

Impact of liquidity on profitability in Nepalese Commercial Bank

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Abstract

This study explores the influence of liquidity on the profitability in the Nepalese commercial banks. 5 commercial banks in Nepal; Agriculture Development Bank, Everest Bank, Prime Commercial Bank, Sunrise Bank and Citizens Bank International are randomly selected among 28 commercial banks of Nepal as a sample and analyzed for the current study over the period 2010/11 to 2016/17 AD. Since liquidity management can increase the bank's profitability. the study has examined their liquidity management as well as profitability positions using various statistical and financial tools. The article indicates largely zigzag trend of average profitability of commercial banks, although the trend of liquidity ratios of the bank is unstable. The research concluded that bank's liquidity ratios have below the prescribed standard. Similarly CRR is extremely heavy than prescribed by monetary policy 2016/17. The CRR and IGSCA are positively correlated with ROA while CRR and CBBISD are inversely correlated with ROA. In case of liquidity-ROE Relation, CR is inversely correlated to ROE but all other ratios (CRR, CBBISD and IGSCA) are positively correlated with ROE. It also has reported there is significant relationship between liquidity ratios with profitability, except between IGSCA and ROA.

Introduction

This is the time of industrialization and commercialization of the entire service sectors. Business houses are moving towards profit maximization through appropriate management of micro variables. Proper control of liquidity is also major component of influencing factor of controllable element for generating profit. Share holder's return, risk and customer satisfaction can be influenced by both liquidity and profitability decisions which are significant managerial decision (Jeevarajasingam, 2014). Each bank attempts to attract more customers in order to obtain more profit and be more profitable bank. The firm's liquidity position would be stronger when they keep a large proportion of current assets but also the over all of profitability will be reduced (Shafana, 2015). It might be not clear for many banks to determine the level of optimal liquidity.

In case of commercial banks, first type of liquidity risk arises when depositors of commercial banks seek to withdraw their money. They become insolvent if the assets are not enough to meet the liability withdrawals. Similarly, the second type of liquidity risk

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arises when money supply cannot meet the demand of unexpected loans due to the lack of the funds (Baral, 2005). Moreover, maintaining the high liquidity position minimize such risks also adversely affects the profitability of the bank. Highly liquid assets will be idle which nothing generate. Therefore, bank should strike the tradeoff between liquidity status and profitability to keep their health sound. There is weak positive link between liquidity and profitability for the period 2005 to 2010 of the listed bank in Ghana (Lartey, Antwi, & Boadi, 2013). Similarly, examined the relationship between profitability and liquidity ratios of standard charter bank Pakistan and show the weak positive connection between them (Ahmad, 2016).

Marozva (2015), Observed at the relationship between liquidity and bank performance over the period 1998 to 2014 for banks of South Africa and found adverse relationship between net interest margin and funding liquidity risk. The relationship between liquidity ratios and profitability ratios might be negative. Malik, Awais, & Khursheed (2013), Supported that profitability ratio and liquidity ratios have a negative relationship in their study which has conducted on 22 private banks of Pakistan over the five years.

Bordeleau & Graham (2010) using a sample of large US and Canadian banks, explore that profitability is generally increased for banks that holds some liquid assets; however, there is a point at which holding further liquid assets decreased profitability of banks, *Ceteris Paribus*. Moreover the findings suggested that this relationship fluctuates as per bank's business model and the state of the economy. Shahchera (2012), Using a sample of Iranian listed banks using panel data over the period of 2002 to 2009, explore an evidence of a non-linear relationship between profitability and liquid assets holding. Nimer, Warrad, & Omari (2013), Has investigate the financial statement of 15 Jordanian banks listed at Amman Stock Exchange (ASE) for the period from 2005 to 2011. They concluded that liquidity has a significant negative influence on the profitability because of banks having excessive liquidity instead of investing the money to generate profit. (Munteanu, 2013) also argued in his study by using panel data of eastern and central European commercial banks over the period 2003 to 2010 which reveals slight positive and negative impact of liquidity on both ROE and ROA respectively, explaining a non-linear relationship between the variables. Ibe (2013) also explored that there is a significant relationship between cash and short term fund and bank profitability for Nigerian banks In brief the literature review indicates that the impact of liquidity on the profitability is steel unclear because as mentioned before some researchers obtained linear relationship while other give argument toward non-linear one. The current study is an attempt towards fulfilling this lacking to some extent.

Statement of problems

Bank should have ready access to immediately expendable funds at reasonable cost precisely at the time those funds are needed. (Rose, 1999)Bank should have sufficient

liquidity to minimize both assets side liquidity risk and liability side liquidity risk of a commercial bank. Both the inadequate and excessive liquidity indicate the problem in the financial health of a commercial bank. Excessive liquidity destroys the profitability of the commercial bank as it reduces the return on assets. Similarly inadequate liquidity deteriorates bank's credit standing that would lead to forced liquidation of bank's assets and affects the reputation of the banks. Therefore the commercial banks should strike the tradeoff between the profitability and liquidity risk.

Lack of strength and efficiency relating to the analysis of financial statement affects the financial performance of the bank. Commercial bank's cash and bank balance and cash reserve with NRB have a fluctuating and declining trend while various deposits have been increasing; it reflects inefficiency in liquidity management of the bank. The following research questions have been set.

What is the Liquidity position in Nepalese commercial Banks?

What is the profitability status in Nepalese commercial Banks?

Does liquidity affect the profitability in Nepalese commercial Banks?

Objectives of the study

The main objective of the present study is to examine the impact of liquidity on profitability on the basis of total assets. The specific objectives to achieve the main objectives are: (i) To measure the profitability status of Nepalese commercial banks (ii) To assess the liquidity position in Nepalese commercial banks and (iii) To analyze the impact of liquidity on profitability of Nepalese commercial banks.

ROA= Return On Assets, ROE= Return On Equity, CR= Current Ratio, CRR= Cash Reserve Ratio, CBBISD= Cash and Bank Balance to Interest Sensitive Deposit, IGSCA= Investment of Government Securities in Current Assets

Research Methodology

This study is aimed to establish the impact of liquidity on the profitability of the Nepalese commercial banks. The sample of this study is confined to banking sector consists of only five among 28 commercial banks which is taken with randomly selection process and examined for the analysis proposes. This study has used secondary data for the analysis and all the data were collected from the financial statements, annual reports unpublished official records of concerned banks and web site of Nepal Rastra Bank (NRB) as well as Nepal Stock Exchange (NEPSE). This study covers the seven years data from 2010/11 to 2016/17. The collected data was analyze by using MS Excel and has been tested through descriptive statistics, correlation and regression. Profitability has been selected as a dependent variable through return on assets and liquidity is determined as independent variable. Hypothesis:

H₀: There is no significant relationship between the variables

H₁: Significant relationship exists between the variables.

Data Analysis

Profitability positions of selected Banks

Year	ADBL		EBL		SRBL		CZBIL		PCBL	
	ROA %	ROE %	ROA %	ROE %	ROA %	ROE %	ROA %	ROE %	ROA %	ROE %
2010/11	3.99	17.57	2.01	25.24	0.28	1.99	1.18	8.47	1.63	13.00
2011/12	2.90	13.68	1.95	25.92	0.52	4.93	1.12	9.14	0.99	9.78
2012/13	2.97	14.40	2.24	26.05	1.19	12.65	1.59	15.33	1.47	15.56
2013/14	1.76	10.88	2.20	24.30	0.83	9.15	1.55	17.31	1.46	15.19
2014/15	3.57	21.34	1.59	22.39	1.26	13.95	1.74	19.12	1.63	17.09
2015/16	2.20	13.07	1.52	20.07	1.62	15.04	1.96	20.21	2.05	20.48
2016/17	2.02	11.41	1.72	17.21	1.65	12.42	1.65	11.44	1.89	15.56
Total	19.41	102.36	13.23	161.17	7.35	70.13	10.79	101.02	11.12	106.65
$\frac{\sum x}{N}$ Mean =	2.77	14.62	1.89	23.02	1.05	10.02	1.54	14.43	1.59	15.24
S.D = $\sqrt{\frac{\sum (x-x)^2}{n-1}}$	0.83	3.68	0.29	3.34	0.53	4.91	0.30	4.78	0.34	3.32
C.V. = $\frac{\sigma}{\bar{X}} \times 100$	29.79	25.19	15.17	14.50	50.14	49.01	19.44	33.12	21.42	21.76

The profitability positions of the banks are fluctuating every year. In these seven years, the table shows that ADBL has highest mean on ROA i.e, 2.77 and EBL has highest mean on ROE, i.e, 23.02. SRBL has lowest mean on ROA and ROE, i.e, 1.05 and 10.02 respectively. Similarly, EBL has lowest S.D. on ROA i.e, 0.29. PCBL has Lowest S.D. on ROE, i.e, 3.32. But EBL has lowest C.V. on ROE i.e, 14.50%. Considering the ROA, ROE, S.D & C.V, researcher here finds Everest Bank Ltd to be best. Sunrise Bank, though has lowest profitability, it has amazingly increased its ROA from 0.28 to 1.65 and ROE from 1.99 to 12.42 in 2016/17.

Liquidity position of selected banks

Variable	Banks	2011	2012	2013	2014	2015	2016	2017	Total	Mean	S.D	C.V
CR	ADBL	0.74	0.74	0.67	0.57	0.56	0.41	0.63	4.32	0.62	0.12	19%
	CZBI											
	L	0.36	0.52	0.61	0.40	0.43	0.57	0.72	3.61	0.52	0.13	25%
	EBL	0.51	0.46	0.42	0.37	0.53	0.48	0.52	3.28	0.47	0.06	12%
	PCBL	0.39	0.54	0.54	0.45	0.49	0.26	0.49	3.15	0.45	0.10	22%
	SRBL	0.36	0.51	0.59	0.53	0.35	0.42	0.63	3.40	0.49	0.11	23%
CRR	ADBL	0.14	0.14	0.17	0.13	0.15	0.12	0.16	1.02	0.15	0.02	11%
	CZBI											
	L	0.11	0.22	0.20	0.21	0.16	0.12	0.11	1.14	0.16	0.05	29%
	EBL	0.15	0.21	0.19	0.21	0.30	0.25	0.22	1.54	0.22	0.05	22%
	PCBL	0.15	0.23	0.19	0.21	0.16	0.16	0.19	1.30	0.19	0.03	16%
	SRBL	0.14	0.23	0.20	0.22	0.09	0.13	0.16	1.18	0.17	0.05	32%
CBBIS D	ADBL	0.15	0.16	0.20	0.15	0.17	0.14	0.17	1.16	0.17	0.02	12%
	CZBI											
	L	0.11	0.22	0.21	0.22	0.16	0.13	0.12	1.18	0.17	0.05	29%
	EBL	0.17	0.24	0.23	0.24	0.33	0.27	0.25	1.74	0.25	0.05	20%
	PCBL	0.16	0.24	0.20	0.22	0.17	0.17	0.20	1.36	0.19	0.03	15%
	SRBL	0.15	0.25	0.21	0.23	0.10	0.13	0.17	1.23	0.18	0.06	31%
IGSCA	ADBL	0.26	0.46	0.34	0.43	0.37	0.27	0.29	2.43	0.35	0.08	23%
	CZBI											
	L	0.36	0.24	0.32	0.25	0.42	0.48	0.45	2.53	0.36	0.09	26%
	EBL	0.51	0.35	0.36	0.14	0.23	0.28	0.24	2.10	0.30	0.12	39%
	PCBL	0.23	0.25	0.43	0.23	0.41	0.31	0.22	2.07	0.30	0.09	30%
	SRBL	0.23	0.22	0.25	0.26	0.44	0.34	0.33	2.07	0.30	0.08	26%

In regard with CR, ADBL has highest mean, i.e, 0.62. The standard CR should be 1. So, no bank has maintained it. But, 0.62 is a satisfactory level. EBL, though has only 0.47 mean on CR, it has lowest S.D. (0.06) and C.V. (12%). The CRR of all 5 banks are between 15 to 22%. ADBL has maintained 0.02 S.D. and 11% c.v. This is good ratio. EBL has highest CBBISD ratio on Mean, i.e, 0.25. But, the S.D. 0.02 and 12% C.V. that of ADBL show that it has regularity in maintaining CBBISD. CZBIL has highest mean on IGSCA i.e, 0.36. Other banks too have similar ratio. ADBL and SRBL have same S.D. i.e, 0.08. The C.V. of ADBL 23% is lowest among the selected banks. Going through the liquidity positions, their mean, S.D. and C.V, ADBL seems to be best among these five banks.

Coefficient of correlation between liquidity and profitability of selected banks.

Variables	Liquidity Variables				Profitability Variables	
	CR	CRR	CBBISD	IGSCA	ROA	ROE
CR	1					
CRR	(0.01)	1				
CBBISD	(0.00)	0.98	1			
IGSCA	0.26	(0.59)	(0.56)	1		
ROA	0.40	(0.26)	(0.16)	0.23	1	
ROE	(0.13)	0.18	0.27	0.20	0.54	1

In above table all the obtained ranges are between -1 & +1. Positive r means that increase in independent variable will increase dependent variable. Similarly, negative r means that increase in independent variable will decrease the dependent. The CR and IGSCA are positively correlated with ROA while, CRR and CBBISD are inversely correlated with ROA. In case of liquidity-ROE Relation, CR is inversely correlated to ROE (-0.13) but all other ratios CRR, CBBISD, and IGSCA are positively Correlated with ROE.

Regression Analysis of liquidity and profitability position of selected banks

Variables	Coefficient		Std.Err		t –Stat		P-value	
	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE
CR	2.51	(14.04)	0.84	6.62	2.99	(2.12)	0.01	0.04
CRR	(56.19)	(314.26)	11.83	93.15	(4.75)	(3.37)	0.00	0.00
CBBISD	46.79	341.43	10.48	82.49	4.46	4.14	0.00	0.00
IGSCA	(1.18)	29.58	1.33	10.48	(0.88)	2.82	0.38	0.01

R square on ROA= 0.54

R square on ROE= 0.51

Adj. R square on ROA = 0.47

Adj. R square on ROE = 0.45

Here, R² represents the percentage of the variability of profitability that can be explained by liquidity. The adjusted R² is more reliable statistics because it accounts the sample size as well. The size of the coefficient for liquidity gives the size of its effect on profitability. The sign on the coefficient (positive or negative) gives the direction of the effect. Std. error represents the average distance that the coefficient falls from the regression line. It measures dispersion. The t- stat is there to determine the probability (p-value). Thus, obtained p -value should be below 5 % significance level to conclude significant relation between these variables.

54% of ROA is thus explained by Liquidity ratios. More precisely, only 47 % of ROA is explained by liquidity ratios. 1% increase in CR will increase 2.51 times the ROA and decreases ROE by 14.04 times. 1% increase in CRR decreases 56.19 times ROA and

314.26 times ROE. 1 % increase in CBBISD will increase 46.79 times ROA and 341.43 times ROE. 1 % increase in IGSCA will decrease 1.18 times ROA and increase 29.58 times ROE.

The obtained p-value on IGSCA in regression with ROA is 38 % which is more than 5%. So, we accept Hypothesis H₀, i.e, no significant relation exists between IGSCA and ROA. But, all other liquidity-profitability regressions are below 5% and we need to choose hypothesis H₁, i.e, significant relationship exists between liquidity and profitability.

Discussion and Conclusions

From the above analyzed data, the following conclusion has been drawn:

All the banks have not maintained their Standard liquidity ratios. CR mean for ADBL is 0.62, CZBIL is 0.52, EBL is 0.4, PCBL is 0.45 and SRBL is 0.49. Its standard ratio is 1. Monetary policy 2018/19 has prescribed that banks and financial institutions have to maintain cash reserve ratio of 4% with NRB. But, CRR mean for ADBL is 15%, CZBIL is 16%, EBL is 22%, PCBL is 19% and SRBL is 17%.

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