International Journal of Finance and Commerce
www.commercejournals.com
Online ISSN: 2664-715X, Print ISSN: 2664-7141
Received: 05-04-2024, Accepted: 28-04-2024, Published: 22-05-2024
Volume 6, Issue 2, 2024, Page No. 56-64

Effect of Non-interest income on financial performance of Joint Venture Banks in Nepal

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Abstract
The main purpose of this study is to investigate the Effect of Non-interest Income on financial performance of Joint venture Banks in Nepal. The dependent variables are Return on Assets and Return on Equity. The independent variables are Assets Size, Letter of Credit Fee, Guarantee Income, Remittance Fee, Service Charge, Renewal Fee, Exchange Income, Profit/loss on Sale of Assets, Dividend Income. Secondary panel data was used that covered a period of seven years (2016/17 to 2022/23) of the major six Joint Venture Commercial Banks. The descriptive statistical tools, ratio analysis and correlation and regression test have been used to make analysis meaningful and systematic and meet the research objective. The study findings revealed that there is a negative significant effect of Assets Size on both Return on Assets and Return on Equity. This shows that there is a positive significant effect of Renewal Fee on both Return on Assets and Return on Equity. This shows that there is a positive significant effect of Profit/loss on Sale of Assets on Return on Assets. This shows that there is a negative significant effect of Remittance Fee and Exchange Income on Return on Equity. It is found that the variables like Assets Size and Renewal Fee has effect on both Return on Assets and Return on equity. Hence, the banks instead of focusing on all the other variables of non-interest income, they can scrutinize there area of focus on these variables more than the other as they have a significant relationship on the profitability. Hence these variables should not be ignored as they lead to increase in profit with minor risk than the interest income variables.

Keywords: Return on assets, return on equity, assets size, letter of credit fee, guarantee income, remittance fee, service charge, renewal fee, exchange income, profit/loss on sale of assets, dividend income

Introduction

Financial institutions make money income in two ways collecting interest through loans and by charging fees on services. The commercial bank's charges fees from non-sufficient funds, late fees, over the time fees, wire transfer fees, monthly services charges, credit card fees, monthly service charge, credit card fee, debit card fee, etc. the bank earns fee and commission income from a diverse range of service it provides to its counterparts. Fee and commission income includes cash operations, fees, and fund transfer fees, organized as the services are offered. Non fees and commission income are critical elements of a bank's core income (Vozkova & Kuc, 2016).

Haubrich and Young (2019) [14] define non-interest income as the income generated through off-balance sheet activities and it is not related with interest earnings. One of the main non-interest income earning sources is the service income which consists with ATM charges, inter non banking fees, charges for guarantees and safety locker charges. Other than that trading income, securitization income can be considered as non-interest income sources. As Haubrich and Young (2019) [14] state banks mainly engage in traditional business activity where they issue loans to customers and obtain an interest payment. But, after banks encountered with financial crisis, they consider the other revenue sources such as earning income through off-balance sheet activities.

According to Nguyen, Skully and Perera (2012) [34] banks moved towards non-interest activities due to the competition arose with the evolvement of foreign banks and depository institutions. Deyoung and Rice (2004) [9] state that the banks manage their operations under competitive background being cost-efficient and revenue- efficient and banks have started to provide non-interest income earning services to their customers. As Hahm (2008) [12] highlights banks have diversified their services as it helps to come up with better profitability through achieving economies of scale in a situation where the competition is high. According to Atellu (2012), interest income has lost its importance with the competition arose with the evolvement of Non-Banking Institutions and banks paid their attention towards other income sources in order to tackle with this situation. The income that a bank receives other than interest income for such it may be the service charge penalty charges and to a much less extent, from assets sales and property leasing. The advantage 4 of non-interest income to that of interest income is it is not affected by economic and financial market cycles and it is usually not controlled by law or regulation (Morris & Regehr, 2014) [32]. Bank and creditor income are normally derived from fees. For example of such non-interest income included deposit and transaction fees, monthly account services charges, inactivity fees, check and deposit slip fees etc. institution charge fees that provide noninterest income as a way of generating revenue and ensuring liquidity in the event of increased default rates (Gichure, 2015) [11]

Non-interest income is a crucial element for banks to diversify their income (Huang & Chen, 2006) [15]. There is a need to combine both types of income – interest and non-interest sources – in such a way that reduces bank risk. When banks choose non-interest income, this may directly influence the risk of these banks. DeYoung and Roland (2001) [10] investigate whether fee-based income has any influence on US based commercial bank's profitability and risk and find that it significantly enhances bank revenue volatility. Stiroh and Rumble (2006) [44] report a significant positive relationship between non-traditional source income

and risk. Lepetit *et al*. (2008) [30] explain that increased bank risk is not due to trading activities, but due to commission and fee-charging exercises. They confirm that an increase in noninterest income enhances the operating risk of banks. This additional risk particularly arises from fee and commission incomes of banks.

Traditional role of bank acting as intermediary between deposits' holders and borrowers determines interest as the main source of bank income. However, in recent decades banks have significantly developed range of services and products offered, which resulted in diversification of their income. In accordance with the theory of finances, such a trend should have a positive impact on banks' stability and lead to lower risk level of the bank activity. Nevertheless, several studies show, that high level of non-interest income increases risk, as in comparison with interest income it is usually more volatile and depends significantly on external factors (DeYoung & Roland, 2001 [10]; Demirgüç-Kunt & Huizinga, 2010) [8].

Most of the Nepalese commercial banks are enjoying around half of its net income from nontraditional activities based on sale of assets, dividend income, letter of credit, guarantee commission, remittance fee, exchange income, service charge and renewal fee (Nepal, 2015). Shah *et al*. (2018) [39] observed that apart from the interest income, there are lot of non-interest variables which leads to profitability so the banks looking to increase its profitability with lesser risk need to take these variables into consideration. Banks need to keep the non-interest income variables into consideration at times for improving the financial performance of the joint venture banks. Amidst increasing market competition, noninterest income can set banks apart from their rivals and attract a broader customer base. However, prudent management is essential to strike the right balance and avoid excessive reliance on certain noninterest activities, which could introduce new risks. For this study, the major research problems are set.

The major purpose of this study is to investigate the effect of non-interest income and financial performance. Specifically, it examines the effects of Assets Size, Letter of Credit Fee, Guarantee Income, Remittance Fee, Service Charge, Renewal Fee, Exchange Income, Profit/loss on Sale of Assets, Dividend Income on joint venture banks in Nepal.

Review of Literature

Theoretical Review

The theoretical framework is a structure that provides an insight to the concepts and theories that are pertinent to the topic of research.

Modern portfolio theory is an optimization method put forth by Markowitz (1959). The key point of this theory is how to maximize the expected return rate of a portfolio under a given risk level, or how to minimize the risk under a given expected the rate of return. The approach is that investors can maintain a portfolio's expected rate of return while reducing non-systemic risk through a portfolio of assets with a small or even negative correlation coefficient; or in a portfolio, when the standard deviation of each security and the correlation coefficient of each asset are fixed, the only way to reduce portfolio risk is to include another asset and expand the size of the portfolio.

Arbitrage pricing theory was essentially established by Ross (1976). It is regarded that the securities' rate of return is linearly related to a vector of factors, which constitute some fundamental factors of the return rate on securities. There are basically three assumptions: risky assets returns can be described by multi-factors structure model; there are enough securities to spread the risk; No continuous arbitrage opportunity in an effective financial market.

Agency Theory of Jensen and Meckling (1976). Managers diversify their business activities to improve their own skills for their personal gains even if diversifying their activities negatively affect the value of banks.

Empirical Review

Antao and Karnik (2022) [4] conducted on the relationship between NII and bank risk for the USA and Europe have found that emphasis on income diversification lowers risk in European banks but exacerbates it in American banks. Current research on Asian banks has not led to a coherent view of the relationship between NII and bank risk. We employ data over 25 years for 24 Asian countries to examine this relationship. Using the GMM estimation approach we estimate equations for two time-periods, 1996–2007 and 2008– 2018, to examine the NII-bank risk relationship in the presence of some controlling financial, macroeconomic and policy variables. Our results show that non-interest income worsens bank risk for all 24 countries as well as for sub-groups of countries. We also find that, by and large, economic growth improves bank risk while inflation above a threshold worsens it. Finally, our proxy measure for monetary policy improves bank risk though fiscal policy seems to have no effect.

Okello and Muturi (2018) [36] investigated the influence of non-interest income on the performance of commercial banks listed on the Nairobi Securities Exchange. Diversification into noninterest income by commercial banks has been born out of the need for banks to improve their financial performance in the wake of declining revenue majorly due to dependence on interest income. Several studies have been conducted by different scholars on the effect of noninterest income on financial performance of banks. The findings of these studies have had mixed conclusions on the subject with unclear linkage between noninterest income and bank performance. These conflicting outcomes were the basis for this study.

Sun *et al*. (2017) [45] have used a dataset of 16 listed Chinese commercial banks, over the period of 2007 to 2013 to test the effect of noninterest income on bank performance. By performing a panel threshold model, empirical findings indicate that there is a nonlinear relationship between noninterest income and bank performance (U-shaped chart). The authors reported that noninterest income increases the Banks' business efficiency to a certain extent will not yield a profit to the bank anymore.

Li and Zhang (2013) [31] used Chinese banks data over the period 1986–2008, showed that noninterest income has a positive impact on the revenue of the banks, but it simultaneously increased the risks. Based on the data from 29 Asia-Pacific countries Lee *et al*. (2014) also analyzed the effectiveness of the banks' increase in noninterest income. The authors provided evidence of the positive impact of noninterest income on the countries with outstanding banking and financial systems. Using US banks' data.

Sanya and Wolfe (2011) [38] highlight the benefits of revenue diversification for developing countries. In a cross-country study conducted for a sample of listed banks from 11 emerging countries, they found that revenue diversification

and profitability are positively related, diversification between interest and noninterest activities also increase profitability and reduce risks for banks.

Noor and Siddiqui (2019) [35] investigate the non-linearity in the relationship between the noninterest income and profitability of banks. Threshold Regression Model is applied on a panel data of 13 commercial for the period 2007-2017. The results have shown that optimal diversification benefit can be attained by reaching to a certain level of noninterest income proportion. The findings of the study are: (1) there exists a single threshold, confirming the non-linear relationship between the Non-Interest Income ratio (NIR) and profitability (ROE). (2) The NIR impacts positively on profitability (ROE) when NIR (≤61.1%) and beyond this value i.e. NIR (>61.12%) the relationship is negative. The study can help the Pakistani banks in exploiting their maximum level of diversification and in earning large profits in unfavorable times.

Chiorazzo *et al*. (2008) [7] argue that the relationship between noninterest income and bank performance is inconsistent with the results of US and European banking studies due to differences in structure, size, and regulation between these markets. In this study, the results also showed a contrast to the regression results of the relationship between noninterest income and profitability of most US banking studies. This stem come from two main differences between the income structure of the Vietnamese banking system and that of the US: Firstly, the difference in the correlation between the growth rate of net interest income and income from non-credit activities; secondly is the difference in the distribution of components of noninterest income.

Research Methodology

This study is based on secondary source of data for the period of 2016/17-2022/23. For this study, all six Joint Venture Banks are selected as sample by using simple random sampling method. The data were collected from banking and financial Statistics publish by Nepal Rastra Bank, annual reports of different sample banks, Supervision report of Nepal Rastra Bank.

The research designs adopted in this study are descriptive and causal comparative research design. More specifically, the study examines the effect of assets size, letter of credit fee, guarantee income, remittance fee, service charge, renewal fee, exchange income, profit/loss on sale of assets, dividend income on bank's financial performance.

The model

As a first approximation, the model estimate in this study assumes that the performance of Nepalese commercial banks depend on several independent and control variable. The non-interest income variables are assets size, letter of credit fee, guarantee income, remittance fee, service charge, renewal fee, exchange income, profit/loss on sale of assets, dividend income. Therefore the model takes the following form:

Profitability = f (non-interest income variables, control variable)

The non-interest income variables select in this study are letter of credit fee, guarantee income, remittance fee, service charge, renewal fee, exchange income, profit/loss on sale of assets, dividend income. The control variable is assets size. Therefore the model takes the following form:

Bank Performance = $\beta_0+\beta_1AS+\beta_2LC+\beta_3RM+\beta_4SC+\beta_5RF+\beta_6EI+\beta_7SOA+\beta_8DI+\beta_9GI+\grave{\varepsilon}$

Where, the bank performance is use as a dependent variable and is measure in terms of the following:

ROA= Return on assets

ROE= Return on equity

In this study, bank performances have measure as bank profitability in terms of return assets and return on equity.

The independent variable consists of non- interest income variable and control variable as under:

AS = Asset Size

LC= Letter of Credit Fee

RM= Remittance Fee

SC= Service Charge

EI= Exchange Income

SOA= Profit or Loss on Sales of Assets

DI= Dividend Income

GI= Guarantee Income

Profit/Loss on Sale of Assets

Profit/loss on sale of assets of commercial bank is defined as the profit or loss of land and building and assets owned by commercial bank. The assets are classified as land, vehicles, buildings, intellectual property and default loan property. The profit is earned when the market price is greater than the cost price owned and loss vice versa. A gain resulting from selling an asset at a price higher than the original purchase price.

H_1= Profit/Loss on Sales of Assets has a significant positive effect on bank profitability.

Dividend Income

Dividend income is earned from the dividend paid by company listed in Nepalese market. As per NRB directives, commercial bank can invest in insurance companies, hydropower, microfinance, hotels and other manufacturing companies' listed.

H_2= Dividend income has a significant negative effect on bank profitability.

Letter of Credit

Letter of credit means an instrument issued by a bank to another bank instructing to accept the check, draft, or bill of exchange drawn by specified person up to the limit of specified amount. It includes Telex or communication charges to buyers bank couriers, postage reimbursement bank charge, controllable fee and buyer's letter of credit.

H_3= Letter of credit has a significant negative effect on bank profitability.

Guarantee Income

A contract of guarantee is a contract to perform the promise or discharge of liability of third person in case of his default. In other words, if the debtor fails to settle a debt the bank will cover it. This is the commission for the bank on the behalf of being guarantee. Bank guarantee is generally of two types: financial and performance guarantee.

H_4= Guarantee income has a significant negative effect on bank profitability.

Remittance Fee

Remittance transaction includes a fee charged by the sending agent who is paid by the sender and a currency

conversion fee for delivery of local currency to the beneficiary in recipient country. In such transaction money transfer operators require the beneficiary to pay a fee to collect remittances. This fee may be charged to account for frequent exchange rate movements.

H_5= Remittance fee has a significant negative effect on bank profitability.

Size of the Bank

It generally covers the area and size of the business it has occupied. It mainly deals with the market size and exposure of its business in the market. It also deals with the number of employees it has employed and its share in the industry.

H_6= Size of the bank has a significant positive effect on bank profitability.

Exchange Income

Exchange income is the income earned from purchase and sale of foreign exchange or the acts of borrowing, giving credits and of accepting or providing foreign exchange in any manner. In finance an exchange rate between two currencies is the rate at which one currency will be exchange for another. The commercial bank earns income through the fluctuation in exchange rate and book up foreign currency.

H_7= Exchange income has a significant negative effect on bank profitability.

Service Charge

It is a fee incurred by a company for the expenses associated with its account transaction. The term service charge covers all charges and fees made by a bank to their customers. In common parlance, the term often relates to charges in respect of loan and services it renders. These charges may take many forms including (i) Monthly charges for the provision of the account (ii) Charges for specific transactions or service processing fee (iii) Interest in respect of overdrafts and (iv) Charges for exceeding authorized overdrafts limits or making payments where no authorized overdraft exists.

H_8= Service charge has a significant positive effect on bank profitability.

Renewal Fee

It comprises of renewal of overdraft account, loan, account renewal, insurance renewal, card renewal and other services rendered through commercial bank.

H_9= Renewal fee has a significant positive effect on bank profitability.

Results and finding

The descriptive statistics use in this study consists of total number of samples, maximum values, minimum values, average and the standard deviation of all the variables.

Descriptive Statistics

The descriptive statistics are shown for dependent and independent variables. The profitability of the banks are proxies by both Return on Assets (ROA) and Return on Equity (ROE) which are the dependent variables in the study while assets size, letter of credit fee, guarantee income, remittance fee, service charge, renewal fee, exchange income, profit/loss on sale of assets, dividend income are the independent variables.

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Assets Size	78,356,012,689	481,203,547,746	178,001,711,329	86,947,843,343
Letter on Credit Fee	4,289,840	311,286,887	95,417,464	56,332,822
Guarantee Income	65,341,660	963,847,321	211,668,102	166,259,689
Remittance Fees	17,769,538	192,091,852	75,534,246	37,530,101
Service Charge	64,908,224	1,189,201,022	491,788,483	236,267,161
Renewal Fees	20,371,571	852,257,477	169,895,205	153,220,960
Exchange Income	154,789,626	764,970,517	427,892,833	184,357,438
P/L on Sale of Assets	(34,560,390)	57,543,245	5,134,861	14,569,046
Dividend Income	1,466,819	206,624,267	47,566,076	51,102,158
Return on Assets	0.47	2.61	1.60	0.53
Return on Equity	4.65	22.88	13.75	4.08

The ROE ranges from 4.65 million to 22.88 million with a mean of 13.75 million and standard deviation of 4.08 million. The ROA ranges from 0.47 million to 2.61 million with a mean of 1.60 million and standard deviation of 0.53 million. The dividend income ranges from to 1 million to 207 million with a mean of 48 million and standard deviation of 51 million. The P/L on sales of assets ranges from -35 million to 58 million with a mean of 5 million and standard deviation of 15 million. The exchange income ranges from 155 million to 765 million with a mean of 428 million and standard deviation of 184 million. The Renewal Fees ranges from 20 million to 852 million with a mean of 170 million and standard deviation of 153million.The size of sample bank range from 78,356 million to 481,204 million with a mean of 178,002 million and standard deviation of 86,948 million. The service charge ranges from 65 million to 1189 million with a mean of 492 million and standard deviation of 236 million. The Remittance Fees ranges from 18 million to 192 million with a mean of 76 million and standard deviation of 38 million. The Guarantee Income ranges from 65 million to 964 million with a mean of 212 million and standard deviation of 166 million. The Letter on Credit Fee ranges from 4 million to 311 million with a mean of 95 million and standard deviation of 56 million.

Inferential Results

Table 2

	AS	LC	GI	RM	SC	RF	EI	SOA	DI	ROA	ROE
AS	1	.879**	.516**	.321*	.657**	.792**	-.025	-.229	.595**	-.509**	-.448**
LC		1	.364*	.578**	.594**	.788**	-.119	-.219	.564**	-.390*	-.259
GI			1	.078	.578**	.557**	.212	-.207	.361*	-.077	-.241
RM				1	.325*	.536**	-.025	-.335*	.096	-.015	-.006
SC					1	.412**	-.203	-.046	.491**	-.385*	-.334*
RF						1	.294	-.380*	.559**	-.044	-.092
EI							1	-.291	.022	.199	-.097
SOA								1	.136	.176	.255
DI									1	-.098	-.005
ROA										1	.867**
ROE											1

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

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

There is negative significant correlation between Assets Size and Return on Assets. There is negative significant correlation between Letter of Credit Fee and Return on Assets at 5 percent significant level. There is negative significant correlation between Service Charge and Return on Assets at 5 percent significant level. There is negative insignificant correlation between Guarantee Income, Remittance Fee, Renewal Fee, Dividend Income and Return on Assets. There is positive insignificant correlation between Exchange Income, Profit/loss on Sale of Assets and Return on Assets.

There is negative significant correlation between Assets Size and Return on Equity at 1 percent significant level. There is negative significant correlation between Service Charge and Return on Equity at 5 percent significant level. There is negative insignificant correlation between Letter of Credit, Guarantee Income, Remittance Fee, Renewal Fee, Exchange Income, Dividend Income and Return on Equity. There is positive insignificant correlation between Profit/loss on Sale of Assets and Return on Equity.

Regression analysis

In order to tests the statistical significance and robustness of the result, regression models has been used. Following three tables represent analysis of the secondary data.

Regression analysis with Return on Assets

Regression analysis has been conducted in order to determinants on profitability in joint venture banks of Nepal. An assets size, letter of credit fee, guarantee income, remittance fee, service charge, renewal fee, exchange income, profit/loss on sale of assets, dividend income is used as an independent variable and Return on Assets is used as dependent variable. Regression result is presented as follows;

$$ROA=\beta_0+\beta_1 AS+\beta_2 LC+\beta_3 RM+\beta_4 SC+\beta_5 RF+\beta_6 EI+\beta_7 SOA+\beta_8 DI+\beta_9 GI+\grave{\varepsilon} \quad (1)$$

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.855[a]	.731	.656	.31390

a. Predictors: (Constant), Dividend Income, Exchange Income, Remittance Fees, Guarantee Income, P/L on Sale of Assets, Assets Size, Service Charge, Letter on Credit Fee, Renewal Fees

Table 4: Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.581	9	.953	9.676	.000[b]
	Residual	3.153	32	.099		
	Total	11.734	41			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Dividend Income, Exchange Income, Remittance Fees, Guarantee Income, P/L on Sale of Assets, Assets Size, Service Charge, Letter on Credit Fee, Renewal Fees

Table 5: Coefficients

Model	Unstandardized coefficients B	Std. Error	Standardized coefficients Beta	t	Sig.
1 (Constant)	2.860	.291		9.814	.000
Assets Size	-9.682	.000	-1.574	-5.112	.000
Letter on Credit Fee	-1.667	.000	-.176	-.621	.539
Guarantee Income	-3.351	.000	-.104	-.652	.519
Remittance Fees	-3.776	.000	-.265	-1.426	.164
Service Charge	5.014	.000	.221	1.163	.253
Renewal Fees	5.693	.000	1.631	5.358	.000

Exchange Income	-6.023	.000	-.208	-1.692	.100
P/L on Sale of Assets	8.902	.000	.242	2.133	.041
Dividend Income	-5.111	.000	-.049	-.330	.743

a. Dependent Variable: Return on Assets

The established multiple linear regression equation becomes:

ROA= 2.860 -9.682 AS -1.667 LC -3.351GI -3.776 RM +5.014 SC +5.693 RF -6.023 EI+ 8.902 SOA -5.111 DI + e

The probability of an independent variable assets size is 0.000, less than 0.05. So, Assets Size is a significant independent variable for this regression model. The probability of independent variable Letter on credit fee is 0.539, more than 0.05. So, Letter on credit fee is not significant independent variable for this regression model. The probability of independent variable Guarantee income is 0.519, more than 0.05. So, Guarantee income is not a significant independent variable for this regression model. The probability of an independent variable Remittance fees is 0.164, more than 0.05. So, Remittance fee is not a significant independent variable for this regression model. The probability of an independent variable Service charge is 0.253, more than 0.05. So, Service charge is not a significant independent variable for this regression model. The probability of an independent variable Renewal fees is 0.000, less than 0.05. So, Renewal fee is a significant independent variable for this regression model. The probability of independent variable Exchange income is 0.100, more than 0.05. So, Exchange income is not significant independent variable for this regression model. The probability of independent variable P/L on Sale of Assets is 0.041, less than 0.05. So, P/L on Sale of Assets is a significant independent variable for this regression model. The probability of an independent variable Dividend income is 0.743, more than 0.05. So, Dividend income is not a significant independent variable for this regression model.

The F statistics is used as a test for the model goodness of fit, F=9.676, p value<0.05 shows that there is significant relationship between Assets Size, Letter of Credit Fee, Guarantee Income, Remittance Fee, Service Charge, Renewal Fee, Exchange Income, Profit/loss on Sale of Assets, Dividend Income and Return on Assets of Joint Venture Banks.

Regression analysis with Return on Equity

Regression analysis has been conducted in order to determinants on profitability in joint venture banks of Nepal. An assets size, letter of credit fee, guarantee income, remittance fee, service charge, renewal fee, exchange income, profit/loss on sale of assets, dividend income is used as an independent variable and Return on Equity is used as dependent variable. Regression result is presented as follows;

$$ROE = \beta_0+\beta_1 AS+\beta_2 LC+\beta_3 RM+\beta_4 SC+\beta_5 RF+\beta_6 EI+\beta_7 SOA+\beta_8 DI+\beta_9 GI+\grave{\varepsilon} \quad (2)$$

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.824[a]	.679	.589	2.61630

a. Predictors: (Constant), Dividend Income, Exchange Income, Remittance Fees, Guarantee Income, P/L on Sale of Assets, Assets Size, Service Charge, Letter on Credit Fee, Renewal Fees

Table 7: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1. Regression	463.045	9	51.449	7.516	.000[b]
Residual	219.040	32	6.845		
Total	682.085	41			

a. Dependent Variable: Return on Equity

b. Predictors: (Constant), Dividend Income, Exchange Income, Remittance Fees, Guarantee Income, P/L on Sale of Assets, Assets Size, Service Charge, Letter on Credit Fee, Renewal Fees

Table 8

Model	Unstandardized coefficients B	Std. Error	Standardized coefficients Beta	t	Sig.
1 (Constant)	26.776	2.429		11.024	.000
Assets Size	-8.457	.000	-1.803	-5.357	.000
Letter on Credit Fee	1.284	.000	.177	.574	.570
Guarantee Income	-7.977	.000	-.325	-1.864	.072
Remittance Fees	-4.965	.000	-.457	-2.249	.032
Service Charge	5.035	.000	.292	1.401	.171
Renewal Fees	4.490	.000	1.687	5.070	.000
Exchange Income	-9.871	.000	-.446	-3.327	.002
P/L on Sale of Assets	5.054	.000	.181	1.453	.156
Dividend Income	2.160	.000	-.027	.167	.868

a. Dependent Variable: Return on Equity

The established multiple linear regression equation becomes:

ROE= 26.776 -8.457 AS +1.284 LC -7.977 GI -4.965 RM +5.035 SC +4.490 RF -9.871 EI + 5.054 SOA +2.160 DI + e

The probability of an independent variable assets size is 0.000, less than 0.05. So, Assets Size is a significant independent variable for this regression model. The probability of independent variable Letter on credit fee is 0.570, more than 0.05. So, Letter on credit fee is not significant independent variable for this regression model. The probability of independent variable Guarantee income is 0.072, more than 0.05. So, Guarantee income is not a significant independent variable for this regression model. The probability of an independent variable Remittance fees is 0.032, less than 0.05. So, Remittance fee is a significant independent variable for this regression model. The probability of an independent variable Service charge is 0.171, more than 0.05. So, Service charge is not a significant independent variable for this regression model. The probability of an independent variable Renewal fees is 0.000, less than 0.05. So, Renewal fee is a significant independent variable for this regression model. The probability of independent variable Exchange income is 0.002, less than 0.05. So, Exchange income is significant independent variable for this regression model. The probability of independent variable P/L on Sale of Assets is 0.156, more than 0.05. So, P/L on Sale of Assets is a not significant independent variable for this regression model. The probability of an independent variable Dividend income is 0.868, more than 0.05. So, Dividend income is not a significant independent variable for this regression model.

The F statistics is used as a test for the model goodness of fit, F=7.516, p value<0.05 shows that there is significant relationship between Assets Size, Letter of Credit Fee, Guarantee Income, Remittance Fee, Service Charge, Renewal Fee, Exchange Income, Profit/loss on Sale of Assets, Dividend Income and Return on Assets of Joint Venture Banks.

Discussion

The present study also aims to examine Impact of Non-interest Income on financial performance of Joint venture Banks in Nepal. The dependent variables are Return on Assets Return on Equity. The independent variables are Assets Size, Letter of Credit Fee, Guarantee Income, Remittance Fee, Service Charge, Renewal Fee, Exchange Income, Profit/loss on Sale of Assets, Dividend Income. Descriptive statistic, correlation and regression analysis have been conducted for analysis of data.

According to the regression analysis, the study findings revealed that there is a negative significant effect of Assets Size on Return on Assets at 5 percent level of significance. This is consistent to Shah, Agarwal and Phuyal (2018) [39]. This shows that there is a positive significant effect of Renewal Fee and Profit/loss on Sale of Assets on Return on Assets at 5 percent level of significance. This is contradict to (Nepal, 2015). This shows that there is a positive insignificant effect of Service Charge on Return on Assets at 5 percent level of significance. This is consistent to Antao & Karnik (2022) [4]. This shows that there is a negative insignificant effect of Letter of Credit Fee, Guarantee Income, Remittance Fee, Exchange Income and Dividend Income on Return on Assets at 5 percent level of significance. This is contradict to Noor and Siddiqui (2019) [35].

This shows that there is a negative significant effect of Assets Size, Remittance Fee and Exchange Income on Return on Equity at 5 percent level of significance. This is contradict to Shah, Agarwal and Phuyal (2018) [39]. This shows that there is a positive significant effect of Renewal Fee on Return on Equity at 5 percent level of significance. This is consistent to Sun *et al*. (2017) [45]. This shows that there is a negative insignificant effect of Guarantee Income on Return on Equity at 5 percent level of significance. This is consistent to Antao & Karnik (2022) [4]. This shows that there is a positive insignificant effect of Letter of Credit Fee, Service Charge, Profit/loss on Sale of Assets, and Dividend Income on Return on Equity at 5 percent level of significance. This is consistent to Sang (2017).

Conclusion and Implication

The study findings revealed that there is a negative significant effect of Assets Size on Return on Assets and Return on Equity at five percent level of significance. This implies that as the size of assets held by Joint Venture Banks increases, there is a corresponding decrease in their ROA and ROE. This suggests potential challenges in efficiently managing larger asset bases, which may lead to reduced profitability ratios. Therefore, effective asset management strategies are crucial for maintaining optimal profitability as banks expand in size. This shows that there is a positive significant effect of Renewal Fee on Return on Assets and Return on Equity at five percent level of significance. This suggests that increased renewal activity positively influences the profitability and efficiency of Joint Venture Banks. This shows that there is a negative significant effect of Remittance Fee and Exchange Income on Return on Equity at five percent level of significance. This indicates that higher remittance fees and exchange income are associated with lower returns on equity for Joint Venture Banks. This shows that there is a positive significant effect of Profit/loss on Sale of Assets on Return on Assets at five percent level of significance. This suggests that an increase in profit or decrease in loss from the sale of assets positively impacts the return on assets for Joint Venture Banks. In order to examine the effect of these non-interest income variables on the indicators of financial performance that is return on assets and return on equity, it is found that not all variables have equal effect on the profitability as measure of financial performance. It is found that the variables like Assets Size and Renewal Fee has effect on both the return on assets and return on equity. Hence, the banks instead of focusing on all the other variables of non-interest income, they can scrutinize there area of focus on these variables more than the other as they have a significant relationship on the profitability. Hence these variables should not be ignored as they lead to increase in profit with minor risk than the interest income variables.

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