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EFFECT OF BANK SPECIFIC FACTORS ON BANK LOAN PERFORMANCE IN NEPAL

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ABSTRACT: *This study examines the effect of bank specific factors on loan performance of commercial banks in Nepal. Bank size, capital, deposit, liquidity ratio and lending interest rate are taken as bank specific factors. The study has conducted correlation and regression analysis using panel data of twenty four commercial banks during the period of 1996 -2017. The empirical results show that bank size, capital and deposit have positive impact on bank lending. Hence, commercial bank willing to increase lending should increase its capital, even more than regulatory standard. Further banks willing to lend more should expand their total assets and deposit. Liquidity ratio and interest rate have negative impact on bank lending. Thus, commercial banks willing to increase bank lending, should be careful in maintaining minimum liquidity requirement and interest rate fluctuation. Central bank willing to increase bank lending to productive sector should encourage banks to decline their lending interest rate.*

KeyWords: Bank Lending, Capital, Size, Deposit, Liquidity Ratio, Interest Rate, Regression

JEL Classification: G21, C33

INTRODUCTION

Bank credit is the key to economic growth. Adedoyin and Sobodun (1991) argued that lending is unquestionably the heart of banking business. Therefore, its administration needs substantial skill and agility on the part of the bank management. Bank loans are one of the most important long-term financing sources in many countries (Freixas and Rochet, 2008). As banks are responsible to pay interest on deposits, it should of course earn handsome earnings by lending it in various sectors of the economy. In this sense, while lending with the objectives of generating appropriate, sustainable profit, maintaining liquidity and ensuring safety, banks require a high degree of practical policy formulation and application.

The major function of commercial banks is to provide credit. Loan and advances constitute the highest portion of the total assets of banks. It is the main source for generating profit. Nwankwo (2000) viewed that, credit comprises the biggest single income generating asset in most of the banks. It explains why banks spend enormous resources to assess, supervise and manage lending quality. John (1998) commented that, the ability of commercial banks to promote growth and development depends on the degree to which financial transactions are conducted with trust and confidence and least risk. Bank should operate banking transactions in safe and sound manner. If they are involved in insecure and unsound banking practices, they may lose public confidence and trust. In this situation, banks' sustainability and overall financial stability will be at risk.

Banking business involves considerable amount of risk. Ezirim (2005) further stressed that bank lending decisions normally are full with a big deal of risks, which exerts a great deal of attention and skill in this facet of banking operations. The efficiency and profitability of every

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lending function to a big extent therefore, pivots on the part of the credit analysts to carry out good credit analysis, presentation, structuring and reporting. Major risk of the banking business lies in the credit function, as there is high possibility of default. Further, there is also regulatory risk. The eye of regulator and supervisor is on credit performance of banks as they deal with public money. Therefore, they should be very careful, clever and ethical in in their loan performance.

Vohra and Sehgal (2012) asserted that lending is one of the two main functions of banks, not only due to their social obligations to accommodate the credit needs of diverse sections of the community, but also because lending is the most profitable for the interest rates realized on loan and advances have always been high than those realized on investments. Similarly, Haron and Azmi (2002) argued that most business organization in developing countries depend heavily on bank loan as a source of capital and the capability of banks in giving loans depends much on their ability to attract deposits.

Commercial banks are highly important savings mobilization and financial resources allocation institution. In due course, these roles lead them to play an important role in economic growth and development. In order to perform these roles, it must be understood that banks have the scope, potential and prospects of financial intermediation (Olokoyo, 2011). Therefore banks should pay great attention on some basic principles of credit portfolio management such as liquidity, profitability, security, diversity, spread, marketability and purpose.

Commercial banks perform the act of financial intermediary that gather money from the excess sector in the form of deposits and lend it to various sectors of the economy. Lending is one of the major functions of banking institution. Through this work, banks affect the economic growth and stability in the economy. Although credit growth can spur investment and economic activity, an excessive growth in credit can impact the price stability as well as stability of the financial system by increasing prudential risks at the micro and macro levels (Igan and Pinheiro, 2011).

Principal profit-making action of commercial bank is providing loan to its borrowers. In the allocation of fund to earn the loan portfolio, the main objective of bank management is to make earnings while serving the credit needs of its community (Reed and Gill, 1989). Lending is key to the banking industry. Loans are the leading assets and constitute 50-75 percent of total in most banks, generate the biggest share of operating earnings and denotes the greater risk exposure in banks (Mac Donald and Koch, 2006). As bank lending is the major source of generating earnings and it involves remarkable amount of risk, it is crucial for banks to assess the bank specific factors affecting their loan performance. Achieving better loan performance with appropriate, sustainable profit, comfortable liquidity and safety, require banks to have a high degree of practical policy formulation and application.

Bank mostly convert liquid assets such as deposits into illiquid assets such as loan (Diamond and Rajan, 1998). This renovation process of banks' activity is at best influenced by a number of factors, namely, macroeconomic, bank wise (Peek and Rosengreen, 1995) and business level characteristics (Boot and Thakor, 2000). commercial banks must pay more care to liquidity rather than many other kinds of financial institutions like insurance companies (Goldfeld and Chandler, 1986).

Generally, bank lending performance on the supply side is determined by the various factors such as volume of deposits, capital, assets, liquidity, non-performing loan, return on equity,

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lagged loan and advances, GDP, inflation, monetary policy instruments, central banks' rules and regulations etc. Haron (2004) documented that the determinants of commercial banks lending behavior can be divided into external and internal factor. The internal factors are financial statement variables. The external variables are non-financial statement variables such as numbers of bank branches, states of banks and location. Chodechai (2004) argued that banks lending decisions are also affected by the past relationship with the borrowers. John (1993) found that the capability of commercial banks to raise growth and development depends on the degree to which financial transactions are performed with confidence and low risk. Usman (1999), remarking on the causes that affect the lending behavior of banks said that the firm and feasible performance of commercial banks in Nigeria is negatively affected by the selection of certain policy instruments for the management of banking activities. Such instruments include a strictly managed interest rate structure, directed credit, unpaid reserve requirements and steady liquidity control measures like the stabilization securities of the past. Olusanya et al (2012) found that bank lending behavior is greatly influenced by volume of deposits (Vd), exchange rate (Fx), Investment Portfolio (Ip), Interest rate (Ir), Gross domestic product at current market price (Gdp) and Cash reserve requirement ratio (Rr).

There are several studies that have been carried out on this topic in foreign countries but in case of Nepal there are not enough studies on this topic especially based on recent data and similar number of variables. Thus, this study acts as the basis for further investigation in the area of bank loan performance. This study attempts to examine the impact of bank specific factors such as deposit, size (total assets), capital, liquidity ratio and lending interest rate on bank lending.

Hence, this study is of importance for Nepalese commercial banks. Because once the relation among these bank specific variables and bank lending is identified then banks can react in the same way in order to increase their loan performance. The study will provide required information to the management of banks, which will help them to take corrective actions and decisions at time, when plans, policies are to be made and while making important lending decisions. Similarly, the study is of immense help for the policy makers, central banks and government to take appropriate policy decisions as banks with heterogeneous characteristics have diverse responses towards such policy decisions.

The rest of the paper is structured as follows. The second section reviews the related literatures. The third section presents the status and trend of bank lending and other bank specific variables. The fourth section presents the data and methodology and the fifth section shows results of the study. The last section concludes the study.

LITERATURE REVIEW

A wide body of literature has been reviewed to examine the impact of bank specific variables such as deposit, size, capital, liquidity and interest rate on bank lending.

Goldfeld and Chandler (1980) argued that commercial bank must pay more attention to liquidity than many other types of financial institutions like insurance company. Liquidity is the main foundation of commercial banking. Commercial banks are just like custodian of public deposits. They have to return back that money upon depositors' request immediately. For that reason, it is necessary for banks to remain adequately liquid. Central bank/regulatory

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authority usually fix the liquid assets/deposit ratio for this. Such liquidity requirement affects the bank lending. Supporting this view, Ituwe (1983) argued that a bank's capability to provide further loan is confirmed by the available cash in its vault. Commercial banks therefore have to stock reasonable quality of cash to meet customer demand. According to all the above mentioned views, it can be said that liquidity is one of the determinants of bank lending behavior.

Kashyap, Stein, and Wilcox (1993) asserted that a monetary contraction is reducing bank lending; it is increasing commercial paper volume. According to them, monetary actions are the determinant of bank lending behavior. Bernanke and Blinder (1995) supported this and said that bank lending is directly controlled by monetary policy actions. Kashyap, (1996) argued that at the heart of the lending view is the proposal that the Federal Reserve can, simply by performing OMOs, shift banks' loan supply schedules. Harron (2004) asserted that the determinants of commercial banks' lending behavior can be divided in to external and internal factors. Internal factors are financial statement variables and external factors are non-financial statement variables. In an effort to shed more light on the transmission mechanism of monetary policy , Kashyap and Stein (1999) generated a panel data set which included quarterly observations of commercial banks in the U.S. over the period 1976-1993. Key finding was that the effect of monetary policy on bank lending is significant for bank with less liquid balance sheet.

Usman (2005) found that the sound and viable functioning of commercial banks is negatively affected by the choice of specific policy instruments for the management of banking operations.

With the main aim to identify the factors which explain bank credit, Imran (2008) carried a study using ARDL econometric approach with annual data from 1971 to 2008 for Pakistan with the major focus on the supply side. The growth in bank credit to private sector was used as dependent variable where as growth of domestic deposit, money market rate, M2 as percent of GDP, real GDP, inflation and the exchange rate were taken as major independent variables to explain the bank credit behavior. The model used in the study was as follows:

Pct= B0+B1FLt+B2DDt+ B3CPI+B4GDPt+B5ERt+B6MMRt+B7M2t+ut

From the model, the study revealed that the foreign liabilities, home deposits, GDP, exchange rate, and the monetary conditions has significant impact on bank credit to the private sector, especially in long run. Whereas the inflation and money market rate did not affect the credit to private sector. Moreover, in the short run the domestic deposits did not influence private credit. The reason might be that the banks did not lend immediately from currently deposited amount. The results also inferred that the financial health and liquidity of the banks played a significant and vital role in the determination of loan. A strong economic condition measured by the GDP as motivating factor to banks seems to have statistically significant implication on issuance of more private credit to business.

Shahi (2008) examined that high volume of liquidity showed that the high degree of lending strength in the bank. Lack of reliable lending opportunities and fear of losing the principal in rural sector has been keeping these banks to less orient towards the lending function.

Capital is another important determinant of bank lending behavior, which determines the response of banks towards monetary policy action taken by the central bank. Highly capitalized banks tend to have little response to monetary shocks. Peek and Rosengreen (1995) and Kishan

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and Opiela (2000) found in their studies that well capitalized banks are more able to raise fund when monetary policy tightens compared to less capitalized banks, using the capital to asset ratio as a proxy. Therefore monetary policy actions are more pronounced through poorly capitalized banks that are forced to cut their loan supply by more than well-capitalized banks.

Olusanya et al (2012) argued that bank lending behavior is greatly influenced by volume of deposits (Vd), exchange rate (Fx), Investment Portfolio (Ip), Interest rate (Ir), Gross domestic product at current market price (Gdp) and Cash reserve requirement ratio (Rr).

Kimani (2013) used the following regression model to estimate the effects of monetary policy actions on bank lending behavior using primary data:

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$$

Where: Y = Bank Lending; β0 = Constant Term; β1, β2, β3 and β4 = Beta coefficients; X1= CBR; X2= Cash Reserve Ratio; X3= Open Market operations; X4= Uncertainty; ε = Error term

The study established that CBR, cash reserve ratio, open market operation and uncertainty caused by monetary policy changes influences lending behavior of commercial banks in Kenya.

Malede (2014) to examined the main determinants of commercial bank lending in Ethiopia by using panel data in the period from 2005 to 2011. The study evaluated the relationship between bank lending and its major determinants (size, credit risk, gross domestic product, investment, deposit, rate of interest, liquidity ratio and CRR). The result shows that, there is significant relationship between bank lending and assets, credit risk, GDP and liquidity ratio. But deposit, investment, CRR and interest rate does not seem to affect commercial bank lending in Ethiopia for the study period.

Obamuyi (2004) found a positive relationship between deposit mobilization and bank lending. The results revealed that banks with high deposits and loans perform better in terms of profitability than banks with low deposits and loans.

John (2014) examined the effect of deposit volume on bank lending behavior in the Nigerian Post-consolidation banking era. The result of the regression analysis revealed that the volume of deposit has a significant and positive impact on loan and advances in the Nigerian deposits money banks. In other words, the higher the deposit volume, the greater the probability of granting loans and advanced to prospective borrowers.

Alhassan (2013) conducted a study which revealed that the bank deposit mobilization, intermediation spread and equity were found to influence bank lending behavior.

Olokoyo (2011) examined the determinants of commercial banks' lending behavior in Nigeria. The result revealed that volume of deposits, investment portfolio, interest (lending) rate, stipulated cash reserve requirements ratio and liquidity ratio each showed a significant relationship with loan and advances in the commercial banks.

Djiogap and Ngomsi (2012) conducted a study to examine the relationship between bank characteristics and bank propensity to issue long term loans to firms. The study revealed that bank's capability to extend long-term business lending depends on size, capitalization, GDP growth and the availability of long term liabilities. Specifically, it indicates that the bigger banks seem to be in a better position to lend more than smaller ones. The study indicates that

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bank size has positive impact on bank loan and advances. Further, the study confirmed that high level of bank capital was found to support much higher volumes of bank lending.

Ladime et al. (2013) carried out an analysis of the deposits and lending behavior of banks in Nigeria. The results revealed that banks with high deposits and loans perform better in terms of profitability than banks with low deposits and loans.

Obamuyi (2013) carried out an assessment of the determinants of lending behavior of commercial banks in Nigeria. The study indicated a direct and positive relationship between commercial bank loan and advances and volume of deposit.

In the context of Nepal, Budha (2013) confirmed that bank size has significant impact on loan supply in Nepal. Likewise, liquidity especially in private banks is also playing a crucial role in bank lending in reaction to monetary policy variations. But, capitalization is found to have no significant impact on bank lending.

Bhattarai (2016) conducted a study to examine the determinants of bank lending behavior with a data set of four commercial banks during the period from 2007 to 2014. The study found that bank size has significant positive effect on loans and advances whereas liquidity ratio, investment portfolio and cash reserve ratio have significant negative effect on banks' loan advances (LOA). This study concludes that the major determinants of commercial banks' lending behavior in Nepal are bank size, liquidity, investment portfolio, and cash reserve ratio.

Subedi and Neupane (2013) argued that capital adequacy, share of non-performing loans in the total volume of loans had negative and statistically significant impact on banks liquidity whereas loan growth, growth rate of gross domestic product on the basis price level , liquidity premium paid by borrowers and short term interest rate had negative and statistically insignificant impact on banks liquidity. Bank size had positive and significant impact and inflation rate had positive and insignificant impact on banks

liquidity. Similarly, it showed that capital adequacy, bank size, share of non-performing loans in the total volume of loans and liquidity premium paid by borrowers had negative and statistically significant impact on banks liquidity.

Thapa (2002) examined the bank lending channel of monetary policy transmission in Nepal covering the period from 2003 to 2012. The study estimated the loan supply responses of Nepalese commercial banks, depending on their balance sheet characteristics. The study revealed that bank lending declines as a result of monetary tightening and bank size has positive impact on loan supply in Nepal. Similarly, liquidity also plays a significant role in bank lending in response to monetary policy changes. Capitalization is found to have no significant impact on bank lending. The study also found that GDP growth rate has positive impact on bank lending.

Bhatta (2004) analyzed the impact of interest rate on deposit and lending of Nepalese commercial banks. The study used the Johansen's co-integrating vector error correction model based on aggregate annual data covering the period 1995 to 2002. The empirical result showed that deposit rate and deposits amount both have positive and significant relation with each other. The results also revealed that interest rate on lending and lending amount had negative relation to each other.

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Dhungana and Upadhaya (2011) conducted an empirical analysis of non-performing loans and efficiency of Nepalese financial institutions during the period of a decade till 2011. The study found that the sound lending policies and optimum portfolio management of financial institutions as well as effective regulation and supervision of financial institutions ensure the significant reduction in non-performing loan and enhance the banking efficiency. The study showed that there is scope of reduction of non- performing loans in financial institutions adopting lending policies and optimum portfolio management as directed by the regulator authority.

1. Status and trend of bank lending and bank specific factors (capital, deposit, size, liquidity and interest rate)

The figure shows the status of average bank size (total assets) for 24 commercial banks from 1996 to 2017. The figure has been drawn on the basis of the mean periodic size (total assets).

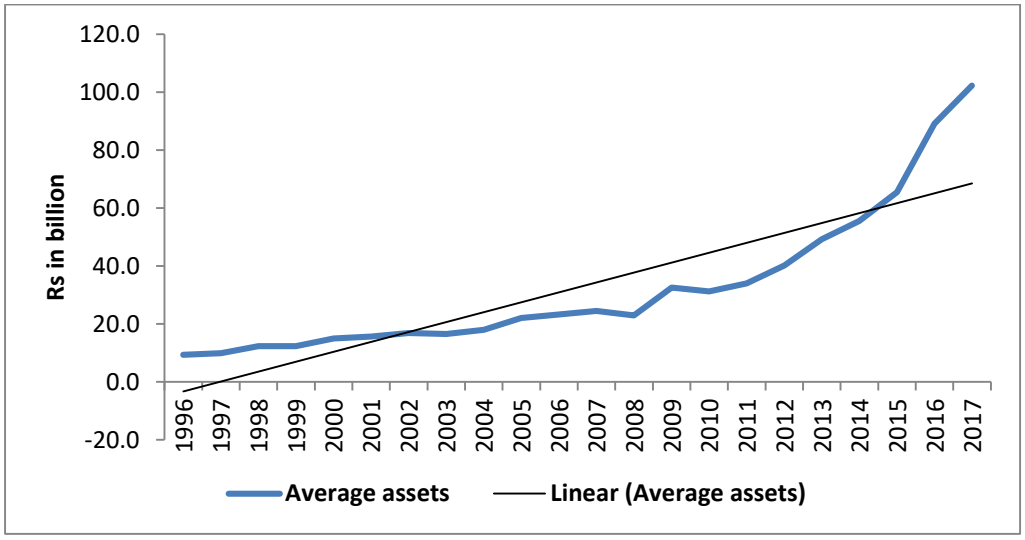

Figure 1: Status and trend of average bank size (total assets) of 24 commercial banks.

Figure 1 indicates that average bank size (total assets) curve is in increasing trend until 2017. Moreover, average bank size (total assets) has increased from Rs. 9.3 billion in 1996 to Rs. 102.2 billion in 2017.

The figure shows the status of capital for 24 commercial banks from 1996 to 2017. The figure has been drawn on the basis of the mean periodic capital.

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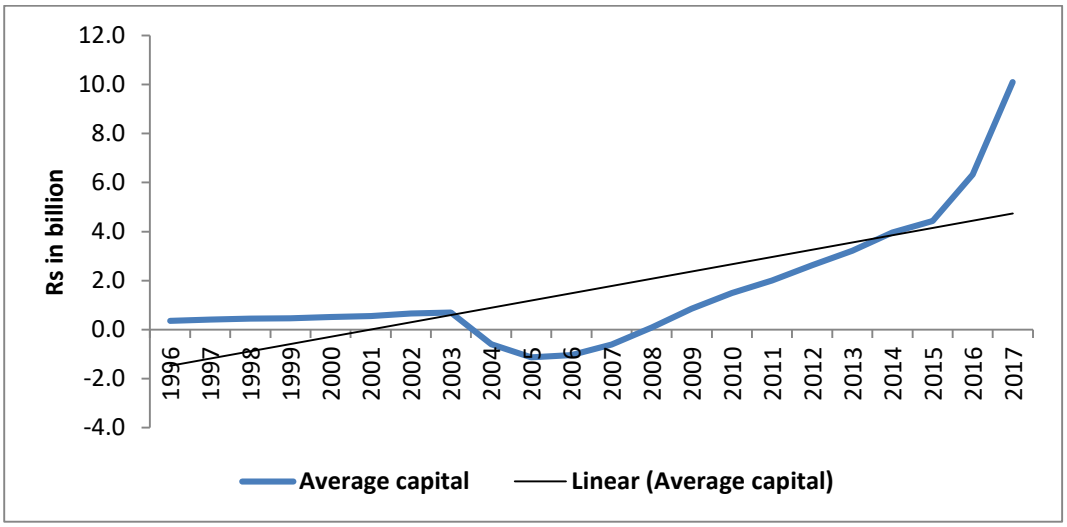

Figure 2: Status and trend of average capital of 24 commercial banks.

Figure 2 indicates that average capital curve is in fluctuating trend until 2017. It shows that average capital of Nepalese commercial banks increase from 1996 to 2003, but it caught declining trend from 2004 to 2007 due especially to negative capital of NBL and RBB. Again it caught increasing trend from 2008 to 2017.

The figure shows the status of lending for 24 commercial banks from 1996 to 2017. The figure has been drawn on the basis of the mean periodic lending.

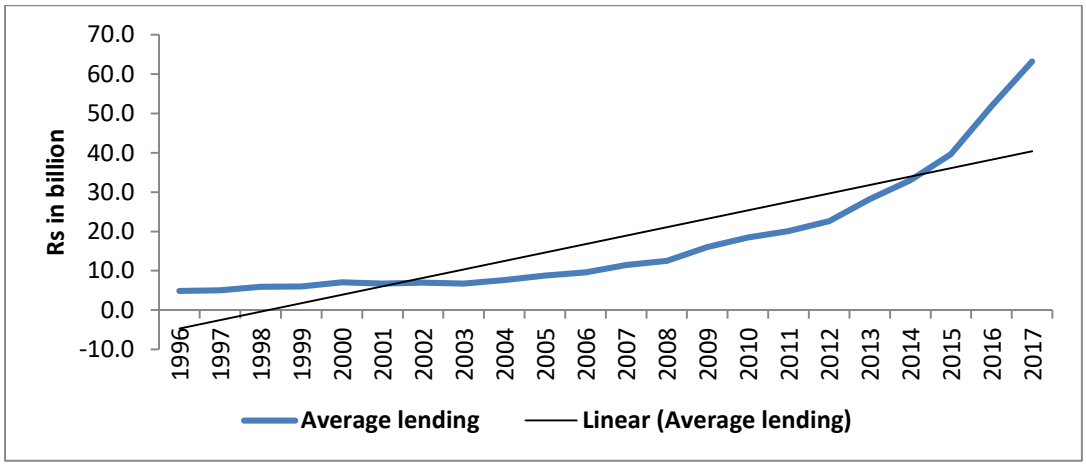

Figure 3: Status and trend of average lending of 24 commercial banks.

Figure 3 indicates that average bank lending curve is in fluctuating trend until 2017. Moreover, average bank lending has increased from Rs. 4.8 billion in 1996 to Rs. 63.3 billion in 2017.

The figure shows the status of deposit for 24 commercial banks from 1996 to 2017. The figure has been drawn on the basis of the mean periodic deposit.

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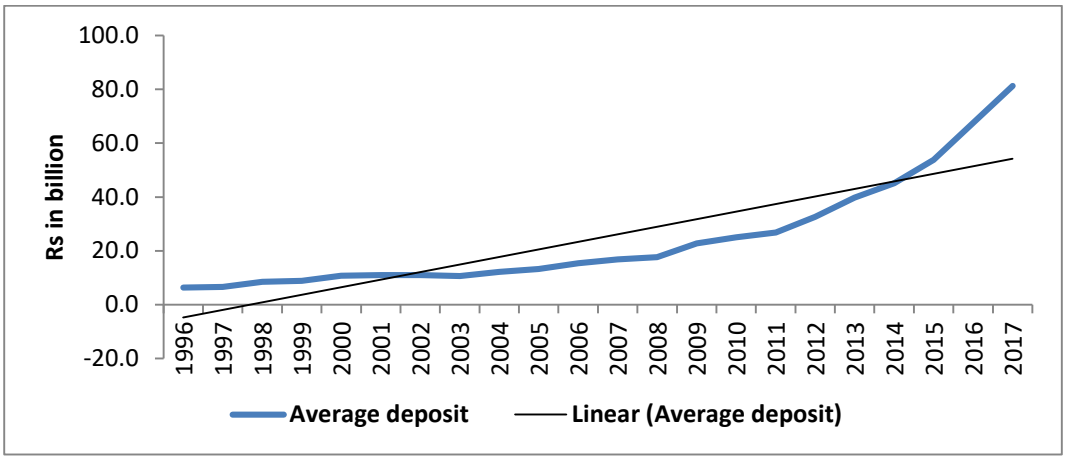

Figure 4: Status and trend of average deposit of 24 commercial banks

Figure 4 indicates that average bank deposit curve is in fluctuating trend until 2017. Moreover, average bank deposit has increased from Rs. 6.4 billion in 1996 to Rs. 81.3 billion in 2017.

The figure shows the relationship between bank lending and other bank specific factors such as capital, deposit, size (total assets) of 24 commercial banks from 1996 to 2017.

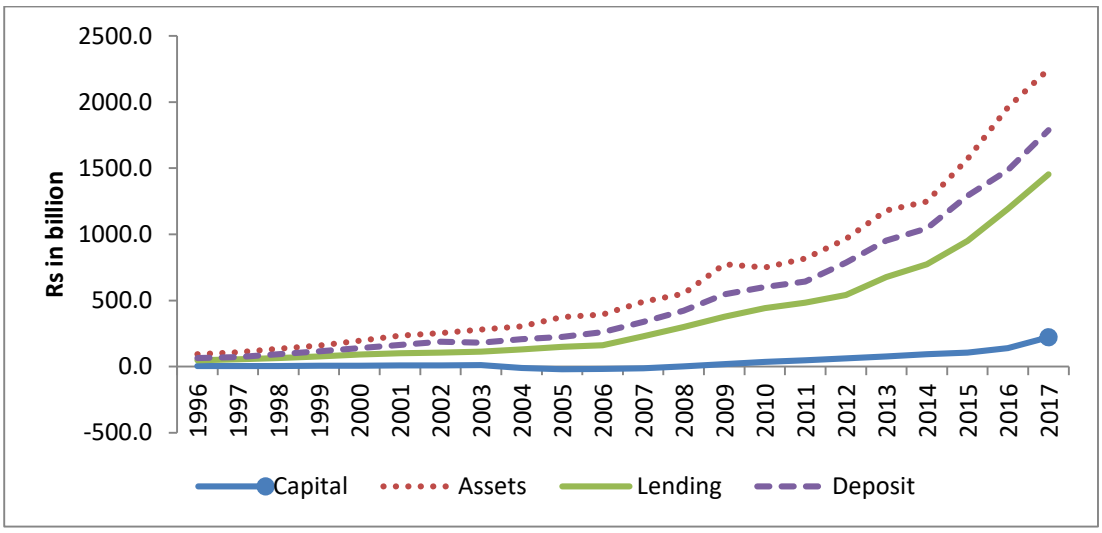

Figure 5: Lending, capital, deposit and size (total assets) of 24 commercial banks

Figure 5 shows that bank lending and all other bank specific variables such as capital, assets and deposits are in the same upward sloping trend. It indicates that there is positive relationship between bank lending and other explanatory factors.

The figure shows the relationship between bank lending and other bank specific factors such as liquidity ratio and interest rate of 24 commercial banks from 1996 to 2017.

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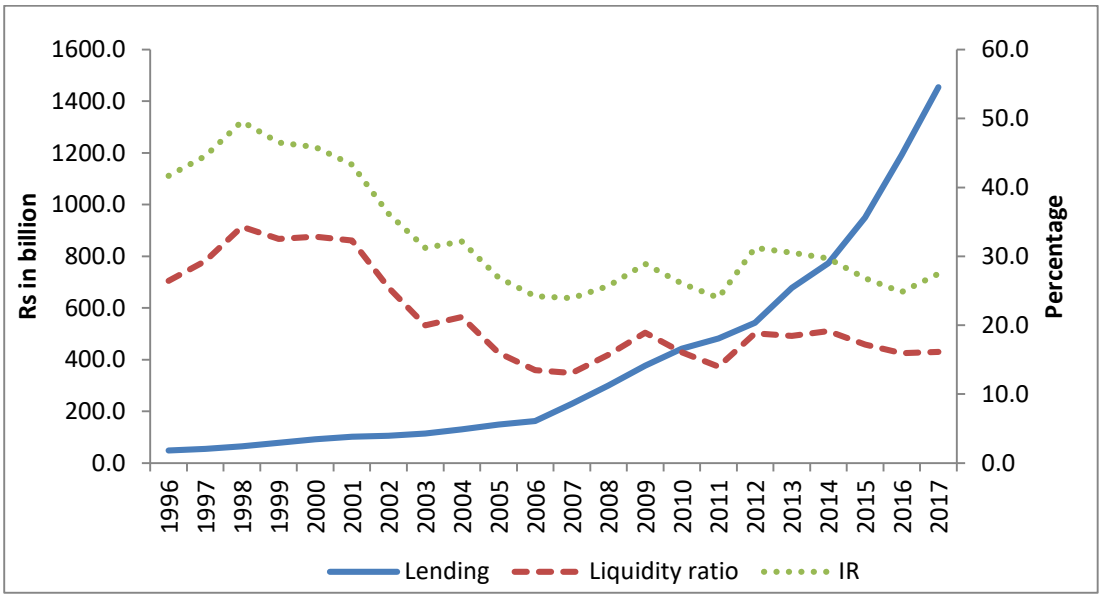

Figure 6 : Lending, liquidity ratio and interest rate of 24 commercial banks

Figure 6 reflects that lending has increasing slope while liquidity ratio and interest rate have fluctuating trend during the study period. However, it can be said that there is inverse relationship between bank lending and interest rate and liquidity ratio.

RESEARCH METHODOLOGY

Research design

The study adopts causal-comparative research design in order to determine the effect of bank specific factors such as capital, size, deposit, liquidity and interest rate on bank lending. While constructing model, the dependent variable is bank lending and the independent variables are capital, size, deposit, liquidity and lending interest rate of commercial banks.

Nature and sources of data

This study is based on secondary data. Secondary data have been collected from commercial banks for the period 1996-2017. The main sources of secondary data are Banking and Financial Statistics and Quarterly Economic Bulletin published by Nepal Rastra Bank, and the annual report and website of the selected commercial banks. Population of this study includes 30 commercial banks of Nepal listed in Nepal Stock Exchange (NEPSE) limited to the end of 2017. This study uses data of 24 commercial banks with 413 observations from 1996 to 2017.

Method of analysis

The method of analysis employed in this study consists of estimating the econometric models, and correlation analysis. The econometric models were used to determine the factors affecting banks' lending behavior, while correlation analysis is used to establish the relationship between dependent and independent variables used in the study. SPSS 20 has been used for the analysis of data.

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Description of the sample for secondary data in the form of number of observations and selected companies is presented in table 1.

Table 1: Selection of commercial banks, period of study and number of observations

S.N.	Name of banks	Study period	Observations
1	NBL	1996-2017	22
2	RBBL	1996-2017	22
3	NABIL	1996-2017	22
4	NIBL	1996-2017	22
5	SCBNL	1996-2017	22
6	HBL	1996-2017	22
7	NSBL	1996-2017	22
8	NBBL	1996-2017	22
9	EBL	1996-2017	22
10	BOKL	1996-2017	22
11	NCCBL	1997-2017	21
12	LBL	1997-2017	19
13	NICABL	1998-2017	19
14	MBL	2000-2017	17
15	KBL	2000-2017	17
16	LXBL	2001-2017	16
17	SBL	2002-2017	15
18	ADBNL	2007-2017	11
19	GBL	2007-2017	11
20	CBL	2007-2017	11
21	PCBL	2008-2017	11
22	SBL	2008-2017	10
23	GRBL	2008-2017	10
24	NMBL	2008-2017	10
	Total number of observations	**Up to 2017**	**413**

Source: Bank and Financial Statistics, Nepal Rastra Bank

Thus, the study is based on 413 observations.

Model

This study has estimated regression model to analyze the relationship between bank lending and bank specific factors such as capital, size, deposit, liquidity ratio and interest rate. Hence bank lending is taken as the dependent variable and capital, size, deposit, liquidity ratio and interest rate are taken as independent variables. From these independent and dependent variables, the following relationship is formulated. It is assumed that bank lending is dependent on bank capital, size, deposit, liquidity ratio and interest rate. It is represented as follows:

BL= f (CAP, SIZE, DEP, LIQ, IR) ……..... (i)

Which shows lending is the function of bank specific variables.

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Where;

BL = bank lending

CAP = capital

SIZE = total assets

DEP = deposit

LIQ = liquidity ratio

IR = interest rate

Model 1

In model 1, the impact of bank specific variable is tested on bank lending (log of lending) with the help of regression estimates. The model is presented as:

$\ln BL = \beta 0 + \beta 1 \ln CAP + \beta 2 \ln SIZE + \beta 3 \ln DEP + \beta 4 LIQ + \beta 5 IR + e$ ..... (ii)

where,

ln BL= log of bank lending

ln CAP = log of capital

ln SIZE = log of total assets

ln DEP = log of deposit

LIQ = liquidity ratio

IR = interest rate

Descriptive statistics

This study applied descriptive statistics associated with bank lending and bank specific variables during the sample period. The descriptive statistics such as mean, standard deviation minimum and maximum values have been used to describe the characteristics of bank lending and inflation during the period of 1996 to 2017.

Correlation analysis

Correlation analysis has been basically adopted to identify the direction and magnitude of relationship between bank lending and bank specific variables in this study. This relationship has been explained by using Pearson correlation coefficient. The value of correlation coefficient varies from -1 to1. The coefficient of correlation of exactly -1 indicates perfect negative correlation. On the other hand, the correlation coefficient of 1 indicates perfectly positive relation.

Regression analysis

Classical linear regression model has a number of assumptions . Important assumptions are the significance of regression coefficients as well as overall significance. This study has employed

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t-statistic to conduct significance test of regression coefficients. A regression coefficient is said to be statistically significant if the critical P-value of test statistic is less than the level of significance specified. In other words, the statistical significance of the coefficient validates the explanatory power of associated independent variables. The levels of significance specified in this study are at 1 and 5 percent.

Moreover, it is necessary to test the joint hypothesis that all regression coefficients are simultaneously significant. It is called the test of overall significance of the model. This can be done by using adjusted coefficient of determination (*Adj. R2*) and F-statistic. The *Adj. R2* has been used to identify the percentage of total variation in dependent variable that has been explained jointly by all explanatory variables. The statistical significance of this joint explanatory power has been conducted by using F-statistics. The p-value of F-test has been examined to confirm whether the regression models are significant at 1 and 5 percent level.

RESULTS

Descriptive statistics

The descriptive statistics of different variables selected under the study are shown in table 2.

Table 2: Descriptive statistics for the selected variables under the study

Table 2 shows descriptive statistics - mean, standard deviation, minimum and maximum values variables associated with 24 sample banks for the period 1996 to 2017.

Descriptive statistics					
Variables	N	Minimum	Maximum	Mean	Std. Deviation
BL (Rs in billions)	413	**0.05**	**106.4**	**20.6**	**20.3**
CAP (Rs in billions)	413	**-23.8**	**19.6**	**1.9**	**4.2**
SIZE (Rs in billions)	413	**0.2**	**193.1**	**36.5**	**35.0**
DEP (Rs in billions)	413	**0.1**	**153.6**	**28.1**	**26.7**
LIQ (percentage)	413	**5.1**	**342.7**	**21.0**	**21.5**
IR (percentage)	413	**8.9**	**15.2**	**11.2**	**1.6**

Total lending of sample banks ranged from Rs. 0.05 billion to Rs. 106.4 billion having an average of Rs. 20.6 billion. Capital of sample banks ranged from minus Rs. 23.8 billion to Rs.19.6 billion. Bank size (total assets) has a minimum value of Rs. 0.2 billion and maximum value of Rs 193.1 billion. Total deposit of sample commercial banks ranged from Rs 0.1 billion to Rs 153.6 billion. Liquidity ratio ranged from 5.1 percent to 21.0 percent. Likewise, IR has a minimum value of 8.9 percentt and maximum value of 115.2 percent leading to the average of 11.2 percent.

Correlation analysis

This section of the study presents the results and discussions of the correlation analysis. The correlation analysis has been carried out to assess the direction and amplitude of the relationship of bank specific variables and bank lending of the banks. Having indicated the

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descriptive statistics, the Pearson correlation coefficients have been computed and the results are presented in the table 3.

Table 3: Pearson's correlation matrix for the dependent and independent variables during the period 1996 to 2017.

This table reveals the Pearson correlation coefficients between different dependent and independent variables [BL, CAP, SIZE, DEP, LIQ and IR]. The correlation coefficients are based on the data from 413 observations for the period 1996 to 2017.

Variables	BL	CAP	SIZE	DEP	LIQ	IR
BL	1					
CAP	0.589**	1				
SIZE	0.945**	0.418**	1			
DEP	0.962**	0.461**	0.961**	1		
DEP	-0.159**	-0.070	-0.129**	-0.153**	1	
IR	-0.320**	-0.142**	-0.303**	-0.311**	*0.143***	1

Note:

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

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

The table shows that there is a positive relation between bank lending and bank specific variables such as capital, size and deposit. It indicates that higher the bank capital, size and deposit, higher would be the bank lending. Where as there is a negative relationship between bank lending and liquidity ratio and interest rate.

Regression analysis

Regression results on the effect of capital, size, deposit, liquidity and interest rate on bank lending is shown in table 4.

Table 4 : Regression of CAP, SIZE, DEP, LIQ and IR on BL

The results are founded on panel data of 24 commercial banks with 413 observations for the period of 1996 to 2017 by using linear regression model. Log bank lending is the dependent variable while, log of capital, log of size, log of deposit, liquidity ratio and interest rate are the independent variables. The model is: ln BL = β 0 + β1ln CAP+ β 2 ln SIZE+ β 3 ln DEP + β 4LIQ+ β 5IR+ e.

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Model	Intercept	Regression Coefficients of ln inf					Adj R^2	SEE	F	DW
		CAP	SIZE	DEP	LIQ	IR				
1	1.16 (15.9) **	0.89 (40.31) **					0.81	0.24	1624.68	1.80
2	-0.05 (-0.91)		0.96 (4.32) **				0.93	0.14	5505.67	1.48
3	0.07 (1.54)			0.97 (89.14) **			0.95	0.12	7945.19	1.52
4	4.21 (118.73) **				-0.27 (-5.56) **		0.07	0.51	30.90	0.50
5	5.76 (34.65) **					-0.54 (-13.10) **	0.21	0.47	105.56	0.62
6	0.18 (2.58) **	0.17 (8.29) **	0.30 (7.35) **	0.52 (12.38) **	-0.05 (-4.90) **	-0.21 (-1.62) **	0.97	0.09	2362.20	1.80

Note:

1. *Figures in parentheses are t-values.*
2. *The asterisk (**), (*) sign indicates that results are significant at 0.01 and 0.05 level of significance respectively.*
3. *Dependent variable is log bank lending (ln BL)*

Table 4 shows that bank capital, size and deposit have positive effect on bank lending as beta coefficients for these independent variables are positive. It indicates that higher the bank capital, size and deposit, higher the bank lending. It is in line with theory. The result is consistent with the findings of Obamuyi (2004), Djiogap and Ngomsi (2012), Obamuyi (2013) and John (2014). The regression results further show that beta coefficients for liquidity ratio and interest rate are negative leading to a negative impact on bank lending.

CONCLUSION

The major function of commercial banks is to provide credit. Loan and advances constitute the highest portion of the total assets of banks. Loans are the leading assets and the major source of generating earnings as well as it involves remarkable amount of risk. Achieving better loan performance with appropriate, sustainable profit, comfortable liquidity and safety, require banks to have a high degree of practical policy formulation and application. Bank loan performance is affected by various internal and external factors. The focus of this study is to assess the impact of bank specific factors on bank loan performance.

The major conclusion of the study is that bank capital, size and deposit have positive impact on bank lending. Hence, commercial bank willing to increase lending should increase its capital, even more than regulatory standard. Further banks willing to lend more should expand their total assets and deposit. Another conclusion of the study is that liquidity ratio and interest rate have negative impact on bank lending. Thus, commercial banks willing to increase bank lending, should be careful in maintaining minimum liquidity requirement and interest rate fluctuation. Central bank willing to increase bank lending to productive sector should encourage banks to decline their lending interest rate.

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