent rise in employee compensation increases ROA by 0.02 percent point and ROE by 0.20 percent point. Likewise, the size of a firm negatively affects financial performance. Revenue diversification has a positive effect on financial performance. Similarly, the cost-to-income ratio negatively affects financial performance.

Implications: BFIs must invest in employees to develop their skills and focus on providing mercenary and non-mercenary benefits to employees, enhancing their performance by discouraging them from shrinking on the job. Also, BFIs shall enhance their competitiveness and focus on increasing non-interest income while simultaneously reducing interest expenses.

Keywords: Return on Assets, Return on Equity, Employee Compensation

Introduction

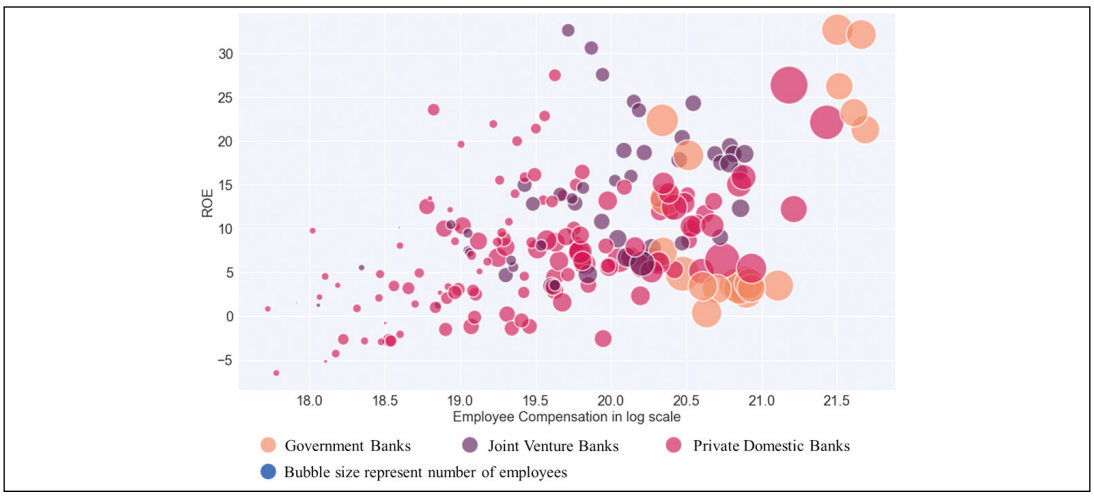
The role of employee pay in firm profitability remains an unexplored aspect of human resource management in Nepal. Human resources are the strategic resource of an organization and play a crucial role in establishing a competitive edge for the organization. The reputed organization takes care of their employees as they know motivated employees are the asset that amplifies the performance of the organization. Gunnigle et al. (1997) state that human capital is an organization's lifeblood. Investments in human capital are vital to improving firm performance (Boudreaux, 2021). A widespread assumption is that people are just a cost to be minimized and that companies should work to minimize that cost. However, under-investment in people leads to operational and customer service problems, leading to lower sales and a shrinking budget (Baskin, 2017). This vicious cycle is costly for investors and hurts customers too.

Corporations are one of the largest employers. In large corporations, owners and managers are not the same. Baumol (1960) and Williamson (1963) have propounded theories on the goal of the firm. They clearly state that the owner and manager are different people, and their utility function differs. Owners or shareholders always want to maximize their wealth, which is reflected in the firm's share price.

Conversely, managers maximize their utility from the remuneration they earn, and their remuneration is the direct function of the firm's profitability. There is a departure between the utility optimization of shareholders and the managers. On the other hand, the optimization of both parties depends on the firm's profitability. As mentioned above, the motivation of employees toward work influences a firm's profitability. Hence, great companies wholeheartedly invest in employees in monetary and non-monetary terms.

Weisul (2014), citing Professor Zeynep Ton and Professor Wayne Cascio's research, provides evidence of higher pay and higher firm profitability. Weisul (2014) compared Costco, one of the largest warehouse companies, with other large warehouse companies and found that Costco pays more to its employees than its competitors; however, Costco is the market leader in terms of profit and sales. Likewise, Bahl (2015) find a positive relationship between employee compensation and firm performance. Drucker (1956), cited in Shahu (2018), stated that happy workers are productive. Among various factors, human resource plays a very significant role in improving the financial performance of an organization. Managing people in an organization is a function of human resource management. The main goal of human resource management is to increase the performance of an organization.

Figure 1 Scatterplot of ROE and Employee Compensation of Commercial Banks



Source: Author's estimation

CBS (2018) reveals that only 37.8 percent of the total labor force in Nepal works in the formal sector. Not to mention, the banking sector is one of the largest formal sector employers in Nepal (Parajuli et al., 2020). There are several studies on the impact of employee compensation on financial performance in Nepal; however, Bahl (2015) and Raja and Kumar (2015) explore the relationship between employee compensation and firm performance in India. Likewise, Lee (2009) and Vu et al. (2019) explore the association between employee compensation and firm performance in US public firms and listed firms in Vietnam, respectively. Most literature has used simple multiple linear regression to derive their result; the numerous linear regression yields biased results in the presence of endogeneity (Shahu, 2018). In addition, Shahu's (2018) exploratory research on employee compensation and firm performance in Nepal found a negative relationship between employee compensation and firm performance using the instrumental variable approach.

Moreover, the findings proposed by the literature are mixed and contradictory. Research is necessary to fill the existing methodology gap and confirm the findings. Hence, the study aims to determine the impact of employee compensation on firm performance.

The study has been divided into five sections: introduction, literature review, research methods, data analysis and results, and conclusion.

Review of Literature

We review the relevant literature into two sub-sections: international and national. Bahl (2015) attempted to determine the impact of employee compensation on the performance of chemical firms in India. Likewise, Gupta and Mahakud (2020) and Shahu (2018) examined the financial performance of commercial banks concerning various factors affecting the bank's performance in India and Nepal, respectively. However, Gupta and Mahakud (2020) had a wider range of variables, including macroeconomic variables such as GDP. Shahu (2018) applied an instrumental variable approach, a different approach compared to other literature, to derive the impact of employee compensation on firm performance using the panel data of nine commercial banks in Nepal from 2007 to 2014.

Likewise, Shahu (2018) measured firm performance with ROE and the Market Book value ratio. Phuong (2010) finds that, by directly affecting employee compensation, the variables of total assets, net sales, owners' equity, and the number of employees may indirectly affect firm performance. The study used three accounting measures of financial performance viz, ROA, ROE, and ROE. The study shows that ROA is positively related to employee compensation and age. ROE is negatively related to employee compensation. ROA is positively related to employee compensation.

The size of a firm is a primary factor in determining its profitability of a firm. Larger firms have an advantage of the scale of economies that can enable more efficient production (Fiegenbaum & Karnani, 1991). This advantage gives them greater power to bargain with suppliers and distributors, utilizing the advantage of the experience curve and setting prices above the competitive level (Fiegenbaum & Karnani, 1991). By this concept, a positive relationship between firm size and profitability is expected. Sharma and Kesner (1996) strongly support the effect of firm size on business survival and variance in operating performance. They argue that competitive advantage resides in firm size. Large companies tend to be more efficient than their smaller counterparts and have better resources to combat economic downturns.

Lee (2009) and Niresh and Velnampy (2014) sought to determine the role of firm size on profitability in the USA and listed manufacturing firms of Sri Lanka, respectively. Similarly, Raja and Kumar (2005) aimed to determine the association between firms' attributes and firm performance of the listed firms in India. Likewise, Vu et al. (2019) use the ordinary-least-square (OLS) and quantile regression methods. They investigate the relationship between firms' competition, wages, CEOs' characteristics, and firm performance (measured by net income per employee, return on assets (ROA), and return on equity

(ROE)) of Vietnam's 693 listed firms. Bahl (2015), Lee (2009), Niresh and Velnampy (2014), and Raja and Kumar (2005) have deployed multiple regression analyses to determine the association between financial variables and firm performance.

Literature developed unique operationalization abstract concepts such as firm size and profitability. Bahl (2015), Gupta and Mahakud (2002), Niresh and Velnampy (2014), and Raja and Kumar (2005) used the total asset of the firm as the indicator of the firm size. Lee (2009) uses the total asset and total sales as the indicator of firm size, while Shahu (2018) used market capitalization as the proxy to firm size. There is a consensus about the firm's profitability; ROE has been used to measure the firm's profitability. Apart from ROE, Gupta and Mahakud (2020) used ROA, net interest margin, and Pre-provision profitability ratio as the indicator of firm performance. Shahu (2018) used the ratio of the market value of equity to the book value of equity as the measure of firm performance apart from ROE.

Vu et al. (2019) found that the firm's average wage per employee is negative. The quantile regression also yields similar results. The age of the firm is negatively associated with net income per employee; meanwhile, the firm size is positively related to firm performance (Vu et al., 2019). The result derived by Shahu (2018) aligns with Vu et al. (2019). Shahu (2018) concluded that firm size positively affects firm performance, while employee compensation hurts firm performance. Shahu (2018) and Vu et al. (2019) derived similar results, possibly due to low labor productivity in Nepal and Vietnam.

This study's findings align with the results of Gupta and Mahakud (2002). They found that bank size, non-performing loan ratio, bank age, and cost-to-income ratio hurt a bank's performance, measured by ROE, ROA, and Net profit margin. On the other hand, revenue diversification and GDP positively affect the bank's performance. Raja and Kumar (2005) also conclude that firm's size is irrelevant to the performance of service-based firms and is negatively associated with the performance of manufacturing-based firms. Conversely, Lee (2009) finds an inverse 'U' shaped relationship between a firm's size and performance. Similarly, market share has a positive relationship, while bad debt negatively affects performance. The findings of Bahl (2015), Gupta & Mahakud (2020), Niresh & Velnampy (2014), Raja & Kumar (2005), Shahu (2018), Vu et al. (2019), and Lee (2009) contradicts one another. The former derives the result based on firms in developing economies, while the latter derives the result based on firms in the US, which is a highly developed economy. Hence, the contradiction in the findings might be due to differences in the economies.

Shahu (2021) examined the effect of revenue diversification on the financial performance and risk of the Nepali banking sector using annual data of twenty-two commercial banks listed on the Nepal Stock Exchange for the study period from 2004/2005 to 2014/2015. The study found revenue diversification has a positive effect on the financial performance of banks even after controlling the bank's specific and macroeconomic variables. Besides, empirical studies such as Stiroh (2004, 2006), Sanya and Wolfe (2011), and Stiroh and Rumble (2006) documented the evidence that diversifying revenue in non-traditional activities improves a bank's financial performance in line with the portfolio theory developed by Markowitz (1952). On the contrary, corporate finance theory argues that financial institutions should focus on a single line of business to maximize the management's expertise and reduce agency problems, leaving investors to diversify independently (Berger & Ofek, 1995).

Research Method

Research Design, Data, and Sample

The study used a quasi-experimental research design. The study assesses the impact of employee compensation on firm performance, so the study devised an instrument to isolate the effect of other variables on employee compensation—the detail regarding motivation for using an instrumental variable in the identification strategy.

The study used secondary data under Monthly Statistics from 2013 to 2020 published by Bank and Financial Institutions Regulation Department, Nepal Rastra Bank. Longitudinal Data set for 26 commercial banks over the eight years between 2013 to 2020 has been used for analysis.

As of Mid-December 2021, there were 27 Commercial Banks "Class A" licensed institutions by Nepal Rastra Bank in Nepal (NRB, 2021). Among them, the Government of Nepal managed three; seven were private –joint ventures and the remaining were private domestic banks. The study selects all the commercial banks except Prabhu Bank. The reason for excluding Prabhu Bank is due to the unavailability of data since 2013, as Prabhu Bank came into existence in 2015 onwards.

Description of Variables

Financial Performance

The financial performance is measured based on equity (ROE) and return on assets (ROA). ROE measures the rate of return on resources provided by shareholders. It indicates the amount of earnings per rupee that equity shareholders have invested.

ROE is one of the best measures of the financial performance of an organization as ROE entails three major financial ratios — profit margin, asset utilization, and equity multiplier. And ROA reveals how successfully a listed company generates profit from its assets;

$$\text{ROE} = \frac{\text{Net income}}{\text{Total operating revenue}} \times \frac{\text{Total operating revenue}}{\text{Total assets}} \times \frac{\text{Total assets}}{\text{Total equity}}$$

$$\text{ROE} = \text{Profit marin} \times \text{Asset utilization} \times \text{Equity Multiplier}$$

ROA is calculated as the ratio of net income to total assets. It assesses how efficiently a bank is using its assets to generate income.

$$\text{ROA} = \frac{\text{Net income}}{\text{Total asset}}$$

Employee Compensation

Employee compensation refers to the pecuniary benefits employees receive from the organization where they work. These pecuniary benefits include salary, bonus, allowances, and other forms of monetary payments.

Size

The operationalization of firm size needs a look at in the literature. Shahu (2018) measures firm size in terms of market capitalization. In contrast, Gupta and Mahakud (2020), Raja and Kumar (2005), and Timsina (2018) measure the firm size in terms of the total asset of the firm. Imperatively, total assets are a better proxy for firm size than market capitalization. Market capitalization is primarily an intangible asset driven by the public's trust in the company. Thus, size, in this study, is represented by total assets.

Revenue Diversification

Revenue diversification is the ratio of non-interest income to total income.

$$\text{Revenue diversification} = \frac{\text{Non-interest income}}{\text{total income}}$$

Capital Ratio

The capital ratio is the ratio of equity to total assets.

$$\text{Capital ratio} = \frac{\text{Equity}}{\text{Total Assets}}$$

Cost-to-income ratio

The cost-to-income ratio is the ratio of non-interest expenses to total income.

$$\text{Cost-to-income ratio} = \frac{\text{Non-interest expenses}}{\text{Total income}}$$

Table 1 Summary of Variables under study

Construct/ Concept	Notation	Variable	Nature	Literature	Expected sign
Performance	ROA/ ROE	ROA and ROE	Continuous	Shahu (2018), Bahl (2015), Niresh and Velnampy (2014)	
Size	Size	Total assets in log scale	Continuous	Gupta and Mahakud (2020), Tharu & Shrestha (2019), and Lee (2009)	+/-
Compensation of employees	ECOM	Staff expenses in log scale	Continuous	Shahu (2018)	+/-
Revenue Diversification	RD	Non-interest income/ Total income	Continuous	Gupta and Mahakud (2020)	+
Capital ratio	CR	Equity/Total Assets	Continuous	Gupta and Mahakud (2020)	+/-
Cost to Income Ratio	CIR	Non-interest expenses/Total Income	Continuous	Gupta and Mahakud (2020)	-

Identification Strategy

Using OLS to derive the relationship between employee compensation and firm performance does not yield a causal effect, as employee compensation may be endogenous. The endogeneity issue in our model can arise from three sources, (i) simultaneous causality bias, (ii) omitted variable bias, and (iii) the existence of covariates. As a firm's performance increases, it provides bonuses or other mercenary benefits that increase employee compensation. Hence, there is simultaneous causality. Moreover, grades in the compensation scheme also affect employee compensation; grades increase with an increase in the service period, and such information is missing.

Consequently, the error term is correlated with employee compensation. Likewise, some unobserved effects that are difficult to measure, such as management attitude and culture, may influence both employee compensation and firm performance at the same time. So, it is essential to isolate employee compensation from firm performance and error terms.

Our empirical strategy is motivated by Shahu (2018, which looked at the impact of employee compensation on firm performance. But we have incorporated a few more regressors following Gupta and Mahakud (2020). We have used the number of employees as an instrumental variable. We have used lagged number of employees to ensure that firm performance does not affect the number of employees. Another strong reason to use lagged number of employees is due to the recruitment policy of most commercial banks; that is, employees are paid minimum wage till their probation period at most lasts for a year.

$$Performance = \alpha + \beta_1 ECOM_{t-1} + \beta_2 Size_{t-1} + \beta_3 RD + \beta_4 CR + \beta_5 FC + \beta_6 Cost + e_t \quad ... (i)$$

Where,

ECOM = Employee Compensation, Size = Total Asset, RD = Revenue Diversification, CR = Capital Ratio, FC = Funding Cost Ratio, Cost = Cost to Income Ratio,

β's are partial elasticities.

As discussed in the identification strategy, β_1 a coefficient may yield a biased result in equation (i). So, we use the estimated ECOM obtained from equation (ii) and we derive a new equation as equation (iii) by replacing ECOM with estimated ECOM in equation (i).

First Stage Regression

$$ECOM_{t-1} = \gamma + \gamma_1 Employee_{t-2} + \gamma_2 Size_{t-1} + \gamma_3 RD + \gamma_4 CR + \gamma_5 Cost + v_t \quad ... (ii)$$

Second Stage Regression

$$Performance = \lambda + \lambda_1 \widehat{ECOM}_{t-1} + \lambda_2 Size_{t-1} + \lambda_3 RD + \lambda_4 CR + \lambda_5 Cost + u_t \quad ... (iii)$$

Alternatively,

$$Performance = \lambda + \lambda_1 ECOM_{t-1} + \lambda_2 Size + \lambda_3 RD + \lambda_4 CR + \lambda_5 Cost + \phi v_t + \mu_t \quad ... (iii)$$

The relevance criterion holds if the coefficient of γ_1, that is $\hat{\gamma}_1$, in equation (ii) is statistically significant. Likewise, compensation of variable is an endogenous variable if the coefficient of v_t, that is ϕ, is statistically significant. The IV appears to be a strong IV with a validity of exclusion criterion and successful establishment of relevance criterion and endogeneity test. Lastly, solving the two-stage least squares by formulating two equations yields incorrect standard errors in the second-stage regression. The second stage regression in equation (iii) does assume employee compensation as the actual value, not the estimated value from equation (ii) (Stock & Watson, 2002). The inbuilt TSLS STATA commands have been used to overcome this problem. Three mandatory diagnostic tests, as prescribed by Pokhrel (2022), (i) weak instrument test, (ii) endogeneity test, and (iii) under-identification test, have been carried out. (for more, see Pokhrel, 2022).

Equation (iii) is the main equation for our analysis. We derive two models out of the equation (iii).

The performance of a firm is measured in terms of ROA and ROE.

$$\text{Performance} \begin{cases} \text{Return on Assets} \\ \text{Return on Equity} \end{cases}$$

Performance measured in terms of ROA

$$\text{Model 1: } ROA = \lambda + \lambda_1 \widehat{ECOM} + \lambda_2 Size + \lambda_3 RD + \lambda_4 CR + \lambda_5 Cost + u_t \quad ... (iv)$$

Performance measured in terms of ROE

$$\text{Model 2: } ROE = \lambda + \lambda_1 \widehat{ECOM} + \lambda_2 Size + \lambda_3 RD + \lambda_4 CR + \lambda_5 Cost + u_t \quad ... (v)$$

Data analysis and Results

The data analysis and results section incorporate descriptive analysis, correlational analysis, and econometric analysis.

Descriptive Analysis

Descriptive analysis has been carried out to disclose the general characteristics of data, such as mean, standard deviation, minimum, and maximum. The descriptive statistics by year have been presented in Appendix 1.

Table 2 Descriptive statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
ECOM*	208	0.54	0.49	0.05	2.63
Size*	208	94.58	56.65	12.60	301.04
RD	208	14.14	6.07	5.66	41.53
CR	208	9.60	2.89	-0.12	18.77
CIR	208	20.35	5.94	7.68	43.40
ROE	204	9.40	7.74	-6.47	32.72
ROA	208	0.84	0.62	-0.72	3.21
EMP	207	1008.62	689.61	231	3472

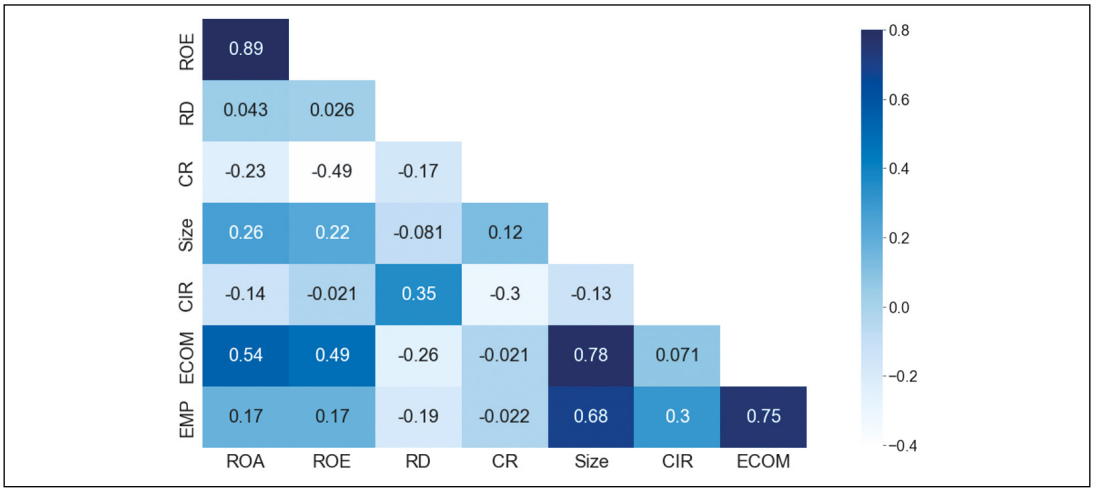
Note: * In billion rupees

Source: Author's calculation

Correlation Analysis

Correlation analysis has been carried out to find the linear relationship between the variables. We have presented a correlation heatmap in Figure 2. ROA and ROE have a high positive correlation, as expected. Likewise, employee compensation and the number of employees are positively correlated. Similarly, employee compensation and the number of employees are positively correlated with size (Figure 2).

Figure 2 Correlation heatmap



Source: Author's calculation

Similarly, ROA, ROE, and Revenue Diversification negatively correlate with capital ratio. Likewise, ROA and ROE negatively correlate with cost to income ratio. Likewise, ROA and ROE positively correlate with employee compensation.

Econometric analysis

We begin our econometric analysis with a test of the instrument, which is mandatory for instrumental variable analysis. We perform three tests, that is, weak instrument test, under-identification test, and endogeneity test.

Table 4 Mandatory Diagnostic Tests of Instrument Variable

Model	Weak instrument test (F-statistics)	Endogeneity test (F-statistics)	Under-identification test (LM statistics)
Model 1	32.05***	15.75***	20.86***
Model 2	33.16***	11.23***	20.24***

Note: ***, **, *: Significant at 1%,5%, and 10%

Source: Author's estimation

The mandatory diagnostic test reported in Table 2 presents weak instrument F-statistics, Endogeneity Test, and Under-identification test. The weak instrument test with the F-value of 32.04 for Model 1 and 33.16 for Model 2 reveals that the null hypothesis of the weak instrument is rejected. The endogeneity test with a chi-square value significant at 10 percent for Model 1 and 1 percent for Model 2provide sufficient evidence to reject the null hypothesis of exogeneity. Under-identification test with significant LM statistics for both Model 1 and Model 2 reveals that the null hypothesis that the instrument has insufficient power to explain endogenous variables is rejected.

Regression Result

The regression result of the Fixed Effect-Instrument Variable (FE-IV) has been presented in Table 3. We have used fixed effect (LSDV) in our analysis to remove the effect of time-invariant characteristics so that we can assess the net effect of the predictors on the outcome variable (Torres-Reyna, 2007).

Table 5 Regression Results[1]

Variables	ROA	ROE
ECOMt-1	1.778***	19.87***
Sizet-1	-1.902**	-21.31***
Revenue Diversification	0.0352**	0.254
Capital Ratio	0.0161	-0.794***
Cost to Income Ratio	-0.0455***	-0.334**
Constant	13.74*	162.9**
Observations	155	154
R2	0.71	0.77
Number of BFIs	26	26

Clustered robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation

The result of FE-IV presented in Table 3 reveals that employee compensation has a positive impact on financial performance as the coefficients of employee compensation are positive and significant for ROA and ROE. Quantitatively, a 1 percent rise in employee compensation[2] increases ROA by 0.02 percent point and ROE by 0.20 percent point. Likewise, the size of a firm negatively affects financial performance. As expected, revenue diversification has a positive effect on financial performance. Similarly, the cost-to-income ratio affects negatively financial performance.

[1] First stage regression has been presented in Appendix 1 (Table A2).

[2] We have used linear-log model, so interpretation slightly differs (see Byanjankar, 2022)

Diagnostic Tests

We have performed batteries of tests to confirm the robustness of our model. We performed the Breusch-Pagan test for heteroskedasticity, VIF for multicollinearity, and Ramsey RESET test for omitted variables.

Table 6 Test for heteroscedasticity, multicollinearity, and functional misspecification

Breusch -Pagan test for heteroscedasticity		
	Model 1	Model 2
H_0: Constant Variance		
Chi2(1)	5.20	16.37
Prob > Chi2	0.02**	0.00***
Multicollinearity Test		
	Model 1	Model 2
VIF	19.92	20.15
Ramsey RESET Test		
	Model 1	Model 2
H0: Model has no omitted variables		
F statistics	3.26NS	2.59NS

Source: Author's calculation

The model suffers from heteroscedasticity and multicollinearity. We have reported robust standard errors to obtain unbiased standard errors under heteroskedasticity. Estimators are BLUE in the case of multicollinearity (Gujarati & Porter, 1978). Moreover, insignificant t-ratios and high R2 are signs of multicollinearity (Gujarati, 2011), but it is not in our case. Following the RESET test, we fail to reject the null hypothesis of no omitted variables.

Figure 3 Residuals vs Fitted Line Plot

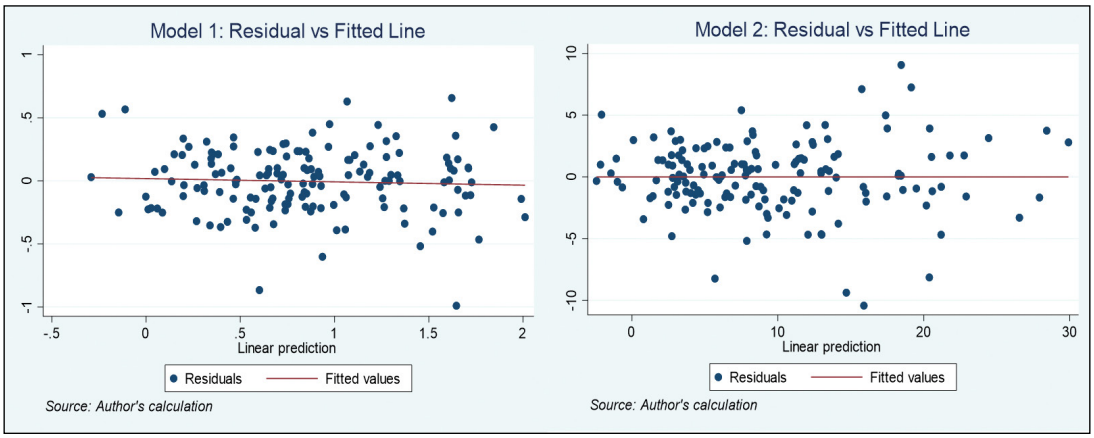


Figure 3 presents residuals vs fitted line plots. The residuals bounce randomly around the '0' line suggesting that the assumption of a linear relationship is reasonable. Some residuals stand out from basic random patterns suggesting the presence of outliers. The variance of error terms is not equal, as residuals do not roughly form a horizontal band (PennState, 2021).

Discussion

We find a positive impact of employee compensation on financial performance. The result is meaningful from the perspective of motivational theories and supports the efficiency wage theory, but it contrasts with Shahu (2018) and Vu et al. (2019). They conclude a negative relationship between employee compensation and firm performance. The difference in the result might be due to differences in methodology, sample period, and sample size. Likewise, revenue diversification positively impacts firm performance, as expected. Also, the result aligns with that of Gupta and Mahakud (2020).

Similarly, size negatively affects the firm performance, which seems plausible from a theoretical perspective. Gupta and Mahakud (2020) also find a negative relationship between size and performance. The funding cost and cost-to-income ratio results align with the theory and with the result of Gupta and Mahakud (2020).

Conclusion

The analysis of the impact of employee compensation on financial performance concerning commercial banks of Nepal presented above yields several fruitful insights. The econometric analysis begins by confirming the intuitive conclusion that the number of employees positively correlates with employee compensation. The related coefficient is significant from theoretical and empirical perspectives. Moreover, controlling the possible endogeneity, employee compensation positively impacts financial performance. The associated coefficient is positive and statistically significant. This reveals that BFIs must invest in employees to develop their skills and focus on providing mercenary and non-mercenary benefits to employees, enhancing their performance by discouraging them from shrinking on the job. Similarly, revenue diversification has a positive effect, while funding cost and cost-to-income ratio negatively affect financial performance. This implies that BFIs shall enhance their competitiveness and focus on increasing non-interest income while simultaneously reducing interest expenses.

Conflict of Interest

There is no conflict of interest while preparing this paper.

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Appendices

Appendix 1

Table A1 Descriptive statistics by year

Year	Variables	Mean	SD	Min	Max
2013	Size	45.13	27.00	12.60	104.76
	ECOM	0.27	0.34	0.05	1.64
	CIR	21.19	6.66	13.72	43.40
	RD	13.39	4.09	8.23	27.22
	CR	7.98	3.09	-0.12	14.75
	ROE	9.50	9.64	-6.47	32.65
	ROA	0.76	0.75	-0.72	2.25
	EMP	757.32	798.28	231.00	2997.00
2014	Size	54.51	29.46	21.17	122.47
	ECOM	0.33	0.37	0.07	1.70
	CIR	23.58	6.54	14.78	43.07
	RD	15.71	5.44	8.69	30.30
	CR	8.16	2.46	1.04	14.21
	ROE	8.96	8.10	-4.27	30.63
	ROA	0.73	0.63	-0.48	2.17
	EMP	765.81	738.09	248.00	2909.00
2015	Size	65.52	33.42	25.97	141.24
	ECOM	0.38	0.45	0.07	2.24
	CIR	23.65	5.76	16.80	39.93
	RD	17.43	7.74	8.39	41.53
	CR	7.86	2.13	1.69	11.82
	ROE	9.17	7.66	-2.63	27.59
	ROA	0.77	0.70	-0.26	3.21
	EMP	801.65	704.80	293.00	2739.00

2016	Size	79.12	37.45	32.93	167.97
	ECOM	0.44	0.46	0.10	2.18
	CIR	23.29	5.88	14.51	35.33
	RD	17.89	7.84	9.02	40.54
	CR	8.77	2.37	3.97	14.38
	ROE	11.79	9.12	-2.75	32.72
	ROA	0.87	0.58	-0.40	2.28
	EMP	856.31	612.60	334.00	2470.00
2017	Size	95.85	36.17	47.01	175.44
	ECOM	0.54	0.49	0.15	2.56
	CIR	19.50	5.14	11.01	34.86
	RD	14.43	6.13	8.16	34.39
	CR	10.38	2.25	4.91	15.20
	ROE	8.13	8.30	-2.55	32.17
	ROA	0.72	0.64	-0.27	2.00
	EMP	992.27	567.84	478.00	2632.00
2018	Size	114.36	40.51	57.82	203.31
	ECOM	0.63	0.44	0.17	2.21
	CIR	17.66	4.58	11.88	32.42
	RD	12.62	5.39	7.82	32.29
	CR	11.74	2.81	6.11	16.39
	ROE	7.29	6.41	-1.16	26.26
	ROA	0.78	0.56	-0.19	1.85
	EMP	1130.62	526.15	485.00	2455.00
2019	Size	137.47	52.14	65.79	257.80
	ECOM	0.83	0.49	0.24	2.63
	CIR	16.92	4.26	7.68	31.54
	RD	10.98	2.97	6.50	19.30
	CR	11.36	2.61	5.55	18.77
	ROE	10.91	6.35	0.41	26.39
	ROA	1.14	0.56	0.08	2.27
	EMP	1289.12	642.12	531.00	3472.00
2020	Size	164.67	63.41	79.33	301.04
	ECOM	0.92	0.51	0.33	2.44
	CIR	16.97	2.80	9.48	22.96
	RD	10.66	2.77	5.66	18.76
	CR	10.57	2.34	5.19	16.02
	ROE	9.46	5.75	1.59	23.25
	ROA	0.91	0.43	0.19	1.72
	EMP	1466.23	608.24	535.00	3059.00

Table A2 First stage regression

Variables	ECOMt-1
EMPt-2	0.382***
Sizet-1	0.914***
Revenue Diversification	-0.00748***
Capital Ratio	-0.0135**
Cost to Income Ratio	0.00544*
Constant	-5.568***
Observations	155
R2	0.98
Number of BFIs	26

Clustered robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation