Impact of Interest Income and Joint Income from Commission, Fee, and Discount on Nepalese Commercial Banks' Net Profit

Arjun Kumar Dahal
Lecturer (Economics)
Mechi Multiple Campus, Bhadrapur, Jhapa, Nepal
Email: 1arjundahal@gmail.com/ arjun.dahal@memc.tu.edu.np

Abstract

The role of interest income and fee, commission, and discount income on the net profit of Nepalese commercial banks is investigated in this study. It also tries to find short- and long-term relationships between net profit and interest income, as well as income from fees, commissions, and discounts. The panel data of seven commercial banks are studied to look for correlations between dependent and independent variables from fiscal years 2010/11 to 2019/20. Panel unit root testing, Hausman specification test, fixed effect model, Pedroni (Engle-Granger based) co-integration test, Kao residual co-integration test, and Panel –fully modified least squares methods are used. The fixed-effect model can produce efficient outcomes, according to the Hausman test. The fixed-effect model reveals that interest income is significant in explaining commercial banks' net profit. The long-run connections between net profit and its two determinants, such as interest income and income from fee, commission, and discount income, have been discovered using both Pedroni and Kao's co-integration tests. Similarly, the fully modified least square (FMOLS) panel ensures long-term relationships between variables. Both independent factors have a substantial impact on the net profit of Nepalese commercial banks. Commercial banks' net profit is heavily reliant on the interest income from borrowers. The net profit of commercial banks in Nepal increases by 0.466 units for every unit rise in interest income. As a result, authorities must look for alternative ways to boost net profit since issues might arise if the central bank narrows the difference between the depositary and lending interest rates.

Keywords: Lending interest, Hausman test, estimators, fixed effect, balanced panel
JEL Classification: G21, E41, E59

Introduction

Commercial banks are financial institutions that take deposits from customers, provide checking account services, provide different loans, and provide individuals and small companies with essential financial products such as certificates of deposit and savings accounts. A commercial bank is a financial organization that accepts deposits from the general public and provides loans for profit-generating investments. Commercial banks are profit-seeking entities, as their names imply. Because they offer a wide range of financial goods to the general public, modern commercial banks are referred to as financial supermarkets. (Adhikari, et al., 2016).

The banking services have been shifted from traditional activities to non-traditional activities. The traditional role of commercial banks was to generate net interest income through two main activities named by the collection of deposits and issuing loans (Craigwell & Maxwell, 2005). But in modern times, commercial banks remit the money, speculate, and exchange foreign currency as directed by the central banks.

Commercial banks charge borrowers interest based on an agreement that includes value preservation, risk compensation, and profit, among other things. (Sheriff & Ampako, 2014).

Commercial banks can increase their profit margins through higher lending rates and lower deposit rates (Bhattarai, 2015). The payment of interest by the borrower to the moneylender is stated as a percentage rate each year. The return on capital as a component of production is referred to as interest. Interest, on the other hand, is the cost of capital. Capital is a resource that may be used to generate income. As a result, the borrower pays the moneylender interest for the use of capital's productive capability. Commercial banks provide interest to depositors and charge borrowers a high-interest rate. Commercial banks profit from the gap between these two interest rates. In this sense, commercial banks play a significant and fundamental role in economic growth because it is the primary device for directing funds from depositors to borrowers (Al-Qudah, 2021).

The commission may be introduced as the payment to the salesperson in exchange for facilitating or completing a sales transaction. It may be structured as a flat fee or as a percentage revenue, gross margin, or profit generated by the sales. 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. Net fees and commission income are critical elements of a bank's core income (Vozkova & Kuc, 2016).

A discount occurs when the price of a securities or bond is less than its fundamentals or inherent worth. A discount is a price decrease from the regular price. The price has been reduced. The discount is the difference between the higher per value and the lower issue price. When the stock was first issued, it represented the per-share value that investors were reluctant to pay. (Altunbas, et al., 2007).

Commercial banks' significant sources of income include interest, fees, commissions, and discounts. Commercial banks profit primarily from the difference between the depositary and lending interest. Net interest accounts for a large portion of their profit. Relying on interest from loans to make a profit might be problematic. A problem arises when the central bank reduces the difference between the depositary and lending interest (Coyne, 1973). Interest and non-interest revenue are the primary sources of profit for commercial banks. Diversification in non-interest operations can have a variety of effects on a bank's profitability. Other non-financial fees and commission revenue include granting bank guarantees, letters of credit, shipping guarantees, making import payments, recommending letters of credit, managing export paperwork and proceeds, and credit card fees, among other things. Other non-interest income includes fees for services provided by banks to their customers, such as locker facilities, issuing demand draughts, clearing cheques, gains from dealing in government securities and equity markets, gains from foreign exchange, and selling miscellaneous assets, as well as gains from trading in government securities and equity markets. (Niseret, al., 2018).

The purpose of this study is to see how interest income, fee commissions, and discount revenue affect Nepalese commercial banks' net profit. Its goal is to confirm the widely held belief that interest fees, commissions, and discount revenue positively impact Nepalese commercial banks' net profit. It tries to figure out if a well-known fact is actual or not. It emphasizes the importance of interest and income from fees, commissions, and discounts in evaluating a commercial bank's net profit in Nepal.

The following is how the rest of the article is organized: Section 2 summarizes the existing literature. The overall research approach is discussed in Section 3, the empirical findings are discussed in Section 4, and the study's conclusion and limitations are discussed in Section 5.

Literature Review

The bank's profitability was calculated using a cost-efficiency profit model. Postor et al. (2002), Mercia, et al. (2002), Macro and Peter (2006) took this technique. Interest margin and macroeconomic variables are utilized as input and output in the estimate procedure to determine bank profitability. Efficient structure theory, market power theory, balanced portfolio theory, and more ideas on bank profitability exist. According to Tregenna's market power thesis, the bank's performance is influenced by the industry's market structure (Trevena, 2009). Working efficiency of a bank produce profit, according to efficiency theory. The analysis of bank performance (net profit) is also aided by balanced portfolio theory. The investment policy of commercial banks is the result of a basic application of portfolio management theory to the unique conditions of commercial banks. Portfolio management is the process of prudently managing a bank's assets and obligations in order to achieve the best possible mix of revenue, profit, liquidity, and safety (Nzongang & Atemnkeng, 2006). A conceivable combination of obligations and assets that management and expenditures incurred by banks organize can generate a high yield.

Several studies have been conducted on the factors of commercial banks' net profit in various nations. The majority of the studies are concerned with analysing commercial banks' profits, identifying variables such as the number of credit cards issued, the number of automated teller machines (ATM), points of sale, return on assets (ROA), and so on. Some critical research kinds of literature are covered in this section.

Neupane (2020) observed that the net profit of the commercial bank is significantly affected by the net interest margin between the depositary and lending interest. He found that the net interest margin was influenced considerably by capital adequacy, an absolute number of branches, and the inflation rate.

Al-maqtari, et al. (2018) observed the determinants of profitability of Indian commercial banks based on balanced panel data from 2008 to 2017 for 69 commercial banks. Among other determinants of net profit of commercial banks, interest and commission Income have a long-run positive impact. Al-homaidi (2018) examined the profitability of Indian commercial banks based on three components like return on assets (ROA), return on equity (ROE), and net interest margin. It is found that interest income is the macroeconomic indicator to determine a commercial bank's profit.

Shah, et al. (2018) observed the impact of non-interest Income on the financial performance of joint venture banks in Nepal. It is observed that the non-interest income variables have a combined effect on the joint venture banks' financial performance. The impact of all variables has no equal implications for profitability.

In the context of turkey Anbar and Alper (2011) examined that the macroeconomic variable, the genuine interest has a positive effect on the performance of commercial banks. Carpraru & Ihnatov (2014) Concluded that the traditional source of net profit of commercial banks, i.e., interest income, has long run positive impact to increase the net profit of commercial banks in central and eastern European countries.

Teshome, Debela, et al. (2018) observed the financial performance of commercial banks of Ethiopia. They concluded that the Capital Adequacy ratio, credit interest income, and bank size positively impact commercial banks' financial performance. Serwadda (2018) observed the

determinants of commercial banks' profitability in Hungary. It was found that net interest margin (NIM) and capital adequacy ratio have no impact on bank profitability.

Nisar, Peng, et al. (2018) observed panel data from 200 commercial banks from all South Asian nations; this study examined the influence of income diversification on bank profitability and stability in South Asian countries. They discovered that diversifying overall revenue towards non-interest income had a beneficial impact on the profitability and stability of South Asian commercial banks. Non-interest income-generating activities have varying effects on bank performance and stability. While fee and commission revenue negatively influence South Asian commercial banks' profitability, other non-interest income is favourable. Yound and Roland (2001), Stiroh (2006), and De-jonghe (2010) examined that an increase in non-interest revenue hurts bank stability and net profit of commercial banks.

All of these studies are concerned with commercial banks' profitability and stability. Most research looked at the influence of non-tax revenue, net interest margin, returns on assets, and returns on equity on commercial bank profitability and stability. However, this study looks at the impact of interest and non-interest revenue, mainly derived through fees, commissions, and discounts. As a result, there is a significant research gap between prior studies and this one.

Materials and Method

Research Design

This paper is based on descriptive and exploratory research design. The panel data from the fiscal year 2010/11 to 2019/20 of seven commercial banks are analyzed to conclude. Among 27 commercial banks, seven are included in the study. They are Nepal bank Limited (NBL), Rastriya Banijya Bank Limited (RBB), Nepal Investment Bank (NIB), Nabil Bank Limited (NIBL), Nepal SBI Bank Limited (SBI), NIC Asia Bank Limited (NIC), and Siddhartha Bank Limited (SBL). The panel data analysis is used to observe the impact of interest income, fee commission, and discount income on the net profit of commercial banks of Nepal

Variables Specification

The commercial bank's net profit, interest income and fee, commission, and discount income are taken as variables under the study. Net profit of commercial banks is taken as the dependent variable, and interest income and the income derived from fee, commission, and discount are taken as the independent variable. This study is based on the annual secondary data collected from the various publications of Nepal Rastra Bank (NRB), the central bank of Nepal.

Model Specification

This study is based on the framework of Cobb- Douglas production function. The Cobb-Douglas production function depending on the assumption of two inputs, labour, and capital, is:

The Cobb- Douglas Production function, $Y_t = AK^{\alpha}L^{\beta}$ (1)

Where Y_t is actual output and L and K are inputs of labour and capital, respectively. A, α, and β are positive parameters where α > 0, β > 0. In the cobb-Douglas production function, α, and β are capital and labour output elasticities respectively. The sum of α and β is always one, α + β =1. These values are constants determined by available technology. The equation tells that output depends directly on L and K and that part of the output that L and K cannot explain is explained by A, the 'residual,' often called technical change. The higher the value of A, the higher the output is affected by another factor.

The net profit of commercial banks depends upon interest income, income from fees, commission, and discount income. In this sense,

$NP = f(INI, CFD)$ (2)

Where NP stands for the net profit of commercial banks, INI stands for interest income, and CFD means the commission, fee, and discount income. After converting variables in log form, equation two can be introduced as:

$$LNNP = f(LNINI, LNCFD) \qquad (3)$$

The model for panel data is used,

$$Y_{it} = \alpha + \beta X_{it} + u_{it} \qquad (4)$$

Where, i represents various entities included in the analysis, t= time period, Y_{it}= is dependent variables which is observed for all cross-sections (i= 1.2, 3,....n), over time t (t=1,2,3,.....n). X_{it} is the independent variable of variable entities over a time t, and μ_{it} is the error term. By introducing the variables of this research,

$$LNNP_{it} = \alpha + \beta_1 LNINIit + \beta_2 LNCFD_{it} + \mu_{it} \qquad (5)$$

$LNNP_{it}$ indicates the Net profit of selected commercial banks of Nepal over time t, $LNINI_{it}$ shows the interest income, and $LNCFD_{it}$ is the combined income obtained from fee, commission, and discount by the commercial banks of Nepal. The α stands for intercept, and β_1 and β_2 represent the coefficients of the corresponding variables, present the speed at which the dependent variable may adjust to long-run equilibrium (Athanasoglou, Brissimis, et al., 2008). Jansen and de Haan (2003) also use such an equation to check the efficiency of variables in determining the value of the dependent variable.

Presentation and Analysis

Panel Unit Root Testing

Unit root testing indicates the time series data are stationary or non-stationary. Unit root test is the test for determining whether the mean, variance, and covariance of time series are independent of time or not. Stationary tests allow identifying whether time-based data is static or not. The non-static data cannot give any conclusion. The outcomes of panel unit root testing are listed in table 1.

Table 1

Outcomes of Panel Unit Root Testing

Null hypothesis: Panel data have a unit root

Alternative hypothesis: Panel data has no unit root

Benchmark: Individual intercept

Methods	LNNP		LNCFD		LNINI	
	Level	First difference	level	First difference	level	First difference
Levin, Lin & chu	0.0002	0.000	0.577	0.004	0.679	0.000
Im, Pesaran, Shin w-stat	0.549	0.003	0.998	0.104	0.969	0.0156
ADF Fisher Chi-square	0.502	0.002	0.999	0.049	0.992	0.009
PP- Fisher Chi-square	0.669	0.000	0.999	0.003	1.000	0.645

Source: Authors calculation by using EViews11

The panel unit root test summary indicates that the panel data is stationary at first difference. Most panel unit root testing methods show that panel data of interest income, net profit, commission, fee, and discount income are stationary but non-stationary at level form after the first difference. The individual intercept is taken as a benchmark to decide stationary or non-stationary data. The data is stationary at first difference under the assumption of a particular intercept. So, we can use the data to predict or impact analysis among the concerned variables.

Hausman Specification Test

There are three methods of regression analysis in the case of panel data analysis. They are Pooled, regression model, fixed-effect model, and random effect model. The pooled method does not distinguish between the various commercial banks. In other words, seven commercial banks pooling deny the heterogeneity. It is not practical because all commercial banks have individuality; they are not the same in all aspects. The fixed effect method allows for heterogeneity or individuality among the seven commercial banks by having their intercept value. In the random effect model, common mean value for the intercept.

Hausman's test examines the efficiency and consistency of fixed effect and random effect estimators. A rejection of the null hypothesis (P>0.05) confirmed the efficiency and consistency of the random effect estimating model and accepting the alternative hypothesis (P<0.05) demonstrated the efficiency and consistency of the fixed-effect model. When the chi-square P-value is more significant than 0.05, we have to use the random effect model. Otherwise fixed effect model is appropriate. Table 2 presents the results of the Houseman test.

Table 2

Hausman Specification Test between Fixed Effect (FE) and Random Effect (RE) Estimators

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Null hypothesis: Random effect model is appropriate

Alternative hypothesis: Fixed effect model is appropriate

Test Summary		Chi-Sq. Statistic	Chi-Sq. df.	Prob.
Cross-section random		30748.89	2	0.00
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var.(Diff.)	Prob.
LNCFD	1.00	1.00	0.00	0.00
LNINI	-0.00	0.00	0.00	0.00

Source: Authors calculation by using EViews11

In table 2, the P-value of chi-square statistics is 0.00, which is less than 0.05. So, we can reject the null hypothesis of saying the random effect model is appropriate and accept the alternative hypothesis of saying the fixed effect model is suitable. In this sense, the fixed-effect model can provide efficient results. Achieving efficiency and consistency in data are necessary for possible indigeneity and auto-correlation effect related to the dynamic lag model (Blundell & Bond, 2001).

Fixed Effect Model

Hausman's specification test between fixed effect and random effect shows that the fixed effect method is appropriate. Econometrics suggest the fixed effect model can measure the impact or associations between dependent and independent variables. The results of the fixed effect model are presented in table 3.

Table 3

Results of Fixed Effect Model

Dependent Variable: LNNP

Method: Panel Least Squares

Sample: 2011 2020

Periods included: 10

Cross-sections included: 7

Total panel (balanced) observations: 70

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.108	1.657	0.065	0.948
LNCFD	0.168	0.152	1.104	0.273
LNINI	0.707	0.279	2.536	0.013
	Effects Specification			
Cross-section fixed (dummy variables)				
R- Square	0.643	Adjusted R- square		0.596
F-Statistic	13.71	Prob. (F-Statistic)		0.000
D.W. test	1.413			

Source: Authors calculation by using EViews11

The fixed-effect model has expected more efficient results in the analysis. The interest income (LNINI) is significant to explain the dependent variable (LNNP). The P-value is 0.014, which is less than 0.05. So, we can reject the null hypothesis of saying no significance. So, the net profit of commercial banks is determined by the interest income obtained from borrowers. The higher the interest income and interest rate margins, the higher the yield. Hiroyuki, (2009) also observed the same type of relationship between commercial banks' profitability in sub-Saharan Africa. As indicated by fixed effect estimators, the Income derived from the commission, fee, and discount is not significant to explain the net profit of Nepalese commercial banks in Nepal.

Panel Cointegration Test

The co-integration test is used whether the variables have a long-run association or not. Two co-integration methods are used named by Pedroni and Kao method to check the long-run association between the variables.

Pedroni (Engle-Granger based) Co-integration Test

The Pedroni (Engle-Granger Based) co-integrating test examines the residuals of a spurious regression performed using I(1) variables. If the variables are co-integrated, then the residuals should be I(0). In other words, if the variables are not co-integrated, then the residuals will be I(1) (Padroni, 1999). This method has three deterministic trend specifications. The outcomes of all three deterministic trend specifications are listed in table 4.

Table 4
Outcomes of Pedroni (Engle-Granger Based) Co-integration Test
Series: LNNP LNCFD LNINI
Included observation: 70
Null hypothesis: No co-integration
Individual intercept

Method	Statistic	P-value	Weighted Statistic	P-value
Panel v-statistic	0.677	0.249	-0.767	0.779
Panel rho-statistics	-0.299	0.382	0.158	0.563
Panel PP- statistics	-3.312	0.0005	-4.241	0.000
Panel ADF statistics	-3.271	0.0005	-3.516	0.0002
Group rho-statistics	1.117	0.868	-	-
Group PP- statistics	-6.638	0.000	-	-
Group ADF- statistics	5.342	0.000	-	-

Individual intercept and individual trend

Method	Statistic	P -value	Weighted Statistic	P-value
Panel v-statistic	-1.090	0.862	-2.043	0.979
Panel rho-statistics	1.137	0.872	1.179	0.881
Panel PP- statistics	-2.514	0.006	-7.954	0.000
Panel ADF statistics	-2.454	0.007	-5.128	0.000
Group rho-statistics	2.160	0.985	-	-
Group PP- statistics	-7.530	0.000	-	-
Group ADF- statistics	-4.641	0.000	-	-

No Intercept and trend

Method	Statistic	P -value	Weighted Statistic	P-value
Panel v-statistic	1.185	0.188	-0.215	0.585
Panel rho-statistics	-1.384	0.083	-0.285	0.388
Panel PP- statistics	-3.764	0.0001	-2.159	0.015
Panel ADF statistics	-3.578	0.0002	-1.219	0.111
Group rho-statistics	1.175	0.879	-	-
Group PP- statistics	-3.402	0.003	-	-
Group ADF- statistics	-1.089	0.138	-	-

Source: Authors calculation by using EViews11

In each deterministic trend specification, there are seven methods of panel co-integration analysis such as Panel v-statistic, Panel rho-statistics, Panel PP- statistics, Panel ADF statistics, Group rho-statistics, Group PP- statistics, and Group ADF- statistics. The P-value must be less than 0.05 to reject the null hypothesis or to accept the alternative hypothesis. In individual intercept trend. Specification of Pedroni (Eagle-Granger Based) mode, there are eleven P-values. Among the 11 P-values, six are significant. The majority result rejects the null hypothesis of saying no co-integration among the variables. So we can accept the alternative hypothesis of saying variables are co-integrated.

In individual intercept and individual trend specification, Six P-values among 11 are significant. So majority result indicates that variables are co-integrated to each other. But in no intercept and trend specification of Pedroni (Eagle-Granger Based) model, only four are significant out of 11 p-values. So the majority of results accept the null hypothesis of saying no co-integration among the variables and reject the null hypothesis. From this, it is concluded that variables are not co-integrated.

Among three determinants trend specification of Pedroni (Eagle-Granger Based) method of co-integration analysis, two techniques indicate that variables are Co-integrated, i.e., they have long-run associations. But one suggests there is no co-integration among the variables. The majority of deterministic trend specifications indicate the long-run association ship between concerned variables. So, the net profit of the commercial bank, interest income, and the Income derived from fee, commission, and discounts are co-integrated, and they have a long-run relationship.

Kao Residual Co-integration Test

The Kao test follows the same basic approach as the Pedroni test but specifies cross-section-specific intercepts and homogeneous coefficients on the first stage regressors (Bakucs & Ferto, 2011). The Kao residual co-integration test indicates that the dependent and independent variables are co-integrated. The P-value is 0.000, which is less than the 0.05 or 5% level of significance. The P-value is less than 0.005 ($P<0.05$), so we can reject the null hypothesis of saying no co-integration and accept the alternative hypothesis that variables are Co-integrated. The outcomes of the Kao residual co-integration test are presented in table 5.

Table 5

Outcomes of Kao Residual Panel Co-integration Test.

Kao Residual Co-integration Test

Series: LNNP LNCFD LNINI

Sample: 2011 2020

Included observations: 70

Null Hypothesis: No co-integration

Trend assumption: No deterministic trend

	t-Statistic	Prob.
ADF	-3.216478	0.0006
Residual variance	0.355973	
HAC variance	0.332660	

Source: Authors calculation by using EViews11

From the Pedroni (Eagle-Granger Based) method and Kao residual Co-integration on the test, it is concluded that variables like net profit, interest income, and Income from the commission, fee, and discount are co-integrated, i.e., they moored together so, we can run the fully modified panel, fully modified least squares (FMLOS) model.

Panel Fully Modified Least Squares (FMOLS) Method

Panel fully modified least square (FMOLS) method shows the long-run influence and impact on independent variables. There are three variables: net profit, interest income, and commission, fee, and discount. The coefficients of the FMLOS model show the long-run coefficients of variables. The outcomes of the long-run model are presented in table 6.

According to table 6, the probability value of net profit, i.e., LNNP is 0.00, less than 0.05. So interest income obtained from the borrower is significant to explain the net profit of commercial banks of Nepal. The long-run coefficient is 0.466. It means one unit increase in interest income, and 0.466 units increase net profit. The joint income derived from the commission, fees, and discount is also significant to influence net profit. One unit increase in revenue from commission, fee, and the discount increases net profit by 0.526 units. Both independent variables like interest income and income received from the commission, fees, and discount individually have a long-run positive impact on the net profit of commercial banks of Nepal because coefficients are positive. Both independent variables are individually significant to determine the net profit of commercial banks of Nepal.

Table 6
Outcomes of Panel Fully Modified Least Square (FMOLS) Method
Dependent Variable: LNNP
Method: Panel Fully Modified Least Squares (FMOLS)
Sample (adjusted): 2012 2020
Periods included: 9
Cross-sections included: 7
Total panel (balanced) observations: 63
Panel method: Grouped estimation
Long-run covariance estimates (Bartlett kernel, Newey-West fixed
                bandwidth)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNINI	0.466	0.069	6.671	0.00
LNCFD	0.526	0.099	5.309	0.00
R-squared	0.432			
Adjusted R-squared	0.423			
Long-run variance	0.088			

Source: Authors calculation by using EViews11

Conclusions and Policy Implications

This research is conducted to examine the impact of interest income obtained from its clients and Income obtained from commission, fee, and discount in determining the net profit of commercial banks in Nepal. The Hausman test indicates the validity of the fixed-effect model to test the influence of different independent variables on dependent variables. It means heterogeneity can be found in commercial banks in Nepal. The net profit of commercial banks, interest obtained from its borrowers, and the Income derived from commission, fee, and discount are co-integrated, and they have a long-run relationship. This result is supported by both Pedroni (Eagle Granger Based) and Kao residual co-integration test of co-integration. In the long run, both independent variables, like interest income (LNINI) and Income from the commission, fee, and discount (LNCFD) individually significant to determine the net profit of commercial banks in Nepal. They have a long-run positive impact on the net profit of commercial banks**.**

The interest revenue heavily impacts the profit of a commercial bank it receives from its borrowers. The net profit of commercial banks in Nepal increases by 0.466 units for every unit rise in interest income. High reliance on interest revenue may become a concern when the central bank closes the difference between the depositary and lending interest rates. So, concerned authorities are advised to look for and highlight another source of revenue to boost net profit.

This study is based on yearly secondary data from Nepal's seven commercial banks for ten years, from 2010/11 to 2019/20. The analysis of seven commercial banks is considered to yield a typical outcome. As a result, further study is required, including more commercial banks, independent variables, instruments, and techniques.

References

Adhikari, R., Dahal, A. K., Ghimire, B., Subedi, J. K., & Budathoki, B., B. (2016). *Economics*. Kathmandu: Welcome Publication Pvt Ltd.

Al-homaidi, E. A. (2018). Bank-specific and macro-economic determinants of profitability of Indian commercial banks: A panel data approach. *Cogent Economics & Finance*, 6(1), 1–26. https://doi.org/10.1080/23322039.2018.1548072

Al-Qudah, A. (2021). The determinants of lending interest rates of Jordanian listed commercial banks. *Accounting*, 7(4), 719-726.
DOI: 10.5267/j.ac.2021.2.013

Almaqtari, F., Al-Homaidi, E.A., Tabash, M., & Farhan, N. (2018). The determinants of profitability of Indian commercial banks: A panel data approach. *International Journal of Finance & Economics*. 24(1).
https://doi.org/10.1002/ijfe.1655

Anbar, A., & Alper, D. (2011). Bank specific and macroeconomic determinants of commercial bank profitability: Empirical evidence from Turkey. *Business and economics research journal,* 2(2), 139-152.

Altunbas, Y., Carbo, S., Gardener, E. P. M., & Molyneux, P. (2007). Examining the relationships between capital, risk, and efficiency in European banking. *European Financial Management, 13*(1), Pp. 49–70. http://dx.doi.org/10.1111/j.1468-036X.2006.00285.x

Athanasoglou, P.P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability, *Journal of International Financial Markets, Institutions, and Money,* 18(2), 121-136, https://doi.org/10.1016/j.intfin.2006.07.001.

Bakucs, Z., & Ferto, I. (2011). Innovation and output in OECD countries: Implications upon emerging economies. *International Journal of Innovation and Learning.*
DOI: 9. 388 - 400. 10.1504/IJIL.2011.040537.

Bhattarai, V. R. (2015). Determinants of lending interest rates of Nepalese commercial banks. *Economic Journal of Development Issues*, 20(2), 39-59

Blundell, R., & Bond, S. (2000). Initial conditions and moment restrictions in dynamic panel's data model. *Journal of Econometrics, 87*, 115–143.
http://dx.doi.org/10.1016/S0304-4076(98)00009-8

Capraru, B., & Ihnatov, I. (2014). Banks' profitability in selected Central and Eastern European countries. *Procedia Economics and Finance,* 16, 587-591.

Coyne, T. J. (1973). Commercial Bank Profitability by Function. *Financial Management*, *2*(1), Pp. 64–73. https://doi.org/10.2307/3665102

Craigwell, R., & Maxwell, C. (2005).Non-interest Income and financial performance at commercial banks in Barbados. Seminar paper presented on 26th Annual Review Seminar to Research Department, Central Bank of Barbados.

De Jonghe, O. (2010). Back to the basics in banking? A micro-analysis of banking system stability. *Journal of Financial Intermediation* 19(2), 387–417.
https://doi.org/10.1016/j.jfi.2009.04.001

Hiroyuki, K. (2009). The efficiency of commercial banks in Sub-Saharan Africa: A comparative analysis of domestic and foreign banks. Asian Development Bank Institute, Tokyo, Japan.

Jansen, D. J., & de Haan, J. (2003). Increasing concentration in European Banking: a macro-level analysis. Research Memorandum WO no. 743, SSRN Electron J. https://doi.org/10.2139/ssrn.518422

Marco, K., & Peter, Z. (2006). Bank consolidation and bank efficiency in Europe. University of Ljubjana, Faculty of Economics, Ljubljana, Slovenia.

Maudos, J., Pastor, J., Perez, F., & Quesada, J. (2002). Cost and profit efficiency in European banks. *Journal of Financial Markets, Institutions and Money, 12*(1), 33–58. http://dx.doi.org/10.1016/S1042-4431(01)00051-8

Mercia, M. C., Evren, O., & Hassan, T. (2002). Bank performance around the introduction of subsidiary banks in the US. *Journal of Banking and Finance, 17*, 389–40.

Neupane, B. (2020). Profitability determinants of Nepalese commercial banks. *Press academia*. 12(1). DOI:10.17261/Pressacademia.2020.1345

Nisar, S., Peng, K., Wang, S., & Ashraf, B. (2018). The Impact of Revenue Diversification on Bank Profitability and Stability: Empirical Evidence from South Asian Countries. *International Journal of Financial Studies*, *6*(2), 40.

DOI: 10.3390/ijfs6020040

Nzongang, J., Atemkeng, T. (2006). Market Structure and Profitability Performance in the Banking Industry of CFA Countries: The Case of Commercial Banks in Cameroon. *Journal of Sustainable Development in Africa.*

http://jsd-africa.com

Pedroni, P. (1999). Critical Values for Co-integration Tests in Heterogeneous Panels with Multiple Regressors. *Oxford Bulletin of Economics and Statistics*, 61(51), https://doi.org/10.1111/1468-0084.0610s1653

Serwadda, I. (2018). Determinants of Commercial Banks' Profitability. Evidence from Hungary. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. 66(5), 1325-1335. DOI: 10.11118/actaun201866051325.

Shah, A. K., Agrawal, N., & Phuyal, R. K. (2018). Impact on non-interest income on the financial performance of joint venture banks in Nepal. *Journal of business and social sciences research,* 3(2), 107-124

Sheriff, I. M. & Amoako, G. K. (2014). Macroeconomic Determinants of Interest Rate Spread in Ghana: Evidence from ARDL Modeling Approach. *Journal of Finance and Bank Management*, 2(2), 115-132.

Stiroh, K. J. (2006). A portfolio view of banking with interest and non-interest activities. *Journal of Money, Credit and Banking* 38: Pp. 1351–62. https://doi.org/10.1353/mcb.2006.0075

Teshome, E., Debela, K. & Sultan, M. (2018). Determinant of financial performance of commercial banks in Ethiopia: Special emphasis on private commercial banks. *African Journal of Business Management*, 12(1), 1-10.

Tregenna, F. (2009). The Fat Years: The Structure and Profitability of the Us Banking Sector in the Pre-Crisis Period. *Cambridge Journal of Economics*. 33(4), 609-632. DOI:10.1093/cje/bep025.

Vozková, K., & Kuc, M. (2016). Net Fee and Commission Income Determinants of European Cooperative Banks. *World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering, 10*, 3919-3924.

Young, R. D., & Roland, K.P. (2001). Product Mix and Earnings Volatility at Commercial Banks: Evidence from a Degree of Total Leverage Model, *Journal of Financial Intermediation*, Volume 10(1), Pp. 54-84. https://doi.org/10.1006/jfin.2000.0305.