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Original Article

Credit Portfolio Management and Profitability of Joint Venture Commercial Banks of Nepal

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Abstract *- The paper shows the evidence of credit portfolio management and its relationship with banks' financial performance. Monthly financial reports of 7 joint venture commercial banks were used to analyze by comparing sector-wise portfolio management of bank's loan and its relationship with return on assets. Descriptive and fixed effect regression was used to analyze the panel data. It reveals that all the sectors have an impact on banks' financial performance except consumption & others.*

Keywords *- Credit Portfolio, Joint Ventures, Commercial Bank*

I. INTRODUCTION

It's called relationship lending for a reason: once a bank and its customer tied the knot, the two were bound together for better or worse, richer or poorer, in sickness and in health. The bank would extend credit when others might not; the client would display loyalty in turn, offering its lender other lucrative roles (Risk.net, 2018). Lending is considered as one of the foremost elements of business banks not just due to their social commitment to take into account the credit needs of various segments of the network yet in addition because of the most productive movement of the money-related organization. Subsequent to having a segment of stores in the money hold exceedingly liquid resources, an investor needs to send the rest of the assets in productive outlets, so s/he might have the capacity to pay interest on deposit, pay to the staff, meets other established costs, developed reserves and to pay profit to the investors. That is the reason bank advances represent a noteworthy bit of the remaining assets of a commercial bank.

Globally, more than 50% of total risk elements in Banks and Financial Institutions (BFI) are credit risk alone. Thus managing credit risk for efficient management of a BFI has gradually become the most crucial task. Credit risk management encompasses identification, measurement, matching mitigations, monitoring, and control of the credit risk exposures (Lalon, 2015). Credit portfolio management deals with the evaluation of each portfolio at periodic intervals to judge the quality of assets held in the portfolio and protect them from losing values through appropriate corrective action in time. For managing the credit portfolio, banks may divide their total credit assets into different portfolios or sub-portfolios (Hamidovich, 2016).

Portfolio management of any banking institution involves both liabilities and asset management. Estimating deposit and loan liabilities need in the most efficient manner is the central point of portfolio management in a bank. Through portfolio management of banks in Bangladesh, considered by a number of factors, the recent introduction of financial sector reform measures has injected an element of dynamism and necessitated the need for diversification of credit in the portfolio management of banks (Afroz, 2013).

A credit portfolio is an investment portfolio comprised of debts, like home and car loans. Private investors can build credit portfolios, but more commonly, they are held by banks and other financial institutions (McMahon, 2018). Credit portfolio management refers to the process of building a series of investments based upon credit relationships and managing the risks involved with these investments. Such a portfolio gains its value from the interest from issued loans but is susceptible to a credit default. For that reason, credit portfolio management includes assessing the risk involved with each potential loan and analyzing the total amount of risk the portfolio incurs as a whole. The process is crucial to individual investors who deal in bonds and to banks who issue loans as a major part of doing business (Wisegeek, 2018).

Efficient and cost-effective ways to enter foreign markets that allow companies to share risks and exploit synergies with partner companies continue to drive businesses toward international joint ventures (IJVs). IJVs can provide access to unique business opportunities and new geographic markets that may not otherwise be available, especially to smaller and medium-sized businesses. Companies considering embarking on an international joint venture, however, should be aware of the limitations and risks inherent in the endeavor, and they should take advantage of some of the painful lessons learned over the years. IJVs present tremendous opportunities; however, careful planning, a thoughtful structure, and a willingness to remain flexible during the life of the venture are critical to increasing the chances of success (Stewart & Maughn, 2011). In Nepal, Nepal Arab Bank Limited (Currently named Nabil Bank Ltd) was the first joint venture bank (JVB) which was established in 2041 B.S. under the Commercial Bank Act 2031 and the Companies Act 2021. Its Joint Ventures partner was Emirates Bank International Limited, Deirm, and Dubai.

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Including Nabil Bank Limited, 7 joint venture banks are operating in the present market of Nepal.

History shows that the major cause of a bank's failure is a lack of proper credit risk management. Credit risk comes from a bank's dealing with individuals, corporate, BFIs, or a sovereign. It does not necessarily occur in isolation. The same source that compromises credit risk for the bank may also expose it to other risks like operation risk, market risk, liquidity risk, etc. A bad portfolio may attract liquidity problems. The soundness and safety of banks are determined by effective credit risk management adopted by the bank. Credit risk has been the headline for the last few years in Nepal. Many BFIs have been failed due to the credit risk. Nepal Development Bank Limited, Samjhana Finance Limited, United Bikash Bank Limited, and Himalayan Finance Limited have been liquidated due to huge non-performing loans. Still, there are 11 problematic BFIs as of mid-July 2016 due to credit problems (Malla, 2017).

Under the productive-sector lending program, 20 percent, 15 percent, and 10 percent have to be lent out of the total loan portfolio by commercial banks, development banks, and finance companies, respectively. Out of this, commercial banks have to lend a minimum of 15 percent to agriculture and energy. Direct lending on productive sectors practice is what the country requires today. The main objectives of direct lending to the potential borrowers or, say, entrepreneurs are to uplift their standards of living and reduce their poverty level (Giri, 2018).

It is important to evaluate the credit risk level of every borrower as well as the portfolio level of the banks. A variety of credit risk measurement tools and techniques exist in the literature. The most common techniques are the matrix method, internal rating approach, standard approach, best judgment model, the causal model, value at risk, linear probability model, and linear discriminate model are grouped and discussed. These tools are differently used by the banks on the basis of credit culture and the credit philosophy. Hence, the practice of risk management was significantly different in private sector banks and joint-venture banks in Nepal (Kattel, 2016).

According to SSekiziyivu, Mwesigwa, Joseph, & Nabeta (2017), " The importance of risk management as the most significant determinant of loan portfolio performance of Micro Finance Institutes(MFIs) in Kampala City and Wakiso district, it is imperative for all the policymakers of the policy-makers of the MFIs in this region to give it a priority and the weight it deserves. Similarly, the credit allocation is of paramount importance in achieving loan portfolio performance, and this can be realized through analyzing collateral requirements, the amount applied for as well as amount approved."

Malla (2017) had studied 6 Nepalese Commercial Banks and found that selected commercial banks have managed their loan portfolio as per the standard parameter of Nepal Rastra Bank (NRB) directives 2073; however, 96.41% of bank's lending is on a collateral basis which indicates that banks are conservative in lending. He suggested that Nepalese banks should increase their lending on priority sectors and other various types of project-based lending to contribute to the development of the country.

The major concern of risk management in banks today is managing credit risk, and for better credit risk management, loan portfolio management is crucial. The bank's credit portfolio management can be determined by its credit operation. This study focuses on illustrating the status of loan portfolio management and techniques adopted by Joint Venture Commercial banks of Nepal. The present study focused on assessing sector-wise loan portfolio management of Joint Venture banks of Nepal in the year 2018-19 and examining the relationship between the sector-wise loan portfolio and profitability of the banks.

II. THEORETICAL FRAMEWORK

The loan portfolio management of the banks has been measured under the following standard parameters prescribed by NRB directive 2018-19: Real estate loan $\leq$ 25% of the total loan, Deprived sector loan $\geq$ 4.5% of the total loan, Non-performing loan $\leq$ 5% of the total loan and Sector-wise loan portfolio $\leq$ 40% of the total loan.

Banks and Financial Institutions need to report to the central bank on various timely bases regarding their investment portfolio, such as report no. 9.3 (sector-wise), 9.3ka (product-wise) and 9.4 (collateral-wise) as on a monthly basis, 2.1 (Classifications of Loans), 2.2 (Loan master list and its provisioning categorization) and 9.12 (Categorization of provision sector-wise) as on a quarterly basis, which is being clearly quoted on Directives No.: 9 (BFIRD, 2074).

In this study, credit portfolio management is linked with Return on Assets. It reflects how well the management is utilizing the bank’s real investment resources to generate profit. Thus, it shows how efficient and profitable a bank's management is on the basis of its total asset. For banks with similar risk profiles, ROA is a useful static for comparing bank profitability as it avoids distortions produced by differences in financial leverage (Bhattarai, 2014)

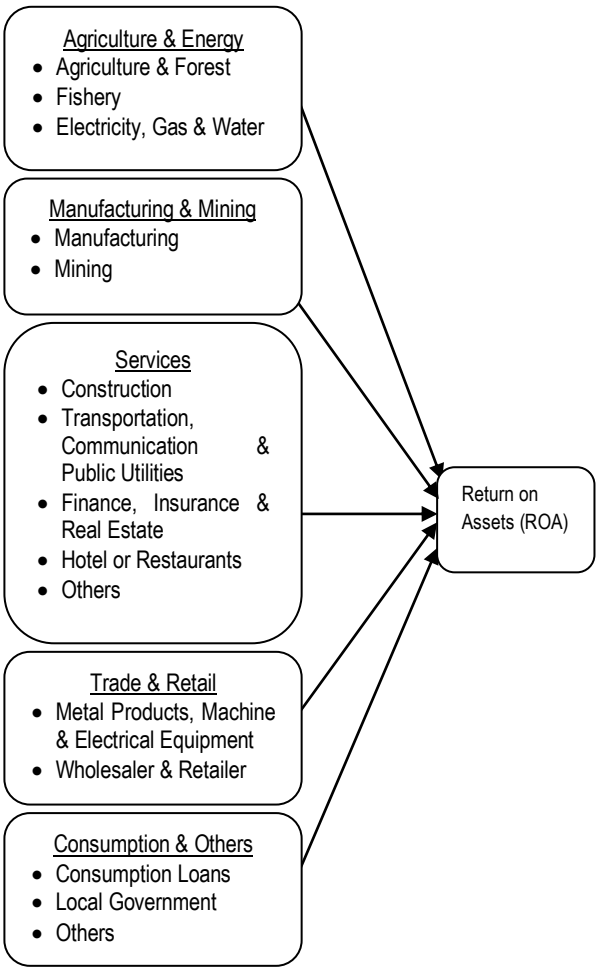

Fig. 1 Categorization of provision sector-wise & its Relationship with Return on Assets

III. RESEARCH METHODOLOGY

Currently, 28 commercial banks are operating in Nepal, including seven jobs. As a sample, all JVBs [NABIL Bank Ltd (NABIL), Nepal Investment Bank Ltd (NIBL), Standard Chartered Bank Nepal Ltd (SCBL), Himalayan Bank Ltd (HBL), Nepal SBI Bank Ltd (NSBI), Nepal Bangladesh Bank Ltd (NBB) and Everest Bank Ltd (EBL)] are integrated for the study as it focuses on the JVBs' of Nepal.

In order to find if the JVBs have been maintaining NRB directives and study their performance of profitability in the recent period, the data utilized for the analysis is being extracted from the official website of NRB and the concerned banks. The findings are explained by examining the monthly financial report from Shrawan 2074(Mid-July2017) to Ashad 2075(Mid-June 2018), which is the secondary source of this report. The reason behind choosing the fiscal year 2074/75 is to include the analysis for the concentration of credit portfolio in various sectors and its relationship with the profitability of banks of the whole fiscal year. As the data are from the pooling of cross-sectional and time series, thus it seems sufficient to generate data for the analysis. This study has adopted a descriptive research design. Likewise, the data and information relevant for this study have been obtained from various sources such as journal articles, books, websites, etc.

The two-dimensional balanced panel data gathered was analyzed with the help of E-views 10 SV. Similarly, the Estimated Pooled OLS equation was written in a form similar to the simple regression equation as the panel data contain observations of multiple phenomena obtained over multiple months of the year 2074/75 for the same banks (Wooldridge, 2012). The estimated Pooled OLS regression of Sector-wise loan & Return on Assets is written as follows:

$$\hat{Y}_{it} = \beta_0 + \beta_1 \text{Log}(X_{1it}) + \beta_2 \text{Log}(X_{2it}) + \beta_3 \text{Log}(X_{3it}) + \beta_4 \text{Log}(X_{4it}) + \beta_5 \text{Log}(X_{5it}) + \mu_{it}$$

$\hat{Y}_{it}$ = Return on Assets of the bank i in the month of year 2018/19
i = Individual Bank (NABIL, NIBL, SCBL, HBL, NSBI, NBB, EBL)
j = Month of the year (July to June)
β_t = Intercept term
X_{1it} = Loan Amount of Agriculture & Energy Sector of the bank I in the month t (in NRs millions)
X_{2it} = Loan Amount of Manufacturing & Mining Sector of the bank I in the month t (in NRs millions)
X_{3it} = Loan Amount of Service Sector of the bank I in the month t (in NRs millions)
X_{4it} = Loan Amount of Trade & Retailer Sector of the bank I in the month t (in NRs millions)
X_{5it} = Loan Amount of Consumption and others of the bank I in the month t (in NRs millions)
μ_{it} = Error term

Likewise, to interpret the qualitative result, the information obtained from the quantitative analysis is contrasted with the provision directed by the NRB directive.

IV. RESULTS AND CONCLUSION

Descriptive statistics pooled regression analysis, and panel data analysis were also carried out to test the various hypotheses set for this study. Results of the various tests are discussed below.

Table 1. Concentration on Sector-wise Loan of JVBs (in %)

Sector	All	NABIL	NABIL	SCBL	HBL	NSBI	NBB	ED
Agriculture & Energy	6.67	6.42	9.68	5.52	5.99	4.58	4.42	6.99
Manufacturing & Mining	25.58	30.43	28.88	18.91	33.72	24.78	16.80	15.77
Service	26.85	12.79	31.81	27.90	30.33	15.42	46.90	33.00
Trade & Retailer	25.88	28.48	21.77	33.81	21.26	30.62	19.84	27.62
Consumption & Others	15.02	21.88	7.86	13.86	8.70	24.60	12.04	16.62

The average exposure of 6.67% of the total loan is invested in the agricultural & energy sector where NIBL has the highest coverage of 9.68% and gradually EBL (6.99%), NABIL (6.42%), HBL (5.99%)), SCBL (5.52%), NSBI (4.58%) and NBB (4.42%) comes on the list.

Likewise, in manufacturing & mining sector, HBL leads the way with 33.72% followed by NABIL (30.43%), NIBL (28.88%), NSBI (24.78%), SCBL (18.91%), NBB (16.80%) and EBL (15.77%). Nepal JVBs have maintained an average of 25.58 % of the loan in the manufacturing & mining sector.

The foremost JVB of Nepal in service sector loan exposure is NBB with 46.90%. Continuing the position, EBL (33.00%), NIBL (31.81%), HBL (30.33%), SCBL (27.90%), NSBI (15.42%) and NABIL (12.79%) makes their way on the list. This sector secures 26.85% in the overall average.

For the trade & retailer sector, JVBs of Nepal have separated 25.88% on average, and SCBL is the highest loan exposing bank in this sector by 33.81%, and the least loan exposing bank is NBB (12.04%).

In consumption & other sectors, NSBI has diversified its loan at the highest by 24.60%. NABIL follows the list by 21.88%, EBL by 16.62%, SCBL by 13.86%, NBB by 12.04%, HBL by 8.70%, and NIBL by 7.86%. The average loan exposure of JVBs in consumption & other sectors is 15.02%.

Being a developing country, the government has highly focused its development in the agriculture, energy, and tourism sector where prior growth is required. In order to maintain the sustainable development of this prior sector, NRB has instructed all its affiliated BFIs through its directives. However, it is clear from the above findings that only 6.67% of the total loan is contributed to the agriculture & energy sector by the JVBs of Nepal in the year 2074/75. From the data above, Nepalese JVBs have well-managed sector-wise loan portfolios to manage credit risk. Due to low concentration in a single product, the portfolio risk is found below.

Table 2. Relationship between Sector-wise Credit Portfolio Management and Profitability

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-107.2367	10.5658	-10.1494	0.0000
LOG(X1)	1.2525	0.4823	2.5968	0.0114
LOG(X2)	2.4241	0.5613	4.3186	0.0000
LOG(X3)	4.4325	1.4652	3.0251	0.0034
LOG(X4)	2.3669	0.7885	3.0016	0.0037
LOG(X5)	0.7892	0.6576	1.2000	0.2340
Effects Specification Cross-section fixed (Dummy Variables)				
R-squared	0.8561	Mean Dependent Var.	1.0166	
Adjusted R-squared	0.8341	S.D. Dependent Var.	0.7181	
S.E. of Regression	0.2925	Sum squared resid.	6.1590	
F-statistic	38.9383	Durbin-Watson statistic	1.6086	
Probability (F-statistic)	0.0000			

From the results of the pooled regression analysis exhibited in table 2, all the variables except consumption and other sectors are assumed to have a positive relationship with bank profitability. The result shows that agriculture & energy, manufacturing & mining, service, and trade sectors have a positive coefficient and are statistically significant at a 5 percent level of significance. The result shows that sector-wise portfolio management influences the profitability of Nepalese joint-venture banks. The result of the F-statistic on Table 1 signifies that both models are statistically significant at a 5% level of significance with the corresponding probability value 0.0000 for Return on Assets.

Using a fixed-effect model, the R-square shows how well the regression model fits the data. The higher the R-

squared, the closer the estimated regression fits the data. The result in Table 2 implies that 85.61% of the variation in net income is explained by the explanatory variables. The Adjusted R-square is listed in Table 2, indicating a 0.8341 for Return on Assets.

Table 3. Result of Panel Data Analysis on Return on Assets (Redundant Fixed Effects Test)

Effects Test	Statistic	d.f.	Probability
Cross Section F	44.5826	(6,72)	0.0000
Cross Section Chi-square	130.2668	6	0.0000

Redundant Fixed Effects test is carried out to choose between fixed effect model and random effect model. Since both the calculated p-value of the F-test and Chi-square test is 0.0000, which is less than 0.05, it implies that a fixed effect model is a better model compared to the random effect model. The fixed-effect model allows for heterogeneity or individuality among the seven banks by allowing each of the banks to have its own intercept value.

V. CONCLUSION

The study concludes that the JVBs of Nepal have managed their portfolio as per the standard parameter allocated by Nepal Rastra Bank (NRB) directives. The highest portion of the loan in JVBs is invested in the service sector and lowest in the agriculture & mining sector. Similarly, the profitability of banks has a positive relation to all the sectors except consumption & another sector. Defining the sector-wise portfolio management provides a good framework to maintain the sustainability of banks.

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